

IRON ORE PORT STOCK INDEX (IOPI)

| December 12, 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 | 551                                       | 5      | 0.9%     | 547 | 507              | 443              | 603               | 70.96   | 0.61   | 0.9%     | 70.61 | 67.40            | 61.36            | 77.89             |
| IOPI58            | 58% Fe Fines | 381                                       | 2      | 0.5%     | 386 | 359              | 304              | 419               | 47.89   | 0.22   | 0.5%     | 48.77 | 46.41            | 40.67            | 52.71             |
| IOPI65            | 65% Fe Fines | 679                                       | 4      | 0.6%     | 683 | 658              | 541              | 784               | 88.32   | 0.45   | 0.5%     | 89.12 | 88.54            | 75.83            | 101.71            |

IRON ORE SEABORNE INDEX (IOSI)

| December 12, 2018 |              | CFR Qingdao, USD/dry tonne |        |          |       |                  |                  |                   |
|-------------------|--------------|----------------------------|--------|----------|-------|------------------|------------------|-------------------|
| Index             | Fe Content   | Price                      | Change | Change % | MTD   | YTD <sup>3</sup> | Low <sup>3</sup> | High <sup>3</sup> |
| IOSI62            | 62% Fe Fines | 67.40                      | -0.25  | -0.4%    | 68.08 | 68.79            | 62.95            | 86.20             |
| IOSI65            | 65% Fe Fines | 83.55                      | -0.45  | -0.5%    | 85.53 | 93.65            | 83.20            | 101.50            |

MARKET COMMENTARY

Iron ore port stock quotes lifted higher with the iron ore DCE Futures market early this morning, as the transaction prices for low grade iron ore rose 2-5yuan/mt over yesterday, and that for medium-high grade products kept relatively stable. Some traders were more cautious and preferred to stand on the side-lines whilst others tried to ensure they reduced the inventory they were holding. Another round of production cuts in Tangshan will launched from Dec 13 to Dec 21, requiring sintering machines and shaft furnace which failed to pass the ultra-low emission tests to shut down.

IRON ORE PORT LUMP INDEX (IOPLI)

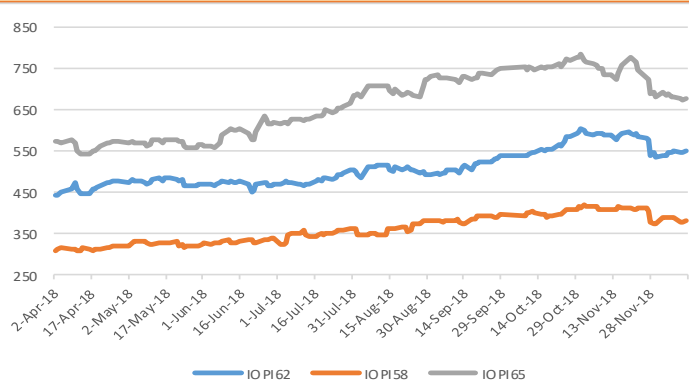
| Week Ending December 7 |               | FOT Qingdao (inc. 16% VAT), RMB/wet tonne |       |          |     |                  |                  |                   | CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne <sup>1</sup> |       |          |       |                  |                  |                   |
|------------------------|---------------|---|-------|----------|-----|------------------|------------------|-------------------|---|-------|----------|-------|------------------|------------------|-------------------|
| Index                  | Fe Content    | Price                                     | W-o-W | Change % | MTD | YTD <sup>3</sup> | Low <sup>3</sup> | High <sup>3</sup> | Price   | W-o-W | Change % | MTD   | YTD <sup>3</sup> | Low <sup>3</sup> | High <sup>3</sup> |
| IOPLI62                | 62.5% Fe Lump | 751                                       | -18   | -2.3%    | 751 | 649              | 565              | 789               | 94.55   | -2.89 | -3.0%    | 94.55 | 83.51            | 76.63            | 98.50             |

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

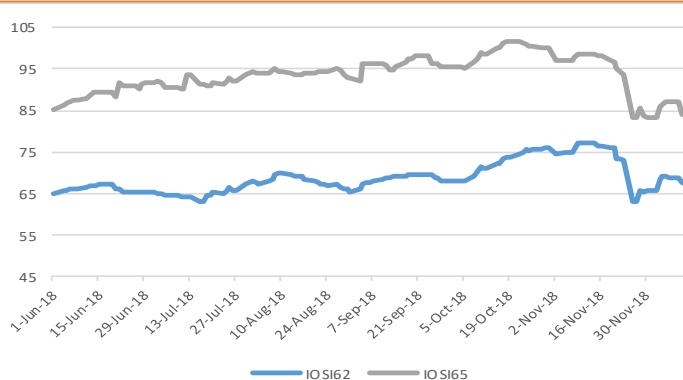
| Week Ending December 07, 2018                  |         |                    |       | RMB/tonne (excluding tax) <sup>4</sup> |          |                  |                   | USD/tonne (excluding tax) <sup>4</sup> |          |                  |                   |
|--|---------|--------------------|-------|--|----------|------------------|-------------------|--|----------|------------------|-------------------|
| 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   | 644                                    | -7.3%    | 579              | 718               | 93.58                                  | -6.5%    | 84.13            | 104.33            |
| Hebei  | Qian'an | 65% Fe Concentrate | Dry   | 690                                    | -1.4%    | 630              | 815               | 100.26                                 | -0.5%    | 91.54            | 118.42            |
| Liaoning                                       | Anshan  | 65% Fe Concentrate | Wet   | 535                                    | -3.6%    | 445              | 565               | 77.74                                  | -2.7%    | 64.66            | 82.10             |
| Shandong                                       | Zibo    | 65% Fe Concentrate | Dry   | 740                                    | 0.0%     | 620              | 815               | 107.53                                 | 0.9%     | 90.09            | 118.42            |
| Week Ending December 07, 2018                  |         |                    |       | This week                              | Change % | Low <sup>5</sup> | High <sup>5</sup> |  |          |                  |                   |
| China Mines Concentrate Composite Index RMB/WT |         |                    |       | 609.04                                 | -2.8%    | 534.50           | 676.26            |  |          |                  |                   |

<sup>1</sup> Exchange rate applied: RMB/USD = 6.9064<sup>2</sup> Since March 1 <sup>3</sup> Since June 1 <sup>4</sup> Weekly exchange rate applied: RMB/USD 6.9208 <sup>5</sup> 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

| December 12, 2018 |              | FOT Qingdao (inc. 16% VAT), RMB/wet tonne |           |         |          |     |     |                  | CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne <sup>1</sup> |           |         |          |       |       |                  |
|-------------------|--------------|---|-----------|---------|----------|-----|-----|------------------|---|-----------|---------|----------|-------|-------|------------------|
| Index             | Fe Content   | August                                    | September | October | November | MTD | QTD | YTD <sup>2</sup> | August  | September | October | November | MTD   | QTD   | YTD <sup>2</sup> |
| IOPI62            | 62% Fe Fines | 505                                       | 513       | 564     | 564      | 547 | 570 | 507              | 64.29   | 63.41     | 65.25   | 72.55    | 70.61 | 73.35 | 67.40            |
| IOPI58            | 58% Fe Fines | 363                                       | 385       | 401     | 401      | 386 | 401 | 359              | 44.14   | 44.86     | 45.84   | 50.47    | 48.77 | 50.53 | 46.41            |
| IOPI65            | 65% Fe Fines | 701                                       | 732       | 760     | 760      | 683 | 739 | 658              | 82.19   | 85.29     | 92.13   | 99.05    | 89.12 | 96.23 | 88.54            |

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

| December 12, 2018 |              | CFR Qingdao, USD/dry tonne |           |         |          |       |       |                  |
|-------------------|--------------|----------------------------|-----------|---------|----------|-------|-------|------------------|
| Index             | Fe Content   | August                     | September | October | November | MTD   | QTD   | YTD <sup>3</sup> |
| IOSI62            | 62% Fe Fines | 67.89                      | 68.79     | 72.31   | 72.91    | 68.08 | 71.90 | 68.79            |
| IOSI65            | 65% Fe Fines | 94.04                      | 96.48     | 98.97   | 94.05    | 85.53 | 94.92 | 93.65            |

FREIGHT RATES

| December 11 2018       |             | FREIGHT RATES - DRY BULK US\$/wet tonne |          |                  |                   |        |
|------------------------|-------------|---|----------|------------------|-------------------|--------|
| Route                  | Designation | Change                                  | Change % | Low <sup>5</sup> | High <sup>5</sup> |        |
| W. Australia - Qingdao | C5          | 8.48                                    | -0.50    | -5.61%           | 5.109             | 10.002 |
| Tubarao - Qingdao      | C3          | 16.64                                   | 0.06     | 0.36%            | 12.705            | 24.76  |

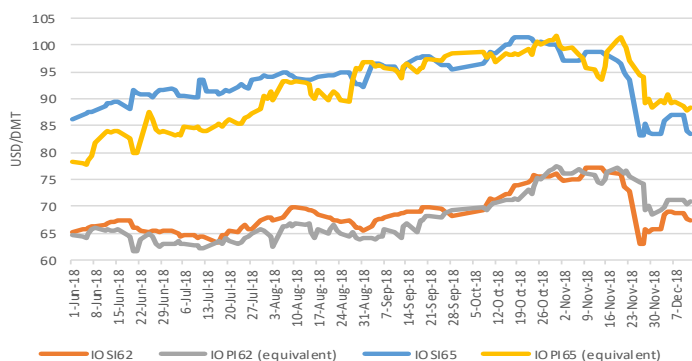
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

| Week Ending December 7 |               | FOT Qingdao (inc. 16% VAT), RMB/wet tonne |           |         |          |     |     |                  | CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne <sup>1</sup> |           |         |          |       |       |                  |
|------------------------|---------------|---|-----------|---------|----------|-----|-----|------------------|---|-----------|---------|----------|-------|-------|------------------|
| Index                  | Fe Content    | August                                    | September | October | November | MTD | QTD | YTD <sup>3</sup> | August  | September | October | November | MTD   | QTD   | YTD <sup>2</sup> |
| IOPLI62                | 62.5% Fe Lump | 652                                       | 695       | 720     | 771      | 751 | 752 | 649              | 81.74   | 87.49     | 89.65   | 96.21    | 94.55 | 93.84 | 83.51            |

Daily Iron Ore Index Report

December 12, 2018

IRON ORE INDEX COMPARISONS



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

| December 12, 2018       | PORT STOCK INDEX (RMB/WT) |        |                | December 12, 2018       | SEABORNE INDEX (USD/DMT) |        |                |
|-------------------------|---------------------------|--------|----------------|-------------------------|--------------------------|--------|----------------|
|                         | Price                     | Change | Diff to IOPI62 |                         | Price                    | Change | Diff to IOSI62 |
| Roy Hill                | 514                       | 4      | -37            | Roy Hill                | 62.01                    | 0.07   | -5.39          |
| SIMEC Fines             | 427                       | -2     | -124           | SIMEC Fines             | 57.29                    | 0.25   | -10.11         |
| PB Fines                | 532                       | 5      | -19            | PB Fines                | 66.71                    | -0.25  | -0.69          |
| Newman Fines            | 533                       | 5      | -18            | Newman Fines            | 69.24                    | -0.47  | 1.84           |
| MAC Fines               | 512                       | 3      | -39            | MAC Fines               | 62.64                    | 0.00   | -4.76          |
| Jimblebar Blended Fines | 473                       | 8      | -78            | Jimblebar Blended Fines | 54.66                    | 0.00   | -12.74         |
| Carajas Fines           | 672                       | 5      | 121            | Carajas Fines           | 81.36                    | -1.45  | 13.96          |
| Brazilian SSF           | 483                       | -2     | -68            | Brazilian SSF           | 68.34                    | -0.87  | 0.94           |
| Brazilian Blend Fines   | 541                       | 2      | -10            | Brazilian Blend Fines   | 70.34                    | -0.75  | 2.94           |
| RTX Fines               | 454                       | 6      | -97            | RTX Fines               | 57.31                    | 0.00   | -10.09         |

| December 12, 2018 | PORT STOCK INDEX (RMB/WT) |        |                |
|-------------------|---------------------------|--------|----------------|
|                   | Price                     | Change | Diff to IOPI58 |
| SSF               | 339                       | 0      | -42            |
| FMG Blended Fines | 385                       | 2      | 4              |
| Robe River        | 400                       | 13     | 19             |
| Western Fines     | 353                       | -3     | -28            |
| Atlas Fines       | 337                       | -3     | -44            |
| Yandi             | 430                       | 0      | 49             |

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%       | 11.00 | 0.00   | 1% Fe  | High Grade Fe 60 - 63%       | 2.75  | -0.25  |
|  | High Grade Fe 63 - 64%       | 43.00 | 0.00   |  | High Grade Fe 63 - 64%       | 2.00  | 0.00   |
|  | High Grade Fe 64 - 65%       | 43.00 | 0.00   |  | High Grade Fe 64 - 65%       | 2.00  | 0.00   |
|  | High Grade Fe 65 - 65.5%     | 43.00 | 0.00   |  | High Grade Fe 65 - 65.5%     | 2.00  | 0.00   |
|  | Low Grade Fe                 | 15.00 | 0.00   |  |                              |       |        |
| 1% Alumina   | High Fe Grade Al <2.25%      | 31.00 | 0.00   | 1% Alumina   | High Fe Grade Al <2.25%      | 4.75  | -0.50  |
|  | High Fe Grade Al 2.25-4%     | 56.00 | -3.00  |  | High Fe Grade Al 2.25-4%     | 0.25  | 0.00   |
|  | Low Fe Grade Al <2.25%       | 80.00 | 0.00   |  |                              |       |        |
|  | Low Fe Grade Al 2.25-4%      | 12.00 | 0.00   |  |                              |       |        |
| 1% Silica  | High Fe Grade Si <4%         | 2.00  | 0.00   | 1% Silica  | High Fe Grade Si <4%         | 1.50  | -0.25  |
|  | High Fe Grade Si 4-6.5%      | 47.00 | 3.00   |  | High Fe Grade Si 4 - 6.5%    | 2.00  | 0.00   |
|  | Low Fe Grade                 | 13.00 | 3.00   |  |                              |       |        |
| 0.01% Phosphorus                                       | High Fe Grade 0.09%<P<0.115% | 3.00  | 0.00   | 0.01% Phosphorus                                     | High Fe Grade 0.09%<P<0.115% | 0.25  | 0.00   |
|  | High Fe Grade 0.115%<P<0.15% | 5.00  | 0.00   |  | High Fe Grade 0.115%<P<0.15% | 2.75  | 0.00   |
|  | Low Fe Grade 0.09%<P<0.1%    | 3.00  | -1.00  |  |                              |       |        |

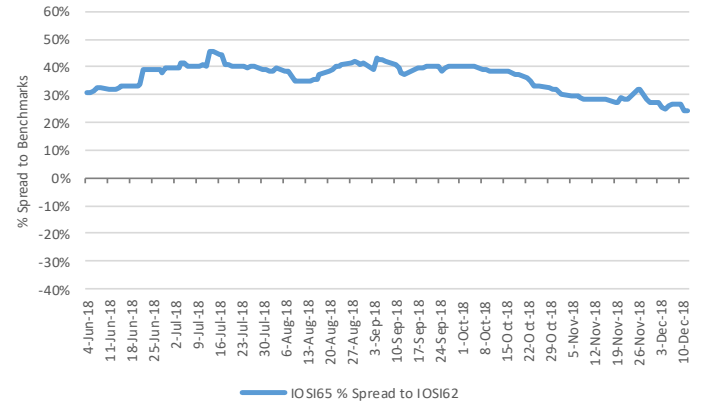
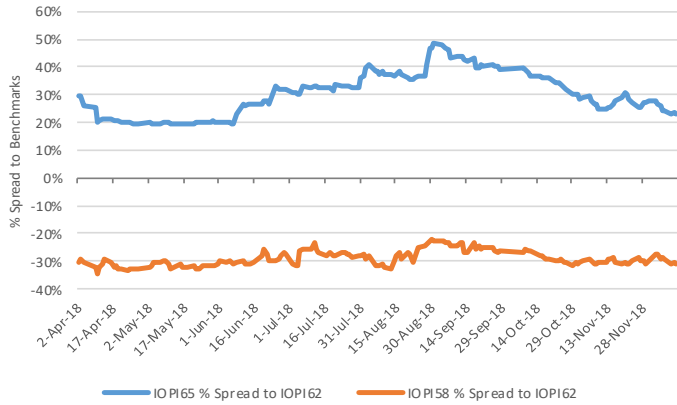
Port Stock Differentials to Qingdao Port (RMB/wet tonne)

| Port       | Value  | Change | Port      | Value  | Change | Port        | Value  | Change | Port    | Value | Change |
|------------|--------|--------|-----------|--------|--------|-------------|--------|--------|---------|-------|--------|
| Bayuquan   | -40.00 | 0.00   | Fangcheng | -5.00  | 0.00   | Lanshan     | 0.00   | 0.00   | Qingdao | 0.00  | 0.00   |
| Beilun     | 5.00   | 0.00   | Jiangyin  | -20.00 | 0.00   | Lianyungang | 0.00   | 0.00   | Rizhao  | 0.00  | 0.00   |
| Caofeidian | 0.00   | 0.00   | Jingtang  | -5.00  | 0.00   | Majishan    | 0.00   | 0.00   | Shekou  | 0.00  | 0.00   |
| Dalian     | -40.00 | 0.00   | Lanqiao   | 0.00   | 0.00   | Nantong     | -20.00 | 0.00   | Tianjin | 0.00  | 0.00   |

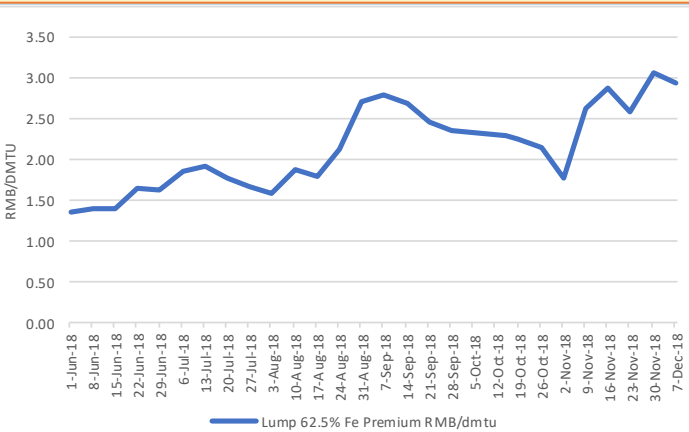
IRON ORE INDEX PREMIUMS/DISCOUNTS

| December 12, 2018 |                  | PORT STOCK INDEX (RMB/WT) |  |
|-------------------|------------------|---------------------------|--|
| Fe Content        | Spread to IOPI62 | % Spread to IOPI62        |  |
| 58% Fe Fines      | <b>-170</b>      | -30.85%                   |  |
| 65% Fe Fines      | <b>128</b>       | 23.23%                    |  |

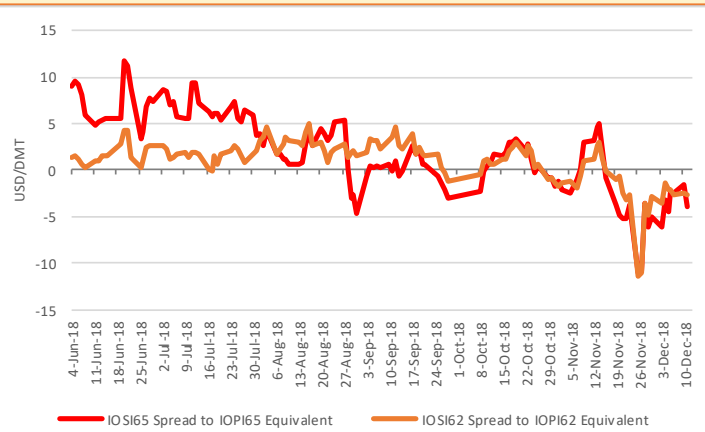
| December 12, 2018 |                  | SEABORNE INDEX (USD/DMT) |  |
|-------------------|------------------|--------------------------|--|
| Fe Content        | Spread to IOSI62 | % Spread to IOSI62       |  |
| 65% Fe Fines      | <b>16.15</b>     | 23.96%                   |  |



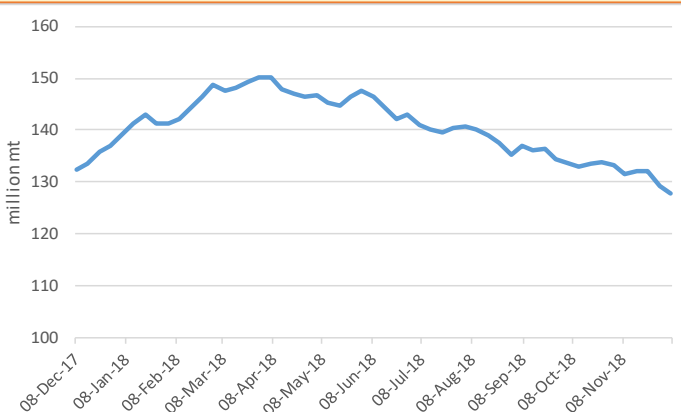
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (62.5% FE LUMP—62% FE FINES)



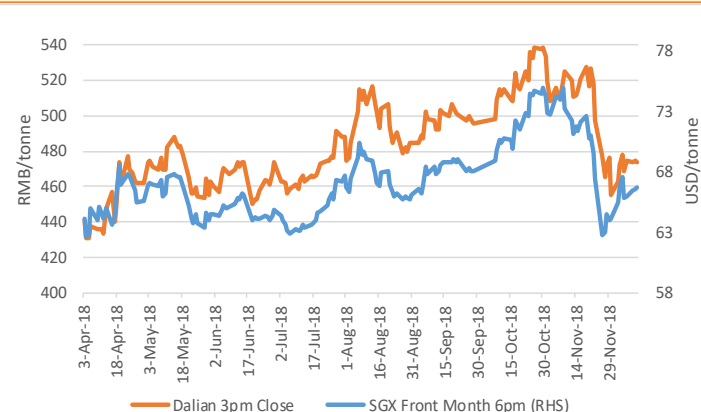
IRON ORE SEABORNE TO PORT STOCK SPREADS



TOTAL IRON ORE INVENTORIES AT CHINA PORTS



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES

| Week Ending December 07, 2018 (million tonnes) |               |               |                  |                   |
|--|---------------|---------------|------------------|-------------------|
| Province                                       | This week     | Change %      | Low <sup>4</sup> | High <sup>4</sup> |
| Jingtang                                       | 13.70         | 3.09%         | 13.29            | 19.00             |
| Qingdao  | 16.09         | -4.79%        | 16.09            | 19.97             |
| Caofeidian                                     | 18.60         | -3.33%        | 16.70            | 25.30             |
| Tianjin  | 9.80          | -1.01%        | 8.50             | 11.00             |
| Rizhao   | 14.75         | -0.47%        | 14.75            | 19.00             |
| <b>Total (35 Ports)</b>                        | <b>127.72</b> | <b>-1.19%</b> | 127.72           | 150.04            |

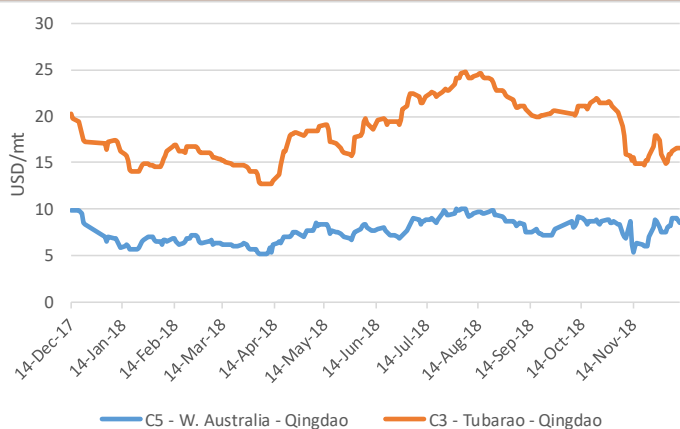
IRON ORE FUTURES CONTRACTS

| Closing Date               | DCE              |        |          | SGX         |        |          |
|----------------------------|------------------|--------|----------|-------------|--------|----------|
|                            | 12 Dec 3pm close |        |          | 12 Dec 6 pm |        |          |
| Contract                   | 11905            | Change | Change % | Dec'18      | Change | Change % |
| Closing Price              | 474.0            | -1.0   | -0.21%   | 66.75       | 1.80   | 2.77%    |
| Vol traded ('000 lots)     | 100.27           | 24.0   | 31.46%   | 1.05        | -6.83  | -86.72%  |
| Open positions ('000 lots) | 57.91            | 1.7    | 3.09%    | 98.85       | 0.74   | 0.75%    |
| Day Low                    | 472.0            | 4.0    | 0.85%    | 66.60       | 2.19   | 3.40%    |
| Day High                   | 483.0            | 7.0    | 1.47%    | 67.00       | 2.05   | 3.16%    |

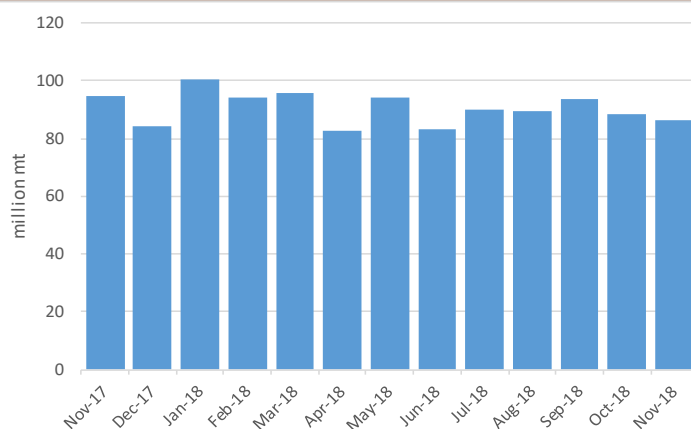
## Daily Iron Ore Index Report

December 12, 2018

### DRY BULK FREIGHT RATES



### TOTAL CHINA IRON ORE IMPORT VOLUMES

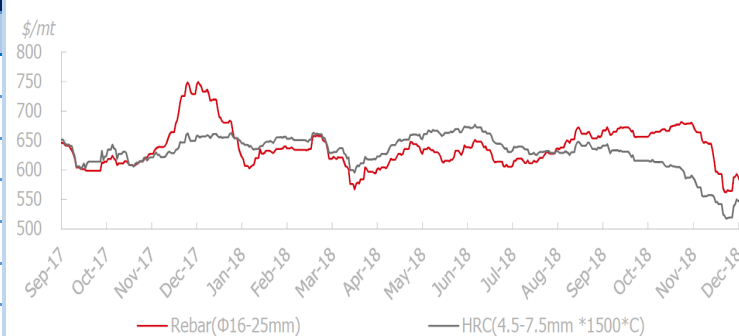


### Steel Spot Market Prices - China

#### Steel Spot Market RMB/tonne

| Product                         | 7/12/2018 | Change | Change % |
|---------------------------------|-----------|--------|----------|
| ReBar HRB400 φ18mm              | 3,999.0   | 85     | 2.17%    |
| Wirerod Q300 φ6.5mm             | 4,103.0   | 124    | 3.12%    |
| HRC Q235/SS400 5.5mm*1500*C     | 3,750.0   | -6     | -0.16%   |
| CRC SPCC/ST12 1.0mm*1250*2500   | 4,273.0   | 97     | 2.32%    |
| Medium & Heavy Plate Q235B 20mm | 3,856.0   | 106    | 2.83%    |
| GI ST02Z 1.0mm*1000*C           | 4,625.0   | 40     | 0.87%    |
| Billet Q235 150*150mm           | 3,310.0   | 230    | 7.47%    |

#### Rebar and HRC spot prices



### CHINESE STEEL EXPORT PRICES

#### China Export Prices USD/tonne

| Product              | Specification                 | Export tax (+)/Vate rebate (-) | Change |
|----------------------|-------------------------------|--------------------------------|--------|
| 7/12/2018            |                               |                                |        |
| Rebar                | BS4449 460B 12-25mm, + chrome | -13%                           | 505 0  |
| Wire Rod             | SAE1008 6.5-10mm +chrome      | -9%                            | 520 0  |
| Hot-rolled coil      | SS400/Q235 4.0-10.mm          | -9%                            | 495 0  |
| Cold-rolled coil     | SPCC 1.0mm                    | -13%                           | 540 0  |
| Medium & Heavy plate | A-level Shipe plate 12-25mm   | 0%                             | 540 0  |
| Galvanised           | ST02Z/SGCC 1.0mm              | -13%                           | 570 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              | 7/12/2018    | 30/11/2018   | Change      | Change %      |
|----------------------|--------------|--------------|-------------|---------------|
| Rebar                | 2,931        | 2,980        | -49         | -1.64%        |
| Wirerod              | 978          | 1,002        | -24         | -2.40%        |
| Hot-rolled Coil      | 2,026        | 2,124        | -98         | -4.61%        |
| Medium & Thick Plate | 1,021        | 1,079        | -58         | -5.38%        |
| Cold-rolled Coil     | 1,102        | 1,155        | -53         | -4.59%        |
| <b>Total</b>         | <b>8,058</b> | <b>8,340</b> | <b>-282</b> | <b>-3.38%</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     | 71.17 | 1.18         | Mmi CFR Equivalent index for 12th October         |
| Coke                                   | 2,160 | 0            | 2nd grade met coke, Tangshan, incl. tax           |
| Steel Scrap                            | 2,050 | 80           | steel scrap (6mm) in Zhangjiagang, excl. tax      |
| Billet Cost                            | 2,894 | 23           | Q234, incl. tax                                   |
| Rebar cost - Blast furnace             | 3,163 | 23           | calculated based on theoretical weight, incl. tax |
| Rebar profit - Blast furnace           | 667   | 107          | based on Shanghai prices, incl. tax               |
| Hot-rolled coil cost - Blast furnace   | 3,219 | 23           | based on actual weight, incl. tax                 |
| Hot-rolled coil profit - Blast furnace | 511   | 117          | 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. |                  |  |  |  |  |     |     |     |            |   |   |   |                |   |  |   |                 |   |  |  |
| 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   | 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>   |                  |  |  |  |  |     |     |     |            |   |   |   |                |   |  |   |                 |   |  |  |
| Sizing  | Granular size below 10mm for at least 90% of cargo; maximum of 40% below 150 micron |              |              | Size below 6.3mm max 15%<br>Size above 31.15mm max 25%   | <table border="1"> <thead> <tr> <th colspan="4">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   | * Number of price submissions for iron ore indices that were excluded from index calculations today as they were anomalous and could not be verified   |                  |  |  |  |  |     |     |     |            |   |   |   |                |   |  |   |                 |   |  |  |
| 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                                      |  |                  |  |  |  |  |     |     |     |            |   |   |   |                |   |  |   |                 |   |  |  |

**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         |  |         |        |        |          |
|-------------------------|--|---------|--------|--------|----------|-------------------------|--|---------|--------|--------|----------|
| December 12, 2018       | 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                | 61.56%   | 2.32%   | 3.58%  | 0.100% | 9.40%    | PB Fines 62%            | 62.00%   | 2.60%   | 4.30%  | 0.090% | 10.00%   |
| Newman Fines            | 62.29%   | 2.48%   | 4.17%  | 0.090% | 7.99%    | Newman Fines            | 62.80%   | 2.20%   | 4.30%  | 0.080% | 6.40%    |
| MAC Fines               | 60.93%   | 2.26%   | 4.64%  | 0.090% | 7.41%    | MAC Fines               | 61.00%   | 2.70%   | 4.70%  | 0.110% | 9.30%    |
| Jimblebar Blended Fines | 61.32%   | 2.92%   | 4.18%  | 0.120% | 7.04%    | Jimblebar Blended Fines | 61.79%   | 2.67%   | 4.08%  | 0.115% | 7.16%    |
| Carajas Fines           | 64.77%   | 1.21%   | 2.32%  | 0.060% | 8.20%    | 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   | 62.85%   | 1.48%   | 4.87%  | 0.070% | 8.34%    | 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%    |
| December 12, 2018       | SPECIFICATIONS APPLIED FOR 58% BRAND ASSESSMENTS |         |        |        |          |                         |  |         |        |        |          |
|                         | Fe   | Alumina | Silica | Phos   | Moisture |                         |  |         |        |        |          |
| SSF                     | 56.52%   | 3.04%   | 6.18%  | 0.050% | 9.33%    |                         |  |         |        |        |          |
| FMG Blended Fines       | 58.27%   | 2.69%   | 5.62%  | 0.060% | 7.42%    |                         |  |         |        |        |          |
| Robe River              | 56.63%   | 2.88%   | 1.85%  | 0.040% | 9.09%    |                         |  |         |        |        |          |
| Western Fines           | 57.73%   | 2.88%   | 7.25%  | 0.060% | 7.45%    |                         |  |         |        |        |          |
| Atlas Fines             | 56.59%   | 2.55%   | 7.14%  | 0.080% | 8.46%    |                         |  |         |        |        |          |
| Yandi                   | 57.30%   | 1.37%   | 6.31%  | 0.040% | 9.15%    |                         |  |         |        |        |          |

**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                               |

**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)

Visit [www.mmiprices.com](http://www.mmiprices.com) for full index price histories and archive of daily reports

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.