

## IRON ORE PORT STOCK INDEX (IOPI)

September 17 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	504	-11	-2.1%	502	484	443	559	65.13	-1.62	-2.4%	64.96	65.34	61.36	77.89
IOPI58	58% Fe Fines	385	9	2.4%	381	341	304	385	48.83	1.13	2.4%	48.32	44.72	40.67	50.97
IOPI65	65% Fe Fines	722	-11	-1.5%	726	626	541	735	94.92	-1.71	-1.8%	95.70	85.44	75.83	97.10

## 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>	<sup>1</sup> Exchange rate applied: RMB/USD = 6.8509 <sup>2</sup> Since March 1 <sup>3</sup> Weekly exchange rate applied: RMB/USD 6.8455 <sup>4</sup> Last 12 months			
China Mines Concentrate Composite Index RMB/WT				633.00	1.6%	534.50	633.00				

## MARKET COMMENTARY

Sixty-seven vessels carrying 9.86 million mt of iron ore are expected to arrive at major Chinese ports during September 14-20, up 370,000 mt from 9.49 million mt during September 7-13 as overseas ports recover from maintenance, SMM data showed. For the same period, volumes of iron ore departing Australian ports are likely to increase by 220,000 mt to stand at 16.01 million mt; those leaving Brazilian ports are likely to grow 280,000 mt to 7.29 million mt. Physical mid-grade iron ore port stock quotes eased in a weak market. Traders sought material actively, believing that mills will restock prior to the National Day holiday. According to SMM research, most mills have insufficient inventory. This is likely to support iron ore prices.

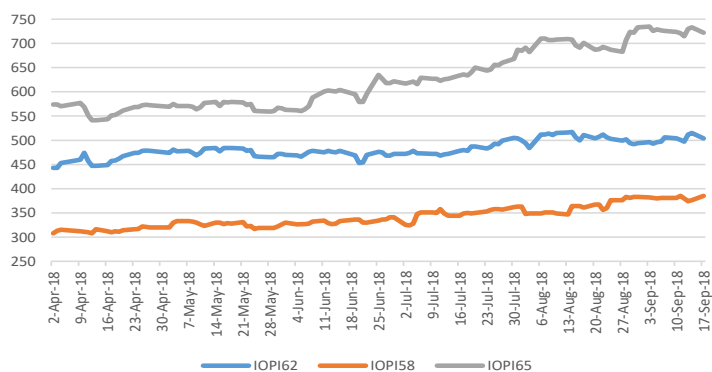
## PLATFORM TRADES AND TENDERS

62% Fines trades at Oct index +US\$0.20 for 210,000t for 7-16 Oct LAYCAN

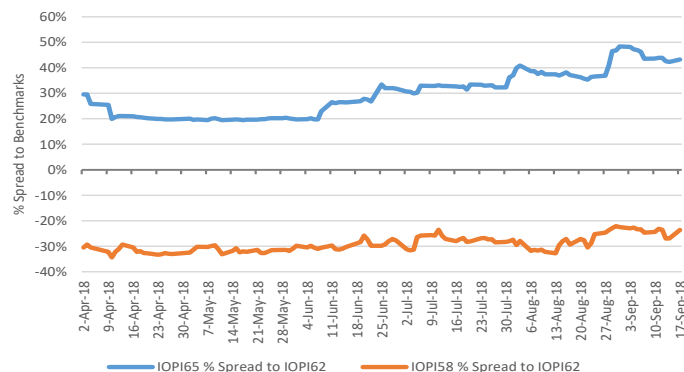
## IRON ORE HIGH/LOW GRADE PREMIUM/DISCOUNT

September 17 2018	PORT STOCK INDEX (RMB/WT)	
Fe Content	Spread to IOPI62	% Spread to IOPI62
58% Fe Fines	-119	-23.61%
65% Fe Fines	218	43.25%

## 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 17 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	502	495	484	65.87	64.29	63.41	65.25	64.96	64.47	65.34
IOPI58	58% Fe Fines	326	332	349	363	381	361	341	43.75	44.14	44.86	45.84	48.32	45.94	44.72
IOPI65	65% Fe Fines	571	594	638	701	726	681	626	79.76	82.19	85.29	92.13	95.70	90.14	85.44

## IRON ORE FUTURES CONTRACTS

Closing Date	DCE			SGX		
	17 Sept 3pm close			17 Sept 6pm		
Contract	I1901	Change	Change %	Oct'18	Change	Change %
Closing Price	500.0	-1.5	-0.30%	68.78	0.08	0.12%
Vol traded ('000 lots)	126.90	24.3	23.67%	6.95	-2.88	-29.33%
Open positions ('000 lots)	71.15	-6.2	-8.04%	129.77	3.68	2.92%
Day Low	498.0	-1.0	-0.20%	68.31	0.11	0.16%
Day High	503.0	-2.0	-0.40%	68.78	0.00	0.00%

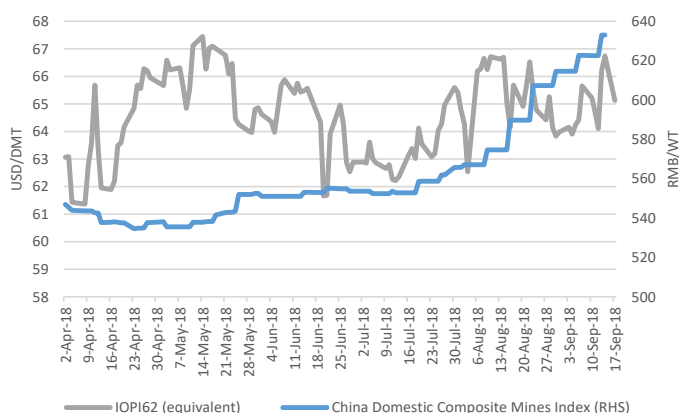
## IRON ORE PORT INVENTORIES

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

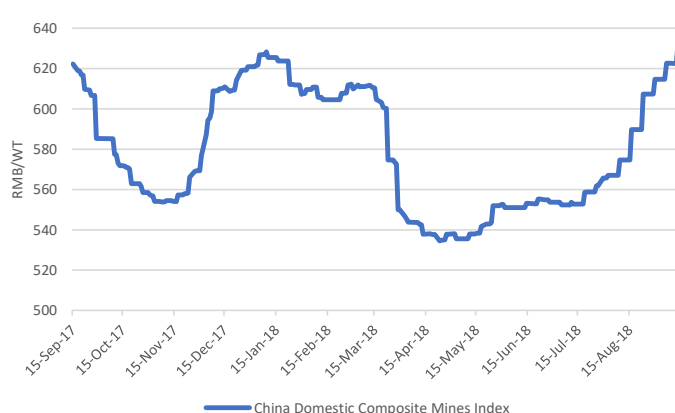
## Daily Iron Ore Index Report

September 17, 2018

### MMi BENCHMARK IRON ORE PRICES



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



### IRON ORE BRAND SPOT PRICE ASSESSMENTS

September 17 2018	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI62
Newman Fines	490	-11	-14
SIMEC Fines	463	-11	-41
PB Fines	495	-11	-9
Newman Fines	505	-11	1
MAC Fines	488	-10	-16
Jimblebar Blended Fines	459	-12	-45
Carajas Fines	714	-11	210
Brazilian SSF	555	-11	51
Brazilian Blend Fines	538	-10	34
RTX Fines	471	-11	-33

September 17 2018	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	310	5	-75
FMG Blended Fines	377	7	-8
Robe River	337	4	-48
Western Fines	327	6	-58
Atlas Fines	314	8	-71
Yandi	377	12	-8

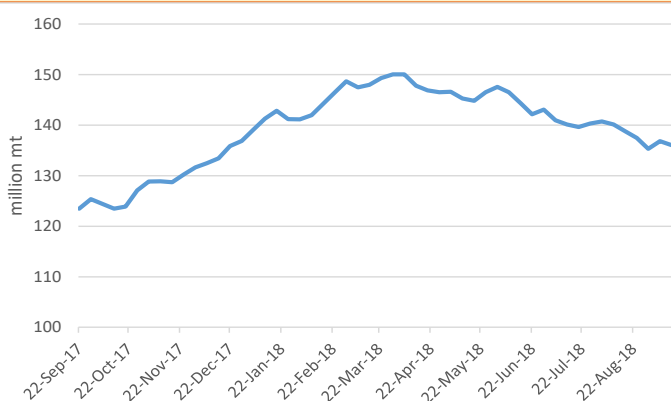
### AVERAGE IRON ORE BRAND SPECIFICATIONS FOR PORT STOCK SALES

September 17 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	61.69%	2.35%	3.56%	0.100%	9.20%
Newman Fines	62.37%	2.39%	4.09%	0.090%	7.94%
MAC Fines	61.00%	2.29%	4.61%	0.090%	7.43%
Jimblebar Blended Fines	61.39%	2.88%	4.52%	0.110%	6.97%
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	62.68%	1.51%	4.86%	0.060%	8.72%
RTX Fines	61.00%	3.10%	4.50%	0.135%	7.50%

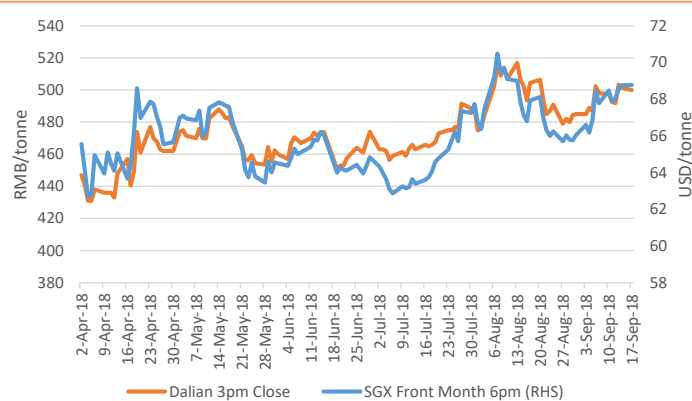
  

September 17 2018	SPECIFICATIONS APPLIED FOR 58% BRAND ASSESSMENTS				
	Fe	Alumina	Silica	Phos	Moisture
SSF	56.52%	3.06%	6.28%	0.050%	9.13%
FMG Blended Fines	58.38%	2.73%	5.85%	0.070%	7.16%
Robe River	56.74%	3.14%	5.05%	0.030%	8.75%
Western Fines	57.70%	2.81%	7.38%	0.060%	7.42%
Atlas Fines	56.59%	2.55%	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 14, 2018	Route	Designation	FREIGHT RATES - DRY BULK US\$/wet tonne				
			Change	Change %	Low <sup>4</sup>	High <sup>4</sup>	
	W. Australia - Qingdao	C5	7.49	-0.01	-0.19%	5.109	10.002
	Tubarao - Qingdao	C3	20.08	-0.25	-1.25%	12.705	24.76

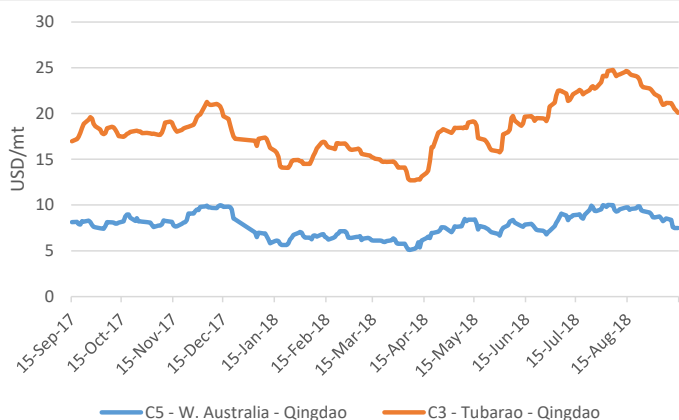
### BLOOMBERG

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

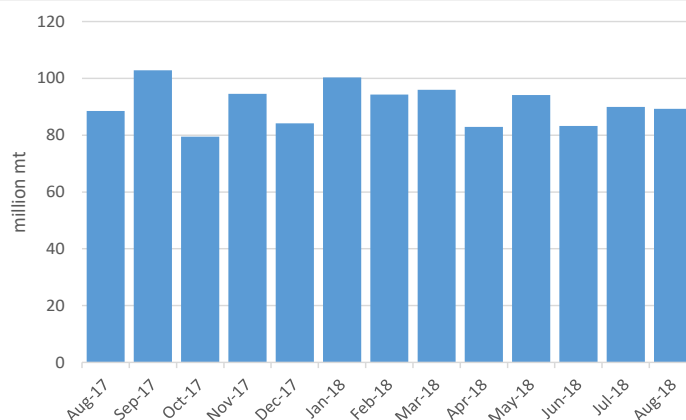
## Daily Iron Ore Index Report

September 17, 2018

### DRY BULK FREIGHT RATES



### TOTAL CHINA IRON ORE IMPORT VOLUMES

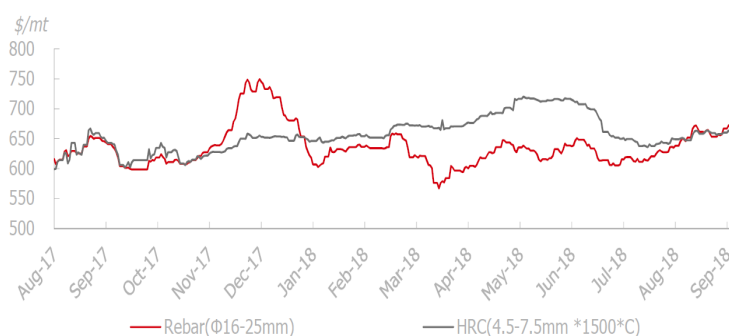


### Steel Spot Market Prices - China

#### 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 4.0-10.0mm	-9%	580 0
Cold-rolled coil	SPCC 1.0mm	-13%	615 0
Medium & Heavy plate	A-level Shipe 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.	
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			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>	
Payment Terms	L/C at sight				
<b>Data Exclusions*</b>					
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					

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%	10.00	0.00	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%	57.00	0.00	Jiangyin	-30.00	0.00
	High Fe Grade Al 2.25-4%	17.00	0.00	Jingtang	-20.00	0.00
	Low Fe Grade	35.00	5.00	Lanshan	0.00	0.00
1% Silica	High Fe Grade Si <4%	7.00	0.00	Lanqiao	0.00	0.00
	High Fe Grade Si <4 - 6.5%	13.00	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%	1.00	0.00	Qingdao	0.00	0.00
	High Fe grade 0.115%<P<0.15%	2.00	0.00	Rizhao	0.00	0.00
	Low Fe Grade 0.08 < P < 0.15%	4.00	0.00	Tianjin	-25.00	0.00

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