

The analyses of the products obtained were as follows:—

<i>Pig Iron (before addition of Ferro-silicon).</i>					Per Cent.
Carbon by combustion	..	..	..	..	3.155
Silicon	..	..	..	..	0.070
Sulphur	..	..	..	..	0.017
<i>Pig Iron (as Cast).</i>					
Graphitic carbon	..	..	..	..	2.419
Combined carbon	..	..	..	..	0.380
Silicon	..	..	..	..	2.308
Sulphur	..	..	..	..	0.010
Phosphorus	..	..	..	..	0.279
Manganese	..	..	..	..	0.237
Titanium	..	..	..	..	0.093
Total carbon, 2.799.					
<i>Slag.</i>					
Silica	..	..	..	..	20.62
Titanic oxide	..	..	..	..	13.34
Alumina	..	..	..	..	8.50
Ferrous oxide	..	..	..	..	3.54
Oxide of manganese	..	..	..	..	1.10
Lime	..	..	..	..	35.47
Magnesia	..	..	..	..	16.57
Phosphoric anhydride	..	..	..	..	0.11

HEAT 11.

This heat followed on immediately after the last heat had been teemed. The composition of the charges was similar to that used in heat 10 and was as follows: Ironsands, 600 lb.; coke-dust, 70 lb.; coke-breeze, 40 lb.; lime, 50 lb.

The materials were intimately mixed as before. In this heat, however, three charges as above were put in with intervals of approximately an hour between each. The reduction of the total charge of 1,800 lb. of ore was complete, and the slag tapped after 5 hours 20 minutes.

For carburization 23 lb. of carburite and 42 lb. of coke-dust was used, and later 10 lb. coke-dust was added, and was completed in 2 hours 5 minutes; 99 lb. ferro-silicon was then added, and the metal tapped after a total run of 8 hours 12 minutes.

Electrical Measurements.—Heat 11.

Date: 26th August, 1921.

Time.	Volts.	Amps.	Watts.	Units.		Remarks.
				No. 1.	No. 2.	
11.45	494,657	504,862	First charge.
11.55	Full tap.
12.00	..	160	2,600	360	..	..
12.15	..	154	2,500	360	..	..
12.30	..	160	2,500	360	..	..
12.45	..	164	2,450	360	..	..
12.57	494,828	505,050	Second charge; off for 7 minutes.
1.15	..	154	2,500	365	..	..
1.30	..	164	2,350	370	..	..
1.45	..	162	2,500	365	..	..
2.00	..	162	2,400	365	..	..
2.01	494,981	505,207	Third charge; off for 15 minutes.
2.30	..	156	2,500	360	..	Off for 2 minutes.
2.45	..	166	2,350	370	..	..
3.00	..	150	2,600	375	..	..
3.15	..	155	2,500	365	..	..
3.20	Off for 15 minutes; boil-over.
3.45	..	160	2,500	355	..	..
4.15	..	160	2,400	365	..	..
4.30	..	168	2,300	375	..	..
4.45	..	150	2,550	375	..	Off for 6 minutes.
5.00	495,374	405,621	Off for 33 minutes, slagging.
5.45	..	100	1,800	185	..	..
6.15	..	94	2,300	205	..	Off for 13 minutes.
6.50	..	100	2,050	200	..	..
7.15	..	100	2,050	195	..	Off for 14 minutes.
7.52	..	Off	..	495,525	505,790	..