

## Bureau of Standards

## Certificate of Analysis

OF

STANDARD SAMPLE No. 13a

## BASIC OPEN-HEARTH STEEL, 0.6% CARBON

ANALYST.	CARBON.			SILICON.		PHOSPHORUS.				SULPHUR.			MANGANESE.				
	DIRECT COMBUSTION.	SOLUTION AND COMBUSTION.	COLORIMETRY.	DROWN METHOD.	OTHER METHODS.	ALKALI-MOLYBDATE.	MOLYBDATE REDUCTION.	WEIGHING PHOSPHO-MOLYBDATE.	AS $Mg_2P_2O_7$ FROM PHOSPHO-MOLYBDATE.	OXIDATION.	EVOLUTION (Cob-Iodine).	OTHER METHODS.	FORD (Weighing as $Mn_2P_2O_7$ ).	FORD-WILLIAMS.	VOLHARD.	BISMUTHATE.	COLOR (Persulphate).
1	.573				.13	.015				.028		.028 <sup>a</sup>					.64
2	.588				.12		.017			.031		.028 <sup>a</sup>					.63
3	.589	.588			.12		.014		.014	.029	.029						.63
4	.567	.564		.12	.12		.012			.033		.022 <sup>b</sup>					.62
5	.584		.57	.11			.014	.014		.035	.035						.62
6	.570					.015				.035	.032			.64			
7		.590	.60	.12		.013					.031		.64				.63
8		.590		.11	.11	.013		.013			.031		.64				.65
9		.579			.11			.013			.031						.62
10	.584	.577		.11		.013		.013		.035	.034 <sup>c</sup>				.64		.65
AVERAGE	.579	.581	.585	.114	.118	.014	.014	.013	.014	.032	.032	.028	.64	.64	.64	.63	.64
GENERAL AVERAGE	.581			.116		.014				.032			.635				

<sup>a</sup> Evolution= $H_2O_2$ - $BaSO_4$ .<sup>b</sup> Evolution= $PbS$ - $BaSO_4$ , omitted from averages.<sup>c</sup> Evolution= $ZnS$ -iodine.

## INDEX TO ANALYSTS

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|--|--|
| 1. John R. Cain, Bureau of Standards.  | 6. George P. Vanier, Pennsylvania Steel Co., Steelton, Pa. |
| 2. L. F. Witmer, Bureau of Standards.  | 7. W. D. Brown, Carnegie Steel Co., Duquesne Works.        |
| 3. Porter W. Shimer, Easton, Pa.   | 8. C. H. Rich, Carnegie Steel Co., Clairton Works.         |
| 4. Booth, Garrett & Blair, Philadelphia, Pa.                                     | 9. J. L. Harvey, Carnegie Steel Co., Homestead Works.      |
| 5. Jones & Laughlin Steel Co., South Side Department Laboratory, Pittsburgh, Pa. | 10. Carnegie Steel Co., Edgar Thomson Works.               |

This standard is not recommended for colorimetric carbon determinations, because of uncertainty as to the condition of the carbon.

S. W. STRATTON,  
Director.

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