

Bureau of Standards

Certificate of Analyses

OF

STANDARD SAMPLE No. 23a

BESSEMER STEEL, 0.8% CARBON

ANALYST.	CARBON.		SILICON.		PHOSPHORUS.		SULPHUR.			MANGANESE.		CHROMIUM.	NICKEL.	VANADIUM.
	DIRECT COMBUSTION.	SULPHURIC ACID DEHYDRATION.	OTHER METHODS.	ALKALI-MOLYBDATE.	OTHER METHODS.	GRAVIMETRIC.		EVOLUTION (ZnS-Iodine).	BISMUTHATE (FeSO ₄ -KMnO ₄).	OTHER METHODS.	COPPER (H ₂ S-CuS-CuO).			
						DIRECT OXIDATION (FUSAL PRECIPITATION IN REDUCED SOLUTION).	OTHER METHODS.							
1.....	.885	.156		.104		.039		.034	.640		.015	.01	.006	trace.
2.....	.877	.160		.100		.039		.033	.629		.016			
3.....	.909	.170		.104		.041		.039	.622		.007			
4.....	.887		.160 ^a	.103				.035		.627 ^b				
5.....	.889	.162		.105	.102 ^e	.037	.037 ^d	.032	.64		.01 ^g .015			
6.....	.871	.158		.106	.107 ^f			.033	.625		.013			
7.....	.88		.16 ^j	.097			.038 ^g	.036 ^h	.64		.01 ⁱ			
8.....	.896	.164	.159 ^j	.103		.039		.036 ^h	.640	.630 ^k	.023			
9.....	.879		.143 ^j					.035 ^h	.63 ^k	.64 ^b				
10.....	.88	.157		.099		.037		.039	.645		.013			
11.....	.891 .893 ^l	.164	.163 ^j	.101	.102	.036		.037	.620	.630 ^b	.010			
12.....	.87	.165		.097	.101 ^m	.037	.037 ^d	.037	.65	.63 ⁿ	.02			
AVERAGE.....	.885	.162	.157	.102	.103	.038	.037	.036	.635	.631	.014	.01	.006	trace.
GENERAL AVERAGE.....	.885	.160		.102		.038		.036	.634		.014	.01	.006	trace.

^a HCl dehydration.^b Persulphate-Arsenite.^c Weighed as Mg₂P₂O₇.^d Precipitated in FeCl₃ solution.^e Na₂S₂O₃-CuS-CuO.^f Weighed yellow precipitate.^g Solution in aqua regia.^h Absorption in ammoniacal CdCl₂.ⁱ Electrolysis.^j Drown's method.^k Bismuthate-Arsenite.^l Weighing as BaCO₃.^m Reduced with ammonium bisulphite and precipitated at 85° C.ⁿ Arsenite titration.

INDEX TO ANALYSTS

- J. I. Hoffman, Bureau of Standards.
- Routine Laboratory, Bureau of Standards, H. A. Bright in charge.
- G. W. Angell, The Hydraulic Steel Co., Cleveland, Ohio.
- A. Sloan, Watertown Arsenal, Watertown, Mass.
- William Brady, Illinois Steel Co., Chicago, Ill.
- W. D. Brown, Carnegie Steel Co., Pittsburgh, Pa.
- Arthur D. Little (Inc.), Cambridge, Mass.

- J. V. Emmons, The Cleveland Twist Drill Co., Cleveland, Ohio.
- A. D. Shankland, The Bethlehem Steel Co., Bethlehem, Pa.
- General Electric Co., Schenectady, N. Y.
- J. L. Mayberry, Republic Iron & Steel Co., Youngstown, Ohio.
- W. D. Huffman, General Motors Corporation, Detroit, Mich.

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

Washington, D. C.

S. W. STRATTON,
Director.