

DEPARTMENT OF COMMERCE

S. S. Record File

Bureau of Standards

Certificate of Analyses

OF

STANDARD SAMPLE No. 8b

BESSEMER STEEL, 0.1% CARBON

| ANALYST. | CARBON. | | | | SILICON (Dehydration by hydrochloric acid). | PHOSPHORUS. | | | | SULPHUR. | | MANGANESE. | | COPPER. | CHROMIUM. | NICKEL. | VANADIUM. |
|-----------------|---------------------------|--------------------------------|--------------------------|--------------|---|-------------------|----------------------|-----------------------------|--|-------------------|-------------------|-------------|-----------------------------------|---------|-----------|---------|-----------|
| | DIRECT COMBUSTION (ONCE). | DIRECT COMBUSTION (REBURNING). | SOLUTION AND COMBUSTION. | COLORIMETRY. | | ALKALI-MOLYBDATE. | MOLYBDATE REDUCTION. | WEIGHING PHOSPHO-MOLYBDATE. | AS Mg ₂ P ₂ O ₇ FROM PHOSPHO-MOLYBDATE. | DIRECT OXIDATION. | MEINEKE'S METHOD. | BISMUTHATE. | PERSULPHATE (Arsenite titration). | | | | |
| 1 | | | | | 0.001 | 0.106 | | | | 0.102 | 0.393 | | 0.018 | 0.009 | 0.006 | <.005 | |
| 2 | | | | | .002 | .103 | | | | .104 | .394 | | .023 | .007 | .010 | .006 | |
| 3 | | | | | .003 | | 0.100 | 0.101 | 0.101 | .105 | .388 | | .021 | | | | |
| 4 | | | | | .003 | | .103 | | | .106 | .389 | | | | | | |
| 5 | | | | | .002 | .102 | | | .107 | .107 | .40 | | .022 | | | | |
| 6 | | | | | .005 | .110 | 0.104 | | | .100 | 1.385 | | .018 | | | | |
| 7 | | | | | .004 | .109 | .104 | | | .101 | .390 | | .020 | | | | |
| 8 | | | | | .003 | .103 | .103 | | | .099 | .385 | 0.39 | .021 | | | | |
| AVERAGE..... | | | | | | .106 | .102 | .104 | .101 | .105 | .103 | .391 | .39 | | | | |
| GENERAL AV..... | | | | | .003 | .104 | | | | .103 | .390 | | .020 | .008 | .008 | | |

¹ Same by bismuthate-arsenite method.

NOTE.—The percentages of carbon by direct combustion reported for this steel varied from .050 to .075 per cent and rechecking failed to bring them closer together. It was therefore decided to issue the certificate without the carbon values.

INDEX TO ANALYSTS

- | | |
|---|--|
| 1. L. F. Witmer, Bureau of Standards. | 6. W. D. Brown, Carnegie Steel Co., Duquesne Works. |
| 2. F. H. Tucker, Bureau of Standards. | 7. J. L. Harvey, Carnegie Steel Co., Homestead Works. |
| 3. Porter W. Shimer & Son, Easton, Pa. | 8. I. A. Nicholas, Carnegie Steel Co., Clairton Works. |
| 4. Booth, Garrett & Blair, Philadelphia, Pa. | |
| 5. H. E. Slocum, Jones & Laughlin Steel Co., South Side Department Laboratory, Pittsburgh, Pa. | |

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

S. W. STRATTON,
Director.

Washington, D. C.

Sept. 1, 1918.