

Certificate of Analysis

STANDARD REFERENCE MATERIAL 122e

Cast Iron Car Wheel

ANALYSTS	C		Mn	P	S	Si	Cu	Ni	Cr	V	Mo	Ti	N	As
	Total	Graphitic	Persulfate-arsenite		Combustion-Iodate	Perchloric acid dehydration	Photometric				Photometric	Photometric	Distillation-titration	
1	3.50	2.78	0.527	0.347 ^a	0.073	0.511 ^b	0.034 ^c	0.078 ^d	0.038 ^e	0.032 ^f	0.001	0.026 ^g	0.009	0.018 ^h
2	3.52	2.77	.528	.351 ⁱ	.074	.510	.032 ^j	.082 ^k	—	—	—	—	—	—
Average	3.51	2.78	0.528	0.349	0.074	0.510	0.033	0.080	—	—	—	—	—	—

^a Molybdenum-blue photometric method.

^b Double dehydration.

^c Diethyldithiocarbamate photometric method.

^d Dimethylglyoxime photometric method.

^e Chromium separated from the bulk of the iron in a 10-g sample by hydrolytic precipitation with NaHCO₃. Persulfate oxidation and potentiometric titration with ferrous ammonium sulfate solution.

Vanadium separated from the bulk of the iron by mercury cathode, oxidized with KMnO₄ and titrated potentiometrically with ferrous ammonium sulfate solution.

^f Diantipyrylmethane photometric method.

^g Activation analysis.

^h Alkalimetric method.

ⁱ Neocuproine photometric method.

^k Weighed as nickel dimethylglyoxime.

List of Analysts

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The overall direction and coordination of the technical measurements leading to certification were performed under the chairmanship of O. Menis and J. I. Shultz.

The technical and support aspects involved in the preparation, certification and issuance of this Standard Reference Material were coordinated through the Office of Standard Reference Materials by R. E. Michaelis.

The iron for the preparation of this standard was furnished by the American Cast Iron Pipe Company, Birmingham, Alabama.