U. S. Department of Commerce
Maurice H. Stans
Secretary

National Bureau of Standards
L. M. Branscomb, Director

Certificate of Analysis

Standard Reference Material 6g

Cast Iron

	C		Mn	P	S	Si	Cu	Ni	Cr	V	Mo	Ti	As	N
ANALYST	Total	Graphite	Peroxydisulfate-arsenite	Photometric	Combustion-titration	$HClO_4$ dehydration	Photometric	Photometric			Photometric	Photometric	Photometric	Distillation-Photometric
1	2.82	2.01	1.07	{0.555[a] .551[b]}	0.126[c]	1.06[d]	0.499[e]	0.136	0.360[f]	0.059[g]	0.038	0.052[h]	0.043	0.006[i]
2	2.85	2.01	1.05	.561	.122	1.06	.502	.136	.375	.050	.033	.060	.041	.004
3	2.83	1.99	1.06	.552[a]	.126	1.05[d]	.498[j]	.134	.376[k]	.058[l]	.037	.060[m]	---	.006[n]
4	2.86	2.04	1.03	.562	.122	1.07	.51[o]	.134	.372[p]	---	---	---	---	---
5	2.91	2.00	1.04	.562[q]	---	1.01[r]	---	---	.369[s]	---	.032	.065[t]	---	.005[n]
Average	2.85	2.01	1.05	0.557	0.124	1.05	0.502	0.135	0.370	0.056	0.035	0.059	0.042	0.005

[a] Molybdenum-blue photometric method.
[b] $Mg_2P_2O_7$ gravimetric method.
[c] 1-g sample burned in oxygen at 1425 °C and sulfur dioxide absorbed in starch-iodide solution. Iodine liberated from iodide by titration, during the combustion, with standard KIO_3 solution.
[d] Double dehydration with intervening filtration.
[e] Atomic absorption spectrometry.
[f] Coulometric method.
[g] Activation analysis.
[h] Polarographic method.
[i] Distillation-indophenol photometric method.
[j] Copper-ammonia complex photometric method.
[k] Peroxydisulfate oxidation-$Fe(NH_4)_2(SO_4)_2$ titration.
[l] Nitric acid oxidation-$Fe(NH_4)_2(SO_4)_2$ titration.
[m] Vanadium separated with Na_2CO_3.
[n] Distillation-photometric with Nessler's reagent.
[o] Diethyldithiocarbamate photometric method.
[p] Diphenylcarbazide photometric method.
[q] Alkali-molybdate method.
[r] Double dehydration with H_2SO_4.
[s] Bicarbonate hydrolysis-$Fe(NH_4)_2(SO_4)_2$-$KMnO_4$ titration.
[t] Cupferron separation-H_2O_2 photometric method.

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

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.

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J. Paul Cali, Acting Chief
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