

Certificate of Analysis

Standard Reference Material 3c

White Iron

ANALYST	C	Mn	P	S	Si	Cu	Ni	Cr	V	Mo
	Direct Combustion	Persulfate- arsenite	Photometric	Combustion- Titration	Perchloric Acid dehydration	Photometric	Photometric			Photometric
1	2.28	0.302 ^a .308	0.100 ^b	0.103 ^c	1.26 ^d	0.055 ^e	0.014	0.044 ^f	0.006 ^g .008 ^h	0.002
2	2.28	.311	.100 ^b	.096	1.27	.051 ⁱ	----	.045 ^j	----	----
3	2.29 ^k	.311	.099 ^l	.095 ^m .094 ⁿ	1.29	.054 ^o	.010 ^p	.047 ^f	.005 ^g	.002
4	2.30 ^q	.30	----	.095	1.30	----	----	.043 ^r	----	----
5	2.31 ^k	.315	.097	.093	1.28	----	.010 ^p	.050 ^s	----	.01
6	2.31	.31	.104 ^l	.096	1.25 ^d	.051 ^t	.012	.049 ^j	.008 ^u	<.002
Average	2.30	0.308	0.100	0.096	1.28	0.053	0.012	0.046	0.007	0.002

^a Periodate photometric method.

^b Molybdenum-blue photometric method. See J. Res. NBS 26, 405 (1941) RP 1386.

^c 1-g sample burned in oxygen at 1,450 °C and sulfur dioxide absorbed in starch-iodide solution. Iodine liberated from iodide by titration, during the combustion, with standard KIO₃ solution.

^d Double dehydration

^e Atomic absorption method.

^f Chromium separated from the bulk of the iron in a 10-g sample by hydrolytic precipitation with NaHCO₃, oxidized with persulfate and titrated potentiometrically with ferrous ammonium sulfate.

^g Vanadium separated as in (f), oxidized with HNO₃ and titrated potentiometrically with ferrous ammonium sulfate.

^h Neutron activation analysis.

ⁱ Diethyldithiocarbamate photometric method.

^j Diphenylcarbazide photometric method.

^k Volumetric method.

^l Alkali-molybdate method.

^m Sulfur gases absorbed in NaOH-H₂O₂ solution and excess NaOH titrated with H₂SO₄.

ⁿ Gravimetric method.

^o Neocuproine photometric.

^p Weighed as nickel dimethylglyoxime.

^q Gasometric method.

^r Persulfate oxidation, titration with FeSO₄-Ce(SO₄)₂.

^s FeSO₄-KMnO₄ titration.

^t Copper-ammonia Complex photometric method.

^u H₂O₂ photometric method.

List of Analysts

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Washington, D. C. 20234
March 17, 1969

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