UNITED STATES DEPARTMENT OF COMMERCE
WASHINGTON 25, D.C.

National Bureau of Standards Certificate of Analyses

Standard Sample 198
Silica Brick

(All results are based on samples dried at 105° to 110° C.)

Analyst	Al_2O_3	Total iron as Fe_2O_3	TiO_2	ZrO_2	P_2O_5	MnO	CaO	MgO	Na_2O	K_2O	Li_2O	[a]Loss on ignition
1	[b]0.17 [c,d].15	[e]0.65 [f,g].67	0.02	<0.01	[h]0.022	[i]0.006	2.72	0.07	[j]0.007	[j]0.016	[j]0.001	0.21
2	[k].19	[k].64	[k].01		[k].012		[k]2.74	[k].06	[k].009	[k].010	[k].001	.32
3	[b].17 [l].15	[m].67 [n].65	.01		[o].011		2.75	.06	[p].02	[p].03		.22
4	[q].17	[f].69	.02		[o].026		2.73	.08	[r].008	[k].016	[k]<.007	.15
5	[b].17	[s].66	.01		[t].025		2.72	.07	[j].005	[j].012	[j].002	.23
6		.68	.03		.026		2.72	.07	[j].005		[j].001	.23
7	[b].16	[f].68	.03		.025	<.005	2.69	.09	[j].02	[j].02	[j].001	.22
	[u].16	[f].66	.02		[h].019		2.70	.08				.20
	[k].15	[v].66	.02		[t].024 [k].02	[i].008	2.74	.07			[k]<.01	.14
10	[b].16	[f].66	.01	nil			2.67	.06				.20
11	[u,w].16	[f].68	.01		[t].024	[x].01	2.67	.09				
12	[u].16	[f].67	.02		[t].024	.008	2.71	.08	[j].02	[j].018		
Average	0.16	0.66	0.02		0.022	0.008	2.71	0.07	0.012	0.017	0.001	0.21

[a] 1 g heated at 900° to 1,000° C. in a covered platinum crucible to constant weight.
[b] Weighed ignited NH_4OH precipitate corrected for Fe_2O_3, TiO_2, and P_2O_5.
[c] Aluminum separated from iron, titanium, etc., with sodium hydroxide, precipitated, and weighed as $AlPO_4$.
[d] Same value obtained by the Aluminon photometric method.
[e] Thiocyanate photometric method.
[f] $SnCl_2$-$K_2Cr_2O_7$ method.
[g] Same value obtained gravimetrically as Fe_2O_3.
[h] Molybdenum-blue photometric method.
[i] Periodate photometric method.
[j] Flame-photometric method.
[k] Spectrographic determination.
[l] Aluminum separated from iron and titanium by ion exchange, and weighed as aluminum oxyquinolate.
[m] $SnCl_2$-$KMnO_4$ method.
[n] Iron separated from aluminum and titanium by ion exchange, precipitated with ammonium hydroxide, and weighed as Fe_2O_3.
[o] Gravimetric. Weighed as $Mg_2P_2O_7$.
[p] Titration with $AgNO_3$, following ion exchange separation of sodium and potassium chlorides.
[q] 8-Hydroxyquinoline precipitation. Bromate-thiosulfate titration. See Trans. British Ceramic Society **51**, No. 9, 438 (1952).
[r] Sodium uranyl zinc acetate-gravimetric method.
[s] Titrated with $Ti_2(SO_4)_3$.
[t] Phosphomolybdate-alkalimetric method.
[u] Weighed as $AlPO_4$.
[v] Orthophenanthroline photometric method.
[w] Same value obtained by eriochromecyanine-R photometric method.
[x] Persulfate-arsenite method.

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