

National Bureau of Standards

Certificate of Analysis

Standard Reference Materials 113a and 329

Zinc Concentrates

These Standard Reference Materials are in the form of fine powder (<.15 mm) and are intended for use both in checking chemical methods of analysis and in calibration with instrumental methods of analysis.

CAUTION: The bottle should be kept tightly closed except when in direct use. Store in a desiccator over desiccant.

<u>SRM No.</u> <u>Element</u>	<u>113a</u> <u>Percent by Weight^a</u>	<u>329</u> <u>Percent by Weight^a</u>
Zinc	57.3	45.5
Lead	2.80	6.0 ₆
Iron	2.08	12.9 ₄
Calcium Oxide	1.1 ₉	0.08
Magnesium Oxide	0.75	.16 ₅
Cadmium	.78	.14
Copper	.31	.13 ₂
Cobalt	(.11) ^b	(.009)
Nickel	(.07)	(.006)
Sulfur (Total)	30.6	(31.7)
Silicon Dioxide	(1.54)	(0.61)
Indium	--- ^c	.019
Silver	0.046 ₇ ^d	.0089 ^d

^a Based on samples dried at 105 °C for one hour. Moisture loss: for SRM 113a 0.08%; for SRM 329 0.4₅%.

^b Figures in parenthesis are not certified but are given for information only.

^c Not determined.

^d Troy ounces per ton is 13.6₃ for SRM 113a and 2.6₀ for SRM 329.

NOTE: The total of constituents reported for SRM 113a is 97.6% and that for SRM 329 is 98.0%. The remainder is expected to consist mainly of oxygen, carbon, and water of crystallization.

CERTIFICATION: The value listed for a certified element is the present best estimate of the "true" value based on the results of the analytical program. The value listed is not expected to deviate from the "true" value by more than ± 1 in the last significant figure reported. For a subscript figure, the deviation is not expected to be more than ± 5 . Based on the results of homogeneity testing, maximum variations within and among samples are estimated to be less than the uncertainty figures given above.

Washington, D.C. 20234
December 29, 1975
(Revision of Certificate of May 6, 1974 for
change in silver results)

J. Paul Cali, Chief
Office of Standard Reference Materials

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The material for these standards was supplied by Cominco American Inc., Spokane, Wash. The material for SRM 113a was prepared at the Magmont Mines, Bixby, Mo., and that for SRM 329 at the Sullivan Mine, Trail, B.C., Canada.

Following sieving and blending operations at NBS, homogeneity testing was performed by S. D. Rasberry and J. McKay, (x-ray fluorescence analyses); by E. J. Maienthal, (polarographic analyses); and by R. K. Bell, (chemical analyses).

Selected samples representative of the lot were analyzed and no significant variability was observed when using subsamples of 0.5 g or larger. (Moisture determinations usually were made on larger samples--up to 10 g.)

Cooperative analyses for certification were performed in the analytical laboratories of Cominco, Sullivan Mine, Trail, B.C., Canada, C. J. Mitchell; Cominco American Inc., Magmont Mines, Bixby, Mo., R. J. Gibson; and St. Joe Minerals Corp., Zinc Smelting Division, Monaca, Pa., J. J. Aldrich.

Analyses were performed in the NBS Analytical Chemistry Division by R. K. Bell and E. J. Maienthal.

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

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