

15. FIELDS, M. : "Abnormal Thermal Behaviour of α - quartz from some New Zealand Soils". Nature 170 : 366 - 367 (1952).
16. GARN, P.D. and FLASCHEN, S.S. : "Analytical Applications of a Differential Thermal Analysis Apparatus". Analytical Chemistry, 29 No. 2 : 271 - 5 (Feb.) 1957.
17. GRIM, R.E. : "Method and Application of Differential Thermal Analysis". New York Academy of Sciences - Annals. 53 : 1031 - 53 (1950-51).
18. GRIMSHAW R.W. and ROBERTS, A.L. : "Study of the Clay-Quartz System. Part I - The Estimation of Quartz by Thermal Analysis Methods". Bull. B.R.R.A., 70 : p.36 (Jan.) 1946.
19. GRIMSHAW, R.W. and ROBERTS, A.L. : "Study of the Clay-Quartz System. Part II - Thermal Analysis Methods; Experiments with Tridymite and Cristobalite". Bull. B.R.R.A., 72 : p. 17, (Oct.) 1946.
20. GRIMSHAW, R.W. and ROBERTS, A.L. : "Technique for the Estimation of Quartz". British Ceramic Society Transactions, 47 : pp.271 - 3 (1948).
21. GRIMSHAW, R.W. and ROBERTS, A.L. : "The Quantitative Determination of some Minerals in Ceramic Materials by Thermal Means". Trans. British Ceramic Society 52 : p. 50 (1953).
22. GRIMSHAW, R.W. : "The Quantitative Estimation of Silica Minerals". Clay Min. Bull. 2: No. 9, p. 2 (1953)
23. GRUVER, R.M. : "Precision Method of Thermal Analysis". J. Amer. Ceramic Society 31: p. 323 (1948).
24. GRUVER, R.M. : "Differential Thermal Analysis Studies of Ceramic Materials, I. Characteristic Heat Effects of some Carbonates". J. Amer. Ceramic Society 33: p. 96 (1950).
25. HEROLD P.G. and PLANJE T.J. : "Modified Differential Thermal Analysis Apparatus". J. Amer. Ceramic Society 31: pp. 20 - 22 (1948).
26. KERR, P.F. and KULP, J.L. : "Multiple Differential Thermal Analysis". Amer. Min. 33: p. 387 (1948).

27. KERR/.....

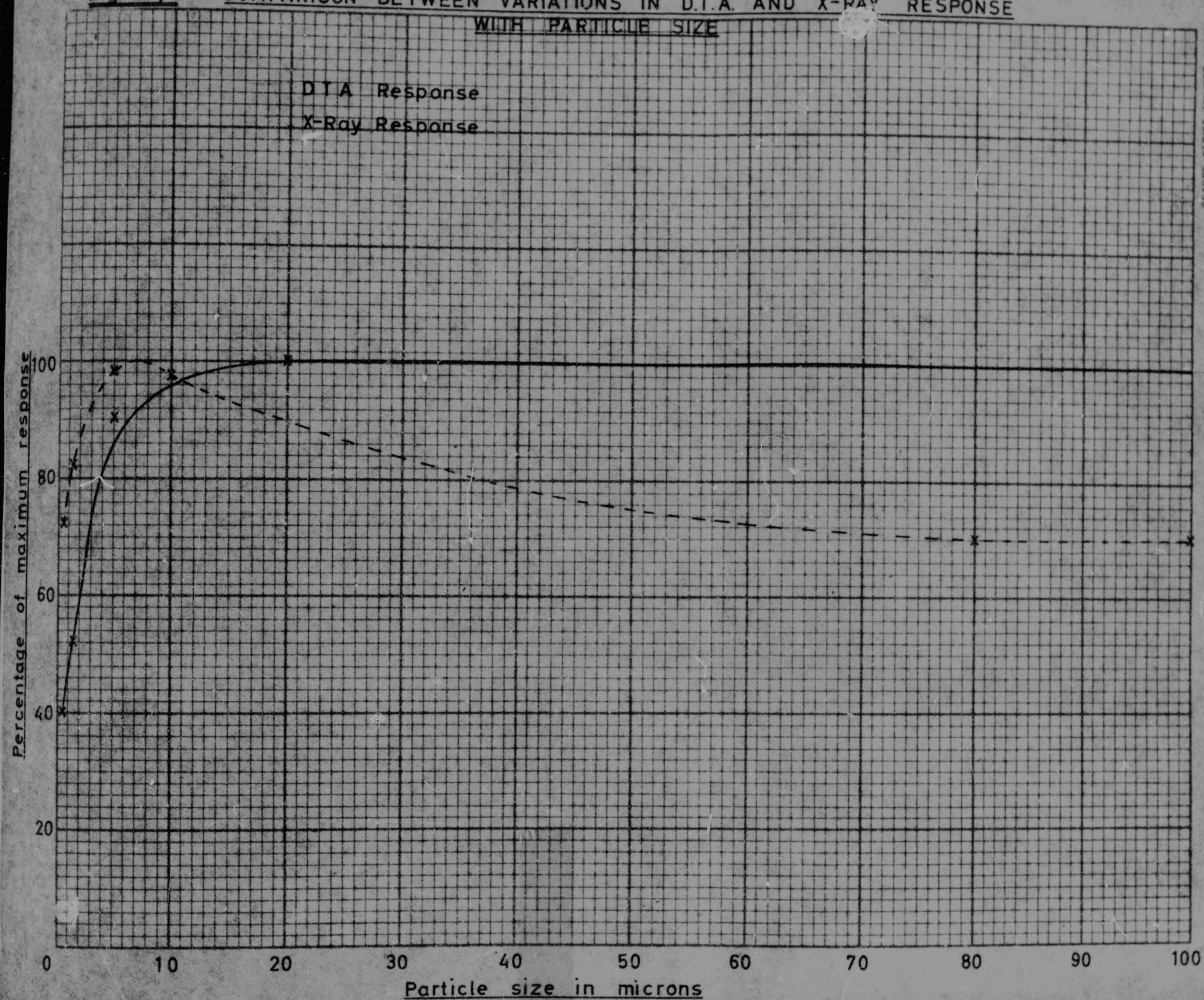
27. KERR, P.F. and KULP, J.L., Ibid. 34: p. 839 (1948).
28. KRACEK, F.C. : "The Polymorphism of Sodium Sulphate, I. Thermal Analysis". Jour. Phys. Chem. 33: pp. 1281 - 1303 (1929).
29. KEITH M.L. and TUTTLE, O.F. : "Significance in Variation in the High-Low Inversion of Quartz". Amer. Jour. Sc. 1: 203 (1952).
30. LEWCOCK, W. and WYLDE, J.H. : "The Behaviour of Silica Bricks on Reheating". Trans. Brit. Ceramic Society 52: pp. 225 - 258 (1953).
31. MACKENZIE, R.C. and FARMER, V.C.: "Some Notes on Arens' Theory of the Differential Thermal Analysis". Clay Min. Bull., 1: p. 262 (1952).
32. MACKENZIE, C. (Editor) : "The Differential Thermal Analysis of Clays". Mineralogical Society, London, 1957.
33. McDOWALL, I. and DUNN, L.R.L. : New Zealand Pottery and Ceramic Res. Ass. Tech. Paper No. 1 (1947).
34. McDOWALL, I. and VOSE, W. : "Anomalous Properties in Quartz". Nature 170: p. 366 (1952).
35. MERJENBERG, F.L. and VAN SANTEN, G.W. : "Determination of the Quartz Content of Mine Dust". Coll. Guard. (1955) 190 : p. 481.
36. MURPHY, C.B. : "Differential Thermal Analysis". Anal. Chem. 30: pp. 867-72 (1958).
37. NAGASAWA, K.J. : "Differential Thermal Analysis Studies on the High-Low Inversion of Vein Quartz in Japan". Journal of Earth Sciences (Nagoya University) 1: pp. 156 - 76 (1953).
38. NAGELSCHMIDT ET AL : "Surface of Finely Ground Silica". Nature 169: p. 538 (1952).
39. NAGELSCHMIDT, G. : "Inter-Laboratory Trials on the Determination of Quartz in Dusts of Respirable Size". The Analyst, 81: pp. 210 - 219 (April) 1956.
40. NELSON, J.B. : "Differential Thermal Analysis and its Applications to Fuel Science and Technology". Brit. Coal Utilisation Res. Ass. Monthly Bull. 19: No. 10 (Sept./Oct. 1955) Part II. pp. 502 - 531.
41. NORTON/.....

41. NORTON, F.H. : "Critical Study of the Differential Thermal Method for the Identification of the Clay Minerals". J. Amer. Ceram. Soc. 22: p. 54 (1939).
42. PASK J.A. and WARNER M.F. : "Differential Thermal Analysis Methods and Techniques". Bull. Amer. Ceram. Soc. 33: p. 168 (1954).
43. RATCLIFFE, E.H. : "Thermal Conductivities of Fused and Crystalline Quartz". Brit. J. Appl. Phys. V 10 No. 1: p. 22 (Jan.) 1959.
44. ROBERTS, A.L. : "A positive method for the Determination of Free Silica in Dusts". Society of Chemical Industry Symposium on "Dust in Industry" (1948).
45. ROWLAND R.A. and JONAS E.C. : "Variations in Differential Thermal Analysis Curves for Siderite". Amer. Min. 34: p. 550 (1949).
46. SPIEL, S. : "Applications of Thermal Analysis to Clays and Aluminous Minerals". U.S. Bureau Mines Tech. Paper No. 664 (1945).
47. THERON, J.J. HEYDENRYCH, J.C.R. and ANDERSON, F: J. Scient. Instrum. 26: p. 7 (1949).
48. THERON, J.J. : "An Improved Apparatus for the Differential Thermal Analysis of Minerals". Brit. J. Appl. Phys., V3 No. 7: pp. 216 - 220 (July) 1952.
49. VAN DER MAREL, H.W. : "Quantitative Differential Thermal Analysis of Clay and other Minerals". Amer. Min. 41: p. 222 (March-April) 1956.
50. WEBB, T.L. : "Some Applications of Differential Thermal Analysis and Findings using this Technique". S.A. Industrial Chemist. 7 No. 12 (1953).
51. WEBB, T.L. : "Comparative Performance of Nickel and Porous Alumina Holders for Differential Thermal Analysis". Nature 174: p. 686 (1954).
52. WEBB, T.L. : "Contributions to the Technique and Apparatus for Qualitative and Quantative Differential Thermal Analysis with Particular Reference to Carbonates and Hydroxides of Calcium and Magnesium". D.Sc. Thesis, Pretoria University, 1958.
53. WILBURN, F.W. : "Differential Thermal Analysis". J. Soc. Glass Technol. 38: p. 371 (1954).
54. WILBURN/.....

54. WILBURN, F.W. : "A Differential Thermal Analysis Apparatus".
J. Scient. Instr. V 35 No. 11: (Nov.) 1958.
 55. WILLIAMS, D.D., BAREFOOT, R.D. and MILLER, R.K. : "Differential Thermal Analysis Apparatus for Heating and Cooling Data". Anal. Chem. April 1958, Part I, pp. 292-4.
 56. SMOTHERS, W.J. and CHIANG, Y. : "Differential Thermal Analysis". Chemical Publishing Co., New York. 1958.
 57. GOLDSTEIN, B. : "Animal Experiments on Important Parameters of Dust in Relation to the Production of Fibrosis".
Paper presented to the Pneumoconiosis Conference,
Johannesburg, (Feb.) 1959.
-

The influence of thermal conductivity variations on the D.T.A. results cannot be ignored, but dilution of the test

Fig IV. 1 COMPARISON BETWEEN VARIATIONS IN D.T.A. AND X-RAY RESPONSE
WITH PARTICLE SIZE

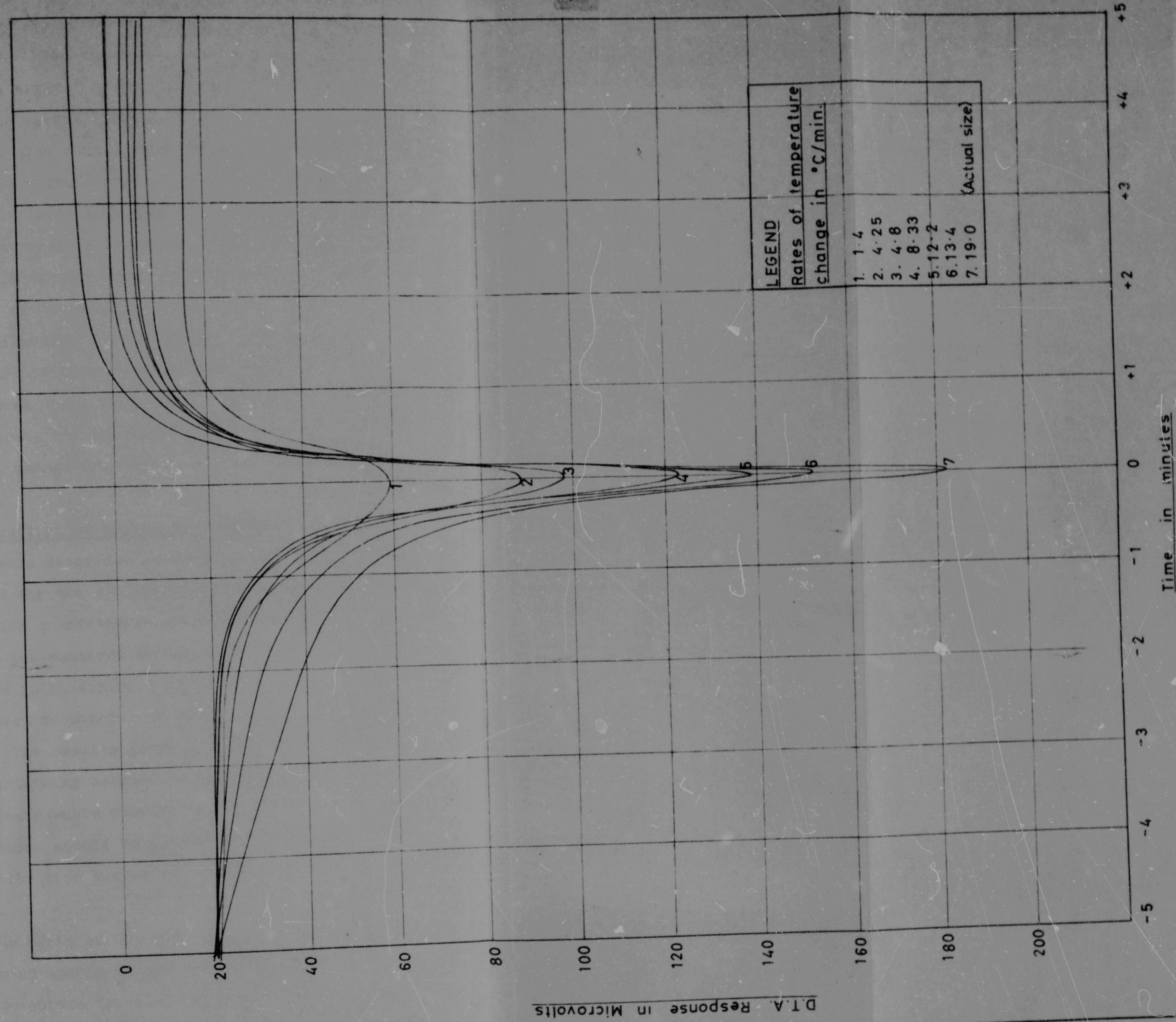


thesis has shown that while the latter yield greater sensitivity and accuracy, the two types of sample holders give essentially similar results. Nickel blocks seem to /be

Fig. III, 7

VARIATION IN D.T.A. RESPONSE WITH INCREASING RATES OF TEMPERATURE CHANGE

HORIZONTAL FURNACE $\alpha - \beta$



Author Craig D K

Name of thesis Determination of the Percentage of Quartz (SiO₂) in samples of Mine Dust by the Method of Differential Thermal Analysis 1959

PUBLISHER:

University of the Witwatersrand, Johannesburg

©2013

LEGAL NOTICES:

Copyright Notice: All materials on the University of the Witwatersrand, Johannesburg Library website are protected by South African copyright law and may not be distributed, transmitted, displayed, or otherwise published in any format, without the prior written permission of the copyright owner.

Disclaimer and Terms of Use: Provided that you maintain all copyright and other notices contained therein, you may download material (one machine readable copy and one print copy per page) for your personal and/or educational non-commercial use only.

The University of the Witwatersrand, Johannesburg, is not responsible for any errors or omissions and excludes any and all liability for any errors in or omissions from the information on the Library website.