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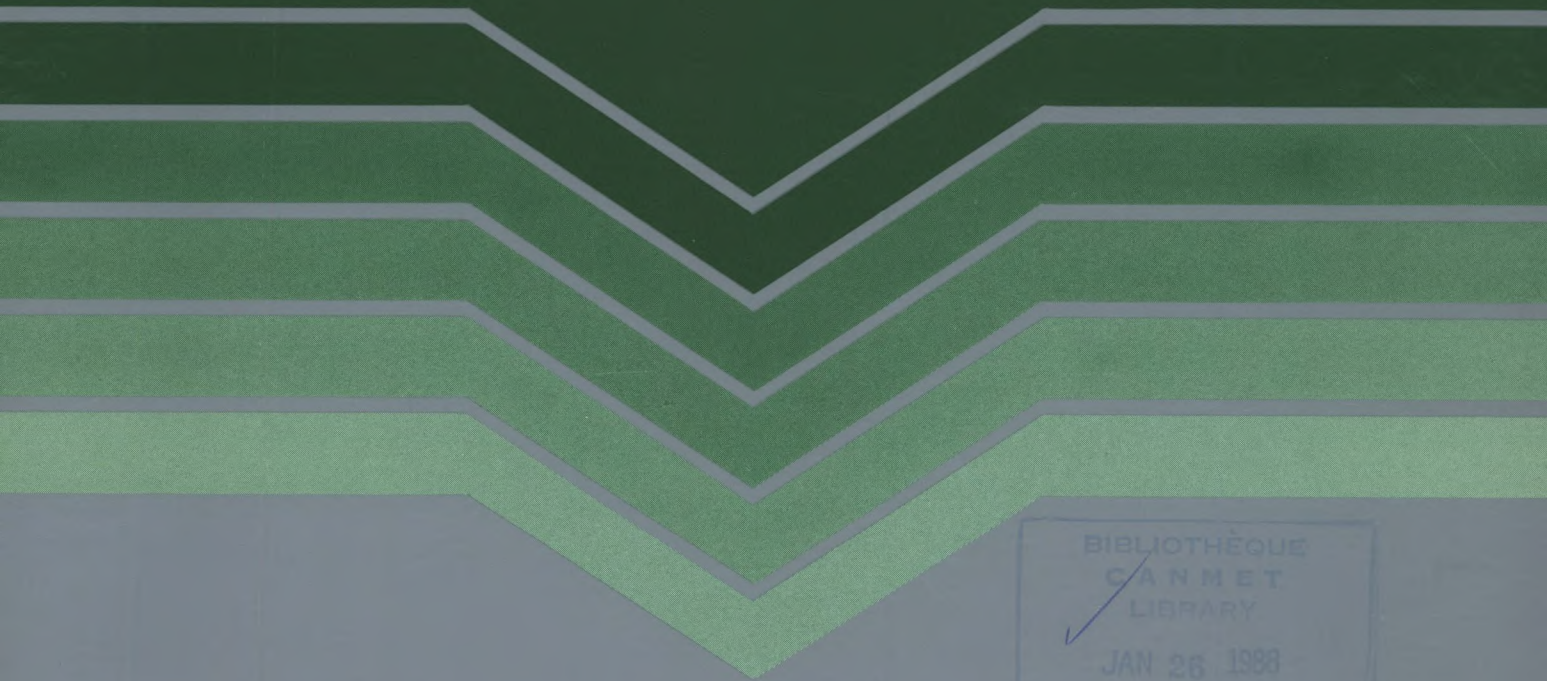
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CANMET/MINING
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1960-1985**

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CANMET/LABORATOIRES
DE RECHERCHE
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M.G. Grenier and
K.C. Butler

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M.G. Grenier et
K.C. Butler

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INDEX OF UNDERGROUND-ENVIRONMENT DUST REPORTS: CANMET/MINING RESEARCH LABORATORIES, 1960-1985

M.G. Grenier* and K.C. Butler**

Abstract

This is a selected list of 123 reports prepared by the staff of the Mining Research Laboratory on the subject of underground environmental dust. The reports chosen, which span an interval of 25 years, are listed chronologically in each of the five categories. These categories include instrument design and calibration, results of underground dust surveys, and dust measurement techniques.

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LISTE DE RAPPORTS SUR LA POUSSIÈRE EN MILIEU SOUTERRAIN: CANMET/LABORATOIRES DE RECHERCHE MINIÈRE, 1960-1985

M.G. Grenier* et K.C. Butler**

Résumé

La présente liste de 123 rapports traitant de la poussière en milieu souterrain a été dressée par le personnel des Laboratoires de recherche minière. Ces rapports couvrent une période de 25 ans et sont présentés en ordre chronologique à l'intérieur de cinq catégories. Ces catégories comprennent, entre autres, la conception et l'étalonnage d'instruments, les résultats d'études portant sur la poussière en milieu souterrain et les méthodes de mesure de la poussière.

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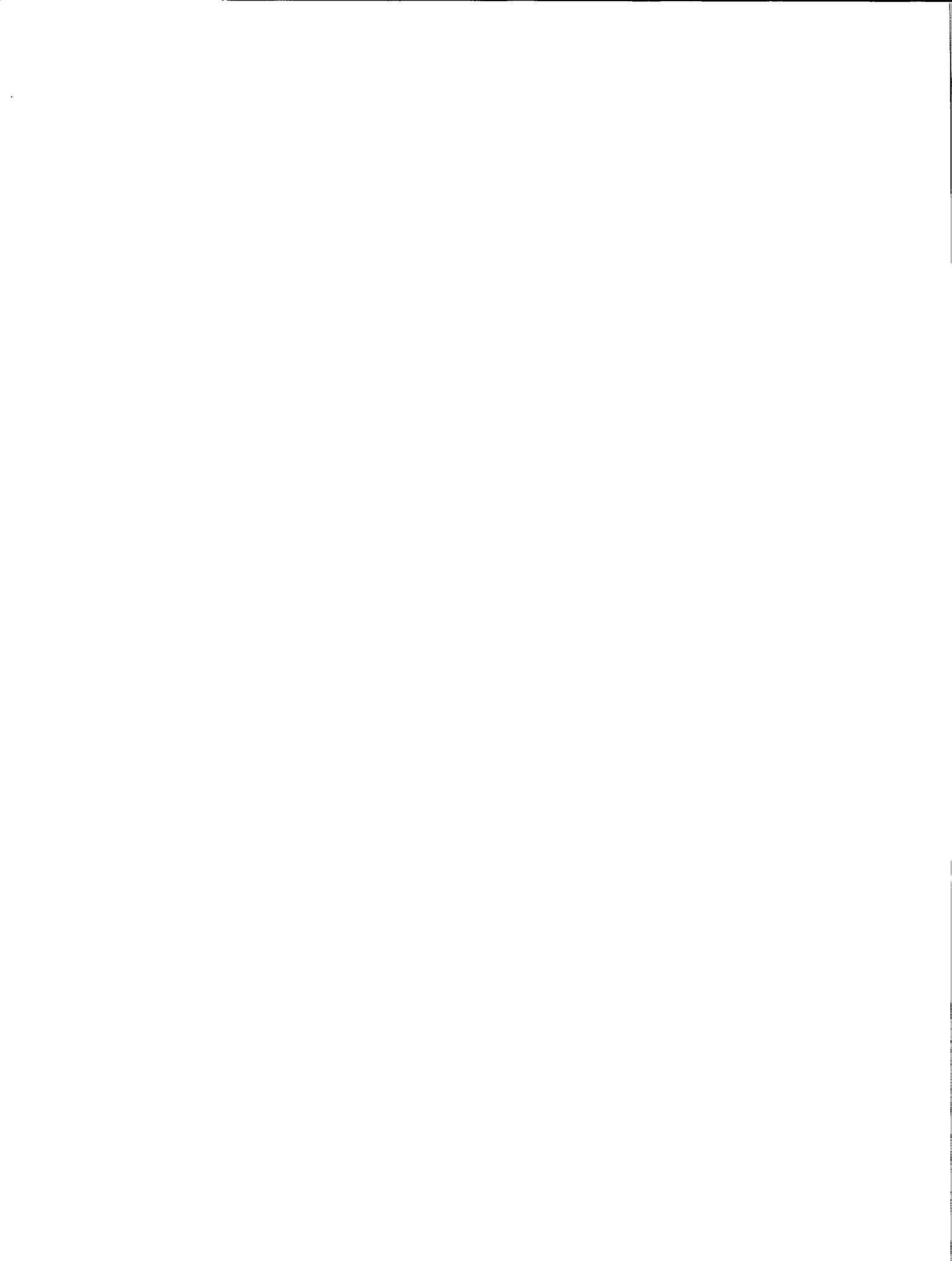
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INTRODUCTION

The reports listed here are those that could be categorized in one of the following sections:

- instrument calibration and design;
- X-ray diffraction technology for quartz dust assessment;
- results of underground dust surveys;
- dust measurement techniques and methods;
- dust control underground.

Reports written in this time period that could not be categorized in the above sections were not included. A report* by M. Grenier and J. Bigu reviews the research work performed between 1960 and 1985.

*M. Grenier and J. Bigu. "Past, present and future of dust research at the Elliot Lake Laboratory"; *Division Report M&ET/MRL 86-2(TR)*; CANMET, Energy, Mines and Resources Canada; December 1985.

INTRODUCTION

Les rapports contenus dans la présente liste peuvent être classés dans un des domaines suivants:

- étalonnage et conception d'instruments;
- méthode de la diffraction des rayons X pour l'identification de la poussière de quartz;
- résultats d'études portant sur la poussière en milieu souterrain;
- méthodes de mesure de la poussière;
- contrôle de la poussière en milieu souterrain.

Les rapports rédigés au cours de cette période qui n'appartiennent pas à un de ces domaines ne sont pas inclus dans cette liste. M. Grenier et J. Bigu ont préparé un rapport* sur les travaux entrepris entre 1960 et 1985.

*M. Grenier et J. Bigu. "Past, present and future of dust research at the Elliot Lake Laboratory"; *Rapport de division* M&ET/MRL 86-2(TR); CANMET, Énergie, Mines et Ressources Canada; décembre 1985.

CATEGORY 1 – INSTRUMENT CALIBRATION AND DESIGN
CATÉGORIE 1 – ÉTALONNAGE ET CONCEPTION D'INSTRUMENTS

1. Cochrane, T.S., and Casey, F.L. "A review of dust standards and dust sampling equipment in the mining industry"; FMP-60/19-MIN; August 1961.
2. Richards, L. "Construction details of the dust chamber and dust feed mechanism"; FMP-63/167-MIN; November 1963.
3. Richards, L. "Maintenance and repair of midget impinger pump, tests of vacuum gauge on pump and calibration of impinger nozzles"; FMP-63/168-MIN; November 1963.
4. Richards, L. "Laboratory preparation of dust samples for particle sizing and counting with the microprojector"; FMP-63/169-MIN; November 1963.
5. Cochrane, T.S., and Richards, L. "A laboratory comparison of the tyndalloscope, midget impinger and electrostatic methods of evaluating airborne dust concentrations"; FMP-65/118-MRL; August 1965.
6. Stefanich, W., and Tervo, R.C. "The development and application of an atomizer for the production of dust clouds with aggregated particles"; MR-67/72-ID; November 1967.
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9. Knight, G. "Comparison of dust sampling instruments - II: Interim report on pyrite dust"; FMP-66/144-MRL; August 1966.
10. Knight, G. "Comparison of dust sampling instruments - III: Interim report on coal dust"; FMP-66/147-MRL; August 1966.
11. Knight, G.; Rajhans, G.S.; and Stefanich, W. "Comparison of dust sampling instruments - IV: Interim report on mica dust"; FMP-67/6-MRL; December 1966.
12. Knight, G.; Rajhans, G.S.; and Stefanich, W. "Comparison of dust sampling instruments - V: Interim report on asbestos and glass fibre dust"; MR-67/40-ID; May 1967.
13. Knight, G.; Rajhans, G.S.; and Stefanich, W. "Comparison of dust sampling instruments - VI: Interim report on coal, silica, pyrite and mica dust clouds dispersed in a jet mill and repeat experiments"; MR-67/71-ID; November 1967.

14. Knight, G. "Comparison of dust sampling instruments - VIII: Interim report on statistical analysis technique"; MR-68/110-ID; April 1969.
15. Stefanich, W. "Comparison of dust sampling instruments - IX: Comparison of microscope counting techniques"; MR-67/73-ID; November 1967.
16. Knight, G. "Comparison of dust sampling instruments - X: Analysis of results on non-aggregated dusts"; MR-68/11-ID; January 1968.
17. Knight, G., and Stefanich, W. "Comparison of dust sampling instruments - XI: Report on dust clouds of aggregated particles"; MR-68/33-ID; March 1968.
18. Lichti, K. "Comparison of dust sampling instruments - XII: Collection efficiency with spheres"; MR-68/53-ID; April 1968.
19. Knight, G. "Comparison of dust sampling instruments - XIII: Analysis of those assessing dust by number"; MR-69/49-ID; April 1969.
20. Knight, G. "Comparison of dust sampling instruments - XIV: Relationships between respirable mass, mean number and light scatter"; MR-69/51-ID; June 1969.
21. Knight, G. "Comparison of dust sampling instruments - XVI: Recalibration of the McIntyre Research Foundation aluminum-dust sampler"; MR-69/3-LD; December 1968.
22. Knight, G., and Stefanich, W. "Laboratory dust chamber - II: Dust cloud preparation"; MR-67/41-ID; August 1967.
23. Knight, G., and Stefanich, W. "Laboratory dust chamber - III: Installation and operation of dust sampling instruments"; MR-68/22-ID; December 1967.
24. Knight, G. "Laboratory dust chamber - IV: The particle size and shape characteristics of the standard dust clouds"; MR-68/34-ID; March 1968.
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33. Stewart, B. "Collection characteristics of the two-stage respirable size selector (CAMPEDS Mark 2)"; MRP/MRL 75-48(TR); April 1975.
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40. Rowlandson, M. "Mass collection efficiency tests on cyclones"; MRP/MRL 79-26(TR); March 1979.
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43. Kirk, B. "Determining size distributions by sedimentation and eriometry"; MRP/MRL 80-110(J); September 1980.
44. Knight, G., and Dainty, D. "Continuous dust sensors: Proposed test methods"; MRP/MRL 83-11(TR); December 1982.

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CATEGORY 2 – X-RAY DIFFRACTION TECHNOLOGY FOR QUARTZ DUST ASSESSMENT

CATÉGORIE 2 – MÉTHODE DE LA DIFFRACTION DES RAYONS X POUR L'IDENTIFICATION DE LA POUSSIÈRE DE QUARTZ

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CATEGORY 4 – DUST MEASUREMENT TECHNIQUES/METHODS

CATÉGORIE 4 – MÉTHODES DE MESURE DE LA POUSSIÈRE

1. Knight, G. "Size selective sampling"; MR-70/10-ID; January 1970.
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21. Knight, G. "Rock fibre in non-asbestos mines - A suggested program for Canadian mines"; MRP/MRL 83-9(J); January 1983.
22. Knight, G., and Dainty, D. "Continuous dust sensors: Proposed test methods"; MRP/MRL 83-11(TR); December 1982.
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26. Knight, G. "The use of rapid reading airborne dust instruments in mines and mills"; MRP/MRL 85-21(TR); February 1985.
27. Knight, G. "A rationale for size selective dust sampling definitions and design"; MRP/MRL 85-49(OP,J); October 1984.

CATEGORY 5 – DUST CONTROL UNDERGROUND

CATÉGORIE 5 – CONTRÔLE DE LA POUSSIÈRE EN MILIEU SOUTERRAIN

1. Diegel, J.G. "Testing the efficiency of commercially available filters for mine air filtration"; MR-70/82-ID; August 1970.
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