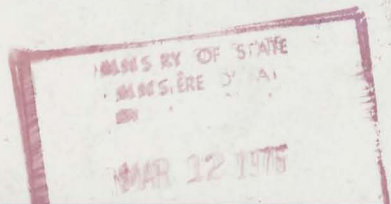


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**Directory of Research
and Development Establishments
in Canadian Industry**



**Répertoire des centres canadiens
de recherche-développement
industriels**

1973


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Ministry of State

Ministère d'État

**Science and
Technology**

**Sciences et
Technologie**

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Directory of Research and Development Establishments in Canadian Industry

Répertoire des centres canadiens de recherche-développement industriels

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FOREWORD

This Directory of Research and Development Establishments in Canadian Industry has been prepared from responses to questionnaires sent by the Ministry of State for Science and Technology to Canadian business enterprises in July, 1972, and February, 1973.

Included in this publication are data, classified by industry, on the principal fields of interest, activities, facilities and personnel of 625 research and development establishments associated with the 500 responding companies.

We extend our thanks to those in industry who supported the idea of publishing this material and who completed our questionnaires. This publication is available through their cooperation.

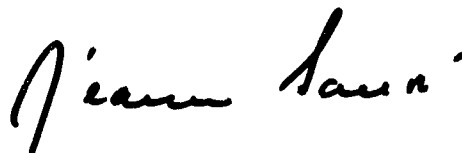
AVANT-PROPOS

Ce répertoire des centres canadiens de recherche-développement industriels a été établi à partir des réponses au questionnaire envoyé par le Ministère d'Etat aux Sciences et à la Technologie aux entreprises industrielles canadiennes en juillet 1972 et en février 1973.

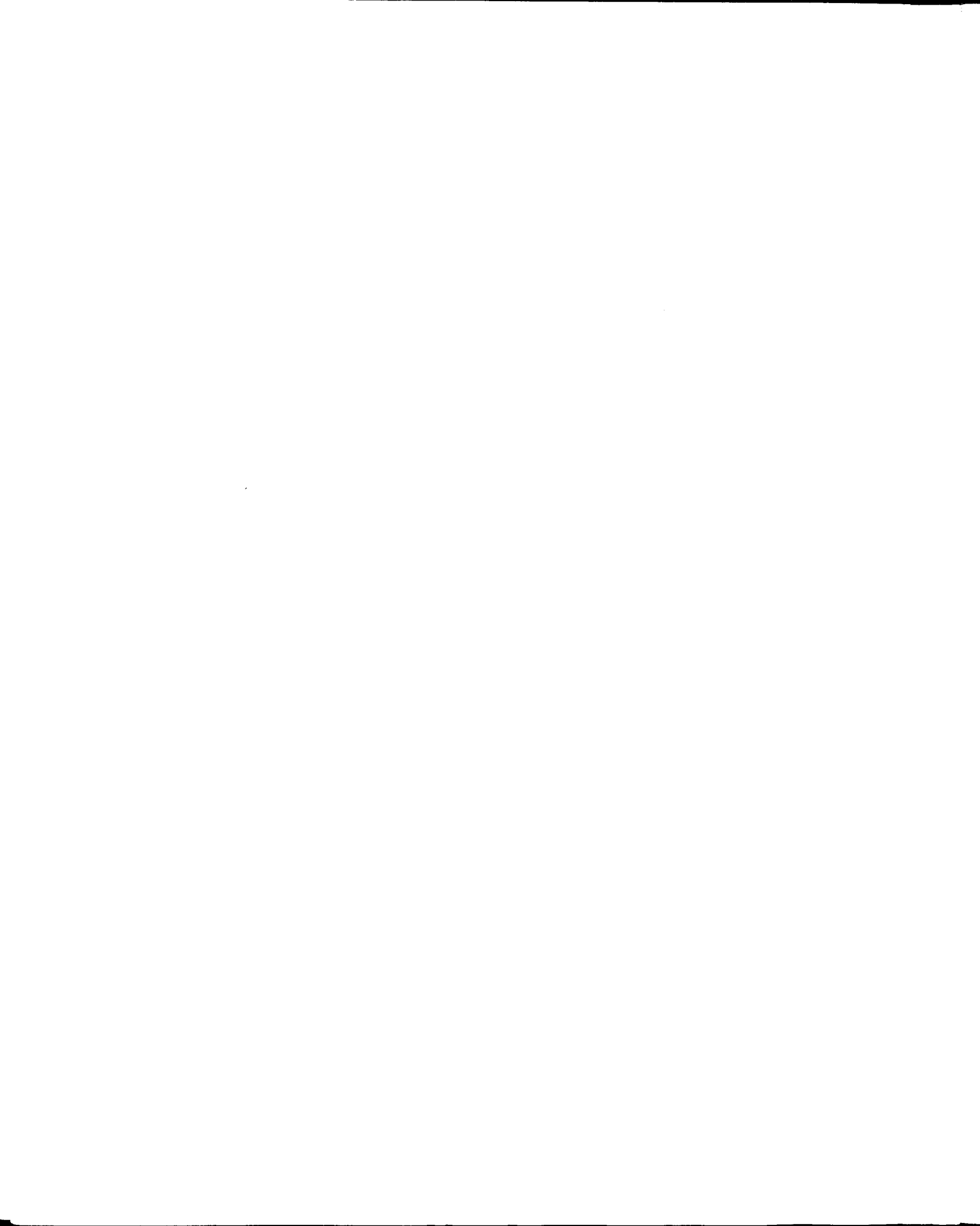
Il contient des renseignements, classés par industrie, sur les principaux domaines d'intérêt, les activités, les installations et le personnel de 625 centres de recherche-développement affiliés aux 500 sociétés qui ont répondu au questionnaire.

Nous tenons à remercier les membres des entreprises industrielles qui ont apporté leurs concours à cette initiative et qui ont rempli le questionnaire. Sans leur coopération, la publication de ce répertoire aurait été impossible.

*Le Ministre d'État
aux Sciences et à la Technologie*



Jeanne Sauvé
Minister of State
for Science and Technology



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INTRODUCTION

This is the second edition of a directory containing information on research and development establishments in Canadian industry. It differs from the first directory, published by the Department of Industry, Trade and Commerce in 1969, in that it is concerned with industrial R&D establishments only¹.

Information is organized to conform with the Standard Industrial Classification (SIC) system.² SIC is widely used to aggregate industrial statistics in Canada and other countries; therefore, it will be possible for the user to compare the information in this directory with other available industrial data. Further information on SIC and how it has been applied can be found in the *Notes on the Use of the Directory*.

In July, 1972, we invited 1,325 Canadian business enterprises to provide us with general information, on a voluntary basis, on the research and development effort of their establishments that had separately identifiable budgets for this activity. Fewer than 600 responses were returned by December; but as a result of a follow-up questionnaire sent in February, an additional 250 completed forms were received.

While the directory is certainly not exhaustive, information is included on most of the 100 major Canadian enterprises – whose current intramural expenditures on R&D equalled 77 percent of the 1970 industrial total³ – and 400 other smaller organizations.

¹ Canadian industry in the context of this directory includes enterprises, public utilities, government owned firms and non-profit institutions and associations mainly serving industry and not controlled by another institution.

² Statistics Canada, Standard Industrial Classification Manual, Catalogue no. 12-501, December, 1970.

³ Statistics Canada, Industrial Research and Development Expenditures in Canada 1970, Catalogue no. 13-203, p.9.

INTRODUCTION

Il s'agit de la deuxième édition d'un répertoire contenant des renseignements sur les centres canadiens de recherche-développement industriels. A la différence de la première version, publiée par le Ministère de l'Industrie et du Commerce en 1969, la présente édition porte exclusivement sur l'industrie canadienne⁽¹⁾.

La présentation de toutes les données recueillies suit la méthode de Classification des activités économiques⁽²⁾ ou CAE dont l'usage est très répandu au Canada et ailleurs; d'où la possibilité de les comparer aux autres données que l'on possède déjà sur l'industrie et que l'on a regroupées selon cette méthode. Le lecteur trouvera des renseignements supplémentaires sur les modalités de son application aux fins du présent ouvrage dans les Notes sur l'utilisation du répertoire.

En juillet 1972, nous avons invité 1,325 entreprises industrielles canadiennes à nous fournir, à titre facultatif, des renseignements d'ordre général sur les activités de recherche-développement de leurs établissements qui disposent de budgets distincts consacrés spécialement à ces activités. Nous avons reçu moins de 600 réponses jusqu'en décembre mais, à la suite de l'envoi d'un questionnaire de rappel en février, 250 autres réponses nous sont parvenues.

Le répertoire n'est certes pas exhaustif, mais il contient des renseignements sur la plupart des 100 principales entreprises canadiennes – dont les dépenses intra-muros atteignaient 77 pourcent du total des sommes consacrées à la R-D par l'ensemble de l'industrie en 1970⁽³⁾ – et sur 400 organismes de moindre importance.

(1) L'industrie canadienne comprend, aux fins de ce répertoire, les entreprises, les services publics, les sociétés d'Etat, les organismes à but non lucratif et les associations desservant principalement l'industrie et non contrôlées par un autre organisme.

(2) Statistique Canada, Classification des activités économiques, n° de catalogue 12-501F, décembre 1970.

(3) Statistique Canada, Dépenses au titre de la recherche et du développement industriels au Canada 1970, n° de catalogue 13-203, p.9.

We hope that the directory will prove valuable to users in industry, universities, government and other sectors, in providing an overview of industrial R&D activities in Canada and in locating establishments capable of meeting particular needs.

Nous souhaitons que le répertoire puisse rendre de précieux services à ses utilisateurs des secteurs industriel, universitaire, gouvernemental et autres, en leur permettant une vue d'ensemble des activités de recherche-développement industriels au Canada, et d'identifier les établissements capables de répondre à leurs besoins particuliers.

NOTES ON THE USE OF THE DIRECTORY

The directory is divided into three sections:

1. R&D Establishments by Industry: this part includes all of the information collected from the companies that responded to the MOSST enquiry. The data include the name and address of the company and its chief executive officer; the name and address of each R&D establishment and its research director(s); an indication of the R&D establishment's willingness to accept contracts from external sources; and the establishment's fields of interest, principal activities, major facilities and manpower resources.

This section is organized according to industrial divisions (for example, Mines, Manufacturing Industries) and major industrial groups (for example, Metal Mines, Wood Industries) as used in the Standard Industrial Classification (SIC) Manual¹. The user who is familiar with the SIC system may notice modifications to the numbering of certain divisions and groups and the absence of others; these result from the inclusion of only those divisions and groups for which R&D activities were reported. A complete listing of all divisions, groups and sub-groups used in the directory follows these notes.

Within each major group, companies are listed in alphabetical order. Both companies and R&D units are given the SIC code that most accurately describes their major industrial activity. This three digit code appears to the right of each company name (there are two codes if there are two major activities); R&D units are only coded when their major activity differs from that of the parent company.

¹ Statistics Canada, Standard Industrial Classification Manual, Catalogue no. 12-501, December, 1970.

NOTES SUR L'UTILISATION DU RÉPERTOIRE

Le présent répertoire comporte trois sections:

1. Classification des centres de R-D par industrie: cette partie contient tous les renseignements recueillis auprès des sociétés qui ont répondu au questionnaire du MEST. Les données portent sur le nom et l'adresse de la société et de son directeur principal; le nom et l'adresse de chaque centre de R-D et de son ou de ses directeurs de recherche; les possibilités de conclure des contrats en provenance de l'extérieur; les champs d'intérêt du centre, ses principales activités, ses installations majeures et son personnel.

Dans cette section, les renseignements sont classés par divisions industrielles (par exemple, les mines, les industries manufacturières) et par groupes d'industries (par exemple, les mines métalliques, les industries du bois) tels qu'ils figurent dans la Classification des activités économiques ⁽¹⁾. Les familiers de ce système remarqueront des changements dans la numérotation de certaines divisions et de certains groupes, et l'absence de certains autres; la raison en est qu'on n'a tenu compte que des divisions et des groupes dont les activités de R-D sont signalées ici. On trouvera immédiatement après ces notes une énumération complète de toutes les divisions et de tous les groupes et sous-groupes mentionnés dans le répertoire.

A l'intérieur de chaque groupe, les sociétés sont citées par ordre alphabétique. Les sociétés et les centres de R-D sont classés, dans les deux cas, selon le code de la CAE qui décrit le mieux leur principale activité industrielle. Ce code, composé de trois chiffres, figure à la droite du nom de chaque société (deux codes apparaissent s'il y a deux activités majeures); le code des centres de R-D n'est indiqué que lorsque leur principale activité diffère de celle de la société mère.

⁽¹⁾ Statistique Canada, Classification des activités économiques, n° de catalogue 12-501F, décembre 1970.

Companies and R&D units are listed wherever this is warranted by their industrial or research activities. For instance, Imperial Oil Limited is listed under the Petroleum and Coal Products group in accordance with its chief activity, that of refining petroleum (code 365). In this, the company listing, all R&D units are listed as well, regardless of their activities. However, Imperial Oil is also listed wherever this is called for by a major activity of one of its R&D units. Thus there are listings for Imperial Oil in such major groups as Mineral Fuels (064), Mining Services (099), Chemical and Chemical Products Industries (373), and Services to Business Management (864). In each of these cases only the appropriate R&D units are listed with the company; for example, in the Mineral Fuels group, Imperial Oil is listed with the only one of its units performing R&D in this area (unit e).

The majority of companies and R&D units are active in only one major industrial group and have received but one listing. It should be stressed that the classification was based on data supplied by the respondents, and a user with additional information could undoubtedly find many companies whose activities might justify other listings. While we hope the listings are an accurate reflection of R&D activities within certain industries, we must admit responsibility for any shortcomings.

By way of a final note, it should be pointed out that the Standard Industrial Classification system was designed to group industrial establishments according to their major activities; in using it to classify research establishments, it was not always possible to adhere to it in every detail. In cases where the most common classification was not necessarily the most useful, the entry is given a second code. For example, research associations are given two SIC codes: one indicating their status as service organizations (864), and another indicating their particular areas of research (various codes).

Les sociétés et les centres de R-D sont citées sous les divisions et les groupes correspondant à leurs activités industrielles ou de recherche. Par exemple, la Imperial Oil Limited est citée sous le groupe de la fabrication de produits du pétrole et du charbon suivant son activité majeure, soit le raffinement du pétrole (code 365). Cette inscription, qui se rattache à la société, comprend aussi des renseignements sur tous ses centres de R-D, quelles que soient leurs activités. Les renseignements relatifs à la société sont aussi répétés sous les groupes industriels correspondant aux activités de chacun de ses centres de R-D. Ainsi, la Imperial Oil est aussi citée sous les combustibles minéraux (064), les services miniers (099), l'industrie chimique (373), et les services fournis aux entreprises (864). Cependant, les renseignements portent seulement sur la société et le centre de R-D en question; par exemple, sous le groupe des combustibles minéraux, la Imperial Oil est accompagnée uniquement de son centre de R-D qui fait des travaux dans ce domaine: le centre (e).

La majorité des sociétés et des centres de R-D ne sont actifs que dans un groupe industriel; les renseignements relatifs à leurs activités apparaissent donc une fois. Nous devons souligner que la classification s'est faite sur la base des données fournies par les réponses au questionnaire, et l'utilisateur disposant d'information supplémentaire repèrera sans doute plusieurs autres sociétés dont les activités pourraient justifier des inscriptions multiples. Tout en espérant que les inscriptions permettront d'avoir une idée plus exacte des activités de R-D au sein d'un certain nombre d'industries, nous prions les utilisateurs de nous excuser pour les omissions que nous aurions faites.

Un dernier mot sur la Classification des activités économiques: il s'agit d'une méthode servant à classer les entreprises industrielles selon leurs activités majeures; en l'utilisant dans la classification des centres de R-D, nous n'avons pas toujours pu l'adopter dans tous ses détails. Lorsque nous avons jugé qu'une classification à usage déjà répandu n'était pas la plus utile, nous avons répété l'inscription sous une deuxième classification. Par exemple, deux codes identifient les associations de recherche: le premier indique qu'il s'agit d'un organisme offrant un service (864) et le second se rapporte au domaine de recherche (codes divers).

2. **Alphabetical Index:** this section provides a list of company names in alphabetical order. Each entry is followed by numbers that indicate its location in the text: numbers in regular script refer to the complete listing(s) of a company's activities, and numbers in italic script refer to listings of R&D units with activities that differ from those of the parent company. Company SIC codes are listed in the column to the right.

3. **Provincial Index:** this part presents a list of company names for each province. Numbers have the same meaning as in the Alphabetical Index. Where R&D units are located in different provinces, company names are repeated and accompanied by letters in brackets indicating which R&D units are being referred to.

Miscellaneous Notes

(a) An asterisk (*) appearing beside the name of the company or R&D unit indicates that contracts from external sources will be considered.

(b) An R&D establishment has been defined as the smallest unit organized explicitly for R&D; it has its own budget and personnel.

(c) Entries are printed in the language used by the respondent in answering the questionnaire.

(d) There are approximately 180 repeated entries in the directory.

2. **Index alphabétique:** cette section comprend tous les noms des sociétés par ordre alphabétique. Chaque nom est suivi de numéros permettant de le repérer dans le texte: ceux en caractère ordinaire signalent l'inscription ou les inscriptions complètes des activités d'une société, alors que ceux en italique se rapportent aux centres de R-D dont les activités sont différentes de celles de la société mère. Les codes de la Classification des activités économiques figurent à l'extrême droite.

3. **Index par province:** cette partie donne, pour chaque province, une liste des noms des sociétés classés par ordre alphabétique. Les numéros ont la même signification que dans l'index alphabétique. Si une société a des centres de R-D dans plus d'une province, son nom est répété et est suivi de lettres entre parenthèses indiquant les centres de R-D en question.

Notes diverses

(a) Un astérisque (*) à côté du nom d'une société ou d'un centre de R-D indique que les contrats en provenance de l'extérieur peuvent être envisagés.

(b) Un centre de R-D signifie la plus petite unité spécialement constituée en vue de la R-D; il a son propre budget et son propre personnel.

(c) La langue utilisée par le répondant au questionnaire détermine si les renseignements apparaissent en français ou en anglais.

(d) Le répertoire contient environ 180 inscriptions répétées.



**STANDARD INDUSTRIAL
CLASSIFICATION (SIC)
CODES USED IN THE
DIRECTORY**

**CODES DE LA
CLASSIFICATION DES
ACTIVITÉS ÉCONOMIQUES
UTILISÉS DANS LE
RÉPERTOIRE**

I. AGRICULTURE

1. Farms
 - 011—Livestock and Livestock
Combination Farms
 - 019—Miscellaneous Specialty
Farms
2. Services Incidental to
Agriculture
 - 021—Services Incidental to
Agriculture

II. FORESTRY

1. Logging
 - 031—Logging
2. Forestry Services
 - 039—Forestry Services

III. MINES AND OIL WELLS

1. Metal Mines
 - 057—Uranium Mines
 - 058—Iron Mines
 - 059—Miscellaneous Metal
Mines
2. Mineral Fuels
 - 064—Crude Petroleum and
Natural Gas Industry
3. Non-Metal Mines
 - 079—Miscellaneous Non-Metal
Mines
4. Services Incidental to Mining
 - 099—Miscellaneous Services
Incidental to Mining

IV. MANUFACTURING INDUSTRIES

1. Food and Beverage Industries
 - 101—Meat and Poultry
Products Industries
 - 102—Fish Products Industry
 - 103—Fruit and Vegetable
Processing Industries
 - 104—Dairy Products Industry
 - 105—Flour and Breakfast
Cereal Products Industry
 - 106—Feed Industry
 - 107—Bakery Products
Industries
 - 108—Miscellaneous Food
Industries
 - 109—Beverage Industries

I. AGRICULTURE

1. Fermes
 - 011—Fermes d'élevage
spécialisé et mixte
 - 019—Fermes de spécialités
diverses
2. Services agricoles
 - 021—Services agricoles

II. FORÊTS

1. Exploitation forestière
 - 031—Exploitation forestière
2. Services forestiers
 - 039—Services forestiers

III. MINES ET PUIITS DE PÉTROLE

1. Mines métalliques
 - 057—Mines d'uranium
 - 058—Mines de fer
 - 059—Mines métalliques
diverses
2. Combustibles minéraux
 - 064—Industrie du pétrole brut
et du gaz naturel
3. Mines non métalliques
 - 079—Mines non métalliques
diverses
4. Services miniers
 - 099—Services miniers
divers

IV. INDUSTRIES MANUFACTURIÈRES

1. Industries des aliments et
boissons
 - 101—Industries de la viande
et de la volaille
 - 102—Industrie de la
transformation du
poisson
 - 103—Préparation de fruits
et de légumes
 - 104—Industrie laitière
 - 105—Meunerie et fabrication
de céréales de table
 - 106—Fabrication d'aliments
pour les animaux
 - 107—Boulangerie et pâtisserie
(fabrication)

- | | | |
|-----|--|---|
| | | 108–Industries alimentaires
diverses |
| | | 109–Industrie des boissons |
| 2. | Tobacco Products Industries
153–Tobacco Products
Manufacturers | 2. Industrie du tabac
153–Fabricants de
produits du tabac |
| 3. | Rubber and Plastics
Products Industries
162–Rubber Products Industries
165–Plastics Fabricating
Industry | 3. Industrie du caoutchouc et des
produits en matière plastique
162–Industrie des produits
en caoutchouc
165–Fabrication d'articles
en matière plastique |
| 4. | Leather Industries
174–Shoe Factories | 4. Industrie du cuir
174–Fabriques de chaussures |
| 5. | Textile Industries
181–Cotton Yarn and Cloth
Mills
183–Man-made Fibre, Yarn
and Cloth Mills
188–Automobile Fabric
Accessories Industry
189–Miscellaneous Textile
Industries | 5. Industrie textile
181–Filature et tissage
du coton
183–Fabrication de fibres,
filés et tissus artificiels
et synthétiques
188–Industrie des accessoires
en tissu pour l'automobile
189–Industries textiles diverses |
| 6. | Wood Industries
252–Veneer and Plywood Mills
258–Coffin and Casket
Industry
259–Miscellaneous Wood
Industries | 6. Industrie du bois
252–Fabriques de placages
et de contre-plaqués
258–Industrie des cercueils
259–Industries diverses
du bois |
| 7. | Furniture and Fixture
Industries
264–Office Furniture
Manufacturers
266–Miscellaneous Furniture and
Fixtures Manufacturers | 7. Industrie du meuble et
des articles d'ameublement
264–Industrie des
meubles de bureau
266–Industrie des articles
d'ameublement divers |
| 8. | Paper and Allied Industries
271–Pulp and Paper Mills
272–Asphalt Roofing
Manufacturers
273–Paper Box and Bag
Manufacturers
274–Miscellaneous Paper
Converters | 8. Industrie du papier et
activités annexes
271–Usines de pâtes et
papiers
272–Fabricants de papier
de couverture asphalté
273–Fabricants de
boîtes en carton et
de sacs en papier
274–Transformations
diverses du papier |
| 9. | Printing and Allied Industries
286–Commercial Printing | 9. Imprimerie et activités annexes
286–Imprimerie commerciale |
| 10. | Primary Metal Industries
291–Iron and Steel Mills
292–Steel Pipe and Tube
Mills
294–Iron Foundries
295–Smelting and Refining
296–Aluminum Rolling,
Casting and Extruding
298–Metal Rolling, Casting
and Extruding | 10. Première transformation
des métaux
291–Sidérurgie
292–Fabriques de tubes
et tuyaux d'acier
294–Fonderies de fer
295–Fonte et affinage
296–Laminage, moulage et
extrusion de l'aluminium
298–Laminage, moulage et
extrusion des métaux |

- | | |
|--|---|
| <p>11. Metal Fabricating Industries (except Machinery and Transportation Equipment Industries)</p> <p>301–Boiler and Plate Works</p> <p>302–Fabricated Structural Metal Industry</p> <p>303–Ornamental and Architectural Metal Industry</p> <p>304–Metal Stamping, Pressing and Coating Industry</p> <p>305–Wire and Wire Products Manufacturers</p> <p>307–Heating Equipment Manufacturers</p> <p>308–Machine Shops</p> <p>309–Miscellaneous Metal Fabricating Industries</p> | <p>11. <i>Fabrication de produits en métal (saut machines et équipement de transport)</i></p> <p><i>301–Industrie des chaudières et des plaques</i></p> <p><i>302–Fabrication d'éléments de charpente métallique</i></p> <p><i>303–Industrie des produits métalliques d'architecture et d'ornement</i></p> <p><i>304–Industrie de l'emboutissage, du matriçage et du revêtement des métaux</i></p> <p><i>305–Industrie du fil métallique et de ses produits</i></p> <p><i>307–Fabricants d'appareils de chauffage</i></p> <p><i>308–Ateliers d'usinage</i></p> <p><i>309–Fabrication de produits métalliques divers</i></p> |
| <p>12. Machinery Industries (except Electrical Machinery)</p> <p>311–Agricultural Implement Industry</p> <p>315–Miscellaneous Machinery and Equipment Manufacturers</p> <p>316–Commercial Refrigeration and Air Conditioning Equipment Manufacturers</p> <p>318–Office and Store Machinery Manufacturers</p> | <p>12. <i>Fabrication de machines (saut électriques)</i></p> <p><i>311–Fabricants d'instruments aratoires</i></p> <p><i>315–Fabricants de machines et d'équipement divers</i></p> <p><i>316–Fabricants d'équipement commercial de réfrigération et de climatisation</i></p> <p><i>318–Fabricants de machines pour le bureau et le commerce</i></p> |
| <p>13. Transportation Equipment Industries</p> <p>321–Aircraft and Aircraft Parts Manufacturers</p> <p>323–Motor Vehicle Manufacturers</p> <p>324–Truck Body and Trailer Manufacturers</p> <p>325–Motor Vehicle Parts and Accessories Manufacturers</p> <p>326–Railroad Rolling Stock Industry</p> <p>327–Shipbuilding and Repair</p> <p>329–Miscellaneous Vehicle Manufacturers</p> | <p>13. <i>Fabrication d'équipement de transport</i></p> <p><i>321–Fabricants d'aéronefs et de pièces</i></p> <p><i>323–Fabricants de véhicules automobiles</i></p> <p><i>324–Fabricants de carrosseries de camions et remorques</i></p> <p><i>325–Fabricants de pièces et accessoires d'automobiles</i></p> <p><i>326–Fabricants de matériel ferroviaire roulant</i></p> <p><i>327–Construction et réparation de navires</i></p> <p><i>329–Fabricants de véhicules divers</i></p> |
| <p>14. Electrical Products Industries</p> <p>331–Manufacturers of Small Electrical Appliances</p> <p>332–Manufacturers of Major Appliances (Electric and Non-Electric)</p> <p>334–Manufacturers of Household Radio and Television Receivers</p> <p>335–Communications Equipment Manufacturers</p> <p>336–Manufacturers of Electrical Industrial Equipment</p> | <p>14. <i>Fabrication de produits électriques</i></p> <p><i>331–Fabricants de petits appareils électriques</i></p> <p><i>332–Fabricants de gros appareils (électriques ou non)</i></p> <p><i>334–Fabricants de radiorécepteurs et de téléviseurs ménagers</i></p> <p><i>335–Fabricants d'équipement de télécommunication</i></p> |

338—Manufacturers of Electric Wire and Cable	336— <i>Fabricants d'équipement industriel</i>
339—Manufacturers of Miscellaneous Electrial Products	338— <i>Fabricants de fils et de câbles électriques</i>
15. Non-Metallic Mineral Products Industries	339— <i>Fabricants de produits électriques divers</i>
351—Clay Products Manufacturers	15. <i>Fabrication de produits minéraux non métalliques</i>
352—Cement Manufacturers	351— <i>Fabricants de produits en argile</i>
354—Concrete Products Manufacturers	352— <i>Fabricants de ciment</i>
356—Glass and Glass Products Manufacturers	354— <i>Fabricants de produits en béton</i>
357—Abrasives Manufacturers	356— <i>Fabricants de verre et d'articles en verre</i>
359—Miscellaneous Non-Metallic Mineral Products Industries	357— <i>Fabricants d'abrasifs</i>
	359— <i>Industrie des produits minéraux non métalliques divers</i>
16. Petroleum and Coal Products Industries	16. <i>Fabrication de produits du pétrole et du charbon</i>
365—Petroleum Refineries	365— <i>Raffineries de pétrole</i>
369—Miscellaneous Petroleum and Coal Products Industries	369— <i>Fabricants de dérivés divers du pétrole et du charbon</i>
17. Chemical and Chemical Products Industries	17. <i>Industrie chimique</i>
372—Manufacturers of Mixed Fertilizers	372— <i>Fabricants d'engrais composés</i>
373—Manufacturers of Plastics and Synthetic Resins	373— <i>Fabricants de matières plastiques et de résines synthétiques</i>
374—Manufacturers of Pharma- ceuticals and Medicines	374— <i>Fabricants de produits pharmaceutiques et de médicaments</i>
375—Paint and Varnish Manufacturers	375— <i>Fabricants de peintures et vernis</i>
376—Manufacturers of Soap and Cleaning Compounds	376— <i>Fabricants de savon et de produits de nettoyage</i>
377—Manufacturers of Toilet Preparations	377— <i>Fabricants de produits de toilette</i>
378—Manufacturers of Industrial Chemicals	378— <i>Fabricants de produits chimiques industriels</i>
379—Miscellaneous Chemical Industries	379— <i>Fabricants de produits chimiques divers</i>
18. Miscellaneous Manufacturing Industries	18. <i>Industries manufacturières diverses</i>
391—Scientific and Professional Equipment Industries	391— <i>Fabrication de matériel scientifique et professionnel</i>
393—Sporting Goods and Toy Industries	393— <i>Fabrication d'articles de sport et de jouets</i>
399—Miscellaneous Manufacturing Industries	399— <i>Industries manufacturières diverses</i>
V. CONSTRUCTION INDUSTRY	V. BÂTIMENT ET TRAVAUX PUBLICS
1. General Contractors	1. <i>Entrepreneurs généraux</i>
404—Building Construction	404— <i>Bâtiment</i>
2. Special-Trade Contractors	2. <i>Entrepreneurs spécialisés</i>
421—Special-Trade Contractors	421— <i>Entrepreneurs spécialisés</i>

VI. TRANSPORTATION, COMMUNICATION AND OTHER UTILITIES

1. Transportation
 - 503–Railway Transport
 - 504–Water Transport
 - 505–Services incidental to Water Transport
 - 507–Other Truck Transport
 - 515–Pipeline Transport
 - 516–Highway and Bridge Maintenance
2. Communication
 - 543–Radio and Television Broadcasting
 - 544–Telephone Systems
3. Electric Power, Gas and Water Utilities
 - 572–Electric Power
 - 574–Gas Distribution
 - 579–Other Utilities

VII. COMMUNITY AND BUSINESS SERVICE INDUSTRIES

1. Health and Welfare Services
 - 826–Diagnostic and Therapeutic Services
2. Services to Business Management
 - 853–Computer Services
 - 864–Engineering and Scientific Services
 - 869–Miscellaneous Services to Business Management

VI. TRANSPORTS, COMMUNICATIONS ET AUTRES SERVICES PUBLICS

1. *Transports*
 - 503–*Transports ferroviaires*
 - 504–*Transports par eau*
 - 505–*Services auxiliaires des transports par eau*
 - 507–*Autre camionnage*
 - 515–*Transports par pipe-line*
 - 516–*Entretien de routes et de ponts*
2. *Communications*
 - 543–*Radiodiffusion et télévision*
 - 544–*Réseaux de téléphonie*
3. *Énergie électrique, gaz et eau*
 - 572–*Énergie électrique*
 - 574–*Distribution de gaz*
 - 579–*Autres services d'utilité publique*

VII. SERVICES SOCIO-CULTURELS ET COMMERCIAUX

1. *Services médicaux et sociaux*
 - 826–*Services de diagnostic et de soins*
2. *Services tournis aux entreprises*
 - 853–*Services d'informatique*
 - 864–*Bureaux d'études et services scientifiques*
 - 869–*Services divers tournis aux entreprises*

R&D ESTABLISHMENTS
BY INDUSTRY

*CLASSIFICATION DES
CENTRES DE R-D
PAR INDUSTRIE*

I. AGRICULTURE / AGRICULTURE

1. Farms/Ferms (011-019)

- | | | | |
|-----|--|----------------------------------|-----|
| (1) | Peel's Poultry Farm Limited,
R.R. # 4,
Port Perry, Ontario. | | 011 |
| | R & D Unit: Research Department,
Address as above. | Albert D. Smith, Director. | 021 |
| | Fields: Poultry genetics and husbandry, animal genetics. | | |
| | Activities: R & D (80%), testing (20%). | | |
| | Facilities: Laboratory of 1,500 sq. ft. | | |
| | Personnel: 6 scientists, 2 technologists, 6 others. | | |
| (2) | Pig Improvement (Canada) Limited,
Box 266,
Acme, Alberta. | Stanley A. Price, President. | 011 |
| | R & D Unit: Address as above. | Stanley A. Price, Director. | 021 |
| | Fields: Swine breeding improvement. | | |
| | Activities: Research (30%), testing (50%). | | |
| | Facilities: 60,000 sq. ft. barn. | | |
| | Personnel: 2 scientists, 6 technologists, 11 others. | | |
| (3) | Shaver Poultry Breeding Farms Limited,
Box 400, R.R. # 1,
Galt, Ontario. | | 011 |
| | a) R & D Unit: Address as above. | P. Hunton, R.K. Cole, Directors. | 021 |
| | Fields: Genetics in poultry breeding. | | |
| | Activities: R & D (100%). | | |
| | Facilities: Laboratory. | | |
| | Personnel: 4 scientists, 2 others. | | |
| | b) R & D Unit: Address as above. | D. McQ. Shaver, Director. | 021 |
| | Fields: Poultry pathology, nutritional and technological improvements in poultry breeding. | | |
| | Activities: R & D (100%). | | |
| | Facilities: Portion of 4 farms and 1 hatchery. | | |
| | Personnel: 4 scientists, 3 technologists, 3 others. | | |
| | c) R & D Unit: Mareks Disease Research Farm,
R.R. # 2,
Puslinch,
Ontario. | A.E. Ferguson, Director. | 021 |
| | Fields: Resistance research. | | |
| | Activities: R & D (100%). | | |
| | Facilities: Laboratory, rented poultry house. | | |
| | Personnel: 1 scientist, 3 others. | | |
| (4) | Alex M. Stewart & Son Limited,*
Ailsa Craig, Ontario. | John A. Stewart, President. | 019 |

AGRICULTURE

R & D Unit: Stewarts Research & Plant Breeding,* G.E. Jones, Director. 021
 Address as above.
 Fields: Plant breeding.
 Activities: Breeding and development programs.
 Facilities: 15 acres of land and 5,000 sq. ft. of floor space.
 Personnel: 3 scientists, 2 technologists.

2. Services Incidental to Agriculture / Services agricoles (021)

(5) **Campbell Soup Company Limited,** 103
 60 Birmingham Street,
 Toronto 14, Ontario. J.E. Schwarz, President.

a) R & D Unit: Agricultural Research Department, J.F. Moore, Director. 021
 R.R. # 6,
 Mississauga,
 Ontario.
 Fields: Vegetable variety and culture testing, tomato breeding.
 Activities: R & D (100%).
 Facilities: Office and laboratory, farm equipment.
 Personnel: 2 scientists, 3 technologists, 2 others.

b) R & D Unit: Agricultural Research Department, J.F. Moore, Director. 021
 Portage la Prairie,
 Manitoba.
 Fields: Vegetable variety and culture testing.
 Activities: R & D (100%).
 Facilities: Farm equipment.
 Personnel: 1 scientist.

(6) **Chipman Chemicals Limited,*** 379
 519 Parkdale Avenue North,
 Hamilton, Ontario.

R & D Unit: Technical Department,* R.A. Costen, Director. 379-021
 Box 3100, Station C,
 Hamilton,
 Ontario.
 Fields: Development and evaluation of new agricultural pest control chemicals.
 Activities: R & D (70%), testing (30%).
 Facilities: Laboratory of 1,300 sq. ft., rented land for field research at several locations across
 Canada.
 Personnel: 7 scientists, 1 technologist, 2 others.

(7) **Ciba-Geigy Canada Limited,** 374
 205 Bouchard Boulevard,
 Dorval 780, Quebec. T.W. Parton, President.

R & D Unit: Green Cross, H. Pass, Director. 379-021
 1200 Franklin Boulevard,
 Cambridge,
 Ontario.
 N1R 5W8
 Fields: Agrochemicals, pesticides.
 Activities: Service to Canadian agriculture.
 Facilities: Research laboratory.

Personnel: 7 scientists, 4 technologists, 3 others.

- (8) **La Coopérative Agricole de Granby,*** 021
 Case Postale 219,
 Granby, Québec. I. Martin, Président.
- Centre de R-D: Section R - D,* Mêmes adresses. R.N. Giroux, Directeur. 021-104
 Mêmes adresses.
- Domaines: Microbiologie alimentaire et technologie laitière.
 Installations: Facilités complètes pour la microbiologie.
 Personnel: 3 scientifiques, 3 techniciens.
- (9) **Crawford Foods Limited,** 101
 Wynyard, Saskatchewan.
- R & D Unit: Poultry Research Department, K.K. Bhargava, Director. 101-021
 Address as above.
- Fields: Poultry research.
 Activities: R & D (100%).
 Facilities: Laboratory of 2,800 sq. ft., related service facilities.
 Personnel: 2 scientists, 2 technologists, 1 other.
- (10) **Killbery Industries (1971) Limited,** 021
 616 Roseberry Street,
 Winnipeg, Manitoba. J.A. MacDonald, President.
- R & D Unit: Address as above. T. Fox, Director.
 Fields: Agricultural research.
 Activities: R & D (100%).
 Facilities: 7,000 sq. ft. of service space.
 Personnel: 3 engineers, 2 technologists, 3 others.
- (11) **Libby, McNeill & Libby of Canada Limited,*** 103
 330 Richmond Street,
 Chatham, Ontario. Eric Egan, President.
- b) R & D Unit: Agriculture Research Department,* R. Hall, Manager. 021
 Address as above.
- Fields: Botany, horticultural science, biochemistry and soil science.
 Activities: Raw product research, cultivar testing and development, growth regulators and
 pesticide research.
 Facilities: Laboratory and 10 acre experimental site.
 Personnel: 1 scientist, 1 technologist, seasonal technicians.
- (12) **Maple Leaf Mills Limited,*** 106
 417 Queen's Quay West,
 Toronto, Ontario. R.G. Dale, President.
- b) R & D Unit: Livestock Feed Research,* A.W. Tremere, Director. 106-021
 Address as above.
- Fields: Feeds for swine, poultry, beef and mink.
 Activities: R & D (75%), related activities (25%).
 Facilities: Georgetown, Ontario, 150 acres, 7 buildings; Bassano, Alberta, capacity for 340 head
 of cattle; Thornhill, Ontario, capacity for 400 adult mink, 1,000 kits.
 Personnel: 5 scientists, 9 others.
- c) R & D Unit: Crop Research, W.E. Sieveking, Director. 106-021

AGRICULTURE

- Master Feeds Research Farm,
Georgetown,
Ontario.
Fields: Plant breeding and agronomy.
Activities: R & D (100%).
Personnel: 4 scientists.
- (13) **Peel's Poultry Farm Limited,** 011
R.R. # 4,
Port Perry, Ontario.
- R & D Unit: Research Department, Albert D. Smith, Director. 021
Address as above.
- Fields: Poultry genetics and husbandry, animal genetics.
Activities: R & D (80%), testing (20%).
Facilities: Laboratory of 1,500 sq. ft.
Personnel: 6 scientists, 2 technologists, 6 others.
- (14) **Pig Improvement (Canada) Limited,** 011
Box 266,
Acme, Alberta.
- R & D Unit: Address as above. Stanley A. Price, Director. 021
- Fields: Swine breeding improvement.
Activities: Research (30%), testing (50%).
Facilities: 60,000 sq. ft. barn.
Personnel: 2 scientists, 6 technologists, 11 others.
- (15) **Shaver Poultry Breeding Farms Limited,** 011
Box 400, R.R. # 1,
Galt, Ontario.
- a) R & D Unit: Address as above. P. Hunton, R.K. Cole, Directors. 021
Fields: Genetics in poultry breeding.
Activities: R & D (100%).
Facilities: Laboratory.
Personnel: 4 scientists, 2 others.
- b) R & D Unit: Address as above. D. McQ. Shaver, Director. 021
Fields: Poultry pathology, nutritional and technological improvements in poultry breeding.
Activities: R & D (100%).
Facilities: Portion of 4 farms and 1 hatchery.
Personnel: 4 scientists, 3 technologists, 3 others.
- c) R & D Unit: Mareks Disease Research Farm, A.E. Ferguson, Director. 021
R.R. # 2,
Puslinch,
Ontario.
Fields: Resistance research.
Activities: R & D (100%).
Facilities: Laboratory, rented poultry house.
Personnel: 1 scientist, 3 others.
- (16) **Alex M. Stewart & Son Limited,*** 019
Ailsa Craig, Ontario. John A. Stewart, President.

R & D Unit:	Stewarts Research & Plant Breeding,*	G.E. Jones, Director.	021
	Address as above.		
Fields:	Plant breeding.		
Activities:	Breeding and development programs.		
Facilities:	15 acres of land and 5,000 sq. ft. of floor space.		
Personnel:	3 scientists, 2 technologists.		

II. FORESTRY/FORÊTS

1. Logging/Exploitation forestière (031)

(17)	Consolidated-Bathurst Limited,*		031
	Box 69, Montreal 101, Quebec.	W.I.M. Turner, President.	
a)	R & D Unit: Research Centre,* Grand'Mere, Quebec.	O.J. Walker, Director.	271
	Fields: Pulp and Paper.		
	Activities: R & D (60%), testing (30%), consulting (10%).		
	Facilities: Laboratories, pilot plants and library.		
	Personnel: 2 scientists, 5 engineers, 4 technologists, 20 others.		
b)	R & D Unit: Packaging Research,* 1034 Hodge Street, St. Laurent, Montreal, Quebec.	B.B. Mithel, Director.	273
	Fields: Packaging.		
	Activities: R & D (50%), market development (10%), testing (30%), consulting (10%).		
	Facilities: Laboratories, controlled environment testing laboratory and pilot plant.		
	Personnel: 2 scientists, 2 engineers, 1 technologist, 4 others.		
(18)	Fraser Companies Limited,		031
	Edmundston, New Brunswick.	C.R. Recor, President.	
	R & D Unit: Central Research Department, Address as above.	W.D. Kerr, Director,	271
	Fields: Pulp, paper and paperboard.		
	Activities: R & D (100%).		
	Facilities: Laboratory of 6,500 sq. ft., library of 1,000 technical volumes.		
	Personnel: 3 scientists, 6 engineers, 7 technologists.		
(19)	Scott Paper Limited,		031
	Box 760, New Westminster, British Columbia.	A.F. Armstrong, President.	
a)	R & D Unit: Address as above.	C.R. Johnson, Director.	271-274
	Fields: Pulp and paper, paper converting.		
	Activities: R & D (10%), operational activities (90%).		
	Facilities: 1,500 sq. ft. laboratory.		
	Personnel: 5 engineers, 3 technologists.		

b) R & D Unit:	Crabtree, Quebec.	L. LaSalle, Director.	271-274
Fields:	Pulp and paper, paper converting.		
Activities:	R & D (10%), operational activities (90%).		
Facilities:	1,000 sq. ft. laboratory.		
Personnel:	5 engineers, 3 technologists.		

2. Forestry Services/Services forestiers (039)

(20) Pulp and Paper Research Institute of Canada,*			864-271
	570 St. John's Boulevard, Pointe Claire 720, Quebec.	Pierre R. Gendron, President.	
R & D Unit:	Address as above.*	D.A.I. Goring, Director.	271-039
Fields:	Pulp and paper, and logging.		
Activities:	Pulp and paper research (83%), logging research (17%).		
Facilities:	Laboratories, pilot plant, machine shop, library of 12,000 books, IBM 1130, scanning electron microscope, transmission electron microscope.		
Personnel:	53 scientists, 22 engineers, 88 technologists, 64 others.		

III. MINES AND OIL WELLS/MINES ET Puits DE PÉTROLE

1. Metal Mines/Mines métalliques (057-059)

(21) Cominco Limited,*			059
	1199 West Pender Street, Vancouver, British Columbia.	F.E. Burnet, President.	
a) R & D Unit:	Technical Research Centre,* Trail, British Columbia.	R.C. Bell, Director.	295
Fields:	Process development, including treatment, pyrometallurgy and chemical metallurgy, product and process development of electronic materials, process economic studies, chemistry and analysis.		
Activities:	R & D (50%), pilot plant work (30%), technical service and consulting (20%).		
Facilities:	Laboratory of 17,500 sq. ft., library of 12,000 technical books, and pilot facilities.		
Personnel:	17 scientists, 16 engineers, 39 technologists, 19 others.		
b) R & D Unit:	Product Research Centre,* Sheridan Park, Ontario.	J.R. Wellington, Director.	295-298
Fields:	Product and process development applications, including physical metallurgy, metal working, galvanizing, die casting, market surveys, and market testing.		
Activities:	R & D (65%), manufacturing (5%), technical service work and testing (10%), consulting (10%), market surveys and market testing (10%).		
Facilities:	Metal working shop of 6,000 sq. ft., laboratory of 22,000 sq. ft., machine shop and testing equipment.		
Personnel:	1 scientist, 11 engineers, 12 technologists, 9 others.		

- (22) **Eldorado Nuclear Limited,*** 057
 151 Slater Street,
 Ottawa, Ontario.
 K1P 5H3 W.M. Gilchrist, President.
- a) R & D Unit: Metallurgical Laboratories,* 295
 Tunney's Pasture,
 Ottawa,
 Ontario.
 Fields: Metallurgical processes for uranium products.
 Activities: R & D (90%), consulting (with other company divisions) (10%).
 Facilities: 15,000 sq. ft. laboratory, pilot plant, library.
 Personnel: 5 scientists, 6 engineers, 13 technologists, 3 others.
- b) R & D Unit: 215 John Street,* B.C. Smart, Director. 295
 Port Hope,
 Ontario.
 Fields: Metallurgical processes for uranium products.
 Activities: R & D (80%), process control (20%).
 Facilities: Bench scale laboratory, pilot plant facility.
 Personnel: 1 scientist, 1 engineer, 6 technologists.
- (23) **Falconbridge Nickel Mines Limited,** 059
 Box 40,
 Commerce Court West,
 Toronto, Ontario. M.A. Cooper, President.
- a) R & D Unit: Falconbridge Metallurgical 295
 Laboratories,
 Box 900,
 Thornhill and Toronto,
 Ontario.
 Fields: Process and product development, mineralogical investigations, supporting services including chemical, spectrochemical, and instrumental analysis, process control and instrumentation.
 Activities: R & D (90%), testing (10%).
 Facilities: Laboratories of 33,400 sq. ft., machine shop, library of 2,000 technical books.
 Personnel: 28 scientists and engineers, 32 technologists and technicians, 24 others.
- b) R & D Unit: Research Department, M.P. Sudbury, Manager. 295
 Sudbury Operations,
 Falconbridge,
 Ontario.
 Fields: Process development relating to sulphide minerals, process control, and instrumentation for Sudbury operations.
 Activities: R & D (95%), testing (5%).
 Facilities: Laboratories of 9,200 sq. ft., pilot plants of 11,600 sq. ft., library of 750 technical books.
 Personnel: 16 scientists and engineers, 24 technologists and technicians, 3 others.
- (24) **Hudson Bay Mining and Smelting Company Limited,** 059-295
 Flin Flon, Manitoba. W.A. Morrice, President.
- R & D Unit: Research and Assay Department, J.N. Kirkbride, Director.
 Address as above.
 Fields: Extractive metallurgy.
 Activities: R & D (60%), testing (40%).
 Facilities: Laboratories totalling 3,500 sq. ft., library of 2,000 technical books.

Personnel: 5 scientists, 15 engineers, 7 technologists, 2 others.

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|------|--|---------------------------------|---------|
| (25) | <p>The International Nickel Company of Canada Limited,*
 Toronto-Dominion Centre,
 Toronto 111, Ontario.
 M5K 1E3</p> | <p>L.E. Grubb, President.</p> | 059-295 |
| | <p>a) R & D Unit: Process Development,*
 Address as above.</p> <p>Fields: Economic feasibility studies, flowsheet design, process simulations.
 Facilities: Computer terminal and service facilities of 6,000 sq. ft.
 Personnel: 20 scientists, 1 technologist.</p> | <p>D. Kelly, Director.</p> | 869 |
| | <p>b) R & D Unit: Research Stations,*
 Port Colborne,
 Ontario.</p> <p>Fields: Pyro-, hydro-, vapo-, and electrometallurgy.
 Activities: Pilot plant testing (100%).
 Facilities: Kilns, electric furnace, convertor, autoclaves and filters, totalling approximately 200,000 sq. ft.
 Personnel: 32 scientists, 10 technologists, 150 others.</p> | <p>D. Kelly, Director.</p> | 295 |
| | <p>c) R & D Unit: J. Roy Gordon Research Laboratory,*
 Sheridan Park,
 Mississauga,
 Ontario.</p> <p>Fields: Hydro-, pyro-, vapo-, and electrometallurgy, minerals beneficiation, analytical methods, and technical information services.
 Facilities: Mini-plant and comprehensive laboratory totalling 80,000 sq. ft.
 Personnel: 47 scientists, 47 technologists, 12 others.</p> | <p>J.S. Warner, Director.</p> | 295 |
| .. | | | |
| (26) | <p>Iron Ore Company of Canada,
 Box 1000,
 Sept-Iles, Quebec.</p> | <p>W.J. Bennett, President.</p> | 058 |
| | <p>R & D Unit: Address as above.
 Fields: Mining and ore testing, metallurgical research and exploration.
 Personnel: 1 scientist, 11 engineers.</p> | <p>P.W.A. Mayer, Director.</p> | |
| (27) | <p>Noranda Mines Limited,
 Box 45,
 Commerce Court West,
 Toronto, Ontario.</p> | <p>A. Powis, President.</p> | 059 |
| | <p>R & D Unit: Noranda Research Centre,
 240 Hymus Boulevard,
 Pointe Claire 730,
 Quebec.</p> <p>Fields: Metallurgical and chemical manufacturing.
 Activities: R & D (70%), testing (10%), consulting (20%).
 Facilities: 40,000 sq. ft. of facilities, including 2 pilot plants, laboratories, library.
 Personnel: 20 scientists, 22 engineers, 24 technologists, 33 others.</p> | <p>W.H. Gauvin, Director.</p> | 295-378 |
| (28) | <p>Quebec Iron and Titanium Corporation,
 Box 40,
 Sorel, Quebec.</p> | <p>W.L. Walsh, President.</p> | 059 |

	R & D Unit: Research Centre, Address as above.	H.Y. Lee, Director.	291-378
	Fields: Ilmenite ores, titanium dioxide slags, pig iron.		
	Activities: R & D (100%).		
	Facilities: Research centre, incorporating laboratories, library, offices and pilot plant.		
	Personnel: 11 scientists, 27 engineers, 50 technologists, 3 others.		
(29)	Rio Algom Mines Limited, 120 Adelaide Street West, Toronto 110, Ontario.	R.D. Armstrong, President.	059
a)	R & D Unit: Mining Division Research Laboratory, Address as above.	M.E. Grimes, Manager.	059
	Fields: Ore mining and processing, environmental control.		
	Activities: Process development and improvement.		
	Facilities: Metallurgical and chemical laboratories, library, pilot plant facilities.		
	Personnel: 3 scientists, 15 engineers, 13 technologists, 6 others.		
b)	R & D Unit: R & D Department, Atlas Steels Company, Address as above.	T. Studley, Manager.	291
	Fields: Specialty steels.		
	Activities: Process and product development.		
	Facilities: Laboratories, library, pilot production units.		
	Personnel: 5 scientists, 7 engineers, 3 technologists, 9 others.		
(30)	Selco Mining Corporation Limited, 6th Floor, 55 Yonge Street, Toronto, Ontario. M5E 1J4	M.A. Upham, President.	059
a)	R & D Unit: Questor Division, 20 Canso Road, Rexdale, Ontario.	P.G. Lazenby, Managing Director.	864
	Fields: Airborne geophysical survey systems.		
	Activities: Contract surveying (80%), R & D (20%).		
	Facilities: Laboratory of 1,500 sq. ft.		
	Personnel: 1 scientist, 1 engineer, 2 technologists.		
b)	R & D Unit: Gyro-Log Limited, 20 Mulock Avenue, Toronto, Ontario.	J. Hainey, Project Director.	391
	Fields: Drill-hole survey instruments.		
	Activities: R & D (60%), testing (30%), contract surveying (10%).		
	Facilities: Machine shop and laboratory facilities of 2,000 sq. ft.		
	Personnel: 1 engineer, 3 technologists.		
(31)	Sherritt Gordon Mines Limited,* Fort Saskatchewan, Alberta. T0B 1P0.	David D. Thomas, President.	059
	R & D Unit: R & D Division,* Address as above.	D.J.I. Evans, Director.	295

Fields: Hydrometallurgy, powder metallurgy, development of hydrometallurgical processes for recovering nickel, cobalt, copper, zinc, lead, precious metals and by-products containing nickel and cobalt, development of fertilizers.
 Facilities: Laboratories and pilot plants.
 Personnel: 24 scientists, 28 engineers, 82 technologists, 15 others.

2. Mineral Fuels/ Combustibles minéraux (064)

- (32) **Amoco Canada Petroleum Company Limited.*** 064
 Bentall Building,
 444-7th Avenue Southwest,
 Calgary, Alberta.
 T2P 0Y2
 John C. Meeker, President.
- R & D Unit: Address as above.* J.B. Cameron, Director. 099
 Fields: Seismic modelling.
 Activities: R & D (75%), testing (25%).
 Facilities: Library and computer facilities.
 Personnel: 2 scientists.
- (33) **Ashland Oil Canada Limited,** 064
 800 Standard Life Building,
 Calgary, Alberta.
 H. Earl Joudrie, President.
- R & D Unit: Resin and Chemical Division, R.C. Burrows, Director. 373-379
 200 Fairbank Avenue,
 Toronto,
 Ontario.
- Fields: Coatings, resins, foundry sand binders, specialty chemicals.
 Activities: R & D (80%), testing (15%), in-house consulting (5%).
 Facilities: 3,000 sq. ft. laboratory, analytical and test equipment.
 Personnel: 2 scientists, 1 engineer, 3 technologists.
- (34) **Gulf Oil Canada Limited,*** 064
 Sheridan Park, Ontario.
 J. McAfee, President.
- R & D Unit: Address as above.* R.M. Donald, Manager. 365
 Fields: Petroleum products and processes.
 Activities: R & D (100%).
 Facilities: Analytical laboratory, product development pilot plant, engine testing facilities.
 Personnel: 40 scientists, 17 engineers, 57 technologists, 19 others.
- (35) **Imperial Oil Limited,*** 365
 111 St. Clair Avenue West,
 Toronto, Ontario.
 M5W 1K3
 J.A. Armstrong, President.
- e) R & D Unit: Cold Lake Project, J.H. Nicholls, Director. 064
 Edmonton,
 Alberta.
- Fields: Development of process for recovery of Cold Lake heavy oil deposits.
 Activities: R & D (100%).
 Facilities: Pilot plant consisting of wells, distribution and gathering systems, separation facilities and steam generation facilities.
 Personnel: 5 engineers, 14 others.

- (36) **Shell Canada Limited,** 064
 505 University Avenue,
 Toronto, Ontario. J.F. Bookout, President.
- R & D Unit: Oakville Research Centre, G. Shane, Director. 365
 Address as above.
- Fields: Petroleum products.
- Activities: R & D (100%).
- Facilities: Laboratory of 56,000 sq. ft.
- Personnel: 21 scientists, 3 engineers, 30 technologists, 12 others.
- (37) **Syncrude Canada Limited,** 064
 807 Baker Centre,
 10025-106 Street,
 Edmonton, Alberta.
 T5J.1G4 F.K. Spragins, President.
- R & D Unit: Research Department, R.R. Goforth, Manager.
 Address as above.
- Fields: Synthetic crude oil from (bitumen) Athabasca tar sands.
- Activities: R & D (100%).
- Facilities: Laboratory of 18,000 sq. ft., 9.7 acre site including ponds, machine shops, pilot units
 processing up to 15 tons per hour.
- Personnel: 4 scientists, 6 engineers, 18 technologists, 14 others.
- (38) **Trans-Canada Resources Limited,*** 064
 310-9th Avenue Southwest,
 Calgary 1, Alberta. W.D. Hans, President.
- R & D Unit: R & D Division,* W.T. Olecko, Director. 099
 Address as above.
- Fields: Drilling mud systems and ingredients.
- Activities: R & D (90%), testing (10%).
- Facilities: Laboratory of 1,400 sq. ft., miscellaneous mud testing equipment.
- Personnel: 1 scientist, 1 engineer, 4 technologists.

3. Non-Metal Mines/Mines non métalliques (079)

- (39) **Chromasco Corporation Limited,*** 079
 Haley, Ontario. J. Thomas Timmins, President.
- R & D Unit: Address as above.* 295
- Fields: Ferroalloys, magnesium and calcium metals.
- Activities: R & D (50%), testing (50%).
- Facilities: Laboratory of 4,800 sq. ft., R & D facilities of 10,800 sq. ft., machine shop.
- Personnel: 3 scientists, 8 technologists.
- (40) **Houston Aggregate Company of Canada Limited,*** 079
 2545 Delorimier Avenue,
 Longueuil, Quebec. L.S. Ochman, President.
- R & D Unit: Address as above.* L.S. Ochman, Director. 359
- Fields: Heavy aggregates, mineral fillers, filtration media, biological shielding.
- Activities: R & D (25%), testing and quality control (5%), manufacturing (65%), consulting
 (5%).

Facilities: Laboratory of approximately 2,500 sq. ft. equipped for physical testing and chemical analysis of ores and minerals, engineering and design facilities.
 Personnel: 2 scientists, 4 engineers, 5 technologists, 20 others.

(41) Indusmin Limited,* 079

Box 40,
 Commerce Court West,
 Toronto, Ontario.

J.J. Mather, President.

R & D Unit: Research Centre,*
 1933 Leslie Street,
 Don Mills,
 Ontario.

R.C. Wilson, Director.

Fields: Processing and application of industrial minerals, physical chemistry of silicates.
 Activities: R & D (75%), testing (25%).
 Facilities: Laboratory of 11,000 sq. ft., library, small shop.
 Personnel: 3 scientists, 1 engineer, 7 technologists, 2 others.

(42) Kalium Chemicals Limited, 079

400 Bank of Canada Building,
 Regina, Saskatchewan.

B.R. Willett, President.

R & D Unit: Kalium Research Laboratory,
 Belle Plaine Plant,
 Address as above.

A. Goldsmith, Director.

Fields: Potash, particularly process improvements and markets analysis.
 Activities: R & D (100%).
 Facilities: Laboratory.
 Personnel: 8 scientists.

(43) Multi-Minerals Limited, 079

Box 67,
 Toronto Dominion Centre,
 Toronto 111, Ontario.

E.F. Carr, President.

R & D Unit: Address as above.
 Fields: Phosphate chemistry, rare earths.
 Activities: R & D (50%), planning, engineering, design (50%).
 Personnel: 1 scientist.

4. Services Incidental to Mining / Services miniers (099)

(44) Aerofall Mills Limited,* 864-099

2640 South Sheridan Way,
 Mississauga, Ontario.
 L5J 2M4

R.C. Meaders, President.

a) R & D Unit: Comminution & Process Development,*
 Address as above.

R.R. Turner, Director.

Fields: Comminution, mineral processing and recovery.
 Activities: R & D (10%), testing and evaluation (75%), consulting (15%).
 Facilities: Complete grinding classification and test facilities.
 Personnel: 1 engineer, 1 technologist, 2 others.

- b) R & D Unit: Particulate System Research,* R.S. Hart, Director.
Address as above.
- Fields: Classification and/or separation of granular materials.
- Activities: R & D (80%), testing and evaluation (20%).
- Facilities: Complete classification research and testing equipment.
- Personnel: 1 engineer, 1 technologist, 1 other.
- (45) **Amoco Canada Petroleum Company Limited.*** 064
Bentall Building,
444-7th Avenue Southwest,
Calgary, Alberta.
T2P 0Y2
John C. Meeker, President.
- R & D Unit: Address as above.* J.B. Cameron, Director. 099
- Fields: Seismic modelling.
- Activities: R & D (75%), testing (25%).
- Facilities: Library and computer facilities.
- Personnel: 2 scientists.
- (46) **Imperial Oil Limited,*** 365
111 St. Clair Avenue West,
Toronto, Ontario.
M5W 1K3
J.A. Armstrong, President.
- c) R & D Unit: Production Research and Technical Service,* G.G. Mainland, Manager. 099-864
339-50th Avenue Southeast,
Calgary,
Alberta.
T2G 2B3
- Fields: Petroleum drilling, production and gas processing operations, permafrost geotechnical studies, ice mechanics and offshore facilities, automated analytical systems.
- Activities: R & D (60%), analytical services (40%).
- Facilities: 37,000 sq. ft. laboratory, machine shop, computer terminals, library.
- Personnel: 23 engineers, 28 technologists, 17 others.
- d) R & D Unit: Exploration Service and Research, M.G. Parsons, Manager. 099-864
500-6th Avenue Southwest,
Calgary,
Alberta.
- Fields: Geophysics, including seismic field processing and interpretation techniques; geology, including geochemistry, paleontology, facies interpretation, and fluid movement; formation evaluation, systems applications.
- Activities: R & D (15%), service and consulting (85%).
- Facilities: 10,000 sq. ft. of laboratory and processing facilities.
- Personnel: 49 scientists, 25 technologists, 36 others.
- (47) **Lakefield Research of Canada Limited,*** 864-099
Box 40,
Commerce Court West,
Toronto, Ontario.
G.T.N. Woodrooffe, President.
- R & D Unit: Box 430,* A.G. Scobie, Director.
Lakefield,
Ontario.
- Fields: Mining process research.

MINES – Services miniers

Activities: Metallurgical, mineralogical and analytical research.
 Facilities: Metallurgical, mineralogical, chemical laboratory (analytical), and pilot plant.
 Personnel: 3 scientists, 3 engineers, 15 technologists, 10 others.

- (48) **Lockheed Petroleum Services Limited,*** 864-099
 1 Grosvenor Square,
 New Westminster, British Columbia. E.P. Wheaton, President.
- R & D Unit: Address as above.* 099
 Fields: Subsea oil field production systems, marine engineering.
 Activities: R & D (75%), commercial sales (25%).
 Facilities: Engineering and administrative offices, assembly and test facilities.
 Personnel: 24 engineers, 9 technologists, 21 others.
- (49) **Magnetics International Limited,*** 315
 Suite 401, 621 Craig Street West,
 Montreal 101, Quebec. P.N. Carter, President.
- b) R & D Unit: Ferro-Magnetics Limited,* 864-099
 2367-43rd Avenue,
 Lachine,
 Quebec.
 Fields: Mineral separation.
 Activities: R & D (30%), testing (40%), consulting (30%).
 Facilities: Laboratory of 3,000 sq. ft.
 Personnel: 1 scientist, 1 engineer, 2 technologists.
- (50) **McDaniel Consultants (1965) Limited,*** 864-099
 640-8th Avenue Southwest,
 Calgary 2, Alberta. R.R. McDaniel, President.
- R & D Unit: Petroleum Engineering,* G.C. Knutson, Director.
 Address as above.
 Fields: Petroleum reservoir engineering.
 Activities: Systems analysis and computer program development.
 Personnel: 1 scientist, 1 engineer, 1 technologist, 1 other.
- (51) **Petroleum Recovery Research Institute,** 864-099
 c/o The University of Calgary,
 Calgary, Alberta.
 T2N 1N4 J.E. Baugh, President.
- R & D Unit: Address as above. N. Mungan, Director.
 Fields: More efficient recovery of oil and gas.
 Activities: R & D (100%).
 Facilities: Laboratory space of 5,000 sq. ft., related research equipment.
 Personnel: 2 scientists, 5 engineers, 8 technologists, 1 other.
- (52) **Trans-Canada Resources Limited,*** 064
 310-9th Avenue Southwest,
 Calgary 1, Alberta. W.D. Hans, President.
- R & D Unit: R & D Division,* W.T. Olecko, Director. 099
 Address as above.
 Fields: Drilling mud systems and ingredients.
 Activities: R & D (90%), testing (10%).
 Facilities: Laboratory of 1,400 sq. ft., miscellaneous mud testing equipment.

Personnel: 1 scientist, 1 engineer, 4 technologists.

IV. MANUFACTURING INDUSTRIES/INDUSTRIES MANUFACTURIÈRES

1. Food and Beverage Industries/Industries des aliments et boissons (101-109)

- (53) **Alberta Dairymen's Association Research Unit,** 864-104
 c/o Department of Food Science,
 University of Alberta,
 Edmonton, Alberta. G.M. Carlyle, President.
- R & D Unit: Address as above. L.F.L. Clegg, Director.
 Fields: Dairy products development and improvement.
 Activities: R & D (60%), testing (15%), consulting (25%).
 Facilities: Laboratory and service area totalling 2,500 sq. ft., access to the facilities of the University of Alberta.
 Personnel: 3 scientists, 3 technologists, 2 others.
- (54) **Alberta Distillers Limited,** 109
 Box 5100, Station A,
 Calgary, Alberta.
 T2H 1X1 C.G. McConville, President.
- R & D Unit: Address as above. G.J. Anderson, Director.
 Fields: Fermentation systems, whisky congeners analysis.
 Activities: R & D (50%), testing (50%).
 Facilities: Laboratories of 1,000 sq. ft.
 Personnel: 1 scientist, 1 engineer, 1 technologist, 2 others.
- (55) **Brewing and Malting Barley Research Institute,** 864-109
 206-167 Lombard Avenue,
 Winnipeg, Manitoba.
 R3B 0T6 R.J.D. Martin, Vice-President, Production.
- R & D Unit: Address as above. W.W. Sisler, Director.
 Fields: Malting barley, malt, beer.
 Activities: R & D (80%), consulting (20%).
 Facilities: Laboratory of 1,500 sq. ft., pilot brewery.
 Personnel: 2 scientists, 2 technologists, 1 other.
- (56) **Campbell Soup Company Limited,** 103
 60 Birmingham Street,
 Toronto 14, Ontario. J.E. Schwarz, President.
- a) R & D Unit: Agricultural Research Department, J.F. Moore, Director. 021
 R.R. # 6,
 Mississauga,
 Ontario.
 Fields: Vegetable variety and culture testing, tomato breeding.
 Activities: R & D (100%).
 Facilities: Office and laboratory, farm equipment.

INDUSTRIES MANUFACTURIÈRES – Aliments et boissons

Personnel: 2 scientists, 3 technologists, 2 others.

b) R & D Unit: Agricultural Research Department, J.F. Moore, Director.
 Portage la Prairie,
 Manitoba.

Fields: Vegetable variety and culture testing. /021

Activities: R & D (100%).

Facilities: Farm equipment.

Personnel: 1 scientist.

(57) **Canada Packers Limited,** 108
 95 St. Clair Avenue West,
 Toronto 7, Ontario. W.F. McLean, President.

R & D Unit: 2211 St. Clair Avenue West, L.J. Rubin, Director. 108-378
 Toronto 9,
 Ontario.

Fields: Foods, fine chemicals, leather, edible oils and feeds.

Activities: R & D (100%).

Facilities: Laboratory and 5 pilot plants.

Personnel: 31 scientists, 5 engineers, 24 technologists, 8 others.

(58) **Canadian Breweries Limited,*** 109
 79 St. Clair Avenue East,
 Toronto, Ontario. W. Tennyson, President.

R & D Unit: R & D Division,* D. Dilanni, Vice-President.
 760 Lawrence Avenue West,
 Toronto,
 Ontario.

Fields: Malt beverages industry, packaging machinery and processing.

Activities: R & D (70%), testing (25%), consulting (5%).

Facilities: Pilot plant, laboratory of 8,000 sq. ft., library and machine shop.

Personnel: 2 scientists, 14 engineers, 8 technologists, 18 others.

(59) **Canadian Cannery Limited,*** 103
 44 Hughson Street South,
 Hamilton, Ontario. L.H. Johnston, President.

R & D Unit: Research Centre,* Carl J. Ross, Director. 103-304
 1101 Walker's Line,
 Burlington,
 Ontario.

Fields: Processed fruits and vegetables, soups, jams, other food specialties, can and label manufacturing.

Activities: R & D (100%).

Facilities: Laboratory of 12,000 sq. ft., library.

Personnel: 5 scientists, 5 technologists, 11 others.

(60) **The Canadian Fishing Company Limited,*** 102
 Foot of Gore Avenue,
 Vancouver 4, British Columbia. D.F. Miller, President.

R & D Unit: Address as above.* G.F. Boothby, Director.

Fields: Fish canning, freezing and process control.

Activities: Product development.

Facilities: Canning and refrigeration equipment.

Personnel: 1 scientist, 1 engineer, 1 technologist.

- (61) **Champlain Industries Limited,** 104
 Stanbridge Station, Quebec. C.G. Rich, President.
- R & D Unit: Technical Department, A.R. Wilson, Director.
 Address as above.
- Fields: Hydrolysed proteins, dairy products, food ingredients.
- Activities: R & D (50%), quality control (50%).
- Facilities: Laboratory of 3,000 sq. ft.
- Personnel: 2 scientists, 1 technologist, 4 others.
- (62) **La Coopérative Agricole de Granby,*** 021
 Case Postale 219,
 Granby, Québec. I. Martin, Président.
- Centre de R-D: Section R - D,* R.N. Giroux, Directeur. 021-104
 Même adresse.
- Domaines: Microbiologie alimentaire et technologie laitière.
- Installations: Facilités complètes pour la microbiologie.
- Personnel: 3 scientifiques, 3 techniciens.
- (63) **Crawford Foods Limited,** 101
 Wynyard, Saskatchewan.
- R & D Unit: Poultry Research Department, K.K. Bhargava, Director. 101-021
 Address as above.
- Fields: Poultry research.
- Activities: R & D (100%).
- Facilities: Laboratory of 2,800 sq. ft., related service facilities.
- Personnel: 2 scientists, 2 technologists, 1 other.
- (64) **Food Products Limited,** 108
 2610 J.B. Deschamps Boulevard,
 Lachine 620, Quebec. A.J. Kahn, President.
- R & D Unit: Address as above. J.R. Courant, Director.
- Fields: Seasoning, curing, binding ingredients.
- Activities: R & D (80%), testing (20%).
- Facilities: Laboratory of 3,000 sq. ft.
- Personnel: 5 scientists, 4 technologists, 2 others.
- (65) **General Foods Limited,*** 108
 Box 4019, Terminal A,
 Toronto, Ontario. R.S. Hurlbut, President.
- R & D Unit: Technical Resources Department,* W.R. Mason, Director.
 Address as above.
- Fields: Grocery products.
- Activities: R & D (100%).
- Facilities: Laboratory, pilot plant and library.
- (66) **The Griffith Laboratories Limited,*** 108
 757 Pharmacy Avenue,
 Scarborough, Ontario. L.G. Rector, President.

- R & D Unit: Address as above.* J.S. Wenzel, Vice-President, Technical.
 Fields: Ingredients for meat packing, frozen, convenience and snack foods, and the canning and baking industries.
 Activities: R & D (50%), testing (50%).
 Facilities: Laboratory of 8,000 sq. ft., including pilot plant and library.
 Personnel: 11 scientists, 1 engineer, 26 technologists, 2 others.
- (67) **Kitchens of Sara Lee (Canada) Limited,** 107
 379 Orenda Road,
 Bramalea, Ontario. R.W. Pearse, President.
- R & D Unit: R & D Laboratory, G.R. Strachan, Director.
 Address as above.
 Fields: Development of new products for the market, particularly in the frozen baked goods lines, and assessment of ingredient supplies.
 Activities: Development (90%), assay (10%).
 Facilities: Analytical and bacteriological laboratories, experimental bakery.
- (68) **John Labatt Limited,** 108
 The Ogilvie Flour Mills Company Limited Division,
 Sun Life Building,
 Montreal, Quebec. J.W. Tait, President.
- a) R & D Unit: Food R & D Departments, J. Holmes, Director.
 995 Mill Street,
 Montreal,
 Quebec.
 Fields: Food chemistry and new food products development.
 Activities: R & D (95%), consulting (5%).
 Facilities: Laboratory of 12,000 sq. ft., pilot plant of 2,000 sq. ft., technical library, experimental kitchen and taste panel room.
 Personnel: 9 scientists, 1 engineer, 16 technologists, 9 others.
- b) R & D Unit: Food R & D Departments, J. Holmes, Director.
 150 Simcoe Street,
 London,
 Ontario.
 Fields: Food chemistry research and new food products development.
 Activities: R & D (100%).
 Facilities: Laboratory of 14,000 sq. ft., pilot plant of 1,500 sq. ft., experimental kitchen.
 Personnel: 7 scientists, 1 engineer, 11 technologists, 5 others.
- (69) **Libby, McNeill & Libby of Canada Limited,*** 103
 330 Richmond Street,
 Chatham, Ontario. Eric Egan, President.
- a) R & D Unit: R & D Department,* R.C. Jenne, Manager. 103
 Address as above.
 Fields: Food processing.
 Activities: R & D (100%).
 Facilities: 3,000 sq. ft. of development and related service facilities.
 Personnel: 4 scientists, 1 technologist.
- b) R & D Unit: Agriculture Research Department,* R. Hall, Manager. 021
 Address as above.
 Fields: Botany, horticultural science, biochemistry and soil science.

Activities: Raw product research, cultivar testing and development, growth regulators and pesticide research.
 Facilities: Laboratory and 10 acre experimental site.
 Personnel: 1 scientist, 1 technologist, seasonal technicians.

- (70) **Maple Leaf Mills Limited,*** 106
 417 Queen's Quay West,
 Toronto, Ontario. R.G. Dale, President.
- a) R & D Unit: Research Division, W.H. Hoffman, Director. 105
 Address as above.
 Fields: Human foods, pet foods, industrial uses for flour.
 Activities: New product and process development (100%).
 Facilities: Laboratory and pilot plant of 25,000 sq. ft.
 Personnel: 5 scientists, 14 others.
- b) R & D Unit: Livestock Feed Research,* A.W. Tremere, Director. 106-021
 Address as above.
 Fields: Feeds for swine, poultry, beef and mink.
 Activities: R & D (75%), related activities (25%).
 Facilities: Georgetown, Ontario, 150 acres, 7 buildings; Bassano, Alberta, capacity for 340 head of cattle; Thornhill, Ontario, capacity for 400 adult mink, 1,000 kits.
 Personnel: 5 scientists, 9 others.
- c) R & D Unit: Crop Research, W.E. Sieveking, Director. 106-021
 Master Feeds Research Farm,
 Georgetown,
 Ontario.
 Fields: Plant breeding and agronomy.
 Activities: R & D (100%).
 Personnel: 4 scientists.
- (71) **McCain Foods Limited,** 108
 Florenceville, New Brunswick. G.W.F. McCain, President.
- R & D Unit: R & D Laboratory, D.L. Hopkins, Director.
 Address as above.
 Fields: Food processing.
 Activities: Development of frozen prepared foods.
 Facilities: Laboratory of 1,900 sq. ft.
 Personnel: 2 scientists, 1 engineer, 1 technologist, 3 others.
- (72) **Molson Breweries of Canada Limited,*** 109
 1555 Notre Dame Street East,
 Montreal 133, Quebec. P.B. Stewart, President.
- R & D Unit: R & D Laboratories,* Z. Valyi, Director.
 Address as above.
 Fields: Brewing, fermentology, biochemistry, organic chemistry and brewing by-products.
 Facilities: IR spectrophotometer, pilot plant, gel permeation, spectrodensitometer, UV and visible spectrophotometer.
 Personnel: 8 scientists, 1 engineer, 6 technologists, 2 others.
- (73) **National Sea Products Limited,*** 102
 Box 2130,
 Halifax, Nova Scotia. W.O. Morrow, President.

INDUSTRIES MANUFACTURIÈRES – Aliments et boissons

- R & D Unit: Development Department,* I.H. Langlands, Director.
Address as above.
- Fields: Seafoods.
- Activities: Product development, process development, and industrial engineering.
- Personnel: 2 engineers, 3 technologists, 2 others.
- (74) **North East Alfalfa Dehydrators Research Association,** 864-106
Box 670,
Tisdale, Saskatchewan. J.F. Lalonde, President.
- R & D Unit: Research Laboratory, D.A. Pulkinen, Director.
Address as above.
- Fields: Dehydrated alfalfa products and processes.
- Activities: R & D (75%), testing (20%), consulting (5%).
- Facilities: 850 sq. ft. laboratory, 4 dehydration plants.
- Personnel: 2 scientists, 1 technologist, 2 others.
- (75) **The Proctor & Gamble Company of Canada Limited,** 377
2 St. Clair Avenue West,
Box 335, Terminal A,
Toronto, Ontario. J.C. Rick President.
- R & D Unit: Product Development Department, D.R. Kane, Director. 377-108
Box 589,
Burlington Street East,
Hamilton,
Ontario.
- Fields: Soaps, synthetic detergents, shortenings, cooking oils, prepared cake mixes,
dentifrice, mouthwashes, shampoo and deodorants.
- Activities: Applied R & D (100%).
- Facilities: Laboratories, office and library, totalling 20,000 sq. ft.
- Personnel: 7 scientists, 13 engineers, 38 others.
- (76) **Redpath Sugars Limited,*** 108
1720 du Canal,
Montreal, Quebec. J.H. Magee, President.
- a) R & D Unit: Operations Research,* K. Baker, Director. 864
Address as above.
- Fields: Systems and mathematical analysis, programming.
- Activities: R & D (25%), consulting (75%).
- Facilities: UNIVAC 9400 with peripheral equipment.
- Personnel: 1 scientist, 1 engineer, 3 technologists, 1 other.
- b) R & D Unit: Engineering Consulting Services,* M. Day, Director. 864
1410 Montmorency Street,
Montreal,
Quebec.
- Fields: Feasibility studies of agricultural and technological concerns, design and engineering
of sugar mills and refineries, design and engineering of water treatment processes.
- Activities: R & D (30%), consulting (70%).
- Facilities: Drawing office, laboratory.
- Personnel: 3 engineers, 3 technologists.
- c) R & D Unit: R & D Department,* P. Pommez, Director. 108
1410 Montmorency Street,
Montreal,

Quebec.
 Fields: Carbohydrate chemistry, adsorbents and water treatment.
 Activities: R & D (70%), testing (20%), consulting (10%).
 Facilities: Laboratory of 850 sq. ft., library.
 Personnel: 3 scientists, 1 engineer, 3 technologists, 1 other.

- (77) **Robin Hood Multifoods Limited,** 105
 6600 Cote des Neiges Road,
 Montreal, Quebec. Logan R. Brown, President.
- R & D Unit: R & D Section, M. O'Connor, Director. 105-108
 715 Plymouth Avenue,
 Town of Mount Royal,
 Quebec.
- Fields: Flour, bakery mixes, frozen food, pickles.
 Activities: Development (90%), testing (10%).
 Facilities: Laboratory of 2,000 sq. ft., related services, library.
 Personnel: 6 scientists, 1 engineer, 14 technologists, 2 others.
- (78) **William Robinson Limited,*** .103
 4120 Lougheed Highway,
 Burnaby 2, British Columbia. W.D. Campbell, President.
- R & D Unit: Address as above.* R.R. Gayton, Director.
 Fields: Food processing.
 Activities: Product development.
 Personnel: 2 scientists, 1 technologist.
- (79) **Salada Foods Limited,** 108
 855 York Mills Road,
 Don Mills, Ontario.
 M3B 1Y3 G.D. Robinson, President.
- R & D Unit: R & D Laboratory, F.V. Dennis, Manager.
 Address as above.
- Fields: Food technology.
 Activities: Product development and improvement in food technology.
 Facilities: Laboratory of 4,000 sq. ft.
 Personnel: 3 scientists, 1 technologist, 3 others.
- (80) **J.M. Schneider Limited,** 101-104
 321 Courtland Avenue East,
 Kitchener, Ontario. Ken Murray, President.
- R & D Unit: Product Development, Howard Schneider, Director.
 Address as above.
- Fields: Processed meat, cheese.
 Activities: R & D (100%).
 Facilities: Laboratory of 2,775 sq. ft., related equipment and service facilities.
 Personnel: 1 engineer, 3 technologists, 1 other.
- (81) **Silverwood Industries Limited,** 104
 Box 2185, Terminal A,
 London, Ontario. E.F. Findlay, President.

- R & D Unit: R & D Laboratory,
75 Bathurst Street,
London,
Ontario. H.T. Spettigue, Director.
- Fields: Dairy and food products.
- Activities: R & D (100%).
- Facilities: Laboratory of 1,500 sq. ft., pilot plant.
- Personnel: 4 scientists.
- (82) **E.D. Smith & Sons Limited,** 103
Winona, Ontario. E.L.G. Smith, President.
- R & D Unit: Address as above. G.W. Bernhardt, Director.
- Fields: Food products.
- Activities: Food products development.
- Facilities: 879 sq. ft. laboratory.
- Personnel: 2 scientists.
- (83) **Stange Canada Limited,*** 108
3340 Orlando Drive,
Mississauga, Ontario.
L4V 1C7 T.J. Keefe, President.
- R & D Unit: Research Department,*
Address as above. B.M. Lawrence, Director.
- Fields: Research on spices and herbs, essential oils, odour thresholds, natural product chemistry, chemotaxonomy and promotion of essential oils in Canada.
- Activities: R & D (90%), consulting (10%).
- Facilities: Laboratory of 3,000 sq. ft., pilot laboratory, library of 2,000 technical books.
- Personnel: 4 scientists, 1 technologist, 1 other.
- (84) **Sun-Rype Products Limited,*** 103
1165 Ethel Street,
Kelowna, British Columbia. J. Duncan, President.
- R & D Unit: 487 Roanoake Avenue,*
Kelowna,
British Columbia. M.L. Coltart, Director.
- Fields: Food science, fruit physiology and engineering.
- Activities: R & D (80%), testing (10%), technical services (10%).
- Facilities: 2 laboratories totalling 2,760 sq. ft., and a pilot plant.
- Personnel: 4 scientists, 1 engineer, 1 other.
- (85) **Surfside Shellfish Company Limited,*** 102
52 Powell Street,
Vancouver 4, British Columbia. S.L. Dickinson, President.
- R & D Unit: Address as above.*
- Fields: Oyster seed development and production, temperature and salinity studies, shell and artificial cultch collectors, growth and collection of raft cultures.
- Activities: R & D (100%).
- Facilities: Laboratory, rafts, boats, barges.
- Personnel: 7 - 25 scientists (depending on the time of year and the cycle of oyster growth), 1 technologist.

2. Tobacco Products Industries/Industrie du tabac (153)

- (86) **Benson & Hedges Tobacco Company,** 153
 1010 Lagauchetiere Street West,
 Montreal 101, Quebec. Charles F. Lombard, President.
- R & D Unit: R & D Laboratory, W.C. Smith, Director.
 5555 Royalmount Avenue,
 Montreal,
 Quebec.
- Fields: Cigarette process and product development.
 Activities: R & D (100%).
 Facilities: Laboratory of 1,500 sq. ft.
 Personnel: 2 scientists, 2 technologists, 3 others.
- (87) **Imperial Tobacco Products Limited,** 153
 3810 St. Antoine Street,
 Montreal, Quebec. L.E. Ricard, President.
- R & D Unit: Address as above. R.M. Gibb, Director.
 Fields: Growing, processing and manufacturing of tobacco and tobacco products.
 Activities: R & D (75%), technical service and quality testing (25%).
 Facilities: Laboratory of 40,000 sq. ft., industrial pilot plant and library.
 Personnel: 24 scientists, 1 engineer, 35 technologists, 12 others.

3. Rubber and Plastic Products Industries/Industrie du caoutchouc et des produits en matière plastique (162-165)

- (88) **Arrow Tape Industries Incorporated,*** 162
 475 George V Avenue,
 Lachine, Quebec. Sam Ramelson, President.
- R & D Unit: Address as above.* Sam Ramelson, Director. 379
 Fields: Chemical research on pressure sensitive adhesive tapes.
 Activities: R & D (100%).
 Facilities: Laboratory of 850 sq. ft., machine shop, boiler room, air compressor.
 Personnel: 2 scientists, 1 engineer, 1 technologist, 1 other.
- (89) **Atlantic Bridge Company Limited,*** 315
 83 Tannery Road,
 Lunenburg, Nova Scotia. D.A. Eisenhauer, President.
- b) R & D Unit: Plastics Division,* George Escher, Director. 165
 Box 299,
 Mahone Bay,
 Nova Scotia.
- Fields: Fiber reinforced plastics.
 Activities: R & D including testing (100%).
 Facilities: Manufacturing facilities, library, laboratory.
 Personnel: 2 engineers, 2 others.

- (90) **H.L. Blachford Limited,*** 379-165
 977 Aqueduct Street,
 Montreal 107, Quebec. H.L. Blachford, President.
- R & D Unit: Address as above.* J. Blachford, Director.
 Fields: Lubricants for wire drawing, epoxy flooring compounds, rigid urethane foam
 insulation, acoustical products.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory of 4,000 sq. ft.
 Personnel: 9 scientists, 5 technologists.
- (91) **Campbell Manufacturing Company Limited,*** 393-162
 45 Sheppard Avenue East,
 Willowdale, Ontario. J.R. Brisson, President.
- R & D Unit: Address as above.* R.D. Nesbitt, Director.
 Fields: Golf equipment, rubber technology.
 Activities: R & D (60%), testing (30%), manufacturing (10%).
 Facilities: Laboratory of 500 sq. ft., rubber processing equipment, test equipment.
 Personnel: 2 technologists, 1 other.
- (92) **Canadian General-Tower Limited,** 165
 52 Middleton Street,
 Galt, Ontario. J.D. Chaplin, President.
- R & D Unit: Address as above. A.F. Andrews, Director.
 Fields: Films, sheetings, coated fabrics for use in automotive, industrial, garment and
 domestic areas, with main emphasis on vinyl polymer systems.
 Activities: R & D (50%), testing (25%), production control (25%).
 Facilities: Laboratory of 10,000 sq. ft., extensive testing facilities, related service facilities.
 Personnel: 8 scientists, 3 engineers, 21 technologists, 2 others.
- (93) **Canadian Technical Tape Limited,** 162
 455 Cote Vertu Road,
 Montreal 380, Quebec. L. Cohen, President.
- R & D Unit: R & D Laboratory,
 Address as above. M. Selby, Director.
 Fields: Pressure-sensitive adhesive tape development.
 Activities: R & D (100%).
 Facilities: Laboratory of 20,000 sq. ft., pilot plant facilities.
 Personnel: 9 scientists, 4 technologists, 1 other.
- (94) **Central Electric Wire Limited,*** 305
 1 North Street,
 Perth, Ontario. A. Bennell, Vice-President.
- b) R & D Unit: Address as above.* D. Cundall, Director. 165
 Fields: Plastic monofilaments.
 Activities: R & D (50%), testing (45%), consulting (5%).
 Facilities: Laboratory of 3,000 sq. ft., machine shop, die shop.
 Personnel: 1 scientist, 1 engineer, 1 technologist, 2 others.
- (95) **Coldstream Products of Canada Limited,** 316
 1855 Sargent Avenue,
 Winnipeg, Manitoba.
 R3H 0E3 C.M. Fleming, President.

MANUFACTURING – Rubber and Plastic Products

- | | | |
|---|---|----------------|
| <p>R & D Unit: Address as above.</p> <p>Fields: Component product development for aircraft, insulated rooms and buildings based on polyurethane foamed-in-place insulation.</p> <p>Facilities: Service facilities of 50,000 sq. ft., including metal fabricating and polyurethane foaming equipment.</p> <p>Personnel: 1 engineer, 2 technologists.</p> | <p>D. Fieldhouse, Director.</p> | <p>316-165</p> |
| | | |
| <p>(96) Conlor Molding Systems Limited,*</p> <p>Suite 6, 74 Cassandra Boulevard,
Don Mills, Ontario.</p> <p>R & D Unit: Address as above.*</p> <p>Fields: Development of designs for plastic containers and design of the molds required to produce them, all to particular custom needs of clients.</p> <p>Activities: R & D and consulting (70%), testing (30%).</p> <p>Facilities: Mold constructions are sub-contracted and molding facilities for testings are rented.</p> <p>Personnel: 2 engineers.</p> | <p>Keith P. Copping, President.</p> | <p>864-162</p> |
| | | |
| <p>(97) Dunlop Canada Limited,</p> <p>Dunlop Drive,
Whitby, Ontario.</p> <p>R & D Unit: Dunlop Research Centre,
Sheridan Park,
Ontario.</p> <p>Fields: Polymers and materials development.</p> <p>Activities: R & D (90%), testing (10%).</p> <p>Facilities: Laboratory of 19,000 sq. ft., library of 1,000 technical books.</p> <p>Personnel: 16 scientists, 12 technologists, 5 others.</p> | <p>B.E. James, President.</p> <p>J.A. Carr, Director.</p> | <p>162</p> |
| | | |
| <p>(98) Elastine Process & Development Limited,*</p> <p>Suite 609, 67 Yonge Street,
Toronto 215, Ontario.</p> <p>R & D Unit: Address as above.*</p> <p>Fields: Slush molding systems for plastics.</p> <p>Activities: R & D (100%).</p> <p>Facilities: Laboratory.</p> <p>Personnel: 1 scientist, 1 engineer, 1 technologist, 3 others.</p> | <p>Karel R. Rybka, President.</p> | <p>165</p> |
| | | |
| <p>(99) Emco Plastics Limited,</p> <p>80 Stafford Drive,
Brampton, Ontario.</p> <p>R & D Unit: Dundas Street East,
London,
Ontario.</p> <p>Fields: Pipe fittings and bathroom accessories.</p> <p>Activities: R & D (100%).</p> <p>Facilities: Laboratory, machine shop and design/drafting facilities.</p> <p>Personnel: 3 engineers, 2 technologists.</p> | <p>N. Chapman, President.</p> <p>A. Thompson, Director.</p> | <p>165</p> |
| | | |
| <p>(100) F.T. Gerson Limited,*</p> <p>67 Yonge Street,
Toronto 215, Ontario.</p> | <p>F.T. Gerson, President.</p> | <p>864</p> |

INDUSTRIES MANUFACTURIÈRES – Caoutchouc et produits plastiques

	R & D Unit: Address as above.*	F.T. Gerson, Director.	864-165
	Fields: Metallurgy, materials science, plastics product development and evaluation.		
	Activities: R & D (40%), consulting (45%), testing (15%).		
	Facilities: Engineering office and library.		
	Personnel: 2 engineers, 2 others.		
(101)	Glolok Company Limited,*		315
	4755 des Grandes Prairies, Montreal 254, Quebec.	D. Wainberg, President.	
	R & D Unit: R & D Section,* Address as above.	B. Lieberman, Director.	315-165
	Fields: Packaging machinery and polyurethane foam as a thin foam laminate.		
	Activities: R & D (75%), testing (15%), consulting (10%).		
	Facilities: Laboratory of 800 sq. ft., test machine, machine shop.		
	Personnel: 1 scientist, 2 engineers, 1 technologist.		
(102)	B.F. Goodrich Canada Limited,*		162
	Executive Offices, Kitchener, Ontario.	Peter B. Mason, President.	
	a) R & D Unit: Bramalea Technical, Glidden Road, Bramalea, Ontario.	M. Klaas, Director.	165
	Fields: Polyurethane products for transportation, furniture industry products, flame retardancy, posture considerations, and bedding requirements in the interests of consumer safety.		
	Activities: R & D, testing.		
	Facilities: Laboratory autoclave, Instron tester, fatigue tester, laboratory oven flame tester.		
	Personnel: 1 engineer, 3 technologists.		
	b) R & D Unit: Waterville Technical,* Waterville, Quebec.	J. Canella, Director.	162-165
	Fields: Sponge, latex foam, plastics and polyurethane in car, home and industrial products, with particular attention to floor coverings, latex sleep products, flame retardancy, sound dampening, and benefits to allergy sufferers.		
	Activities: Research and product development.		
	Facilities: Laboratory mills, ovens, presses and related testers.		
	Personnel: 3 engineers, 3 technologists.		
	c) R & D Unit: Shawinigan Laboratory,* Avenue des Cedres, Shawinigan, Quebec.	E. Powell, Director.	373
	Fields: Polyvinyl chloride resins, compounds and converted products for construction, agriculture, extractive and industrial purposes.		
	Activities: Development and application.		
	Facilities: Laboratory mills, related equipment, including spectrophotometers and gas-liquid chromatography.		
	Personnel: 1 scientist, 1 engineer, 7 technologists.		
	d) R & D Unit: Commercial Products Technical,* 521 King Street West, Kitchener, Ontario.	H. Sears, A.H. Todd, Directors.	162-378

Fields:	Varied range of rubber and chemical products, with emphasis on domestic and export requirements.		
Activities:	R & D, testing.		
Facilities:	Laboratory mills, presses, ovens, and testing equipment.		
Personnel:	14 engineers, 4 technologists.		
e) R & D Unit:	Tire Plant Laboratory, Goodrich Drive, Kitchener, Ontario.	R. Vrooman, Director.	162
Fields:	Development of tire compounds, construction and designs suited to domestic conditions, export and military purposes.		
Activities:	Design and development.		
Facilities:	Laboratory mills, presses, related service equipment including dynamometers, flexometers, viscometers, endurance testers.		
Personnel:	8 engineers, 3 technologists.		
f) R & D Unit:	Niagara Plant Laboratory, Niagara Falls, Ontario.	J.J. Dunn, Director.	373
Fields:	Polyvinyl chloride resins, environmental control methods.		
Activities:	Research and product development.		
Facilities:	Laboratory mills, presses, ovens, cold chamber, spectrophotometers, plastograph, microscopes.		
Personnel:	4 engineers, 7 technologists.		
(103) Grace Chemicals Limited,			165
	2365 Dixie Road North, Mississauga, Ontario.	P.J. Harris, President.	
R & D Unit:	Cryovac Division, Address as above.	R.A. Bolton, Director.	165-274
Fields:	Flexible packaging materials and systems.		
Activities:	R & D (30%), applications development (30%), process improvement (40%).		
Facilities:	Laboratory.		
Personnel:	8 engineers, 4 technologists, 3 others.		
(104) Mansfield-Denman General Company Limited,*			162
	Welland, Ontario.	A. Carse, President.	
R & D Unit:	Industrial Products Division,* Address as above.	M.K. Parrent, Chief Chemist.	162-165
Fields:	Rubber and plastics.		
Activities:	R & D (100%).		
Facilities:	Laboratory of 3,000 sq. ft., machine and tool shops.		
Personnel:	3 scientists, 3 engineers.		
(105) Neeco Industries Limited,*			165
	3077 Mainway Drive, Burlington, Ontario.	D.P. Robertson, President.	
a) R & D Unit:	Ruggid Polymers,* Address as above.	E. Giddy, Director.	165
Fields:	Fiberglass, plastics, thermo-set plastics, custom moulding.		
Activities:	R & D, prototype work.		
Facilities:	Plant at above address.		
Personnel:	3 engineers, 2 technologists, 1 other.		

INDUSTRIES MANUFACTURIÈRES – Caoutchouc et produits plastiques

<p>b) R & D Unit: Neeco Division,* 80 Galaxy Boulevard, Rexdale, Ontario.</p> <p>Fields: Alarm systems, emergency lighting systems, heating cable. Activities: R & D including testing (100%). Facilities: Plant at Rexdale. Personnel: 2 engineers, 2 technologists, 1 other.</p>	<p>E. Giddy, Director.</p>	<p>335</p>
<p>(106) Northwest Industries Limited,* Box 517, Edmonton, Alberta.</p> <p>R & D Unit: R & D Division,* Address as above.</p> <p>Fields: Reinforced plastic products and airframes. Activities: R & D (70%), testing (20%), other (10%). Facilities: Laboratory of 7,000 sq. ft., access to large manufacturing and quality control facilities. Personnel: 3 engineers, 1 technologist, 1 other.</p>	<p>E.L. Bunnell, President.</p> <p>C.E. Burrell, Director.</p>	<p>321</p> <p>321-165</p>
<p>(107) Raybestos-Manhattan (Canada) Limited,* 944 Crawford Drive, Peterborough, Ontario.</p> <p>R & D Unit: Address as above.* Fields: Friction materials, rubber hose. Activities: Product development (30%), testing (70%). Facilities: Laboratory of 3,000 sq. ft. Personnel: 2 scientists, 1 technologist, 4 others.</p>	<p>D.L. Juhl, President.</p> <p>G.F. Butt, Director.</p>	<p>359</p> <p>359-162</p>
<p>(108) Rubbermaid (Canada) Limited, 2562 Stanfield Road, Mississauga, Ontario.</p> <p>R & D Unit: Address as above Fields: Plastic resin and rubber formulations, development of new components. Activities: R & D (15%), testing (10%), supplier consulting (5%), quality control and trouble shooting (70%). Facilities: Laboratory of 1,200 sq. ft. Personnel: 3 technologists, 2 others.</p>	<p>M.R. Mallory, President.</p>	<p>162</p> <p>162-165</p>
<p>(109) Scholl (Canada) Incorporated, 174 Bartley Drive, Toronto 375, Ontario.</p> <p>R & D Unit: Address as above. Fields: Pressure sensitive adhesive tapes, keratolytics, and products for skin care. Activities: R & D analytical work (100%). Facilities: Chemical laboratory. Personnel: 2 scientists, 2 technologists.</p>	<p>C.A. Holt, Vice-President and General Manager.</p> <p>W. Turkewitsch, Director.</p>	<p>374</p> <p>374-162</p>
<p>(110) Standard Products (Canada) Limited, 1030 Erie Street, Stratford, Ontario.</p>	<p>W.I. Nagorsen, President.</p>	<p>162</p>

R & D Unit: Plant # 3, B. Leinweber, Director.
 342 Erie Street,
 Stratford,
 Ontario.
 Fields: Rubber technology, compounding, curing systems, coating systems, adhesion to metal.
 Activities: R & D (50%), testing (50%).
 Facilities: Laboratory of 3,000 sq. ft., 1,600 sq. ft. machine shop.
 Personnel: 5 scientists, 1 engineer, 9 technologists, 7 others.

- (111) **Uniroyal Limited,*** 162
 550 Papineau Avenue,
 Montreal, Quebec. H.D. Glenn, President.
- a) R & D Unit: Uniroyal Research Laboratories,* 379
 120 Huron Street,
 Guelph,
 Ontario.
 Fields: Exploratory organic chemistry, herbicides, insecticides, fungicides, bactericides, pharmaceuticals, rubber chemicals, kinetics and reaction mechanisms, polymers and plastics, physical properties of materials, computer technology, experimental design and process simulation, marine products, plant biochemistry, environmental pollution control.
 Activities: R & D (100%).
 Facilities: Laboratory of 45,000 sq. ft., library of 3,000 volumes, analytical laboratory, and machine shop of 1,600 sq. ft.
 Personnel: 50 scientists, 9 engineers, 22 technologists, 27 others.
- b) R & D Unit: Development Department, F.M. Hager, Manager. 378
 Chemical Division,*
 Elmira,
 Ontario.
 Fields: Development of new and/or improved rubber, industrial and agricultural chemicals, polyesters and other resins.
 Activities: Development (100%).
 Facilities: Laboratories of 7,600 sq. ft. for chemical development and rubber compounding, plastics workshop of 1,800 sq. ft., pilot plant of 5,800 sq. ft., agricultural experimental station of 6 acres, including laboratories and growth chambers of 2,500 sq. ft.
 Personnel: 9 scientists, 12 engineers, 3 technologists, 6 others.
- c) R & D Unit: Development Department, F.M. Hager, Manager. 162-379
 Chemical Division,*
 8145-4th Avenue,
 Ville d'Anjou,
 Quebec.
 Fields: Development of new and/or improved reclaimed rubbers and polymers, construction products, latices and adhesives.
 Activities: Development (100%).
 Facilities: Laboratories of 3,200 sq. ft., including laboratory equipment for mixing and testing properties of rubber and plastic products.
 Personnel: 5 scientists, 1 engineer, 2 technologists, 5 others.
- d) R & D Unit: Development Department, R.R. Vincent, Manager. 165
 General Products Division,*
 51 Breithaupt Street,
 Kitchener,
 Ontario.

INDUSTRIES MANUFACTURIÈRES – Caoutchouc et produits plastiques

- Fields: Development of new and/or improved products such as automobile crash pads and bumpers, foam and sponge rubber, coated fabrics, textile materials and insulation.
 Activities: Development (100%).
 Facilities: Laboratories of 7,850 sq. ft.
 Personnel: 5 scientists, 4 engineers, 6 technologists, 4 others.
- e) R & D Unit: Development Department, O.R. Huggenberger, Manager. 162-165
 Industrial Products Division,*
 1806 Notre Dame Street East,
 Montreal,
 Quebec.
 Fields: Development of new and/or improved rubber and plastic products such as industrial belts, hose, roll coverings, tank linings, moulded goods and coated fabrics.
 Activities: Development (100%).
 Facilities: Laboratories of 8,400 sq. ft., including equipment for fabricating and testing physical properties of rubber and plastic products.
 Personnel: 4 scientists, 5 engineers, 7 technologists, 7 others.
- f) R & D Unit: Development Department, H. Riedel, Manager. 183
 Textile Division,*
 Lindsay,
 Ontario.
 Fields: High pile fabrics, including simulated furs; tire cord.
 Activities: Development (100%).
 Facilities: Laboratory of 800 sq. ft.
 Personnel: 1 engineer, 1 technologist, 1 other.
- g) R & D Unit: Development Department, W.R. Smith, Manager. 162
 Tire Division,*
 149 Strange Street,
 Kitchener,
 Ontario.
 Fields: Passenger, heavy-duty, off-the-road and aircraft tires and tubes.
 Activities: Development (100%).
 Facilities: Laboratories of 5,900 sq. ft., with physical testing equipment for tires, including test wheels.
 Personnel: 3 scientists, 1 engineer, 3 technologists, 4 others.
- h) R & D Unit: Rubber Machinery Shops,* B. Beadie, Manager. 315
 Kitchener,
 Ontario.
 Fields: Design and construction of process equipment and production machinery for tire, rubber and plastics industries.
 Activities: Development (100%).
 Facilities: Laboratories of 1,500 sq. ft. with electronic test equipment, machine shop.
 Personnel: 1 engineer, 2 technologists, 1 other.
- (112) **Waltec Industries Limited,** 309-165
 1355 Wallace Street,
 Wallaceburg, Ontario. J.A. Burgess, President.
 R & D Unit: Domico Building, J.L. Forgie, Director.
 Libby Street,
 Wallaceburg,
 Ontario.
 Fields: Individual household sewage treatment, plastic valve technology.
 Activities: R & D (100%).
 Facilities: Laboratory of 3,500 sq. ft., machine shop facilities.

Personnel: 1 engineer, 1 other.

4. Leather Industries/Industrie du cuir (174)

(113) Bata Industrial Limited,*			174
Batawa, Ontario.		G.W. Lawrence, General Manager.	
R & D Unit:	Bata-Engineering Division,* Address as above.	W. Schilke, Manager.	315
Fields:	Development of machinery for the footwear industry.		
Activities:	R & D (80%), testing (20%).		
Facilities:	Laboratory of 2,500 sq. ft., machine shop.		
Personnel:	1 scientist, 6 engineers, 4 technologists, 6 others.		
 (114) Canada Packers Limited,			108
95 St. Clair Avenue West, Toronto 7, Ontario.		W.F. McLean, President.	
R & D Unit:	2211 St. Clair Avenue West, Toronto 9, Ontario.	L.J. Rubin, Director.	108-378
Fields:	Foods, fine chemicals, leather, edible oils and feeds.		
Activities:	R & D (100%).		
Facilities:	Laboratory and 5 pilot plants.		
Personnel:	31 scientists, 5 engineers, 24 technologists, 8 others.		

5. Textile Industries/Industrie textile (181-189)

(115) Canadian Hanson Limited,			298
45 Vansco Road, Toronto, Ontario. M8Z 5J7		B.O. Winter, President.	
R & D Unit:	Address as above.	A.R. Moores, Director.	379-189
Fields:	Metal and plastic finishing, buffing compounds, metal cleaners, buffs made of cotton, sisal, synthetics.		
Activities:	R & D (85%), quality control (15%).		
Facilities:	Research laboratory of approximately 1,400 sq. ft., atomic absorption infrared spectrophotometers, scientific library, viscometers.		
Personnel:	1 scientist, 2 technologists.		
 (116) Fiberglas Canada Limited,*			359-183
48 St. Clair Avenue West, Toronto 195, Ontario.		A.J. Fisher, President.	
a) R & D Unit:	General Products Development, Technical Centre,* # 40 Highway, Sarnia, Ontario.	F.W. Henkelman, Director.	359
Fields:	Insulating materials technology, glass and resins.		
Activities:	R & D (100%).		
Facilities:	Technical centre and development laboratory.		

INDUSTRIES MANUFACTURIÈRES – Textiles

- Personnel: 6 scientists, 12 engineers, 18 technologists, 4 others.
- b) R & D Unit: Textile and Reinforcing Materials F.W. Henkelman, Director. 183
 Development,*
 # 7 Highway,
 Guelph,
 Ontario.
 Fields: Reinforcing glass fibre products, composite materials.
 Activities: Development (100%).
 Personnel: 1 scientist, 3 engineers, 4 technologists, 2 others.
- (117) **Irvin Industries Canada Limited,*** 189
 479 Central Avenue,
 Fort Erie, Ontario.
 L2A 3T9 Clifford Bonn, President.
- a) R & D Unit: Aerospace Division,* D.A. Wright, Director. 321
 Address as above.
 Fields: Aerospace safety and survival equipment, aircraft cargo handling and tie-down
 equipment.
 Activities: R & D (30%), product engineering (30%), testing (20%), consulting (10%).
 Facilities: Laboratory of 1,000 sq. ft.
 Personnel: 4 engineers, 3 technologists, 4 others.
- b) R & D Unit: Autosafe Division,* K. Wilson, Director. 325-188
 Address as above.
 Fields: Personnel restraint and dynamic testing.
 Activities: R & D (65%), testing (30%), consulting (5%).
 Facilities: Dynamic test facility of 7,000 sq. ft., laboratory, office and workshop totalling 3,000
 sq. ft., mini and maxi sled.
 Personnel: 7 engineers, 8 technologists, 5 others.
- (118) **Johnson & Johnson Limited,** 189
 2155 Pie IX Boulevard,
 Montreal, Quebec. R.P. Regimbal, President.
- R & D Unit: Research Centre, G. Lee, Director.
 7101 Notre Dame Street East,
 Montreal 427,
 Quebec.
 Fields: Health care products, nonwoven fabrics.
 Activities: R & D (100%).
 Facilities: Laboratory, pilot plant, machine shop and library, totalling 15,000 sq. ft., air filter
 testing laboratory.
 Personnel: 6 scientists, 7 engineers, 3 technologists, 23 others.
- (119) **Millhaven Fibres Limited,*** 183
 Box 2800,
 Kingston, Ontario.
 K7L 4Z8 F.J. Fitzgerald, President.
- R & D Unit: Address as above.* J.G. Fraser, Director.
 Fields: Synthetic fibres.
 Activities: R & D (100%).
 Facilities: Laboratory of 38,000 sq. ft., machine shop, library of 5,000 technical books.
 Personnel: 3 scientists, 10 engineers, 11 technologists, 2 others.

- (120) **Scapa Dryers (Canada) Limited,*** 181
 Box 159,
 Joliette, Quebec. James Haythornthwaite, President.
- R & D Unit: Engineering Division,* 339
 Address as above. James Haythornthwaite, Director.
- Fields: Microwave moisture meters.
 Activities: R & D (70%), field testing (20%), consulting (10%).
 Facilities: Production plant of 76,000 sq. ft.
 Personnel: 1 engineer, 1 technologist, 1 other.
- (121) **Union Carbide Canada Limited,*** 378
 123 Eglinton Avenue East,
 Toronto 12, Ontario. J.S. Dewar, President.
- c) R & D Unit: Technology Department, 183
 Fibres Division,* W.M. Palmer, Director.
- Fields: Nylon yarns, fibres and polymers, development of modified nylon yarns and fibres for
 carpets.
 Facilities: Chemical and dye laboratory, physical and textile laboratory, pilot plants for
 developing polymers and melt-spinning fibres.
 Personnel: 2 scientists, 4 engineers, 7 technologists.
- (122) **Uniroyal Limited,*** 162
 550 Papineau Avenue,
 Montreal, Quebec. H.D. Glenn, President.
- f) R & D Unit: Development Department, 183
 Textile Division,*
 Lindsay,
 Ontario. H. Riedel, Manager.
- Fields: High pile fabrics, including simulated furs; tire cord.
 Activities: Development (100%).
 Facilities: Laboratory of 800 sq. ft.
 Personnel: 1 engineer, 1 technologist, 1 other.

6. Wood Industries/Industrie du bois (252-259)

- (123) **Council of Forest Industries of British Columbia,** 864-259
 1500-1055 West Hastings Street,
 Vancouver 1, British Columbia. G.L. Draeseke, President.
- R & D Unit: Research Laboratory, 339
 735 West 15th Street,
 North Vancouver,
 British Columbia. A.J. McGraw, Director.
- Fields: Development of forest product properties and applications.
 Activities: R & D (100%).
 Facilities: Laboratory of 7,000 sq. ft., work shop.
 Personnel: 5 engineers, 9 technologists, 1 other.
- (124) **Ingersoll Casket Company Limited,** 258
 195 Thames Street South,
 Ingersoll, Ontario. Edward J. Davies, President.

INDUSTRIES MANUFACTURIÈRES – Bois

- R & D Unit: R & D Section, Robert Evans, Director.
Address as above.
- Fields: Plastic caskets.
- Activities: R & D (70%), testing (30%).
- Facilities: Laboratory and test space of 4,000 sq. ft.
- Personnel: 1 scientist, 1 engineer, 2 others.
- (125) **MacMillan Bloedel Limited,*** 271-252
1075 West Georgia Street,
Vancouver 5, British Columbia. R.W. Bonner, President.
- R & D Unit: MacMillan Bloedel Research Limited,* L.A. Cox, Director.
3350 East Broadway,
Vancouver 12,
British Columbia.
- Fields: Wood and wood products, pulp and paper products and packaging.
- Activities: R & D (85%), testing (15%).
- Facilities: 33,000 sq. ft. of laboratory and shops, library of 4,500 technical books, wood products pilot plant of 5,000 sq. ft., continuous pulping pilot plant.
- Personnel: 24 scientists, 11 engineers, 7 technologists, 55 others.
- (126) **Rexwood Products Limited,** 259
Box 1840,
New Liskeard, Ontario. J. Corley Martin, President.
- R & D Unit: Address as above. J. Douglas Martin, Director.
- Fields: Fire retardent panels.
- Activities: R & D (75%), testing (25%).
- Facilities: Laboratory, laboratory press, pilot plant.
- Personnel: 1 engineer, 1 technologist.
- 7. Furniture and Fixture Industries / Industrie du meuble et des articles d'ameublement (264-266)**
- (127) **The Dominion Metalware Industries Limited,** 266
56 Cayuga Street,
Port Credit, Ontario. F.J. Carter, President.
- R & D Unit: Address as above. R. Knight, Director. 264-266
- Fields: Hospital and office furniture.
- Activities: R & D (70%), testing (30%).
- Facilities: Use of plant facilities.
- Personnel: 1 engineer, 4 others.
- 8. Paper and Allied Industries / Industrie du papier et activités annexes (271-274)**
- (128) **Abitibi Paper Company Limited,*** 271
Sheridan Park,
Mississauga, Ontario. T.J. Bell, President.
- R & D Unit: Abitibi Research Centre,* R.M. Dorland, Technical Development Director. 271-273
Address as above.

Fields: Pulp, paper, graphic arts, hardboard, plywood, corrugated containers.
 Activities: R & D (100%).
 Facilities: Laboratories and pilot plant totalling 60,000 sq. ft.
 Personnel: 15 scientists, 5 engineers, 10 technologists, 15 others.

- (129) **Alcan Canada Products Limited,*** 296
 Alcan Canada Foils Limited Division,
 1891 Eglinton Avenue East,
 Scarborough, Ontario. H. Corrigan, President.
- R & D Unit: Address as above.* R.M. Howe, Director. 296-273
 Fields: Flexible packaging materials and semi-rigid foil containers.
 Activities: R & D (50%), testing (50%).
 Personnel: 2 engineers, 3 technologists, 1 other.
- (130) **Anglo-Canadian Pulp and Paper Mills Limited,*** 271
 10 Boulevard des Capucins,
 Quebec, Quebec. R.W. Billingsley, President.
- R & D Unit: Anglo Paper Products Limited,* O. Sepall, Director.
 Address as above.
 Fields: Process and product development in pulp, paper, inorganic chemicals, lignin
 sulfonates.
 Activities: R & D (100%).
 Facilities: Laboratory area of 7,200 sq. ft., library of 1,500 books.
 Personnel: 3 scientists, 4 engineers, 8 technologists, 2 others.
- (131) **Bowaters Newfoundland Limited,** 271
 Corner Brook, Newfoundland. M.G. Green, President.
- R & D Unit: Systems Engineering and Industrial E.A. Langins, Director.
 Research,
 Address as above.
 Fields: Pulp and paper manufacturing.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory of 1,600 sq. ft., library.
 Personnel: 1 scientist, 1 engineer, 3 others.
- (132) **CIP Research Limited,*** 864-271
 179 Main Street West,
 Hawkesbury, Ontario. W.R. Saxton, President.
- R & D Unit: Address as above.* W.R. Saxton, Director.
 Fields: Research in pulp, paper and related areas.
 Activities: R & D (75%), technical and mill services (25%).
 Facilities: 70,000 sq. ft. of laboratories, pilot plants, offices and machine shop, library of 12,000
 volumes, extensive facilities for pulping, bleaching, facilities for analytical,
 microscopic and physical test work.
 Personnel: 19 scientists, 8 engineers, 54 technologists, 22 others.
- (133) **Canadian International Paper Company,*** 271
 Sun Life Building,
 Montreal 110, Quebec. C.S. Flenniken, President.
- R & D Unit: Packaging Research Division,* H.H. Mahler, Director. 273
 15300 Sherbrooke Street East,
 Pointe aux Trembles 530,

INDUSTRIES MANUFACTURIÈRES — Papier et activités annexes

	Quebec.		
	Fields: Paper and plastic packaging.		
	Activities: R & D (70%), testing (30%).		
	Facilities: Coating and lamination room (pilot plant) of 3,500 sq. ft., main laboratory of 3,500 sq. ft., library.		
	Personnel: 2 scientists, 3 engineers, 1 technologist, 7 others.		
(134) Consolidated-Bathurst Limited,*			031
	Box 69, Montreal 101, Quebec.	W.I.M. Turner, President.	
a) R & D Unit:	Research Centre,* Grand'Mere, Quebec.	O.J. Walker, Director.	271
	Fields: Pulp and Paper.		
	Activities: R & D (60%), testing (30%), consulting (10%).		
	Facilities: Laboratories, pilot plants and library.		
	Personnel: 2 scientists, 5 engineers, 4 technologists, 20 others.		
b) R & D Unit:	Packaging Research,* 1034 Hodge Street, St. Laurent, Montreal, Quebec.	B.B. Mithel, Director.	273
	Fields: Packaging.		
	Activities: R & D (50%), market development (10%), testing (30%), consulting (10%).		
	Facilities: Laboratories, controlled environment testing laboratory and pilot plant.		
	Personnel: 2 scientists, 2 engineers, 1 technologist, 4 others.		
(135) Continental Can Company of Canada Limited,			304
	790 Bay Street, Toronto, Ontario.	E.E. Fry, President.	
R & D Unit:	Paper Products Research Department, 475 Commissioners Street, Toronto, Ontario. M4M 1A6	L.S. Campbell, Director.	273-274
	Fields: Paper packaging, including paperboards, corrugated boxes, folding cartons, bondware cups, tubs, plates, paper tapes and specialties.		
	Activities: R & D (60%), technical service and material/process evaluations (40%).		
	Facilities: 3 laboratories totalling 2,500 sq. ft., including library.		
	Personnel: 2 scientists, 5 engineers, 1 other.		
(136) Domtar Limited,*			271-272
	395 Boulevard de Maisonneuve West, Montreal, Quebec.	T.N. Beaupré, President.	
R & D Unit:	Domtar Research Centre,* Senneville, Quebec.	H.B. Marshall, Director.	
	Fields: Pulp and paper, industrial chemicals, building products and metal powders.		
	Activities: R & D (95%), testing (5%).		
	Facilities: Laboratory of 60,000 sq. ft., pilot plant of 45,000 sq. ft., acoustics laboratory.		
	Personnel: 44 scientists, 9 engineers, 54 technologists, 26 others.		

- (137) **Econotech Services Limited,*** 864-271
 852 Derwent Way,
 Annacis Island,
 New Westminster, British Columbia. E.S. Becker, President.
- R & D Unit: Address as above.* E.S. Becker, P.R. Thomas, Directors.
 Fields: Research in pulp and paper and other technologies, pollution.
 Activities: General technical consulting, R & D, testing and analysis.
 Facilities: Pilot plant for pulp cooking and bleaching, pilot plant for wide variety of technical processing, laboratories, related service facilities.
 Personnel: 4 scientists, 1 engineer, 8 technologists, 1 other.
- (138) **The E.B. Eddy Company,** 271
 Hull, Quebec. J.C. Scarth, President.
- R & D Unit: Address as above. J.D. Hall, Manager.
 Fields: Paper products.
 Activities: R & D (75%), testing (25%).
 Facilities: Laboratory and offices of approximately 6,000 sq. ft., library.
 Personnel: 2 scientists, 5 others.
- (139) **J. Ford Company Limited,** 271
 Portneuf Station, Quebec. J.B. Ford, President.
- R & D Unit: Address as above. L.M. Guay, Director. 274
 Fields: Specialty papers.
 Activities: R & D (100%).
 Facilities: Research laboratory, saturator and coater.
 Personnel: 2 scientists, 1 engineer, 3 technologists.
- (140) **Fraser Companies Limited,** 031
 Edmundston, New Brunswick. C.R. Recor, President.
- R & D Unit: Central Research Department, W.D. Kerr, Director. 271
 Address as above.
 Fields: Pulp, paper and paperboard.
 Activities: R & D (100%).
 Facilities: Laboratory of 6,500 sq. ft., library of 1,000 technical volumes.
 Personnel: 3 scientists, 6 engineers, 7 technologists.
- (141) **Grace Chemicals Limited,** 165
 2365 Dixie Road North,
 Mississauga, Ontario. P.J. Harris, President.
- R & D Unit: Cryovac Division, R.A. Bolton, Director. 165-274
 Address as above.
 Fields: Flexible packaging materials and systems.
 Activities: R & D (30%), applications development (30%), process improvement (40%).
 Facilities: Laboratory.
 Personnel: 8 engineers, 4 technologists, 3 others.
- (142) **Gummed Papers Limited,** 274
 12 Henderson Avenue,
 Brampton, Ontario. D.M. Hood, President.
- R & D Unit: Address as above. W. Haidur, Director.
 Fields: Packaging converters, construction materials.

- Activities: R & D (50%), testing (50%).
 Facilities: Laboratory of 400 sq. ft.
 Personnel: 1 scientist.
- (143) **MacMillan Bloedel Limited,*** 271-252
 1075 West Georgia Street,
 Vancouver 5, British Columbia. R.W. Bonner, President.
- R & D Unit: MacMillan Bloedel Research Limited,* L.A. Cox, Director.
 3350 East Broadway,
 Vancouver 12,
 British Columbia.
- Fields: Wood and wood products, pulp and paper products and packaging.
 Activities: R & D (85%), testing (15%).
 Facilities: 33,000 sq. ft. of laboratory and shops, library of 4,500 technical books, wood products pilot plant of 5,000 sq. ft., continuous pulping pilot plant.
 Personnel: 24 scientists, 11 engineers, 7 technologists, 55 others.
- (144) **Manbert Packaging Products Limited,** 274
 10 Akron Road,
 Toronto 14, Ontario. R. Funnell, President.
- R & D Unit: Address as above. A. Darling, Director.
 Fields: Flexible packaging materials.
 Activities: R & D (50%), testing (50%).
 Facilities: Laboratory of 500 sq. ft., library.
 Personnel: 1 scientist, 1 technologist.
- (145) **Nashua Canada Limited,** 274
 550 Braidwood Avenue,
 Peterborough, Ontario. R.B.M. Jameson, President.
- R & D Unit: Technical Laboratory, D.P.D. Davies, Director.
 Address as above.
 Fields: Paper coatings.
 Activities: R & D (40%), manufacturing (40%), testing (20%).
 Facilities: Laboratory of 2,500 sq. ft., machine shop.
 Personnel: 3 scientists, 1 engineer, 3 technologists, 3 others.
- (146) **The Price Company Limited,*** 271
 65 St. Anne Street,
 Quebec, Quebec. T.R. Moore, President.
- R & D Unit: Address as above.* L.R. Beath, Director.
 Fields: Pulp and paper technology.
 Activities: Investigation of pulping, paper making processes and equipment.
 Facilities: Refiner groundwood pilot plant, pulp testing and other general laboratory equipment.
 Personnel: 5 scientists, 5 technologists.
- (147) **Pulmac Research Limited,*** 864-271
 5048 Boulevard de Maisonneuve West,
 Montreal, Quebec. W.F. Cowan, President.
- R & D Unit: Address as above.*
 Fields: Pulp and paper products and process improvement.
 Activities: Consulting.
 Facilities: Laboratory.

Personnel: 1 scientist, 3 technologists.

- (148) **Pulp and Paper Research Institute of Canada,*** 864-271
 570 St. John's Boulevard,
 Pointe Claire 720, Quebec. Pierre R. Gendron, President.
- R & D Unit: Address as above.* D.A.I. Goring, Director. 271-039
 Fields: Pulp and paper, and logging.
 Activities: Pulp and paper research (83%), logging research (17%).
 Facilities: Laboratories, pilot plant, machine shop, library of 12,000 books, IBM 1130, scanning electron microscope, transmission electron microscope.
 Personnel: 53 scientists, 22 engineers, 88 technologists, 64 others.
- (149) **Radiation Development Company Limited,*** 391
 3454 East Broadway,
 Vancouver, British Columbia. R.G. Friend, President.
- a) R & D Unit: Radiation Development,* 391-271
 Address as above. D. Free, Director.
 Fields: Wood chip irradiation.
 Activities: Manufacturing (50%), R & D (50%).
 Facilities: Laboratory of 4,000 sq. ft., prototype facilities.
 Personnel: 2 scientists, 1 engineer, 4 technologists.
- b) R & D Unit: Radi-Pulp Research,* 864-271
 Address as above. G. Mitchell, Director.
 Fields: Pulp and paper.
 Activities: Consulting R & D (100%).
 Facilities: Laboratory of 4,000 sq. ft.
 Personnel: 1 scientist, 4 technologists.
- (150) **Reynolds Aluminum Company of Canada Limited,** 274
 Boulevard St. Laurent,
 Cap-de-la-Madeleine, Quebec. André Piché, Executive Vice-President.
- R & D Unit: Address as above. R.G.H. Currie, Director. 274-296
 Fields: Strip and sheet aluminum, foil and flexible packaging.
 Activities: Testing and manufacturing (70%), R & D (30%).
 Facilities: Laboratory equipped with apparatus for metallurgical and chemical research, evaluation and testing.
 Personnel: 5 scientists, 5 engineers, 7 technologists.
- (151) **E.S. & A. Robinson (Canada) Limited,*** 274-286
 69 Laird Avenue,
 Toronto 17, Ontario. W.G. Reid, President.
- R & D Unit: Address as above.* J.L. Cameron, Director. 274
 Fields: Flexible packaging materials.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory, pilot plant.
 Personnel: 5 scientists, 1 engineer, 7 technologists, 2 others.
- (152) **Ross Pulp & Paper Company,** 271
 304 St. Patrick Street,
 Lasalle, Quebec. H.C. Marshall, President.

INDUSTRIES MANUFACTURIÈRES – Papier et activités annexes

<p>R & D Unit: Address as above. Fields: Process air systems, fans, blowers, heat exchangers and steam systems. Activities: Product development (70%), testing (15%), research (15%). Facilities: Laboratory of 1,600 sq. ft., related facilities. Personnel: 2 engineers, 1 technologist.</p>	<p>D. McAnespie, Director.</p>	<p>315</p>
<p>(153) Scott Paper Limited, 031</p>		
<p>Box 760, New Westminster, British Columbia.</p>	<p>A.F. Armstrong, President.</p>	
<p>a) R & D Unit: Address as above. Fields: Pulp and paper and paper converting. Activities: R & D (10%), operational activities (90%). Facilities: 1,500 sq. ft. laboratory. Personnel: 5 engineers, 3 technologists.</p>	<p>C.R. Johnson, Director.</p>	<p>271-274</p>
<p>b) R & D Unit: Crabtree, Quebec. Fields: Pulp and paper and paper converting. Activities: R & D (10%), operational activities (90%). Facilities: 1,000 sq. ft. laboratory. Personnel: 5 engineers, 3 technologists.</p>	<p>L. LaSalle, Director.</p>	<p>271-274</p>
<p>(154) TCF of Canada Limited, 373</p>		
<p>Box 159, Cornwall, Ontario.</p>	<p>B. Sutcliffe, President.</p>	
<p>R & D Unit: Research and Technical Laboratory, Address as above. Fields: Cellulose and plastic packaging films. Activities: R & D (50%), testing (50%). Facilities: Laboratory of 7,000 sq. ft., library of 300 technical books. Personnel: 6 scientists, 2 technologists, 4 others.</p>	<p>J. Smelko, Director.</p>	<p>373-274</p>
<p>(155) Union Carbide Canada Limited,* 378</p>		
<p>123 Eglinton Avenue East, Toronto 12, Ontario.</p>	<p>J.S. Dewar, President.</p>	
<p>b) R & D Unit: Technology Department, Plastics and Chemicals Division,* Address as above. Fields: Petrochemicals, plastics, packaging materials. Activities: R & D (50%), technical service (50%). Facilities: Extensive analytical, pilot plant and plastics testing facilities, library of 3,500 technical books. Personnel: 19 scientists, 9 engineers, 17 technologists, 6 others.</p>		<p>378-274</p>

9. Printing and Allied Industries / Imprimerie et activités annexes (286)

<p>(156) Herzig Somerville Limited, 286</p>		
<p>253 Niagara Street, Toronto 3, Ontario.</p>	<p>E. Herzig, President.</p>	
<p>R & D Unit: Address as above. Fields: Offset colour reproduction.</p>	<p>W. Somerville, Director.</p>	

Activities: R & D (75%), testing (25%).
 Facilities: Access to production equipment, laboratory of 500 sq. ft.
 Personnel: 3 technologists.

- (157) **E.S. & A. Robinson (Canada) Limited,*** 274-286
 69 Laird Avenue,
 Toronto 17, Ontario. W.G. Reid, President.
- R & D Unit: Address as above.* J.L. Cameron, Director. 274
 Fields: Flexible packaging materials.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory, pilot plant.
 Personnel: 5 scientists, 1 engineer, 7 technologists, 2 others.

10. Primary Metal Industries/Première transformation des métaux (291-298)

- (158) **Alcan Aluminum Limited,*** 295
 1 Place Ville-Marie,
 Montreal 101, Quebec. Paul H. Leman, President.
- a) R & D Unit: Smelter Division Laboratory, D.M. Archer, Director. 295
 Aluminum Company of Canada Limited,
 Research Laboratory,*
 Box 250,
 Arvida,
 Quebec.
- Fields: Aluminum production: raw materials, intermediates, chemistry and metallurgy of
 processes, semifabricated aluminum, chemical products, carbon technology.
 Activities: R & D (60%), testing (20%), consulting (20%).
 Facilities: Laboratory of 70,000 sq. ft., pilot plant area, shop, library, extensive analytical
 laboratories.
 Personnel: 30 scientists, 15 engineers, 40 technologists, 20 others.
- b) R & D Unit: Fabrication and Sales Division, J.M. Wilson, Director. 296
 Alcan International Limited,
 Research Centre,*
 Box 8400,
 Kingston,
 Ontario.
- Fields: Fabrication and use of aluminum products: sheet, plate, foil, castings, extrusions,
 conductors; development of techniques: coating, joining, corrosion and all aspects of
 the physical metallurgy of aluminum and its products.
 Activities: Research (60%), testing (20%), consulting (20%).
 Facilities: Laboratories and pilot plant over 100,000 sq. ft., shop, library.
 Personnel: 20 scientists, 40 engineers, 65 technologists, 25 others.
- (159) **Alcan Canada Products Limited,*** 296
 Alcan Canada Foils Limited Division,
 1891 Eglinton Avenue East,
 Scarborough, Ontario. H. Corrigan, President.
- R & D Unit: Address as above.* R.M. Howe, Director. 296-273
 Fields: Flexible packaging materials and semi-rigid foil containers.
 Activities: R & D (50%), testing (50%).
 Personnel: 2 engineers, 3 technologists, 1 other.

INDUSTRIES MANUFACTURIÈRES – Première transformation des métaux

<p>(160) The Algoma Steel Corporation Limited, 503 Queen Street East, Sault Ste. Marie, Ontario.</p>	<p>D.S. Holbrook, President.</p>	<p>291</p>
<p>a) R & D Unit: Metals Research Department, Address as above. Fields: Physical metallurgy and processing metallurgy (ferrous metals). Activities: R & D (100%). Facilities: Laboratory of 7,200 sq. ft., related service facilities. Personnel: 6 engineers, 2 technologists.</p>	<p>W.E. Creswick, Director.</p>	<p>291</p>
<p>b) R & D Unit: Raw Materials Research Department, Address as above. Fields: Extractive metallurgy. Activities: R & D (100%). Facilities: Laboratory of 3,600 sq. ft., related equipment and service facilities. Personnel: 1 scientist, 4 technologists.</p>	<p>H.O. Lien, Director.</p>	<p>295</p>
<p>(161) Canadian Copper Refiners Limited, Box 338, Place d'Armes, Montreal 126, Quebec.</p>	<p>J.H. Schloen, President.</p>	<p>295</p>
<p>R & D Unit: Process Development Department, Address as above. Fields: Chemical and metallurgical engineering related to electrolytic refining and casting of copper, silver, gold, selenium, and tellurium, and the production of copper sulphate and selenium, and tellurium products. Activities: R & D (80%), environmental control (20%). Facilities: Laboratory, technical library. Personnel: 5 engineers, 8 technicians.</p>	<p>R.J. Whitaker, Director.</p>	<p>295</p>
<p>(162) Canadian Hanson Limited, 45 Vansco Road, Toronto, Ontario. M8Z 5J7</p>	<p>B.O. Winter, President.</p>	<p>298</p>
<p>R & D Unit: Address as above. Fields: Metal and plastic finishing, buffing compounds, metal cleaners, buffs made of cotton, sisal, synthetics. Activities: R & D (85%), quality control (15%). Facilities: Research laboratory of approximately 1,400 sq. ft., atomic absorption infrared spectrophotometers, scientific library, viscometers. Personnel: 1 scientist, 2 technologists.</p>	<p>A.R. Moores, Director.</p>	<p>379-189</p>
<p>(163) Chromasco Corporation Limited,* Haley, Ontario.</p>	<p>J. Thomas Timmins, President.</p>	<p>079</p>
<p>R & D Unit: Address as above.* Fields: Ferroalloys, magnesium and calcium metals. Activities: R & D (50%), testing (50%). Facilities: Laboratory of 4,800 sq. ft., R & D facilities of 10,800 sq. ft., machine shop. Personnel: 3 scientists, 8 technologists.</p>		<p>295</p>
<p>(164) Cominco Limited,* 1199 West Pender Street, Vancouver, British Columbia.</p>	<p>F.E. Burnet, President.</p>	<p>059</p>

MANUFACTURING – Primary Metals

a) R & D Unit:	Technical Research Centre,* Trail, British Columbia.	R.C. Bell, Director.	295
Fields:	Process development, including treatment, pyrometallurgy and chemical metallurgy, product and process development of electronic materials, process economic studies, chemistry and analysis.		
Activities:	R & D (50%), pilot plant work (30%), technical service and consulting (20%).		
Facilities:	Laboratory of 17,500 sq. ft., library of 12,000 technical books, and pilot facilities.		
Personnel:	17 scientists, 16 engineers, 39 technologists, 19 others.		
b) R & D Unit:	Product Research Centre,* Sheridan Park, Ontario.	J.R. Wellington, Director.	295-298
Fields:	Product and process development applications, including physical metallurgy, metal working, galvanizing, die casting, market surveys, and market testing.		
Activities:	R & D (65%), manufacturing (5%), technical service work and testing (10%), consulting (10%), market surveys and market testing (10%).		
Facilities:	Metal working shop of 6,000 sq. ft., laboratory of 22,000 sq. ft., machine shop and testing equipment.		
Personnel:	1 scientist, 11 engineers, 12 technologists, 9 others.		
(165) Dominion Foundries & Steel Limited,*			291
	Box 460, Hamilton, Ontario.	F.H. Sherman, President.	
R & D Unit:	Sherman/Loosely Research Centre,* Address as above.	F.J. McMulkin, Vice-President.	
Fields:	Iron and steelmaking, steel rolling, coking of coal, coated and uncoated steel sheets.		
Activities:	R & D (90%), testing (10%).		
Facilities:	Mechanical, physical and analytical laboratories, pilot BOF shop, related service facilities.		
Personnel:	20 engineers, 14 technologists, 16 others.		
(166) Eldorado Nuclear Limited,*			057
	151 Slater Street, Ottawa, Ontario. K1P 5H3	W.M. Gilchrist, President.	
a) R & D Unit:	Metallurgical Laboratories,* Tunney's Pasture, Ottawa, Ontario.	F.W. Melvanin, Director.	295
Fields:	Metallurgical processes for uranium products.		
Activities:	R & D (90%), consulting (with other company divisions) (10%).		
Facilities:	15,000 sq. ft. laboratory, pilot plant, library.		
Personnel:	5 scientists, 6 engineers, 13 technologists, 3 others.		
b) R & D Unit:	215 John Street,* Port Hope, Ontario.	B.C. Smart, Director.	295
Fields:	Metallurgical processes for uranium products.		
Activities:	R & D (80%), process control (20%).		
Facilities:	Bench scale laboratory, pilot plant facility.		
Personnel:	1 scientist, 1 engineer, 6 technologists.		

(167) Falconbridge Nickel Mines Limited, Box 40, Commerce Court West, Toronto, Ontario.	M.A. Cooper, President.	059
a) R & D Unit: Falconbridge Metallurgical Laboratories, Box 900, Thornhill and Toronto, Ontario. Fields: Process and product development, mineralogical investigations, supporting services including chemical, spectrochemical, and instrumental analysis, process control and instrumentation. Activities: R & D (90%), testing (10%). Facilities: Laboratories of 33,400 sq. ft., machine shop, library of 2,000 technical books. Personnel: 28 scientists and engineers, 32 technologists and technicians, 24 others.	R.A. Bergman, Manager.	295
b) R & D Unit: Research Department, Sudbury Operations, Falconbridge, Ontario. Fields: Process development relating to sulphide minerals, process control, and instrumentation for Sudbury operations. Activities: R & D (95%), testing (5%). Facilities: Laboratories of 9,200 sq. ft., pilot plants of 11,600 sq. ft., library of 750 technical books. Personnel: 16 scientists and engineers, 24 technologists and technicians, 3 others.	M.P. Sudbury, Manager.	295
(168) La Fonderie de Ste-Croix Limitée,* Ste-Croix, Comté Lotbinière, Québec.	P.E. Biron, Président.	294
Centre de R-D: Laboratoire de Fonderie,* Même adresse. Domaines: Fonte grise et d'alliage, éléments d'addition, méthodes de traitement, écologie des rebuts, utilisation des ferrailles, procédés de refroidissement du métal, utilisation des caoutchoucs, joints d'union pour tuyauterie en fonte. Activités: R - D (100%). Installations: Laboratoires d'analyse de 600 pieds carrés, fournaise à induction expérimentale, instruments de métallurgie physique. Personnel: 1 scientifique, 2 ingénieurs, 2 techniciens.	P.E. Biron, Directeur.	
(169) Hawker Siddeley Canada Limited,* 7 King Street East, Toronto 1, Ontario.	R.S. Faulkner, President.	291-315
a) R & D Unit: Canadian Steel Foundries Division, 5227 Notre Dame East, Montreal, Quebec. Fields: High strength stainless steels for heavy steel castings. Activities: R & D (100%). Facilities: Complete melting, foundry, NDT and machining facilities. Personnel: 2 engineers, 1 technologist.	M.A. Notte, Director.	291
b) R & D Unit: Canadian Car (Pacific) Division, R & D Department,* 290 East 5th Avenue,	D.W. Nyberg, Director	315

Vancouver,
British Columbia.
Fields: Sawmill machinery and controls development, sawing and chipping research, sawmill residue utilization.
Activities: R & D (70%), testing (30%).
Facilities: Laboratory of 5,000 sq. ft. complete with electronic test equipment and mechanical facilities for sawing and chipping research.
Personnel: 1 scientist, 2 engineers, 3 technologists, 1 other.

(170) **Hudson Bay Mining and Smelting Company Limited,** 059-295
Flin Flon, Manitoba. W.A. Morrice, President.

R & D Unit: Research and Assay Department, J.N. Kirkbride, Director.
Address as above.
Fields: Extractive metallurgy.
Activities: R & D (60%), testing (40%).
Facilities: Laboratories totalling 3,500 sq. ft., library of 2,000 technical books.
Personnel: 5 scientists, 15 engineers, 7 technologists, 2 others.

(171) **The International Nickel Company of Canada Limited,*** 059-295
Toronto-Dominion Centre,
Toronto 111, Ontario.
M5K 1E3 L.E. Grubb, President.

a) R & D Unit: Process Development,* D. Kelly, Director. 869
Address as above.
Fields: Economic feasibility studies, flowsheet design, process simulations.
Facilities: Computer terminal and service facilities of 6,000 sq. ft.
Personnel: 20 scientists, 1 technologist.

b) R & D Unit: Research Stations,* D. Kelly, Director. 295
Port Colborne,
Ontario.
Fields: Pyro-, hydro-, vapo-, and electrometallurgy.
Activities: Pilot plant testing (100%).
Facilities: Kilns, electric furnace, convertor, autoclaves and filters, totalling approximately 200,000 sq. ft.
Personnel: 32 scientists, 10 technologists, 150 others.

c) R & D Unit: J. Roy Gordon Research Laboratory,* J.S. Warner, Director. 295
Sheridan Park,
Mississauga,
Ontario.
Fields: Hydro-, pyro-, vapo-, and electrometallurgy, minerals beneficiation, analytical methods, and technical information services.
Facilities: Mini-plant and comprehensive laboratory totalling 80,000 sq. ft.
Personnel: 47 scientists, 47 technologists, 12 others.

(172) **Masterloy Products Limited,** 291
Box 965, R.R. # 6,
Ottawa, Ontario.
K1G 3N4 R.B. Love, President.

R & D Unit: Address as above. F.C. Hill, Director.
Fields: Ferroalloys.
Activities: Analysis (80%), R & D (10%), consulting (10%).
Facilities: Laboratory of 800 sq. ft.

INDUSTRIES MANUFACTURIÈRES – Première transformation des métaux

Personnel:	2 scientists, 1 technologist.		
(173) The Robert Mitchell Company Limited,			303
350 Decarie Boulevard, St. Laurent, Quebec.		S.C. Holland, President.	
R & D Unit:	Mitchell R & D Division, Address as above.	U.A. Ranne, Manager.	292
Fields:	Stainless steel pipe production, airport ground support equipment.		
Activities:	R & D (100%).		
Facilities:	1,200 sq. ft. plant area maintained for R & D activities, experimental stainless steel pipe welding machine.		
Personnel:	1 engineer, 1 other.		
(174) Noranda Mines Limited,			059
Box 45, Commerce Court West, Toronto, Ontario.		A. Powis, President.	
R & D Unit:	Noranda Research Centre, 240 Hymus Boulevard, Pointe Claire 730, Quebec.	W.H. Gauvin, Director.	295-378
Fields:	Metallurgical and chemical manufacturing.		
Activities:	R & D (70%), testing (10%), consulting (20%).		
Facilities:	40,000 sq. ft. of facilities, including 2 pilot plants, laboratories, library.		
Personnel:	20 scientists, 22 engineers, 24 technologists, 33 others.		
(175) Quebec Iron and Titanium Corporation,			059
Box 40, Sorel, Quebec.		W.L. Walsh, President.	
R & D Unit:	Research Centre, Address as above.	H.Y. Lee, Director.	291-378
Fields:	Ilmenite ores, titanium dioxide slags, pig iron.		
Activities:	R & D (100%).		
Facilities:	Research centre incorporating laboratories, library, offices and pilot plant.		
Personnel:	11 scientists, 27 engineers, 50 technologists, 3 others.		
(176) Reynolds Aluminum Company of Canada Limited,			274
Boulevard St. Laurent, Cap-de-la-Madeleine, Quebec.		André Piché, Executive Vice-President.	
R & D Unit:	Address as above.	R.G.H. Currie, Director.	274-296
Fields:	Strip and sheet aluminum, foil and flexible packaging.		
Activities:	Testing and manufacturing (70%), R & D (30%).		
Facilities:	Laboratory equipped with apparatus for metallurgical and chemical research, evaluation and testing.		
Personnel:	5 scientists, 5 engineers, 7 technologists.		
(177) Rio Algom Mines Limited,			059
120 Adelaide Street West, Toronto 110, Ontario.		R.D. Armstrong, President.	
b) R & D Unit:	R & D Department, Atlas Steels Company, Address as above.	T. Studley, Manager.	291
Fields:	Specialty steels.		

Activities: Process and product development.
 Facilities: Laboratories, library, pilot production units.
 Personnel: 5 scientists, 7 engineers, 3 technologists, 9 others.

- (178) **Sherritt Gordon Mines Limited,*** 059
 Fort Saskatchewan, Alberta.
 T0B 1P0. David D. Thomas, President.
- R & D Unit: R & D Division,* D.J.I. Evans, Director. 295
 Address as above.
- Fields: Hydrometallurgy, powder metallurgy, development of hydrometallurgical processes for recovering nickel, cobalt, copper, zinc, lead, precious metals and by-products containing nickel and cobalt, development of fertilizers.
- Facilities: Laboratories and pilot plants.
- Personnel: 24 scientists, 28 engineers, 82 technologists, 15 others.
- (179) **Sidbec-Dosco Limitée,*** 291
 507, Place d'Armes,
 Montréal, Québec. Jean-Paul Gignac, Président.
- a) Centre de R-D: Contrecoeur,* 291
 Québec.
 Domaines: Acierage et formage des aciers.
 Activités: R - D (80%), évaluation (20%).
 Installations: Laboratoires de 10,000 pieds carrés.
 Personnel: 1 scientifique, 4 ingénieurs, 1 technicien, 1 autre.
- b) Centre de R-D: Contrecoeur,* 291
 Québec.
 Domaines: Nouveaux produits.
 Activités: R - D (70%), évaluation (30%).
 Installations: Comme ci-haut.
 Personnel: 1 scientifique, 3 ingénieurs, 2 techniciens.
- c) Centre de R-D: Contrecoeur,* 869
 Québec.
 Domaines: Recherches opérationnelles.
 Activités: R - D (100%).
 Installations: Ordinateur Honeywell G-437.
 Personnel: 1 scientifique, 1 ingénieur, 1 technicien, 1 autre.
- (180) **Slater Steel Industries Limited,** 291
 Slater Products Division,
 681 King Street West,
 Hamilton, Ontario. A.M. Parent, Vice-President and General Manager.
- R & D Unit: Slater Products Engineering, H.J. Houston, Director. 302
 Address as above.
- Fields: Extra-high voltage and ultra-high voltage transmission line hardware, vibration suppression devices for aerial lines.
- Activities: R & D (30%), testing (60%), consulting (10%).
- Facilities: Laboratory of 4,000 sq. ft., access to high voltage test facilities.
- Personnel: 4 engineers, 2 technologists, 5 others.
- (181) **Steel Castings Institute of Canada,*** 864-291
 Box 294,
 Kleinburg, Ontario. F.W. Hore, Chairman.

<p>R & D Unit: 568 Booth Street,* Ottawa, Ontario.</p> <p>Fields: Metallurgy.</p> <p>Activities: R & D (100%).</p> <p>Personnel: 1 engineer.</p>	<p>M.J. Breton, Director.</p>	
<p>(182) The Steel Company of Canada Limited,*</p> <p>Wilcox Street, Hamilton, Ontario.</p> <p>R & D Unit: R & D Department,* Address as above.</p> <p>Fields: Iron and steel making with emphasis on extraction, development of steel plate for arctic use, coated products.</p> <p>Activities: R & D (100%).</p> <p>Facilities: Laboratory of 60,000 sq. ft., pilot plant bays with cranes, steelmaking vessels, and related service facilities.</p> <p>Personnel: 18 scientists, 27 engineers, 28 technologists, 23 others.</p>	<p>J.P. Gordon, President.</p> <p>J.G. Sibakin, Director.</p>	<p>291</p>
<p>(183) Union Carbide Canada Limited,*</p> <p>123 Eglinton Avenue East, Toronto 12, Ontario.</p> <p>e) R & D Unit: Technology Department, Metals and Carbon Division,* Address as above.</p> <p>Fields: Ferro alloy manufacturing of chromium, silicon, and manganese, carbon and graphite products.</p> <p>Activities: R & D (60%), technical service (40%).</p> <p>Facilities: 5,000 sq. ft. of laboratory space.</p> <p>Personnel: 2 engineers.</p>	<p>J.S. Dewar, President.</p>	<p>378</p> <p>291-359</p>
<p>(184) Vestshell Incorporated,</p> <p>10351 Pelletier Street, Montreal North 459, Quebec.</p> <p>R & D Unit: Address as above.</p> <p>Fields: Precision casting.</p> <p>Activities: R & D (50%), testing (50%).</p> <p>Facilities: 2,250 sq. ft. laboratory and machine shop.</p> <p>Personnel: 2 engineers, 2 technologists.</p>	<p>J. Valenta, President.</p> <p>J. Valenta, Director.</p>	<p>298</p>
<p>(185) Webster Manufacturing (London) Limited,</p> <p>1161 King Street, London, Ontario.</p> <p>R & D Unit: Address as above.</p> <p>Fields: Small air compressors for recreational vehicle market.</p> <p>Activities: R & D (60%), testing (40%).</p> <p>Facilities: Test room with related testing equipment.</p> <p>Personnel: 1 technologist, 2 others.</p>	<p>J.B. Webster, President.</p> <p>S.G. Holdsworth, Director.</p>	<p>298</p> <p>315</p>

11. Metal Fabricating Industries (except Machinery and Transportation Equipment Industries)/Fabrication de produits en métal (sauf machines et équipement de transport) (301-309)

- (186) **Advanced Dynamics Corporation Limited,*** 308-315
 740 Place Trans-Canada,
 Longueuil, Quebec. F.M. Groundwater, President.
- R & D Unit: Address as above.*
 Fields: Design and development of automation equipment and custom machinery.
 Activities: Engineering R & D (40%), testing (10%), manufacturing (50%).
 Facilities: Complete engineering and production facilities.
 Personnel: 2 engineers, 2 technologists, 25 others.
- (187) **Aeco Metals Limited,*** 324-308
 Box 1270,
 Brantford, Ontario. C.G. Wyman, President.
- R & D Unit: Shaver Street,*
 Cainsville,
 Ontario. J.E. Rich, Director.
- Fields: Rubber tire molds, weld-positioning machinery.
 Activities: R & D (10%), testing (5%), manufacturing (85%).
 Facilities: 35,000 sq. ft. plant with development, design, building and testing facilities.
 Personnel: 1 scientist, 1 engineer, 3 technologists, 5 others.
- (188) **American Can of Canada Limited,*** 304
 1 International Boulevard,
 Rexdale, Ontario. T.P. Cobb, President.
- R & D Unit: Technical Service Department,*
 391 Victoria Avenue North,
 Hamilton,
 Ontario. C.G. Robbins, Manager.
- Fields: Packaging technology.
 Activities: Testing (50%), consulting (40%), R & D (10%).
 Facilities: Laboratory of 7,800 sq. ft.
 Personnel: 7 scientists, 2 engineers, 3 others.
- (189) **Arcweld Products Limited,*** 305
 905 Hodge Street,
 St. Laurent 379,
 Montreal, Quebec. C. Clermont, President.
- R & D Unit: Address as above.*
 Fields: Arc welding consumables; mild, low-alloy, stainless surfacing type.
 Activities: Development (50%), processing (30%), testing (20%).
 Facilities: Pilot plant, spectrographic laboratory of 2,000 sq. ft.
 Personnel: 1 engineer, 4 technologists, 2 others.
- (190) **Borg-Warner (Canada) Limited,** 325-307
 Long Manufacturing Division,
 656 Kerr Street North,
 Oakville, Ontario. J.H. McCreery, President.

INDUSTRIES MANUFACTURIÈRES – Produits en métal

- R & D Unit: 2775 Slough Street,
Slough Estates,
Malton,
Ontario.
Fields: Heat transfer research.
Activities: R & D (100%).
Facilities: Laboratory of 14,400 sq. ft.
Personnel: 3 engineers, 7 technologists, 1 other.
- D.M. Donaldson, Director. 307
- (191) Butler Manufacturing Company (Canada) Limited,** 302
Box 5006,
1100 Walker's Line,
Burlington, Ontario.
- R & D Unit: Address as above. T.C. Colson, Director.
Fields: Pre-engineered buildings and agricultural storage facilities.
Activities: R & D (85%), testing (10%), manufacturing (5%).
Facilities: 500 sq. ft. of service space.
Personnel: 2 engineers, 5 technologists.
- (192) Butler Metal Products Company Limited,** 304
400 Guelph Street North,
Preston, Ontario.
- G.H. Layzel, President.
R & D Unit: Address as above. W. Steele, Director.
Fields: Solid phase forming and forging.
Activities: R & D (100%).
Facilities: Laboratory of 3,000 sq. ft.
Personnel: 3 engineers, 2 technologists, 3 others.
- (193) Canadian Cannery Limited,*** 103
44 Hughson Street South,
Hamilton, Ontario.
- L.H. Johnston, President.
R & D Unit: Research Centre,*
1101 Walker's Line,
Burlington,
Ontario. Carl J. Ross, Director 103-304
Fields: Processed fruits and vegetables, soups, jams, other food specialties, can and label manufacturing.
Activities: R & D (100%).
Facilities: Laboratory of 12,000 sq. ft., library.
Personnel: 5 scientists, 5 technologists, 11 others.
- (194) Canadian Galvanizing Research Association,*** 864-304
c/o Department of Energy, Mines and Resources,
568 Booth Street,
Ottawa, Ontario.
K1A 0G1 D.B. Clay, Chairman.
- R & D Unit: Address as above.*
Fields: Hot-dip galvanizing process and products.
Activities: Cooperative contract R & D with government and industrial laboratories.
Facilities: As available in contracting laboratories.
Personnel: As available in contracting laboratories.

- (195) **Canadian Gas Association,*** 864-307
 55 Scarsdale Road,
 Don Mills, Ontario. A.R. McMurrich, President.
- R & D Unit: R & D Section,* H. Wank, Director.
 Address as above.
- Fields: R & D source for industry, chiefly in the field of fuel-fired equipment.
 Activities: R & D (75%), testing and evaluation (25%).
 Facilities: Complete facilities for testing gas, oil, electrical equipment and accessories.
 Personnel: 1 scientist, 4 engineers, 1 technologist.
- (196) **Carter Temro Limited,*** 325
 Box 962,
 Winnipeg, Manitoba.
 R3C 2V3 Iain L. Campbell, President.
- R & D Unit: R & D Department,* H.E. Windsor, Director. 325-307
 Address as above.
- Fields: Automotive heating, electric space heating, automotive and commercial air conditioning.
 Activities: R & D (100%).
 Facilities: 4,000 sq. ft. laboratory, cold room.
 Personnel: 4 engineers, 3 technologists, 2 others.
- (197) **Central Electric Wire Limited,*** 305
 1 North Street,
 Perth, Ontario. A. Bennell, Vice-President.
- a) R & D Unit: Address as above.* C. Lewis, Director. 305
 Fields: Alloy wires.
 Activities: R & D (50%), testing (45%), consulting (5%).
 Facilities: Laboratory of 3,000 sq. ft., machine shop and die shop.
 Personnel: 2 scientists, 1 engineer, 3 technologists, 5 others.
- b) R & D Unit: Address as above.* D. Cundall, Director. 165
 Fields: Plastic monofilaments.
 Activities: R & D (50%), testing (45%), consulting (5%).
 Facilities: Laboratory of 3,000 sq. ft., machine shop, die shop.
 Personnel: 1 scientist, 1 engineer, 1 technologist, 2 others.
- (198) **Columbus McKinnon Limited,** 315-309
 Box 668,
 St. Catharines, Ontario.
 L2R 6Y1 Edward Kennard, President.
- R & D Unit: Address as above. Edward Kennard, Director.
 Fields: Hoists and coil chain.
 Activities: R & D (60%), testing (40%).
 Facilities: Machine shop and specialized test facilities.
 Personnel: 1 engineer, 1 technologist, 3 others.
- (199) **Combustion Engineering-Superheater Limited,*** 301
 1140 de Maisonneuve Boulevard West,
 Montreal 110, Quebec. R.L. Riker, President.

INDUSTRIES MANUFACTURIÈRES – Produits en métal

<p>R & D Unit: R & D Laboratory,* Roy Street, Sherbrooke, Quebec.</p> <p>Fields: Nuclear fuel fabrication.</p> <p>Activities: Process development (100%).</p> <p>Facilities: Laboratory of 3,000 sq. ft., welding and powder metallurgy equipment.</p> <p>Personnel: 5 engineers, 5 technologists.</p>	<p>G.P. Desbois, Director.</p>	
<p>(200) Continental Can Company of Canada Limited, 790 Bay Street, Toronto, Ontario.</p>	<p>E.E. Fry, President.</p>	<p>304</p>
<p>R & D Unit: Paper Products Research Department, 475 Commissioners Street, Toronto, Ontario. M4M 1A6</p> <p>Fields: Paper packaging, including paperboards, corrugated boxes, folding cartons, bondware cups, tubs, plates, paper tapes and specialties.</p> <p>Activities: R & D (60%), technical service and material/process evaluations (40%).</p> <p>Facilities: 3 laboratories totalling 2,500 sq. ft., including library.</p> <p>Personnel: 2 scientists, 5 engineers, 1 other.</p>	<p>L.S. Campbell, Director.</p>	<p>273-274</p>
<p>(201) Crane Canada Limited,* 5800 Cote de Liesse Road, Montreal, Quebec.</p>	<p>R.S. Reade, President.</p>	<p>309</p>
<p>R & D Unit: Product Development Department,* Address as above.</p> <p>Fields: Plumbing and valve products.</p> <p>Activities: R & D (50%), testing (20%), design (30%).</p> <p>Facilities: R & D office, test laboratory of 2,500 sq. ft.</p> <p>Personnel: 1 scientist, 8 engineers, 17 technologists, 4 others.</p>	<p>R.J. Johnstone, Director.</p>	
<p>(202) Dominion Aluminum Fabricating Limited,* 136 The East Mall, Toronto, Ontario. M8Z 5M2</p>	<p>Murray R. Maynard, President.</p>	<p>303</p>
<p>a) R & D Unit: Helicopter Recovery Systems,* Address as above.</p> <p>Fields: Helicopter shipboard recovery.</p> <p>Activities: R & D (60%), testing (20%), manufacturing (20%).</p> <p>Personnel: 6 engineers, 6 technologists.</p>	<p>M.A. Pesando, Director.</p>	<p>321</p>
<p>b) R & D Unit: Light Alloy Structures,* Address as above.</p> <p>Fields: Special light weight structures, development of towers, bridges and enclosures.</p> <p>Personnel: 2 engineers, 3 technologists.</p>	<p>C.F. Wood, Director.</p>	<p>302</p>
<p>(203) Dominion Bridge Company Limited,* 555 Notre Dame Street, Lachine, Quebec.</p>		<p>302</p>

R & D Unit: Dominion Bridge Technical Services,* D.E.H. Reynolds, Director.
 Address as above.
 Fields: Welding, metallurgy and fabrication.
 Activities: R & D (50%), testing (25%), internal consulting (25%).
 Facilities: Laboratory of 10,000 sq. ft., machine shop, library.
 Personnel: 4 scientists, 4 engineers, 9 technologists, 2 others.

(204) **Eastern Steel Products Limited,*** 304
 777 Laurel Street,
 Preston, Ontario. P. Slaughter, President.

R & D Unit: Address as above.* D.M. Henry, Director. 516
 Fields: Snow removal and ice control methods.
 Activities: R & D (100%).
 Facilities: Laboratory of 2,000 sq. ft., test vehicles and equipment.
 Personnel: 2 engineers, 1 technologist, 1 other.

(205) **Embury Company Limited,** 303
 169 Oakville Road,
 Downsview, Ontario. Lloyd E. Embury, President.

R & D Unit: Address as above. Lloyd E. Embury, Director.
 Fields: Street and highway lighting, flag poles.
 Activities: R & D (90%), testing (10%).
 Facilities: Laboratory of 450 sq. ft., shop of 2,700 sq. ft.
 Personnel: 1 scientist, 1 technologist, 1 other.

(206) **Free Piston Development Company Limited,*** 864-315
 745 Gardiners Road,
 Kingston, Ontario. J.S. Campbell, President.

R & D Unit: Address as above.* J.S. Campbell, Director. 315-308
 Fields: Engines and air compressors.
 Activities: R & D (10%), consulting (10%), sub-contract machine work (80%).
 Facilities: 2 test cells, machine shop, related equipment.
 Personnel: 2 engineers, 2 technologists, 9 others.

(207) **Gilbarco Canada Limited,*** 315
 60 California Avenue,
 Brockville, Ontario.
 K6V 5X2 Don J. Coward, President.

R & D Unit: Address as above.* John F. Wylie, Director. 315-307
 Fields: Domestic oil and gas heating, oil burners, gasoline pumps.
 Activities: Development and engineering (60%), testing (40%).
 Facilities: Laboratory of 2,000 sq. ft.
 Personnel: 3 engineers, 2 technologists.

(208) **International Burner Corporation Limited,*** 307
 3737 Napier Street,
 Burnaby 2, British Columbia. E.C. Robinson, President.

R & D Unit: Address as above.* C.F. Hunter, Director.
 Fields: Combustion engineering, including development of blue flame oil burners and suitable
 home sensors and heat exchangers.
 Activities: Development and design.
 Facilities: Laboratory of 400 sq. ft.

Personnel: 1 scientist, 2 engineers, 1 technologist.

- (209) **Kawneer Company Canada Limited,** 303
 1051 Ellesmere Road,
 Scarborough, Ontario. A.O. Donaldson, Vice-President and General Manager.
- R & D Unit: Development and Testing, V. Alter, Director of Engineering.
 Address as above.
- Field: Architectural metal products for building enclosures.
- Activities: Development and testing.
- Facilities: 2,000 sq. ft. of engineering, development and experimental facilities.
- Personnel: 2 engineers, 2 technologists.
- (210) **KeepRite Products Limited,** 316
 44 Elgin Street,
 Brantford, Ontario. J.G. McMillen, President.
- b) R & D Unit: Unifin Division R & D Department, J.C. Richardson, Director. 307-301
 1030 Clark Side Road,
 London,
 Ontario.
- Fields: Heat transfer: electrical apparatus cooling, oil, chemical and gas industry exchangers,
 industrial air heating and cooling and nuclear power developments.
- Facilities: 1,200 sq. ft. of laboratory and testing facilities including wind tunnel and high volume
 hot oil test facility.
- Personnel: 3 engineers, 1 technologist, 11 others.
- (211) **Mark Hot Incorporated,*** 307
 400, Place Trans-Canada,
 Longueuil, Québec. L.P. Marcotte, Président.
- Centre de R-D: Même adresse.* M. d'Anjou, Directeur.
- Domaines: Chauffage, air conditionné, ventilation, environnement, acoustique, distribution d'air,
 hygiène des systèmes de ventilation, système préventif de déflagration dans les
 bâtiments.
- Activités: R - D (90%), évaluation (10%).
- Installations: Laboratoire de 4,000 pieds carrés, chambre réverbérante, chambre ambiante,
 chambre AMCA, chambre IBR, table d'eau, système de distribution variable d'air,
 système d'environnement contrôlé, système de contrôle pour vapeur, eau chaude,
 réfrigérant et eau froide, équipement complet pour mesures acoustiques, électriques,
 température, vibration.
- Personnel: 2 scientifiques, 3 ingénieurs, 7 techniciens, 2 autres.
- (212) **The Robert Mitchell Company Limited,** 303
 350 Decarie Boulevard,
 St. Laurent, Quebec. S.C. Holland, President.
- R & D Unit: Mitchell R & D Division, U.A. Ranne, Manager. 292
 Address as above.
- Fields: Stainless steel pipe production, airport ground support equipment.
- Activities: R & D (100%).
- Facilities: 1,200 sq. ft. plant area maintained for R & D activities, experimental stainless steel
 pipe welding machine.
- Personnel: 1 engineer, 1 other.

- (213) **Niagara Wire Weaving Company Limited,*** 305
 Box 1016,
 Niagara Falls, Ontario.
 L2E 6W9
 E.J. Buell Jr., President.
 R & D Unit: Development Division,* A.G. Hose, Director.
 Box 716,
 Welland,
 Ontario.
 L3B 5B5
 Fields: Fourdrinier wire cloth.
 Activities: Materials R & D (50%), testing (50%).
 Facilities: Laboratory space of 2,000 sq. ft., pilot plant space of 1,000 sq. ft., library of 200
 technical books.
 Personnel: 3 scientists, 1 engineer, 5 technologists, 5 others.
- (214) **Pyrene (Canada) Limited,*** 309
 777 Dundas Street East,
 Toronto 250, Ontario.
 R.G. Lewis, President.
 R & D Unit: Address as above.* R.G. Lewis, Director.
 Fields: Fire protection equipment.
 Activities: R & D (90%), testing (10%).
 Facilities: Design engineering office and chemical laboratory of 1,000 sq. ft.
 Personnel: 1 engineer, 1 technologist.
- (215) **Resman Holdings Limited,** 307
 1401 Hastings Crescent Southeast,
 Calgary, Alberta.
 D.J. Taylor, President.
 R & D Unit: Engineered Air Division,
 Address as above.
 Fields: Heating equipment.
 Activities: R & D (70%), testing (25%), consulting (5%).
 Facilities: R & D shop of 1,000 sq. ft.
 Personnel: 4 engineers, 1 technologist, 1 other.
- (216) **P.L. Robertson Manufacturing Company Limited,** 305
 97 Bronte Road,
 Milton, Ontario.
 G. Dreger, Director.
 R & D Unit: Address as above.
 Fields: Fasteners.
 Activities: Development and testing.
 Facilities: Laboratory of 3,000 sq. ft.
 Personnel: 1 engineer, 2 technologists, 1 other.
- (217) **Sarco Canada Limited,** 307
 195 Milner Avenue,
 Agincourt, Ontario.
 R.E. Powers, President.
 R & D Unit: R & D Department,
 Address as above.
 R. Adachi, Director.
 Fields: Heating and plumbing specialities for mechanical construction.
 Activities: R & D (70%), testing (30%).
 Facilities: Laboratory of 1,200 sq. ft.
 Personnel: 1 engineer, 3 technologists.

R & D Unit: R & D Laboratory,* F.C. Ho, Director.
 Address as above.
 Fields: Chemical and mechanical engineering, heat and mass transfer, powder mixing, liquid agitation, filtration.
 Activities: Research (40%), development (40%), testing (10%), consulting and service (10%).
 Facilities: Laboratory of 1,000 sq. ft., metal fabricating and machine shop, computer terminal.
 Personnel: 3 engineers, 2 technologists.

(223) **Velan Engineering,*** 307
 2125 Ward Avenue,
 Montreal 378, Quebec. A.K. Velan, President.

R & D Unit: Research Division,* J.M. Farrell, Director.
 Address as above.
 Fields: High temperature pressure valves and steam traps for petro-chemical and power fields.
 Activities: R & D (60%), testing (30%), consulting (10%).
 Facilities: Laboratory of 5,000 sq. ft., high temperature pressure boilers, cold flow test loop, various test rigs and related service facilities.
 Personnel: 12 engineers, 20 technologists.

(224) **Waltec Industries Limited,** 309-165
 1355 Wallace Street,
 Wallaceburg, Ontario. J.A. Burgess, President.

R & D Unit: Domidco Building, J.L. Forgie, Director.
 Libby Street,
 Wallaceburg,
 Ontario.
 Fields: Individual household sewage treatment, plastic valve technology.
 Activities: R & D (100%).
 Facilities: Laboratory of 3,500 sq. ft., machine shop facilities.
 Personnel: 1 engineer, 1 other.

(225) **Westeel-Rosco Limited,*** 304
 1 Atlantic Avenue,
 Toronto, Ontario.
 M6K 1X7 R.M. Calhoun, President.

R & D Unit: R & D Department,* G.T. Halmos, Director.
 Address as above.
 Fields: Highway drainage, agricultural structures and grain handling systems, building products, metal forming.
 Activities: R & D (75%), testing (10%), consulting (15%).
 Facilities: Laboratory of 1,000 sq. ft.
 Personnel: 5 engineers, 1 technologist, 1 other.

(226) **Westinghouse Canada Limited,*** 336
 286 Sanford Avenue North,
 Hamilton, Ontario. W.J. Cheesman, President.

c) R & D Unit: Atomic Power Division,* 309
 175 Longwood Road,
 Hamilton,
 Ontario.
 Fields: Heat transfer, tribology, development of new alloys, fluid-flow and stability, corrosion testing.

Activities: Manufacturing processes development (98%), consulting (2%).
 Facilities: Closed loop dynamic test facility for two-phase fluid tests.
 Personnel: 5 scientists, 30 engineers, 42 technologists, 8 others.

12. Machinery Industries (except Electrical Machinery) / Fabrication de machines (sauf électriques) (311-318)

- (227) **Advanced Dynamics Corporation Limited,*** 308-315
 740 Place Trans-Canada,
 Longueuil, Quebec. F.M. Groundwater, President.
- R & D Unit: Address as above.*
 Fields: Design and development of automation equipment and custom machinery.
 Activities: Engineering R & D (40%), testing (10%), manufacturing (50%).
 Facilities: Complete engineering and production facilities.
 Personnel: 2 engineers, 2 technologists, 25 others.
- (228) **Alceco Machine Manufacturing Limited,** 315
 5005 Cote Vertu Road,
 Montreal 384, Quebec. Josef Johl, President.
- R & D Unit: Address as above. M. Johl, Director.
 Fields: Applied research in metal working machinery, including punch presses, feeding and straightening machinery.
 Facilities: Production machinery.
 Personnel: 1 engineer, 2 others.
- (229) **Allied Farm Equipment (Manitoba) Limited,** 311
 Box 1003,
 Winnipeg, Manitoba. E.V. Paskewitz, General Manager.
- R & D Unit: Manufacturing Division, Mr. Crawley, Director.
 Address as above.
 Fields: Mechanics and hydraulics related to farm machinery.
 Activities: R & D (60%), manufacturing engineering (40%).
 Personnel: 2 engineers, 2 technologists, 3 others.
- (230) **Ashton Press Manufacturing Company (1968) Limited,*** 315
 10210 Pie IX Boulevard,
 Montreal North, Quebec. J.R. Hutton, President.
- R & D Unit: Address as above.* H.G. Farish, Director.
 Fields: Printing and processing paper.
 Activities: Research and testing.
 Facilities: Test press, machine shop.
 Personnel: 3 engineers, 4 technologists.
- (231) **Atlantic Bridge Company Limited,*** 315
 83 Tannery Road,
 Lunenburg, Nova Scotia. D.A. Eisenhauer, President.
- a) R & D Unit: Lunenburg Plant Division,* A.D. Passey, Director. 315
 Address as above.
 Fields: Fish and food handling and processing equipment, pollution abatement equipment.

Activities: R & D including testing (100%).
 Facilities: Manufacturing facilities, library, access to testing laboratories.
 Personnel: 1 scientist, 2 engineers, 2 others.

b) R & D Unit: Plastics Division,* George Escher, Director. 165
 Box 299,
 Mahone Bay,
 Nova Scotia.
 Fields: Fiber reinforced plastics.
 Activities: R & D including testing (100%).
 Facilities: Manufacturing facilities, library, laboratory.
 Personnel: 2 engineers, 2 others.

(232) **B.L.H. Limited,** 315
 Clark Equipment of Canada Division,
 Michigan Boulevard,
 St. Thomas, Ontario. J.A. Meyer, Vice-President and General Manager.

R & D Unit: Forestry Equipment Engineering R. German, Manager of Engineering.
 Department,
 Address as above.
 Fields: Design and development of advanced mechanized logging equipment.
 Facilities: Plant facilities.
 Personnel: 4 engineers, 5 technologists.

(233) **Basic Hydraulics and Industrial Equipment Limited,*** 315
 Box 520,
 West Side Road,
 Welland, Ontario. E.J. De Waard, President.

R & D Unit: Address as above.* E.J. De Waard, Director.
 Fields: Hydraulically operated material and personnel handling equipment.
 Activities: Production (90%), R & D and testing (10%).
 Facilities: Complete metal fabricating and machining facilities totalling 15,000 sq. ft.
 Personnel: 3 engineers, 3 technologists, 4 others.

(234) **Bata Industrial Limited,*** 174
 Batawa, Ontario. G.W. Lawrence, General Manager.

R & D Unit: Bata-Engineering Division,* W. Schilke, Manager. 315
 Address as above.
 Fields: Development of machinery for the footwear industry.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory of 2,500 sq. ft., machine shop.
 Personnel: 1 scientist, 6 engineers, 4 technologists, 6 others.

(235) **Becker Drills Limited,** 315
 315-19th Street Southeast,
 Calgary, Alberta. J.S. Dewar, President.

R & D Unit: Address as above. C.W. Galbraith, General Manager.
 Fields: Drill manufacturing.
 Activities: Manufacturing (95%), R & D (5%).
 Facilities: Repair and machine shop of 15,000 sq. ft.
 Personnel: 3 engineers, 3 technologists, 30 others.

- (236) **Blue Giant Equipment of Canada Limited,*** 315
 85 Heart Lake Road,
 Brampton, Ontario. Kurt Larsen, President.
- R & D Unit: Address as above.* Kurt Larsen, Director.
 Fields: Materials handling equipment.
 Activities: R & D (60%), testing (40%).
 Personnel: 1 engineer, 6 others.
- (237) **The Bobtex Corporation Limited,*** 864-315
 Suite 310, 1435 St. Alexander Street,
 Montreal 111, Quebec. Emilian Bobkowicz, President.
- R & D Unit: Address as above.* Andrew J. Bobkowicz, Director.
 Fields: Textile process R & D, textile machinery and products.
 Activities: R & D (100%).
 Facilities: Laboratories and machine shop of 15,100 sq. ft., library and related service facilities.
 Personnel: 4 scientists, 8 engineers, 13 technologists, 10 others.
- (238) **Canadian Co-operative Implements Limited,** 311
 601 Bowman Avenue,
 Winnipeg, Manitoba. D.V. Larson, President.
- R & D Unit: Address as above. W. Dressel, Director.
 Fields: Farm machines.
 Activities: R & D (65%), testing (15%), manufacturing (20%).
 Facilities: Engineering office of 2,000 sq. ft., workshop of 8,800 sq. ft.
 Personnel: 4 engineers, 8 technologists, 10 others.
- (239) **Canadian General Electric Company Limited,*** 336
 214 King Street West,
 Toronto, Ontario. W.G. Ward, Chairman.
- g) R & D Unit: Nuclear and Chemical Products W.M. Brown, Director. 378-315
 Department,*
 Peterborough,
 Ontario.
 Fields: Nuclear reactors and related equipment, heavy water, synthetic resins, electrical
 insulating compounds, silicones, plastics.
 Activities: R & D (50%), testing (40%), and manufacturing (10%).
 Facilities: Laboratories (4 locations) of 23,500 sq. ft., library.
 Personnel: 68 engineers, 22 technologists, 100 others.
- (240) **Canadian Vickers Limited,*** 327
 5000 Notre Dame Street East,
 Montreal 404, Quebec. J.E. Harrington, President.
- c) R & D Unit: Industrial Division, A. Sankoff, Director. 315
 Nuclear Energy Division,*
 Address as above.
 Fields: End shields, calandrias and related nuclear and electrical generating equipment.
 Activities: R & D (5%), testing (10%), assembly (15%), manufacturing (70%).
 Facilities: Laboratory of 5,000 sq. ft., library of 5,500 technical books.
 Personnel: 3 engineers, 3 technologists, 3 others.
- d) R & D Unit: Industrial Division, A. Sankoff, Director. 315
 Mechanical Department,*

Address as above.
 Fields: Defense equipment and heavy industrial machinery.
 Activities: R & D (5%), testing (15%), assembly (25%), manufacturing (55%).
 Facilities: Uses facilities of Nuclear Energy Division.
 Personnel: 1 technologist, 2 others.

- (241) **Coldstream Products of Canada Limited,** 316
 1855 Sargent Avenue,
 Winnipeg, Manitoba.
 R3H 0E3 C.M. Fleming, President.
- R & D Unit: Address as above. D. Fieldhouse, Director. 316-165
 Fields: Component product development for aircraft, insulated rooms and buildings based on polyurethane foamed-in-place insulation.
 Facilities: Service facilities of 50,000 sq. ft., including metal fabricating and polyurethane foaming equipment.
 Personnel: 1 engineer, 2 technologists.
- (242) **Columbus McKinnon Limited,** 315-309
 Box 668,
 St. Catharines, Ontario.
 L2R 6Y1 Edward Kennard, President.
- R & D Unit: Address as above. Edward Kennard, Director.
 Fields: Hoists and coil chain.
 Activities: R & D (60%), testing (40%).
 Facilities: Machine shop and specialized test facilities.
 Personnel: 1 engineer, 1 technologist, 3 others.
- (243) **Computing Devices of Canada Limited,*** 391-318
 Box 8508,
 Ottawa, Ontario.
 K1G 3M9 E.B. Daubney, President.
- R & D Unit: Research & Engineering Department,* R.J. Patton, Vice-President, Engineering.
 Address as above.
 Fields: Airborne navigation and displays, aerodynamics, computer systems analysis, hydrographic survey systems, acoustic data processing system, artillery fire direction computing systems.
 Activities: R & D (90%), consulting (10%).
 Facilities: 60,000 sq. ft. of facilities, including library, electronics laboratory of 15,000 sq. ft., optical laboratory, electromagnetic capability laboratory, major computing facilities.
 Personnel: 25 scientists, 84 engineers, 35 technologists, 70 others.
- (244) **Delamere & Williams Company Limited,*** 315
 21-35 Carson Street,
 Toronto 520, Ontario. K.D. Doble, Jr., President.
- R & D Unit: Address as above.* D.A. Hunter, Director.
 Fields: High speed packaging machinery.
 Activities: R & D (75%), testing (25%).
 Facilities: Laboratory and plant area of 3,500 sq. ft.
 Personnel: 7 engineers, 11 technologists, 7 others.
- (245) **Demag Material Handling Limited,** 315
 2400 Highway 122,
 Port Credit, Ontario. K. Fritsch, President.

- R & D Unit: Address as above. W. Vogt, Chief Engineer.
 Fields: Cranes.
 Activities: R & D (10%), manufacturing (90%).
 Personnel: 2 engineers.
- (246) **Dominion Engineering Works Limited,*** 315
 795 First Avenue,
 Lachine, Quebec. Max Drouin, President.
- a) R & D Unit: Research Service Unit,* J. Hans Lang, Manager.
 Address as above.
 Fields: Solid mechanics, fluid mechanics, metallurgy in application to paper-machinery,
 hydraulic turbines, mining equipment, steel mill equipment.
 Activities: R & D (80%), advanced engineering (20%).
 Facilities: Laboratory of 5,000 sq. ft., wind tunnel, recording equipment, service laboratory and
 facilities.
 Personnel: 16 engineers, 3 technologists, 5 others.
- b) R & D Unit: Hydraulic Laboratory,* Jacques Desbaillets, Director.
 Address as above.
 Fields: Hydraulic turbo-machinery.
 Activities: Development (30%), contract testing (70%).
 Facilities: 2 water tunnels for turbo-machinery, 2 open flume test stands.
 Personnel: 4 engineers, 4 technologists, 10 others.
- (247) **Dominion Glass Company Limited,*** 356
 100 West Drive,
 Bramalea, Ontario. E.A. Thompson, President.
- b) R & D Unit: Research and Product Development, G.A. Simmons, Director. 315
 Experimental Forming,*
 Box 3015, Station B,
 Hamilton,
 Ontario.
 Fields: Forming machine developments, new mold design experimentation.
 Activities: R & D (50%), technical assistance to plants (50%).
 Facilities: Testing and development area of 2,000 sq. ft., a three-section IS bottle forming
 machine and annealing Lehr.
 Personnel: 2 engineers, 6 technologists, 2 others.
- (248) **Dominion Road Machinery Company Limited,** 315
 Goderich, Ontario. Bruce A. Sully, President.
- R & D Unit: Development Division, John G. MacDonald, Director.
 Address as above.
 Fields: Motor graders, transmissions and components, snowplows for graders.
 Activities: R & D (75%), testing (25%).
 Facilities: Machine shop, plate shop, R & D shop.
 Personnel: 2 engineers, 4 others.
- (249) **Dowty Equipment of Canada Limited,*** 321-315
 574 Monarch Avenue,
 Ajax, Ontario.
 L1S 2G8 G.M.F. Donnelly, Director and General Manager.

- R & D Unit: Building 215,* E. Waring, Director.
Address as above.
- Fields: Aircraft hydraulic units, industrial hydraulics (particularly liquid springs), power packs, controls.
- Activities: Experimental development (40%), prototyping (30%), testing (30%).
- Facilities: Test laboratory of 6,000 sq. ft., machine shop of 16,400 sq. ft., assembly shop of 5,600 sq. ft., library of 5,000 books and specialized catalogues.
- Personnel: 2 engineers, 6 technologists.
- (250) **F.X.Drolet Incorporé,*** 315
245, rue du Pont,
Québec 2, Québec. G. Kirouac, Directeur Général.
- Centre de R-D: Même adresse.* G. Kirouac, Directeur.
- Domaines: Ascenseur.
- Activités: R - D (40%), fabrication (60%).
- Personnel: 1 scientifique, 3 ingénieurs, 4 techniciens, 5 autres.
- (251) **Dux Machinery Corporation,*** 315
Box 80,
621 Lavoisier,
Repentigny, Quebec. H.K. Bumueller, President.
- R & D Unit: Address as above.* H.K. Bumueller, Director.
- Fields: Fully self-contained mobile all-terrain rockdrill units, underground mining equipment.
- Activities: R & D (40%), prototype and testing (60%).
- Personnel: 2 engineers, 8 others.
- (252) **Dyer and Miller Brothers Limited,** 315
42 Rivalda Road,
Weston, Ontario. R.C. Miller, President.
- R & D Unit: CDN Research & Development Company (partnership joint venture with Nordic Steel Products Limited), Address as above. R.C. Miller, Director. 315-378
- Fields: Foam systems for crash rescue vehicles.
- Activities: R & D (50%), manufacturing (50%).
- Facilities: Machine shop, vehicle shop, foundry.
- Personnel: 2 engineers, 1 technologist, 12 others.
- (253) **Eagle Signal of Canada,*** 318
348 Guelph Street,
Georgetown, Ontario. W. Bennett, General Manager.
- R & D Unit: Address as above.* W. Bennett, Director.
- Fields: Vending machines.
- Activities: R & D (70%), testing (20%), consulting (10%).
- Facilities: Laboratory and test area of 1,000 sq. ft., drafting and engineering facilities.
- Personnel: 2 technologists, 1 other.
- (254) **Electrovert Manufacturing Company Limited,*** 315
3285 Cavendish Boulevard,
Montreal 261, Quebec. N.J. Fodor, President.

INDUSTRIES MANUFACTURIÈRES – Machines

- R & D Unit: R & D Department,* D.A. Elliot, Director.
 1305 Industrial Boulevard,
 La Prairie,
 Quebec.
- Fields: Automated wavesoldering technology, printed circuit board cleaning, automated machinery for printed circuit board production.
- Activities: R & D (40%), testing (50%), consulting (10%).
- Facilities: 1,000 sq. ft. laboratory, machine shop, library.
- Personnel: 2 engineers, 2 technologists.
- (255) **Ex-Cell-O Corporation of Canada Limited,** 315
 Box 3535,
 London 12, Ontario. H.G. Bixby, President.
- R & D Unit: Address as above. R.M. Bell, Chief Engineer.
- Fields: Product improvement by prototype test and evaluation, standard general purpose machine tools.
- Activities: R & D (33%), testing and evaluation (33%), consulting (33%).
- Personnel: 3 engineers.
- (256) **Fletcher-Henchel Thermal Industries Limited,** 315
 799C Farewell Avenue,
 Oshawa, Ontario. G.A. Fletcher, President.
- R & D Unit: Address as above. H.H. Henchel, Director. 331
- Fields: Engine pre-heaters.
- Activities: R & D (50%), testing (50%).
- Facilities: Laboratory of 1,800 sq. ft. with machine shop.
- Personnel: 2 engineers.
- (257) **Fluid Power Limited,*** 315
 282 Belfield Road,
 Rexdale 605, Ontario. W.L. Hutchison, President.
- R & D Unit: Address as above.* A. Van Eyken, Director.
- Fields: Hydraulics, fluidics.
- Activities: R & D (80%), testing (20%).
- Facilities: Laboratory (bench and development) and related services.
- Personnel: 2 engineers, 2 technologists.
- (258) **Fortin Latchford Limited,*** 315
 867 Progress Avenue,
 Scarborough, Ontario. J.T. Latchford, President.
- R & D Unit: Address as above.* J.T. Latchford, Director.
- Fields: Automated transfer molding equipment for insert molding and encapsulation.
- Activities: R & D (22%), manufacturing and service (78%).
- Facilities: 6,000 sq. ft. plant.
- Personnel: 2 engineers, 1 technologist, 2 others.
- (259) **Free Piston Development Company Limited,*** 864-315
 745 Gardiners Road,
 Kingston, Ontario. J.S. Campbell, President.
- R & D Unit: Address as above.* J.S. Campbell, Director. 315-308
- Fields: Engines and air compressors.
- Activities: R & D (10%), consulting (10%), sub-contract machine work (80%).

Facilities: 2 test cells, machine shop, related equipment.
 Personnel: 2 engineers, 2 technologists, 9 others.

- (260) **Gearmatic Company Limited,** 315
 7400-132nd Street,
 Surrey, British Columbia. M. Hucul, President.
- R & D Unit: Gearmatic R & D Laboratory, S.G. Christison, Director.
 Address as above.
- Fields: Mechanical and hydraulic winch development.
 Activities: Design and development (50%), testing (50%).
 Facilities: Load test tower, hydraulic test stands, hydraulic dynamometer, laboratory of 1,200 sq. ft.
 Personnel: 1 engineer, 1 technologist, 2 others.
- (261) **Gilbarco Canada Limited,*** 315
 60 California Avenue,
 Brockville, Ontario.
 K6V 5X2 Don J. Coward, President.
- R & D Unit: Address as above.* John F. Wylie, Director. 315-307
 Fields: Domestic oil and gas heating, oil burners, gasoline pumps.
 Activities: Development and engineering (60%), testing (40%).
 Facilities: Laboratory of 2,000 sq. ft.
 Personnel: 3 engineers, 2 technologists.
- (262) **Glolok Company Limited,*** 315
 4755 des Grandes Prairies,
 Montreal 254, Quebec. D. Wainberg, President.
- R & D Unit: R & D Section,* B. Lieberman, Director. 315-165
 Address as above.
- Fields: Packaging machinery and polyurethane foam as a thin foam laminate.
 Activities: R & D (75%), testing (15%), consulting (10%).
 Facilities: Laboratory of 800 sq. ft., test machine, machine shop.
 Personnel: 1 scientist, 2 engineers, 1 technologist.
- (263) **Hawker Siddeley Canada Limited,*** 291-315
 7 King Street East,
 Toronto 1, Ontario. R.S. Faulkner, President.
- a) R & D Unit: Canadian Steel Foundries Division, M.A. Notte, Director. 291
 5227 Notre Dame East,
 Montreal,
 Quebec.
- Fields: High strength stainless steels for heavy steel castings.
 Activities: R & D (100%).
 Facilities: Complete melting, foundry, NDT and machining facilities.
 Personnel: 2 engineers, 1 technologist.
- b) R & D Unit: Canadian Car (Pacific) Division, D.W. Nyberg, Director. 315
 R & D Department,*
 290 East 5th Avenue,
 Vancouver,
 British Columbia.
- Fields: Sawmill machinery and controls development, sawing and chipping research, sawmill residue utilization.

INDUSTRIES MANUFACTURIÈRES — Machines

- Activities: R & D (70%), testing (30%).
 Facilities: Laboratory of 5,000 sq. ft. complete with electronic test equipment and mechanical facilities for sawing and chipping research.
 Personnel: 1 scientist, 2 engineers, 3 technologists, 1 other.
- (264) **Hayward Gordon Limited,** 315
 7485 Bath Road,
 Malton, Ontario. Karl A. Travers, President.
- R & D Unit: Address as above. Karl A. Travers, Director.
 Fields: Pumps and fluid handling equipment.
 Activities: R & D (100%).
 Facilities: Test laboratory, test equipment.
 Personnel: 2 engineers, 1 technologist, 1 other.
- (265) **Honeywell Limited,** 339-318
 740 Ellesmere Road,
 Scarborough, Ontario. R.J. Bilodeau, President.
- R & D Unit: Design Engineering, K.J. Cuthbertson, Manager. 391-318
 Address as above.
 Fields: Environmental control equipment and systems, test and instrumentation equipment, computer and communication equipment.
 Activities: R & D (30%), product design (70%).
 Facilities: Office and laboratories of 5,000 sq. ft.
 Personnel: 6 engineers, 10 technologists, 4 others.
- (266) **S.W. Hooper & Company Limited,*** 315
 731 Gait Street West,
 Sherbrooke, Quebec. S.W. Hooper, President.
- R & D Unit: Address as above.* A.C. Martin, Director. 315-864
 Fields: Pulp and paper machinery.
 Activities: R & D (50%), testing (10%), consulting (40%).
 Facilities: Pilot plant of 1,356 sq. ft.
 Personnel: 1 engineer, 1 technologist.
- (267) **Howden Apco Research Limited,*** 864-315
 1510 Birchmount Road,
 Scarborough, Ontario. M.F.Caffrey, President.
- R & D Unit: 30 Continental Place,* C.H. Pettersson, Director.
 Scarborough,
 Ontario.
 Fields: Centrifugal and axial fan development in performance and structures, flow simulation studies, sound measuring and analysis.
 Activities: R & D (70%), testing (20%), consulting (10%).
 Facilities: 2 performance test stands, blower overspeed test rig, sound measuring and analysis equipment.
 Personnel: 2 engineers, 2 technologists.
- (268) **Husmann Store Equipment Limited,** 318
 Box 550,
 58 Frank Street,
 Brantford, Ontario. H.W. Freeborn, President.

- R & D Unit: R & D Department, N.W. Panabaker, Director.
Address as above.
- Fields: Store merchandising equipment.
- Activities: R & D (50%), testing (35%), manufacturing (15%).
- Facilities: Two testing laboratories, drafting facilities.
- Personnel: 1 engineer, 3 technologists.
- (269) **International Harvester Company of Canada Limited,** 311
208 Hillyard Street,
Hamilton 23, Ontario. R.D. Musgjerd, President.
- a) R & D Unit: Hamilton Engineering Centre, C.B. Harrop, Director. 311
Address as above.
- Fields: Farm and industrial equipment.
- Activities: R & D (60%), testing (40%).
- Facilities: Design office, machine shop, test facilities.
- Personnel: 17 engineers, 23 technologists, 82 others.
- b) R & D Unit: Chatham Works Product Engineering, C.E. Lindros, Director. 323
Richmond Street,
Chatham,
Ontario.
- Fields: Truck engineering.
- Activities: R & D (70%), testing (30%).
- Facilities: Design office.
- Personnel: 6 engineers, 3 technologists, 38 others.
- (270) **JWI Limited,** 315
1 Westmount Square,
Montreal, Quebec. H. Johnson, President.
- R & D Unit: R & D Laboratories, J.G. Buchanan, Director.
530 DeCourcelle Street,
Montreal 207,
Quebec.
- Fields: Synthetic and metallic forming and drying fabrics, metallic screens and foils and other
drainage components for pulp and paper machines.
- Activities: R & D (60%), testing (40%).
- Facilities: Laboratory, reference library and offices of 3,750 sq. ft., engineering and design
facilities, machine shop facilities.
- Personnel: 5 scientists, 1 engineer, 8 technologists, 4 others.
- (271) **K.S.F. Chemical Processes Limited,*** 864-315
Savage Drive,
Cambridge, Ontario. David Krofchak, Senior Vice-President.
- R & D Unit: Address as above.* Gunter Mueller, Director.
- Fields: Water and chemical recovery from industrial processes.
- Activities: R & D (20%), engineering and construction (80%).
- Facilities: Engineering design office and laboratory.
- Personnel: 1 scientist, 3 engineers, 2 technologists, 3 others.
- (272) **KeepRite Products Limited,** 316
44 Elgin Street,
Brantford, Ontario. J.G. McMillen, President.
- a) R & D Unit: Product Development Department, N.W. Woods, Director. 316

INDUSTRIES MANUFACTURIÈRES – Machines

- Address as above.
- Fields: Thermodynamics, electronics, metallurgy and air conditioning, refrigeration, heating and ventilation for the commercial, industrial, and residential fields.
- Activities: R & D (65%), testing (35%).
- Facilities: Laboratory and testing facilities of 6,000 sq. ft. including model shop, calorimeter test facilities and controlled environment room.
- Personnel: 6 engineers, 1 technologist, 29 others.
- b) R & D Unit: Unifin Division R & D Department, J.C. Richardson, Director. 307-301
 1030 Clark Side Road,
 London,
 Ontario.
- Fields: Heat transfer: electrical apparatus cooling, oil, chemical and gas industry exchangers, industrial air heating and cooling and nuclear power developments.
- Facilities: 1,200 sq. ft. of laboratory and testing facilities including wind tunnel and high volume hot oil test facility.
- Personnel: 3 engineers, 1 technologist, 11 others.
- (273) **Leigh Instruments Limited,*** 391
 Marsland Engineering Division,
 350 Weber Street North,
 Waterloo, Ontario.
 N2J 4E3 E.J. Pollock, President.
- R & D Unit: Applied R & D Centre,* A.S. Armstrong, Director. 318-335
 Address as above.
- Field: Digital and analog data processing equipment, communications equipment.
- Activities: Designing, modelling, applications engineering.
- Facilities: Drafting office, laboratory, model shop, whiteprint and offset print facilities.
- Personnel: 4 engineers, 5 technologists, 14 others.
- (274) **Lektromedia Limited,*** 339-318
 88 Ashgrove,
 Pointe Claire 710, Quebec. Peter M. Carey, President.
- R & D Unit: Address as above. Peter M. Carey, Director.
- Fields: Computer terminals.
- Activities: R & D (100%).
- Facilities: Engineering office and laboratory of 1,000 sq. ft.
- Personnel: 4 engineers, 2 technologists.
- (275) **Logging Development Corporation,*** 315
 2050 Mansfield Street,
 Montreal 110, Quebec. L.G. Bastin, President.
- R & D Unit: Address as above.* D.D. Hamilton, Director.
- Fields: Mechanized logging.
- Activities: R & D, manufacturing and servicing.
- Facilities: Assembly plant, machine shop and related service facilities of 12,000 sq. ft., design engineering and administration offices.
- Personnel: 2 engineers, 5 technologists, 11 others.
- (276) **MLW-Worthington Limited,*** 326
 MLW Industries Division,
 Box 1000,
 Place d'Armes,
 Montreal, Quebec. R.L. Grassby, President.

R & D Unit:	Development Laboratory,* 1505 Dickson Street, Montreal, Quebec.	R.M. Dunton, Director.	326-315
Fields:	Diesel engine development, locomotive and rail vehicle development.		
Activities:	Engine and strain gauge testing, measurement of gas and fluid flow, and heat transfer.		
Facilities:	Test diesel engine.		
Personnel:	1 engineer, 4 technologists.		
(277)	Magnetics International Limited,* Suite 401, 621 Craig Street West, Montreal 101, Quebec.	P.N. Carter, President.	315
a) R & D Unit:	Ferrox Iron Limited,* Box 309, 798 Edward Street, Prescott, Ontario.	J.D. Nye, Director.	339
Fields:	Applications of electronic ceramics.		
Activities:	R & D (40%), pilot plant work (60%).		
Facilities:	Laboratory and pilot plant facilities.		
Personnel:	1 scientist, 1 engineer, 3 technologists.		
b) R & D Unit:	Ferro-Magnetics Limited,* 2367-43rd Avenue, Lachine, Quebec.	J.A. Bartnik, Director.	864-099
Fields:	Mineral separation.		
Activities:	R & D (30%), testing (40%), consulting (30%).		
Facilities:	Laboratory of 3,000 sq. ft.		
Personnel:	1 scientist, 1 engineer, 2 technologists.		
(278)	Massey-Ferguson Industries Limited, 915 King Street West, Toronto 150, Ontario.	J.E. Mitchell, President.	311
R & D Unit:	Address as above.	A.F. Dewsberry, Director.	
Fields:	Harvesting methods and systems, harvesting machines.		
Activities:	R & D, including testing (100%).		
Facilities:	Harvesting systems laboratory, engine and hydraulics laboratory, physical test laboratory, design office, and engineering shop, totalling 64,000 sq. ft.		
Personnel:	33 engineers, 63 technologists, 55 others.		
(279)	Mimik Limited, Argyle Road, Galt, Ontario.	L.S. Magor, President.	315
R & D Unit:	Address as above.	M. Schipprack, Director.	
Fields:	Servo control systems for industrial machinery.		
Activities:	R & D (100%).		
Facilities:	2,000 sq. ft. machine shop and test equipment.		
(280)	Nordic Steel Products Limited, 1044 Rangeview Road, Mississauga, Ontario.	A.J. Winther, President.	315

INDUSTRIES MANUFACTURIÈRES – Machines

- R & D Unit: CDN Research & Development Company (partnership joint venture with Dyer and Miller Brothers Limited), Address as above. A.J. Winther, Director. 315-378
- Fields: Foam systems for crash rescue vehicles.
- Activities: R & D (50%), manufacturing (50%).
- Facilities: Machine shop, vehicle shop, foundry.
- Personnel: 2 engineers, 1 technologist, 12 others.
- (281) **Outboard Marine Corporation of Canada Limited,** 315
 910 Monaghan Road,
 Peterborough, Ontario. T.P. McMillan, President.
- R & D Unit: Pioneer Saws Division, Address as above. U. Kauffmann, Chief Engineer.
- Fields: Chain saws, two cycle engines.
- Activities: Design (20%), R & D (40%), testing (40%).
- Facilities: Machine shop, pattern and model shop, development laboratories and test cells.
- Personnel: 7 engineers, 5 technologists, 40 others.
- (282) **Renco Design Limited,*** 864
 Suite 310, 3089 Bathurst Street,
 Toronto 19, Ontario. T.A. Reeve, President.
- R & D Unit: Address as above.* S. Harbord, Director. 864-315
- Fields: Engineering of mechanical and machine tools and aircraft, and development of manufacturing processes and special machinery.
- Facilities: Design office.
- Personnel: 2 engineers, 2 technologists.
- (283) **Rexnord Incorporated,** 315
 Mathews Conveyer Company Limited (Subsidiary),
 Port Hope, Ontario. J.S. Laurie, President.
- R & D Unit: Mathews R & D Department, Address as above. J. Vanzon, Manager of Engineering.
- Fields: Conveying machinery.
- Activities: R & D (65%), testing (35%).
- Facilities: Testing facilities of 3,000 sq. ft.
- Personnel: 1 engineer, 3 technologists, 4 others.
- (284) **Richards-Wilcox Canada Limited,** 315
 2 Terrace Street,
 London, Ontario. J.R. Swann, President.
- R & D Unit: Serco Engineering Division, Address as above. W. Lewis, Director.
- Fields: Dock loading equipment.
- Activities: Development and testing (100%).
- Personnel: 1 engineer, 2 technologists.
- (285) **Ross Pulp & Paper Company,** 271
 304 St. Patrick Street,
 Lasalle, Quebec. H.C. Marshall, President.
- R & D Unit: Address as above. D. McAnespie, Director. 315
- Fields: Process air systems, fans, blowers, heat exchangers and steam systems.

Activities: Product development (70%), testing (15%), research (15%).
 Facilities: Laboratory of 1,600 sq. ft., related facilities.
 Personnel: 2 engineers, 1 technologist.

- (286) **S.G.M. Automation,*** 311
 5310 Paimpol,
 St. Leonard, Quebec.
- R & D Unit: Address as above.* J.J. Jobin, Director.
 Fields: Fruit harvesting.
 Activities: Design (100%).
 Personnel: 2 engineers, 2 technologists.
- (287) **Sandtron Electronic Industries Limited,*** 318
 168 Lakeshore Road East,
 Oakville, Ontario.
- R & D Unit: Address as above.* R.E. Hooper, Director.
 Fields: Industrial process control.
 Activities: R & D, manufacturing of specified digital controllers.
 Personnel: 1 scientist, 2 engineers, 2 technologists, 6 others.
- (288) **I.P. Sharp Associates Limited,*** 853-318
 Box 71,
 Toronto-Dominion Centre,
 Toronto, Ontario.
- Ian P. Sharp, President.
- a) R & D Unit: Proprietary Software Division,* 853
 Address as above.
 Roger D. Moore, Director.
 Fields: Computer software.
 Activities: R & D (100%).
 Facilities: IBM 370/145.
 Personnel: 6 technologists.
- b) R & D Unit: Computer Products Division,* 318
 Address as above.
 A.C.S. Jempson, Director.
 Fields: Communications couplers, spectrometer readout systems, computer hardware.
 Activities: R & D (50%), manufacturing (50%).
 Facilities: Plant of 3,200 sq. ft., access to IBM 370/145.
 Personnel: 3 engineers, 3 technologists.
- (289) **T.S. Simms & Company Limited,*** 399
 Box 820,
 Saint John, New Brunswick.
- T.S. Simms, President.
- R & D Unit: Machinery Division,* 315
 Address as above.
 J.R. Gardner, Director.
 Fields: Prototype machinery for manufacture of paint brushes, roller coaters and paint applicator in handle dipping, process developments for manufacturing paint applicators and paint applicator products.
 Facilities: Machine shop.
 Personnel: 5 engineers, 4 technologists.
- (290) **J.K. Smit & Sons, Diamond Products Limited,** 315
 81 Tycos Drive,
 Toronto, Ontario.
 M6B 1W5
- R.S. Parsons, President.

INDUSTRIES MANUFACTURIÈRES – Machines

- R & D Unit: Hydraulic Drill Research, K. Jansen, Director.
Address as above.
- Fields: Hydraulic drilling systems.
- Activities: R & D (80%), testing (20%).
- Facilities: Machine shop of 2,500 sq. ft.
- Personnel: 1 engineer, 1 other.
- (291) **Space Research Corporation,*** 864-315
Highwater, Quebec. G.V. Bull, President.
- a) R & D Unit: Highwater Aeroballistics C.B. Shepard, Director. 309-315
Laboratories,*
Address as above.
- Fields: Ordnance test and development, heavy and custom machining, photo-optical systems, industrial machinery design and fabrication.
- Activities: R & D (30%), testing (30%), manufacturing (40%).
- Facilities: 7,700 acre test range with full complement of ordnance test equipment and facilities.
- Personnel: 1 scientist, 18 engineers, 24 technologists, 115 others.
- b) R & D Unit: Electronics Division,* K. Urbatzka, Director. 335
Address as above.
- Fields: Air traffic control simulators, high G hardened circuitry, radar and special instrumentation development and installation.
- Activities: R & D (60%), manufacturing (40%).
- Facilities: 9,600 sq. ft. of service space.
- Personnel: 7 engineers, 9 technologists, 10 others.
- (292) **Standard-Modern Tool Company Limited,*** 315
69 Montcalm Avenue,
Toronto 341, Ontario. J. Gilchrist, President.
- R & D Unit: Address as above.* W.H. Maddock, Director.
- Fields: Development of special and standard machines in metalworking, injection molding, automatic assembly and nuclear fuel handling.
- Activities: Manufacturing (67%), R & D (20%), testing and evaluation (10%), consulting (3%).
- Facilities: 1,000 sq. ft. of floor space and related test equipment.
- Personnel: 2 technologists, 1 other.
- (293) **Tamco Limited,*** 325
995 Laurier Drive,
Windsor, Ontario.
N9J 2L3 Leonard Neal, President and General Manager.
- R & D Unit: 3950 Malden Road,* J.S. Rowlinson, Director. 304-315
Windsor 10,
Ontario.
- Fields: Hot and cold forming of metal, high speed machining.
- Activities: Forming and machining of metals.
- Facilities: Hot and cold hydraulic form, high speed turning equipment, milling machines, broaching machines.
- Personnel: 2 engineers, 1 technologist.
- (294) **Tanguay Industries Limited,** 315
St. Prime,
Comte Roberval, Quebec. Jean-Paul Tanguay, President.

R & D Unit: Address as above. Alain Fodeau, Director.
 Fields: Complete systems from the tree to the mill.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory of 5,000 sq. ft.
 Personnel: 3 engineers, 3 technologists.

(295) **Textron Canada Limited,*** 315
 Terry Industries Division,
 180 Labrosse Avenue,
 Pointe Claire, Quebec. R.C. McDonald, President.

R & D Unit: Engineering Department,*
 Address as above. F. Feith, Director.
 Fields: Noise and vibration, two-cycle engine design.
 Activities: Design (20%), manufacturing (80%).
 Facilities: Machine shop.
 Personnel: 3 engineers, 8 others.

(296) **Union Carbide Canada Limited,*** 378
 123 Eglinton Avenue East,
 Toronto 12, Ontario. J.S. Dewar, President.

a) R & D Unit: Development and Technical Services J.W. Ross, Director. 315-378
 Department, Gas Products Division,*
 Address as above.
 Fields: Industrial and medical gases, equipment for scarfing, burning, welding, food freezing.
 Activities: R & D (50%), manufacturing (assembly) (10%), technical service (40%).
 Facilities: Laboratory of 20,000 sq. ft., with related service facilities.
 Personnel: 8 engineers, 3 technologists, 14 others.

(297) **Uniroyal Limited,*** 162
 550 Papineau Avenue,
 Montreal, Quebec. H.D. Glenn, President.

h) R & D Unit: Rubber Machinery Shops,* B. Beadie, Manager. 315
 149 Strange Street,
 Kitchener,
 Ontario.
 Fields: Design and construction of process equipment and production machinery for tire,
 rubber and plastics industries.
 Activities: Development (100%).
 Facilities: Laboratories of 1,500 sq. ft. with electronic test equipment, machine shop.
 Personnel: 1 engineer, 2 technologists, 1 other.

(298) **United Aircraft of Canada Limited,*** 321
 Box 10,
 Longueuil, Quebec. T.E. Stephenson, President.

c) R & D Unit: Industrial and Marine Division,* R.H. Guthrie, Director. 315-864
 Address as above.
 Fields: Non-aeronautical applications for gas turbines.
 Activities: Design (25%), consulting (60%), development (15%).
 Facilities: Engineering offices, access to test facilities of parent company.
 Personnel: 29 engineers, 19 technologists, 18 others.

(299)	Webster Manufacturing (London) Limited, 1161 King Street, London, Ontario.	J.B. Webster, President	298
	R & D Unit: Address as above.	S.G. Holdsworth, Director.	315
	Fields: Small air compressors for recreational vehicle market.		
	Activities: R & D (60%), testing (40%).		
	Facilities: Test room with related testing equipment.		
	Personnel: 1 technologist, 2 others.		
(300)	Western Roto Thresh Limited,* 1840 Ontario Avenue North, Saskatoon, Saskatchewan.	B.G. Habicht, President.	311
	R & D Unit: Address as above.*	B.G. Habicht, Director.	
	Fields: Rotary harvesting system.		
	Activities: R & D (40%), testing (50%), consulting (10%).		
	Facilities: Building facilities of 3,200 sq. ft.		
	Personnel: 2 engineers, 6 others.		
(301)	George White & Sons Company Limited, 820 Cabell Street, London 41, Ontario.	D.N. McLeod, President.	315
	a) R & D Unit: George White Sprayer Engineering, Address as above.	L.E. Ratz, Director.	
	Fields: Powered spraying units.		
	Activities: R & D (60%), testing (40%).		
	Facilities: 1,250 sq. ft. prototype building area, plant production and service facilities.		
	Personnel: 1 engineer, 1 technologist.		
	b) R & D Unit: George Snow Plow Engineering, Address as above.	M.H. Wilson, Director.	
	Fields: Tractor-driven and self-propelled snow plows.		
	Activities: R & D (60%), testing (40%).		
	Facilities: 1,250 sq. ft. prototype building area, plant production and service facilities.		
	Personnel: 1 engineer, 1 technologist.		
(302)	White Motor Corporation of Canada Limited, White-Cockshutt Farm Equipment Division, 148 Mohawk Street, Brantford, Ontario.	D.H. McNeil, President.	311
	R & D Unit: R & D Engineering Department, Address as above.	A. Maiste, Vice-President, Engineering.	
	Fields: Agricultural machinery.		
	Activities: R & D (65%), production support (35%).		
	Facilities: Laboratory of 9,000 sq. ft., shop and storage area of 7,000 sq. ft.		
	Personnel: 6 engineers, 5 technologists, 13 others.		
(303)	Wix Corporation Limited, 25 Curity Avenue, Toronto 16, Ontario.	L.W. Nourse, President.	325-315
	R & D Unit: Wix R & D Department, Address as above.	P.J. Simmons, Director.	315
	Fields: Industrial filtration.		

Activities: R & D (90%), testing (10%).
 Facilities: Laboratory of 1,500 sq. ft., related service facilities.
 Personnel: 2 engineers, 3 technologists.

13. Transportation Equipment Industry/Fabrication d'équipement de transport (321-329)

- (304) **Aeco Metals Limited,*** 324-308
 Box 1270,
 Brantford, Ontario. C.G. Wyman, President.
 R & D Unit: Shaver Street,* J.E. Rich, Director.
 Cainsville,
 Ontario.
 Fields: Rubber tire molds, weld-positioning machinery.
 Activities: R & D (10%), testing (5%), manufacturing (85%).
 Facilities: 35,000 sq. ft. of plant with development, design, building and testing facilities.
 Personnel: 1 scientist, 1 engineer, 3 technologists, 5 others.
- (305) **Aircraft Appliances & Equipment Limited,*** 321-339
 152 East Drive,
 Bramalea, Ontario. L.V. Myslivec, President.
 R & D Unit: Address as above.* R.A. Bishop, Director.
 Fields: Electric generating equipment and fluid filtering and coalescing.
 Activities: R & D (30%), testing (40%), manufacturing (20%), consulting (10%).
 Facilities: 90,000 sq. ft. plant.
 Personnel: 5 engineers, 2 technologists, 8 others.
- (306) **Alforge Metals Corporation,*** 324
 56 Third Street,
 Orangeville, Ontario. R. Winfree, President.
 R & D Unit: Address as above.* K. Reynolds, Director.
 Fields: Aluminum and magnesium transport equipment.
 Activities: R & D (30%), manufacturing (70%).
 Facilities: Development and prototype areas of 15,000 sq. ft., shop and prototype development
 equipment.
 Personnel: 4 engineers, 3 technologists, 5 others.
- (307) **Atco Industries Limited,*** 324
 1243 McKnight Boulevard Northeast,
 Calgary, Alberta.
 T2E 5T2 R.D. Southern, President.
 R & D Unit: Atco R & D Centre,* K. Schauwecker, Director.
 5115 Crowchild Trail Southwest,
 Calgary,
 Alberta.
 T3E 1T9
 Fields: Lightweight air transportable shelters and containers.
 Activities: R & D (70%), testing (25%), consulting (5%).
 Facilities: Prototype shops, test laboratories and offices of 50,000 sq. ft.
 Personnel: 1 scientist, 3 engineers, 12 technologists, 16 others.

- (308) **Bombardier Limitée,** 329
 Valcourt, Québec. Laurent Beaudoin, Président.
- Centre de R-D: Même adresse. André Bombardier, Vice-Président.
 Domaines: Moto-neige, produits récréatifs.
 Activités: R - D (100%).
 Installations: Laboratoire, centre d'essai, dessin.
 Personnel: 16 scientifiques, 12 ingénieurs, 29 techniciens, 168 autres.
- (309) **Borg-Warner (Canada) Limited,** 325-307
 Long Manufacturing Division,
 656 Kerr Street North,
 Oakville, Ontario. J.H. McCreery, President.
- R & D Unit: 2775 Slough Street, D.M. Donaldson, Director. 307
 Slough Estates,
 Malton,
 Ontario.
 Fields: Heat transfer research.
 Activities: R & D (100%).
 Facilities: Laboratory of 14,400 sq. ft.
 Personnel: 3 engineers, 7 technologists, 1 other.
- (310) **Canadair Limited,*** 321
 Box 6087,
 Montreal 101, Quebec. F.R. Kearns, President.
- R & D Unit: Address as above.* R.J. Ross, Chief Development Engineer.
 Fields: Aircraft, missiles and systems, technology development, guided ground
 transportation, packaged wastewater treatment plant.
 Activities: R & D (80%), technology development (15%), operations research (5%).
 Facilities: Manufacturing, assembly and laboratory facilities.
 Personnel: 13 scientists, 112 engineers, 12 technologists, 25 others.
- (311) **Canadian Fram Limited,** 325
 Box 2014,
 277 William Street South,
 Chatham, Ontario. M.J. Ripley, President.
- a) R & D Unit: Air Cleaner and Emissions Devices J.W. Gleason, Vice-President.
 Division,
 540 Park Avenue East,
 Chatham,
 Ontario.
 Fields: Automotive air cleaners, thermodulation and emission devices.
 Activities: R & D and testing (83%), production updating (17%).
 Facilities: 8,200 sq. ft. for laboratories, experimental sample shop, drafting/engineering offices.
 Personnel: 11 engineers, 10 technologists, 14 others.
- b) R & D Unit: Engine Fan Division, D.A. Moir, Vice-President.
 165 Park Avenue East,
 Chatham,
 Ontario.
 Fields: Flexible and fixed bladed automotive engine fans, total engine cooling.
 Activities: R & D and testing (92%), production updating (8%).
 Facilities: 5,900 sq. ft. for laboratory, vehicle testing and drafting/engineering.
 Personnel: 5 engineers, 5 technologists, 9 others.

(312)	Canadian Vickers Limited,* 5000 Notre Dame Street East, Montreal 404, Quebec.	J.E. Harrington, President.	327
a)	R & D Unit: Marine Division, Fishing Trawlers Department,* Address as above. Fields: Fishing trawlers, methods and equipment. Activities: R & D (100%). Facilities: Model room and laboratory of 3,000 sq. ft., library of 5,000 technical books. Personnel: 1 scientist, 1 engineer, 1 technologist.	C.D. Atkins, Director.	327
b)	R & D Unit: Industrial Division, Rolling Stock Department,* Address as above. Fields: Railway and subway passenger cars. Activities: R & D (25%), design (10%), manufacturing (65%). Facilities: Rolling stock shop, R & D design office of 5,000 sq. ft. Personnel: 6 engineers, 10 technologists, 19 others.	A. Sankoff, Director.	326
c)	R & D Unit: Industrial Division, Nuclear Energy Division,* Address as above. Fields: End shields, calandrias and related nuclear and electrical generating equipment. Activities: R & D (5%), testing (10%), assembly (15%), manufacturing (70%). Facilities: Laboratory of 5,000 sq. ft., library of 5,500 technical books. Personnel: 3 engineers, 3 technologists, 3 others.	A. Sankoff, Director.	316
d)	R & D Unit: Industrial Division, Mechanical Department,* Address as above. Fields: Defense equipment and heavy industrial machinery. Activities: R & D (5%), testing (15%), assembly (25%), manufacturing (55%). Facilities: Uses facilities of Nuclear Energy Division. Personnel: 1 technologist, 2 others.	A. Sankoff, Director.	315
(313)	Canoe Cove Marina Limited, 2300 Canoe Cove Road, Sidney, British Columbia.	T.A. Fee, President.	327
	R & D Unit: Address as above. Fields: Production of reinforced fiberglass pleasure yachts and federal patrol vessels 20 feet to 53 feet in length. Activities: R & D (66%), testing (33%). Facilities: Section of main manufacturing facilities with full access to all tools and moulds. Personnel: 2 engineers.	T.A. Fee, Director.	
(314)	Carter Temro Limited,* Box 962, Winnipeg, Manitoba. R3C 2V3	Iain L. Campbell, President.	325
	R & D Unit: R & D Department,* Address as above. Fields: Automotive heating, electric space heating, automotive and commercial air conditioning. Activities: R & D (100%). Facilities: 4,000 sq. ft. laboratory, cold room.	L.E. Windsor, Director.	325-307

Personnel: 4 engineers, 3 technologists, 2 others.

(315) **Chrysler Canada Limited,*** 323
 Chrysler Centre,
 Windsor, Ontario.
 N9A 4H6 R.W. Todgham, President.

R & D Unit: Research and Special Products J.J. Cale, Director.
 Division,*
 Retail Drive Building,
 Chrysler Center,
 Windsor,
 Ontario.

Fields: Design and development service for automotive applications, rapid transit systems,
 military and special use commercial vehicles.

Activities: R & D (60%), testing (30%), manufacturing (10%).

Facilities: Manufacturing facilities plus Chrysler Corporation world facilities, laboratories, test
 sites, access to Chrysler Corporation proving grounds and corporation research
 facilities and design studios.

Personnel: 10 engineers, 18 technologists, 3 others.

(316) **The De Havilland Aircraft of Canada Limited,*** 321
 Downsview, Ontario. B.B. Bundesman, President.

R & D Unit: Address as above.* J.P. Uffen, Chief Engineer.

Fields: Applied research in fields of aerodynamics, atmospheric turbulence, hydrodynamics,
 structure and materials, lightening strikes.

Activities: Development of STOL aircraft.

Facilities: Aero-acoustic laboratory, atmospheric chambers, structural test rigs, structural
 vibration excitation and measurement, computer, library.

Personnel: 1 scientist, 90 engineers, 37 technologists, 30 others.

(317) **Dodwell, Dyer & Associates,*** 864-329
 1177 St. Laurent Boulevard,
 Ottawa, Ontario.
 K1K 3B7 Gordon Dodwell, President.

R & D Unit: Affiliated with Jones, Kirwan & D. Jones, Director.
 Associates,*
 Box 238,
 Hagersville,
 Ontario.

Fields: Air cushion vehicle technology, air cushion systems, air cushion assist vehicles for
 off-road uses, air cushion models and testing, air cushion design and prototype
 production.

Activities: R & D (50%), testing (30%), consulting (20%).

Facilities: Workshop and laboratory.

Personnel: 3 engineers.

(318) **Dominion Aluminum Fabricating Limited,*** 303
 136 The East Mall,
 Toronto, Ontario.
 M8Z 5M2 Murray R. Maynard, President.

a) R & D Unit: Helicopter Recovery Systems,* M.A. Pesando, Director. 321
 Address as above.

Fields: Helicopter shipboard recovery.

Activities: R & D (60%), testing (20%), manufacturing (20%).
 Personnel: 6 engineers, 6 technologists.

(319) **Dowty Equipment of Canada Limited,***

321-315

574 Monarch Avenue,
 Ajax, Ontario.
 L1S 2G8

G.M.F. Donnelly, Director and General Manager.

R & D Unit: Building 215,*
 Address as above.

E. Waring, Director.

Fields: Aircraft hydraulic units, industrial hydraulics (particularly liquid springs), power packs, controls.

Activities: Experimental development (40%), prototyping (30%), testing (30%).

Facilities: Test laboratory of 6,000 sq. ft., machine shop of 16,400 sq. ft., assembly shop of 5,600 sq. ft., library of 5,000 books and specialized catalogues.

Personnel: 2 engineers, 6 technologists.

(320) **Flextrac Nodwell Limited,***

329

1201-42nd Avenue Southeast,
 Calgary 24, Alberta.
 T2H 1X9

R.J. Peachy, President.

R & D Unit: Address as above.*

I.A. Thomas, Director.

Fields: Tracked and all-terrain wheeled vehicles.

Activities: R & D (70%), testing (30%).

Facilities: Use of production machine shop, library.

Personnel: 3 engineers, 1 technologist.

(321) **Foremost International Industries Limited,**

329

1616 Meridian Road Northeast,
 Calgary, Alberta.

L.R. Herrington, President.

R & D Unit: R & D Section,
 Address as above.

J.H. Nodwell, Director.

Fields: Off-highway vehicles, skidders, large-tired vehicles and ski slope vehicles.

Activities: R & D (70%), testing (30%).

Facilities: Engineering and prototype production facilities.

Personnel: 6 engineers, 6 technologists, 3 others.

(322) **Gabriel of Canada Limited,**

325

3600 Lakeshore Boulevard West,
 Toronto 14, Ontario.

J.B. Van Der Hout, President.

a) R & D Unit: Bumper Energy Absorber Division,
 Address as above.

G.R. Miller, Director.

Fields: Energy absorbing shock absorbers for automobile bumpers.

Activities: R & D (70%), testing (20%), manufacturing feasibility (10%).

Facilities: Laboratory of 1,000 sq. ft., 6,000 pound mass pendulum, environmental equipment, machine shop.

Personnel: 1 scientist, 2 engineers, 1 technologist, 2 others.

b) R & D Unit: Suspension Shock Absorber Division,
 Address as above.

W. Patriquin, Director.

Fields: Suspension shock absorbers for automotive and industrial applications.

Activities: R & D (50%), testing (30%), manufacturing (20%).

Facilities: Laboratory with performance and durability testing machines, chemical analysis and a machine shop, totalling 2,500 sq. ft.

- Personnel: 3 engineers, 2 technologists, 4 others.
- (323) **Hovey & Associates Limited,*** 864-325
 2378 Holly Lane,
 Ottawa, Ontario.
 K1V 7P1 G.E. Hovey, President.
- R & D Unit: R & D Section,* N.D. Eryou, Director.
 Address as above.
- Fields: Vehicle systems engineering, systems for operation of vehicles in low temperature climates.
- Activities: R & D (50%), testing (30%), consulting (20%).
- Facilities: Workshop area of 15,000 sq. ft., (bench and development) and related service facilities.
- Personnel: 1 scientist, 6 engineers, 6 technologists, 20 others.
- (324) **International Harvester Company of Canada Limited,** 311
 208 Hillyard Street,
 Hamilton 23, Ontario. R.D. Musgjerd, President.
- b) R & D Unit: Chatham Works Product Engineering, C.E. Lindros, Director. 323
 Richmond Street,
 Chatham,
 Ontario.
- Fields: Truck engineering.
- Activities: R & D (70%), testing (30%).
- Facilities: Design office.
- Personnel: 6 engineers, 3 technologists, 38 others.
- (325) **Irvin Industries Canada Limited,*** 189
 479 Central Avenue,
 Fort Erie, Ontario.
 L2A 3T9 Clifford Bonn, President.
- a) R & D Unit: Aerospace Division,* D.A. Wright, Director. 321
 Address as above.
- Fields: Aerospace safety and survival equipment, aircraft cargo handling and tie-down equipment.
- Activities: R & D (30%), product engineering (30%), testing (20%), consulting (10%).
- Facilities: Laboratory of 1,000 sq. ft.
- Personnel: 4 engineers, 3 technologists, 4 others.
- b) R & D Unit: Autosafe Division,* K. Wilson, Director. 325-188
 Address as above.
- Fields: Personnel restraint and dynamic testing.
- Activities: R & D (65%), testing (30%), consulting (5%).
- Facilities: Dynamic test facility of 7,000 sq. ft., laboratory, office and workshop totalling 3,000 sq. ft., mini and maxi sled.
- Personnel: 7 engineers, 8 technologists, 5 others.
- (326) **MLW-Worthington Limited,*** 326
 MLW Industries Division,
 Box 1000,
 Place d'Armes,
 Montreal, Quebec. R.L. Grassby, President.

<p>R & D Unit: Development Laboratory,* 1505 Dickson Street, Montreal, Quebec.</p> <p>Fields: Diesel engine development, locomotive and rail vehicle development.</p> <p>Activities: Engine and strain gauge testing, measurement of gas and fluid flow, and heat transfer.</p> <p>Facilities: Test diesel engine.</p> <p>Personnel: 1 engineer, 4 technologists.</p>	<p>R.M. Dunton, Director.</p>	<p>326-315</p>
<p>(327) MSN Industries Limited,* 1100 Norman Street, Lachine, Quebec.</p> <p>R & D Unit: Address as above.*</p> <p>Fields: Hovercraft vehicles.</p> <p>Activities: R & D (100%).</p> <p>Personnel: 1 engineer.</p>	<p>C.J. Jackson, President.</p> <p>B.D. Newman, Director.</p>	<p>329</p>
<p>(328) Motor Coach Industries Limited, 1149 St. Matthews Avenue, Winnipeg, Manitoba. R3G 0J8</p> <p>R & D Unit: Experimental Department, Address as above.</p> <p>Fields: Structural, mechanical, electrical, pneumatic and hydraulic functions related to coach construction.</p> <p>Facilities: Shop area of 6,500 sq. ft., laboratory of 500 sq. ft., manufacturing facilities for fabricating experimental components.</p> <p>Personnel: 4 engineers, 29 technologists, 16 others.</p>	<p>G.E. Mason, Vice-President and General Manager.</p> <p>G.E. Mason, Director.</p>	<p>324</p>
<p>(329) Northwest Industries Limited,* Box 517, Edmonton, Alberta.</p> <p>R & D Unit: R & D Division,* Address as above.</p> <p>Fields: Reinforced plastic products and airframes.</p> <p>Activities: R & D (70%), testing (20%), other (10%).</p> <p>Facilities: Laboratory of 7,000 sq. ft., access to large manufacturing and quality control facilities.</p> <p>Personnel: 3 engineers, 1 technologist, 1 other.</p>	<p>E.L. Bunnell, President.</p> <p>C.E. Burrell, Director.</p>	<p>321</p> <p>321-165</p>
<p>(330) Noitrac Manufacturing Limited,* 251 Fifth Avenue, Amprior, Ontario.</p> <p>R & D Unit: Address as above.*</p> <p>Fields: Small off-road vehicles.</p> <p>Activities: R & D (100%).</p> <p>Facilities: Small engine test bed and small vehicle test instrumentation.</p> <p>Personnel: 1 engineer, 2 technologists, 2 others.</p>	<p>F. Fassbender, President.</p> <p>J.S. Smeaton, Director.</p>	<p>329</p>
<p>(331) Sheller-Globe of Canada Limited, Box 157, Preston, Ontario.</p>	<p>S. Berlinghoff, Vice-President.</p>	<p>325</p>

INDUSTRIES MANUFACTURIÈRES – Équipement de transport

R & D Unit:	Kralinator Filters Division, Preston, Ontario.	H. Paura, Director.	
Fields:	Filtration.		
Activities:	R & D (40%), testing (60%).		
Personnel:	1 technologist, 6 others.		
(332) TRW Canada Limited,*			335
	United-Carr Division, 455 Arvin Avenue, Stoney Creek, Ontario. L8E 2N2	Robert M. Healey, President.	
R & D Unit:	R & D Laboratories,* Address as above.	Rodney Hayden, Director.	335-325
Fields:	Electronic safety devices for automobiles and electronic devices for television.		
Activities:	Product development.		
Personnel:	3 engineers, 4 technologists, 7 others.		
(333) Tamco Limited,*			325
	995 Laurier Drive, Windsor, Ontario. N9J 2L3	Leonard Neal, President and General Manager.	
R & D Unit:	3950 Malden Road,* Windsor 10, Ontario.	J.S. Rowlinson, Director.	304-315
Fields:	Hot and cold forming of metal, high speed machining.		
Activities:	Forming and machining of metals.		
Facilities:	Hot and cold hydraulic form, high speed turning equipment, milling machines, broaching machines.		
Personnel:	2 engineers, 1 technologist.		
(334) Trident Aircraft Limited,*			321
	261 Viscount Way, Richmond, British Columbia.	D.A. Hazlewood, President.	
R & D Unit:	Address as above.*	D.A. Hazlewood, Director.	
Fields:	Single-engine amphibious aircraft.		
Activities:	R & D (80%), testing (20%).		
Facilities:	Shared facilities with Canadian Aircraft Products Limited.		
Personnel:	5 engineers, 4 others.		
(335) United Aircraft of Canada Limited,*			321
	Box 10, Longueuil, Quebec.	T.E. Stephenson, President.	
a) R & D Unit:	Aircraft Powerplant Engineering,* Address as above.	J.P. Beaugerard, Director.	321
Fields:	Small gas turbine engines.		
Activities:	Design and development of gas turbine engines.		
Facilities:	In excess of 100,000 sq. ft. of research and development facilities and offices including engine test cells, aerodynamic and mechanical test rigs, CDC 6600 computer and library of 18,000 technical publications.		
Personnel:	285 engineers, 375 technologists, 125 others.		
b) R & D Unit:	Helicopter and Systems Division,*	R.G. Raven, Director.	321

Address as above.
 Fields: ASW studies, trial installation of new sensors, navigation systems, etc. in helicopters used in ASW operations; preliminary designs and prototype manufacturers of engine nacelles and design of surface transportation systems.
 Facilities: Miscellaneous test rigs.
 Personnel: 20 engineers, 10 technologists.

c) R & D Unit: Industrial and Marine Division,* R.H. Guthrie, Director. 315-864
 Address as above.
 Fields: Non-aeronautical applications for gas turbines.
 Activities: Design (25%), consulting (60%), development (15%).
 Facilities: Engineering offices, access to test facilities of parent company.
 Personnel: 29 engineers, 19 technologists, 18 others.

(336) **Walbar Machine Products of Canada Limited,*** 321
 1865 Sharlyn Road,
 Mississauga, Ontario. C. Joe Robinson, President.

R & D Unit: E.C.M. Division,* D.F. Hunter, Director.
 1303 Aerowood Drive,
 Mississauga,
 Ontario.
 Fields: Turbine blades.
 Activities: R & D testing, inspection, production.
 Facilities: 28,000 sq. ft. of floor space.
 Personnel: 5 engineers, 5 technologists, 28 others.

(337) **Wix Corporation Limited,** 325-315
 25 Curity Avenue,
 Toronto 16, Ontario. L.W. Nourse, President.

R & D Unit: Wix R & D Department, P.J. Simmons, Director. 315
 Address as above.
 Fields: Industrial filtration.
 Activities: R & D (90%), testing (10%).
 Facilities: Laboratory of 1,500 sq. ft., related service facilities.
 Personnel: 2 engineers, 3 technologists.

14. Electrical Products Industries/Fabrication de produits électriques (331-339)

(338) **A.E.I. Telecommunications (Canada) Limited,*** 335
 419 Notre Dame Avenue,
 Winnipeg, Manitoba.
 R3B 1R3. H.T. Wormwell, President.

R & D Unit: Development Department,* K.R. Yates, Vice-President.
 Address as above.
 Fields: Telephone technology and some electronics.
 Facilities: 2,000 sq. ft. combined office and laboratory with workshop.
 Personnel: 2 engineers, 4 technologists, 2 others.

(339) **Aircraft Appliances & Equipment Limited,*** 321-339
 152 East Drive,
 Bramalea, Ontario. L.V. Myslivec, President.

INDUSTRIES MANUFACTURIÈRES – Produits électriques

- R & D Unit: Address as above.* R.A. Bishop, Director.
Fields: Electric generating equipment and fluid filtering and coalescing.
Activities: R & D (30%), testing (40%), manufacturing (20%), consulting (10%).
Facilities: 90,000 sq. ft. plant.
Personnel: 5 engineers, 2 technologists, 8 others.
- (340) **Almax Ceramic Industries Limited,*** 339-359
31 Kent Street East,
Lindsay, Ontario. Maxwell H. Fallis, President.
- R & D Unit: Address as above.*
Fields: Electronic ceramics: coprecipitation of materials and design of ceramics for electronic specifications.
Activities: R & D (100%).
Facilities: Ceramic R & D facilities.
Personnel: 2 scientists, 2 engineers.
- (341) **Amplitrol Electronics Limited,** 335
51 Marie Victorin Boulevard,
Candiac, Quebec. W.G. Guilboard, Vice-President of Operations.
- R & D Unit: Address as above. Z. Siemiatkowski, Director.
Fields: Alarm security systems for the protection of valuables stored in vaults and/or on premises.
Activities: R & D (50%), testing (40%), other (10%).
Facilities: Laboratory of 800 sq. ft., machine shop, library.
Personnel: 2 engineers, 2 technologists, 1 other.
- (342) **Anaconda Electronics Limited,** 335
1915 Stainsbury Avenue,
Vancouver 12, British Columbia. John McKay, President.
- R & D Unit: Address as above.
Fields: CATV equipment.
Activities: Development of active and passive devices for the CATV industry.
Personnel: 4 engineers, 1 technologist, 1 other.
- (343) **Anatek Electronics Limited,** 335
1820 Pandora Street,
Vancouver 6, British Columbia. A.R. Crawford, President.
- R & D Unit: Address as above. G. Illic, Director.
Fields: Power supplies, power conversion.
Activities: R & D (75%), testing (25%).
Facilities: Model shop, library of 100 books.
Personnel: 1 engineer, 1 technologist.
- (344) **Andrew Antenna Company Limited,** 335
606 Beech Street,
Whitby, Ontario. R.P. Matthews, President.
- R & D Unit: Address as above. H.J. Swain, Director.
Fields: Microwave communications.
Activities: R & D (100%).
Facilities: Laboratory, test shop, test area, library.
Personnel: 3 engineers, 1 technologist, 2 others.

- (345) **Automatic Electronic Systems Incorporated,*** 335
 5455 Pare Street,
 Montreal 309, Quebec. S.B. Dorsey, President.
- R & D Unit: Address as above.* D. Dorval, Director.
 Fields: Supervisory control systems, micro-processor, protective relaying, utility protection.
 Activities: R & D (80%), testing (20%).
 Facilities: Computer and associated peripherals.
 Personnel: 1 scientist, 7 engineers, 6 technologists, 5 others.
- (346) **Bach-Simpson Limited,*** 336-391
 Box 2489,
 1255 Brydges Street,
 London, Ontario. R. Wilton, President.
- R & D Unit: Research Department,* G.R. Hosker, Director.
 Address as above.
 Fields: Ultrasonics to 20 MHz, ultrasonic measuring and diagnostic systems, electro-optics,
 electromechanisms.
 Activities: R & D in ultrasonic techniques for medical diagnosis and physical measurements.
 Facilities: Laboratory of 6,500 sq. ft., model shop, environmental testing laboratory.
 Personnel: 3 scientists, 1 engineer, 2 technologists, 1 other.
- (347) **B.D. Beamish – Consultant Designer,*** 864
 Unit F, 3289 Lenworth Drive,
 Mississauga, Ontario.
- R & D Unit: Address as above.* B.D. Beamish, Director.
 Fields: Automation systems, solid state and integrated circuit controls. 335
 Activities: R & D (60%), testing (30%), consulting (10%).
 Facilities: Solid state laboratory, assembly shop, drafting office and circuit card assembly room.
 Personnel: 1 engineer, 5 technologists, 1 other.
- (348) **Bell Canada – Northern Electric Research Limited,*** 544
 Box 3511, Station C,
 Ottawa, Ontario. D.A. Chisholm, President.
- a) R & D Unit: Central Laboratories,* H.L. Webster, W.J. Inkster, F.S. Eadie, 335-544
 Ottawa,
 Ontario. J.S. Kyles, R.W. Quirk, Directors.
- Fields: Administrative services for all regional laboratories, electronic switching, electronic
 devices, materials and processes, reliability engineering, systems engineering,
 telecommunications apparatus, components, industrial design, microwave and
 satellite systems, ground stations, multiplex, digital and broadband transmission
 systems, product quality.
 Activities: R & D (100%).
 Facilities: Laboratories of 375,000 sq. ft., technical library of 15,000 volumes, advanced
 vacuum sputtering chamber, electron microscope, scanning electron microscope,
 electron microprobes, audio and radio frequency anechoic chambers, gas phase
 deposition facilities, advanced photographic equipment, IBM 360/67 with remote
 terminals, and a wide range of electronic test equipment.
 Personnel: 478 scientists and engineers, 307 technologists, 551 others.
- b) R & D Unit: Regional Laboratories,* J.S. Kyles, Director. 335
 Belleville,
 Ontario.
 Fields: Outside plant apparatus, PBX, components, data terminals.

INDUSTRIES MANUFACTURIÈRES – Produits électriques

Activities:	R & D (100%).		
Facilities:	Laboratories of 7,200 sq. ft., related specialized laboratory facilities and equipment.		
Personnel:	13 scientists and engineers, 18 technologists, 14 others.		
c) R & D Unit:	Regional Laboratories,* London, Ontario.	J.S. Kyles, Director.	335
Fields:	Telephone apparatus.		
Activities:	R & D (100%).		
Facilities:	Laboratories of 8,400 sq. ft., related specialized laboratory facilities and equipment.		
Personnel:	15 scientists and engineers, 18 technologists, 14 others.		
d) R & D Unit:	Regional Laboratories,* Toronto, Ontario.	H.L. Webster, Director.	335
Fields:	Electromechanical and electronic switching systems.		
Activities:	R & D (100%).		
Facilities:	Laboratories of 28,000 sq. ft., related specialized laboratory facilities and equipment.		
Personnel:	45 scientists and engineers, 26 technologists, 19 others.		
e) R & D Unit:	Regional Laboratories,* Montreal, Quebec.	H.L. Webster, Director.	335
Fields:	Transmission systems and components.		
Activities:	R & D (100%).		
Facilities:	Laboratories of 26,700 sq. ft., related specialized laboratory facilities and equipment.		
Personnel:	58 scientists and engineers, 45 technologists, 32 others.		
f) R & D Unit:	Regional Laboratories,* Lachine, Quebec.	J.S. Kyles, Director.	338
Fields:	Telecommunications wire and cable, power cable.		
Activities:	R & D (100%).		
Facilities:	Laboratories of 27,700 sq. ft., related specialized laboratory facilities and equipment.		
Personnel:	39 scientists and engineers, 22 technologists, 19 others.		
(349) Bowmar Canada Limited,*	1257 Algoma Road, Ottawa, Ontario. K1B 3W7	James Clifton, President.	391
R & D Unit:	Address as above.*	D.I. Kennedy, Director.	335
Fields:	Solid state physics, light emitting semiconductors for use in electronic displays.		
Activities:	Development of materials, low volume special products manufacturing.		
Personnel:	7 scientists, 13 technologists.		
(350) CAE Electronics Limited,*	8585 Cote de Liesse, Box 1800, St. Laurent, Montreal 379, Quebec.	R.W. Cooke, President.	335
R & D Unit:	R & D Department,* Address as above.	D.R. Tait, Director.	335-391
Fields:	Aircraft flight simulators, visual simulators, magnetic anomaly detection equipment, digital supervisory and control systems, ATC systems, CRT displays, digital communications equipment, digital data processing equipment, weather satellite receiving and processing equipment, miscellaneous electronic devices, and tactical simulators.		

Activities: R & D (100%).
 Facilities: 15,000 sq. ft. of laboratory and office facilities, technical library, model shop, related test equipment.
 Personnel: 8 scientists, 31 engineers, 16 technologists, 8 others.

- (351) **Canadian Admiral Corporation Limited,*** 334
 501 Lakeshore Road East,
 Port Credit, Ontario. E. Whittaker, President.
- R & D Unit: Special Products Division,* 391
 Address as above. R.F. Maskell, Director-Manager.
- Fields: Nuclear radiation detection devices.
 Activities: Contract work.
 Facilities: Co-60 calibration facility, equipment for military testing at high and low temperatures, and temperature humidity.
 Personnel: 3 engineers, 2 technologists, 1 other.
- (352) **Canadian General Electric Company Limited,*** 336
 214 King Street West,
 Toronto, Ontario. W.G. Ward, Chairman.
- a) R & D Unit: Peterborough Plant, 336
 Engineering Laboratory,*
 Peterborough,
 Ontario. A.R. Hailey, Director.
- Fields: Mechanics, electrical apparatus, electronics, magnetics, metallurgy, chemistry, rotating machines, industrial controls, wire and cable, computers, power switching, power systems, engineering, capacitors.
 Activities: R & D (75%), process and material control (25%).
 Facilities: Laboratory of 16,000 sq. ft., machine shop, library.
 Personnel: 2 scientists, 10 engineers, 16 technologists, 7 others.
- b) R & D Unit: Industrial Apparatus Department,* 336
 Peterborough,
 Ontario. S.R. Adamson, Director.
- Fields: Electrical apparatus.
 Activities: Development, testing and evaluation of products and prototypes.
 Facilities: Buildings and equipment for testing and evaluation.
 Personnel: 6 scientists, 150 engineers, 31 technologists, 206 others.
- c) R & D Unit: Power Transmission and Distribution 336
 Department,*
 Guelph,
 Ontario. D.F. Rankine, Director.
- Fields: Power transformers, voltage regulators, station-type lightning arresters, bushings, meters, instruments, appliance and comfort heating controls, magnets, timing devices, miniature motors, distribution, instrument and specialty transformers.
 Activities: R & D (20%), other (80%).
 Facilities: Laboratories (3 locations) of 14,200 sq. ft.
 Personnel: 31 engineers, 18 technologists, 13 others.
- d) R & D Unit: Construction Products Department, 336
 940 Lansdowne Avenue,
 Toronto,
 Ontario. R.N. Fournier, Director.
- Fields: Ballasts, conduit, lighting equipment, industrial heating equipment, traffic control, wiring devices, component heating devices, wires and cables.
 Activities: R & D (60%), testing (40%).

INDUSTRIES MANUFACTURIÈRES – Produits électriques

	Facilities:	Laboratory of 4,300 sq. ft.		
	Personnel:	17 engineers, 13 technologists, 12 others.		
e)	R & D Unit:	Communications Department,* 1420 Dupont Street, Toronto, Ontario.	G.F. Miller, Director.	335
	Fields:	Applied research in signal processing for radar, sonar and communications, including electronic and electro-optical techniques; development of radar, communications and special purpose electronic equipment for government use and commercial TV and radio broadcast transmission equipment.		
	Activities:	R & D (60%), testing (40%).		
	Facilities:	Signal processing laboratory, communication and sonar laboratory, Napkin laboratory.		
	Personnel:	10 engineers, 10 technologists, 4 others.		
f)	R & D Unit:	Housewares Department, Barrie, Ontario.	J. Richardson, Director.	331
	Fields:	Portable appliances, home, garden, and personal care products.		
	Activities:	R & D (50%), testing and evaluation of products (50%).		
	Facilities:	Laboratory of 1,500 sq. ft.		
	Personnel:	3 engineers, 3 technologists, 1 other.		
g)	R & D Unit:	Nuclear and Chemical Products Department,* Peterborough, Ontario.	W.M. Brown, Director.	378-315
	Fields:	Nuclear reactors and related equipment, heavy water, synthetic resins, electrical insulating compounds, silicones, plastics.		
	Activities:	R & D (50%), testing (40%), and manufacturing (10%).		
	Facilities:	Laboratories (4 locations) of 23,500 sq. ft., library.		
	Personnel:	68 engineers, 22 technologists, 100 others.		
h)	R & D Unit:	Major Appliance Department, 5781 Notre Dame East, Montreal, Quebec.	J.E. Lafforgue, Director.	332
	Fields:	Home appliances.		
	Activities:	R & D (60%), testing (30%), manufacturing (10%).		
	Facilities:	Laboratory and testing room of 4,000 sq. ft.		
	Personnel:	2 engineers, 2 technologists.		
(353)	Canadian Marconi Company,*			335
	2442 Trenton Avenue, Montreal 301, Quebec.		L.M. Daley, President.	
a)	R & D Unit:	Products and Programs Groups I and II, Avionics Division,* Address as above.	K.C.M. Glegg, Division Vice-President, W. Rosebery, J. Habarl, Group Managers.	
	Fields:	Airborne doppler sensors, airborne altimeters and related products, satellite navigation, area navigation and omega receivers.		
	Personnel:	50 engineers.		
b)	R & D Unit:	Engineering Department, Telecommunications Division,* Address as above.	J.W. Dodds, Division Vice-President, R.A. Cawsey, Department Manager.	

- Fields: Tactical military radio relay equipment, commercial MCS 6900 microwave communications system.
 Personnel: 44 engineers.
- c) R & D Unit: Product Development Department, Marine and Land Communications Division,*
 Address as above. G. Gorfinkel, Division Manager,
 R. Tanguay, Department Manager.
- Fields: Mobile and fixed radio communications equipment, HF SSB communications equipment and marine radar and navaid accessories.
 Personnel: 8 engineers.
- (354) **Collins Radio Company of Canada Limited,*** 335
 150 Bartley Road,
 Toronto 16, Ontario. R.D. Hanson, President.
- R & D Unit: Address as above.* W.P. Bratsberg, Director.
 Fields: Navigation systems, ground/air communications.
 Activities: R & D (33%), production assistance (62%), related marketing (5%).
 Facilities: Laboratory of 8,000 sq. ft., machine shop, library of 5,000 technical books.
 Personnel: 22 engineers, 38 technologists, 6 others.
- (355) **Crouse-Hinds Canada Limited,** 339
 1160 Birchmount Road,
 Scarborough, Ontario. K.C. Hague, President.
- R & D Unit: Engineering and Product Development, J. Szymanowski, Director.
 Address as above.
 Fields: Electrical distribution equipment.
 Activities: Product Development (60%), testing and evaluation (40%).
 Personnel: 2 engineers, 2 technologists, 2 others.
- (356) **Decca Radar Canada (1967) Limited,*** 336
 23 Six Point Road,
 Toronto 18, Ontario. L.J. Dennett, President.
- R & D Unit: Austin Insulator Division,* E.E. Thompson, Director.
 Address as above.
 Fields: Guy strain insulators, base insulators and lighting transformers.
 Activities: R & D (15%), manufacturing (85%).
 Facilities: Manufacturing, test and office space of 3,000 sq. ft.
 Personnel: 1 engineer, 2 others.
- (357) **Delta-Benco-Cascade Limited,** 335
 124 Belfield Road,
 Rexdale, Ontario. G. Allard, President.
- R & D Unit: Address as above. J. Spisar, Director.
 Fields: CATV Broadcasting.
 Activities: Research and product development (100%).
 Facilities: Laboratory of 5,000 sq. ft., library, modelshop.
 Personnel: 2 scientists, 12 engineers, 3 technologists, 2 others.
- (358) **Desitron Company Limited,*** 335
 3135 Universal Drive,
 Mississauga, Ontario. F.A. Walther, President.

INDUSTRIES MANUFACTURIÈRES – Produits électriques

<p>R & D Unit: Microwave Department,* Address as above.</p> <p>Fields: Microwave component development.</p> <p>Activities: R & D (75%), testing (25%).</p> <p>Facilities: Laboratory of 1,330 sq. ft. and use of microelectronic and machine shop facilities.</p> <p>Personnel: 2 scientists, 3 technologists.</p>	<p>G. Cappelli, Director.</p>	
<p>(359) ESB Canada Limited,* Box 907, Station U, Toronto 18, Ontario.</p>	<p>D.H. Bates, President.</p>	<p>336</p>
<p>a) R & D Unit: Storage Battery Research,* 2301 Dixie Road, Mississauga, Ontario.</p> <p>Fields: Secondary (storage) batteries.</p> <p>Activities: R & D (100%).</p> <p>Facilities: Laboratory (CAMESA).</p> <p>Personnel: 1 engineer, 1 technologist.</p>	<p>R.J. Fritz, Director.</p>	<p>339</p>
<p>b) R & D Unit: Ray-O-Vac Division Research,* 1800 Sargent Avenue, Winnipeg, Manitoba.</p> <p>Fields: Primary batteries.</p> <p>Activities: R & D (100%).</p> <p>Facilities: Laboratory (CAMESA).</p> <p>Personnel: 1 engineer, 1 technologist.</p>	<p>J. Armstrong, Director.</p>	<p>339</p>
<p>(360) Ekolite Limited,* 525 East Hastings, Vancouver, British Columbia.</p>	<p>A.W. Freeman, President.</p>	<p>335</p>
<p>R & D Unit: Address as above.*</p> <p>Fields: Marine fish-finding equipment.</p> <p>Activities: Manufacturing (75%), R & D (20%), testing (5%).</p> <p>Facilities: Laboratory of 900 sq. ft.</p> <p>Personnel: 2 engineers, 10 others.</p>	<p>J.D. Freeman, Director.</p>	
<p>(361) Electric Power Equipment Limited,* 1285 Homer Street, Vancouver 3, British Columbia.</p>	<p>F.J. Bartholomew, President.</p>	<p>336</p>
<p>R & D Unit: R & D Division,* Address as above.</p> <p>Fields: Control systems.</p> <p>Activities: R & D (70%), testing (20%), consulting (10%).</p> <p>Facilities: Laboratory of 5,000 sq. ft., and technical library.</p> <p>Personnel: 1 scientist, 4 engineers, 10 technologists, 3 others.</p>	<p>Roy Bartholomew, Director.</p>	
<p>(362) Electrohome Limited,* 809 Wellington Street North, Kitchener, Ontario.</p>	<p>J.A. Pollock, President.</p>	<p>334</p>
<p>a) R & D Unit: Planning & Development Laboratory,* 330 Weber Street North, Waterloo,</p>	<p>L.A. Annett, Director.</p>	<p>864-379</p>

- Ontario.
 Fields: Chemical and anti-pollution research.
 Activities: R & D (100%).
 Facilities: Laboratory of 2,500 sq. ft., related service facilities.
 Personnel: 1 scientist, 2 engineers, 1 technologist, 2 others.
- b) R & D Unit: Appliance and Minor Electronics Development Engineering,*
 283 Duke Street West,
 Kitchener,
 Ontario. Harold Fraser, Manager. 331
 Fields: Humidifiers, dehumidifiers, fans, portable phonographs and lamps.
 Personnel: 5 scientists, 20 engineers, 45 technologists, 14 others.
- c) R & D Unit: Consumer Electronics Development Engineering,
 283 Duke Street,
 Kitchener,
 Ontario. D.H. Johnston, Manager. 334
 Fields: Stereo and hi-fidelity radios and accessories, color and black and white television receivers, electronic organs and accessories.
 Facilities: 21,069 sq. ft. of service facilities.
 Personnel: 18 engineers.
- (363) **The Electrolyser Corporation Limited,*** 336
 122 The West Mall,
 Etobicoke,
 Toronto, Ontario. A.K. Stuart, President.
- R & D Unit: Address as above.* R.F. Sullivan, Director. 336-864
 Fields: Design and development of electrochemical processes and apparatus, electrolysis of water technology including hydrogen and oxygen generation and heavy water electrolysis and upgrading.
 Activities: Manufacture of electrolytic plants, technical consultation and prototype development and testing.
 Facilities: Plant of 15,000 sq. ft. incorporating laboratory and testing area.
 Personnel: 4 engineers, 1 technologist, 2 others.
- (364) **Electro-Vox Industries Incorporated,*** 335
 2626 Bates Road,
 Montreal 256, Quebec. P.E. Chaput, President.
- R & D Unit: Engineering Department,*
 Address as above. J. St. Pierre, Director.
 Fields: Intercommunication systems.
 Facilities: Laboratory of 2,000 sq. ft., machine shop.
 Personnel: 1 engineer, 4 technologists, 3 others.
- (365) **Enamel and Heating Products Limited,*** 332
 Sackville, New Brunswick. P. Warren, President.
- R & D Unit: R & D Department,*
 Address as above. H.J. VanLeeuwen, Director.
 Fields: Domestic cooking and heating equipment, air handling systems.
 Activities: R & D (60%), testing (20%), manufacturing (20%).
 Facilities: Amherst, Nova Scotia: 3,200 sq. ft. laboratory, sheet metal and design facilities.
 Personnel: 1 engineer, 1 technologist, 1 other.

INDUSTRIES MANUFACTURIÈRES – Produits électriques

(366) Epitek Electronics Limited,* 19 Grenfell Crescent, Ottawa, Ontario.	E. Bellem, President.	335
R & D Unit: Address as above.*	E. Bellem, Director.	
Fields: Microelectronics.		
Activities: R & D (50%), manufacturing (50%).		
Facilities: Thick film processing and assembly facilities.		
Personnel: 1 engineer, 3 technologists, 5 others.		
(367) FMC of Canada Limited,* Box 10, Stoney Creek, Ontario.	G.F. Sommer, President.	335
a) R & D Unit: Syntron Division, Engineering Department,* Address as above.	A.L. Dean, Director.	336
Fields: Electronics, electromechanics, two mass vibratory systems, power semiconductors, power conversion and conditioning equipment, D.C. motor drive systems.		
Activities: Manufacturing engineering (40%), application engineering (40%), testing (10%), R & D (10%).		
Facilities: 200 sq. ft. laboratory, small library, related equipment.		
Personnel: 2 engineers, 6 technologists, 3 others.		
b) R & D Unit: Niagara Chemical Division,*	G.E. Willan, President, John A. Riddell, Director.	379
Burlington, Ontario.		
Fields: Agricultural chemicals.		
Activities: R & D (60%), technical sales service (40%).		
Facilities: Research laboratory of 10,000 sq. ft., quality control laboratory of 5,000 sq. ft.		
Personnel: 10 scientists, 7 technologists.		
(368) F.P.E. Pioneer Electric Limited, 101 Rockman Street, Winnipeg, Manitoba. R3T 0L7	B.W. Ball, President.	336
R & D Unit: Pioneer Electric Division, Address as above.	I.P. Beck, Director.	
Fields: Transformers and associated equipment.		
Activities: Applied research, product development, testing.		
Facilities: Laboratory, impulse and DC generator.		
Personnel: 6 engineers, 4 technologists.		
(369) Fletcher-Henchel Thermal Industries Limited, 799C Farewell Avenue, Oshawa, Ontario.	G.A. Fletcher, President.	315
R & D Unit: Address as above.	H.H. Henchel, Director.	331
Fields: Engine pre-heaters.		
Activities: R & D (50%), testing (50%).		
Facilities: Laboratory of 1,800 sq. ft. with machine shop.		
Personnel: 2 engineers.		
(370) GSW Limited/Limitée,* 45 St. Clair Avenue West, Toronto 195, Ontario.	G.S. MacDonell, President.	331

- a) R & D Unit: GSW Research Centre,* M.S. Hartley, Director. 332
 2275 Speakman Drive,
 Sheridan Park,
 Mississauga,
 Ontario.
 Fields: Major household appliances, housewares and building products.
 Activities: R & D (80%), testing (10%), consulting (10%).
 Facilities: 3,000 sq. ft. of floor space.
 Personnel: 2 scientists, 4 engineers, 3 technologists, 5 others.
- b) R & D Unit: GSW Appliances Limited, J.P. Jones, Director. 332
 Adelaide and Nelson Streets,
 Box 5040, Terminal A,
 London,
 Ontario.
 Fields: Major domestic appliances.
 Activities: R & D (50%), product design modification (30%), testing (20%).
 Facilities: Laboratory of 6,625 sq. ft., model shop of 4,705 sq. ft., and design facilities.
 Personnel: 9 engineers, 14 technologists, 23 others.
- (371) **GTE Automatic Electric (Canada) Limited,** 335
 100 Strowger Boulevard,
 Brockville, Ontario. C.R. Hughes, President.
 R & D Unit: Address as above. R.W. Duthie, Director.
 Fields: Telecommunication products, electronic switching systems.
 Activities: R & D (100%).
 Facilities: Offices and laboratories of 8,000 sq. ft., model shop, Nova 1200 computer, Supernova computer, library, 2 central office switching systems.
 Personnel: 15 engineers, 18 technologists, 16 others.
- (372) **GTE Lenkurt Electric (Canada) Limited,*** 335
 7018 Lougheed Highway,
 Burnaby 2, British Columbia. H.R. Herron, President.
 R & D Unit: R & D Branch,* R.C. Fawcett, Director.
 Address as above.
 Fields: FDM and TDM multiplex systems, cable and microwave transmission systems, supervisory, control and data systems.
 Activities: R & D (70%), manufacturing (30%).
 Facilities: Laboratory of 30,000 sq. ft., environmental testing facilities, machine shop, technical library, related service facilities.
 Personnel: 1 scientist, 30 engineers, 51 technologists, 20 others.
- (373) **General Precision Industries Limited,*** 391
 Box 88,
 Place Bonaventure,
 Montreal 114, Quebec. T.W. Toczyłowski, President.
 R & D Unit: R & D Section, Engineering Z.A.A. Krajewski, Director. 335
 Department,*
 555 Boivin Boulevard,
 Granby,
 Quebec.
 Fields: Radio-direction-finding, receivers and antenna systems in VLF, MF, HF, VHF and UHF ranges.
 Activities: R & D (70%), testing (30%).

- Facilities: Laboratory of 3,000 sq. ft., complete electronic manufacturing facilities, design offices, ship facilities, and experimental test station.
 Personnel: 7 engineers, 7 technologists, 3 others.
- (374) **General Signal of Canada,** 335
 Owen Sound, Ontario. R.A. Yates, President.
- R & D Unit: Edwards of Canada. R.D. Scott, Director.
 Address as above.
- Fields: Signalling systems.
 Activities: R & D (90%), other (10%).
 Facilities: Small laboratory and related service facilities.
 Personnel: 3 technologists, 2 others.
- (375) **Gen-Tec Incorporé,*** 336
 2625, rue Dalton,
 Ste-Foy, Québec. Jean-Marie Langevin, Président.
- Centre de R-D: Même adresse.* A.J. Beaulieu, Directeur.
 Domaines: Lasers TEA CO₂.
 Activités: R - D (50%), manufacture d'équipement électronique (50%).
 Installations: 15,000 pieds carrés de planchers, d'équipement électronique et mécanique.
 Personnel: 15 scientifiques, 10 ingénieurs, 35 techniciens, 10 autres.
- (376) **Gilson Manufacturing Company Limited,*** 332
 53 Victoria Road South,
 Guelph, Ontario. A.J. Kendrick, President.
- R & D Unit: Address as above.* J.M. Simmons, Director.
 Fields: Domestic freezers and compacters for commercial use.
 Activities: R & D (50%), testing (30%), consulting (20%).
 Facilities: Shop of 1,000 sq. ft.
 Personnel: 1 engineer, 2 technologists, 2 others.
- (377) **Gould Manufacturing of Canada Limited,*** 339
 Industrial Battery Division,
 275 Lewis Street,
 Fort Erie, Ontario. W.T. Ylvisaker, President.
- R & D Unit: Address as above,* K.V.N. Rao, Director.
 Fields: Fuel cells.
 Activities: R & D (100%).
 Facilities: Laboratory of 1,360 sq. ft.
 Personnel: 3 scientists, 1 engineer, 3 technologists.
- (378) **Hermes Electronics Limited,*** 335
 Esson Road,
 Dartmouth, Nova Scotia. A.C. Cagney, President.
- R & D Unit: Address as above.* E.S. Smierciak, Director. 335-391
 Fields: Buoy and ocean systems, electronic systems, adaptive communications systems,
 ionospheric sounding.
 Activities: R & D (25%), manufacturing (75%).
 Facilities: Laboratory and engineering offices of 15,000 sq. ft., machine shop, environmental test
 facilities, library.
 Personnel: 4 scientists, 30 engineers, 40 technologists, 5 others.

- (379) **Honeywell Limited,** 339-318
 740 Ellesmere Road,
 Scarborough, Ontario. R.J. Bilodeau, President.
- R & D Unit: Design Engineering, K.J. Cuthbertson, Manager. 391-318
 Address as above.
- Fields: Environmental control equipment and systems, test and instrumentation equipment,
 computer and communication equipment.
- Activities: R & D (30%), product design (70%).
- Facilities: Office and laboratories of 5,000 sq. ft.
- Personnel: 6 engineers, 10 technologists, 4 others.
- (380) **ITT Canada Limited,*** 335
 175 Dawson Road,
 Guelph, Ontario. K.C. Cameron, President.
 N1H 1A1
- R & D Unit: ITT Communications Division,* D.A. Venditti, Director.
 Address as above.
- Fields: Communications equipment used in the telephone industry, postal mechanization
 equipment.
- Activities: R & D (35%), manufacturing (65%).
- Facilities: Laboratory of 1,500 sq. ft.
- Personnel: 26 engineers, 15 technologists, 14 others.
- (381) **International Systcoms Limited,*** 335
 4900 Fisher Street,
 Montreal 376, Quebec. J.H. Baldwin, President.
- R & D Unit: Address as above.* E.W. Derbyshire, Director.
- Fields: VHF/UHF mobile radio equipment for 2-way private systems and telephone units
 which interface with the public switched network.
- Activities: R & D (60%), testing (20%), model building (20%).
- Facilities: Laboratory of 1,200 sq. ft., drafting office of 1,000 sq. ft., model shop of 500 sq. ft.
- Personnel: 4 engineers, 8 technologists.
- (382) **Kearney National (Canada) Limited,*** 336
 430 Elizabeth Street,
 Guelph, Ontario. G.R. Raisbeck, President.
- R & D Unit: Address as above.* John H. Ashton, Chief Engineer.
- Fields: Electrical switchgear.
- Activities: R & D (40%), production engineering (50%), other (10%).
- Facilities: Test laboratory and machine shop.
- Personnel: 3 engineers, 3 technologists.
- (383) **Leigh Instruments Limited,*** 391
 Marsland Engineering Division,
 350 Weber Street North,
 Waterloo, Ontario. E.J. Pollock, President.
 N2J 4E3
- R & D Unit: Applied R & D Centre,* A.S. Armstrong, Director. 318-335
 Address as above.
- Field: Digital and analog data processing equipment, communications equipment.
- Activities: Designing, modelling, applications engineering.
- Facilities: Drafting office, laboratory, model shop, whiteprint and offset print facilities.

Personnel: 4 engineers, 5 technologists, 14 others.

- (384) **Lektromedia Limited,*** 339-318
 88 Ashgrove,
 Pointe Claire 710, Quebec. Peter M. Carey, President.
- R & D Unit: Address as above. Peter M. Carey, Director.
 Fields: Computer terminals.
 Activities: R & D (100%).
 Facilities: Engineering office and laboratory of 1,000 sq. ft.
 Personnel: 4 engineers, 2 technologists.
- (385) **Litton Systems (Canada) Limited,*** 335
 25 Cityview Drive,
 Rexdale, Ontario.
 M9W 5A7 R.R. Keating, Vice-President.
- R & D Unit: Engineering Department,* L.A. Borth, Vice-President, Engineering. 335-391
 Address as above.
 Fields: Airborne navigation systems and components, avionics systems integration, digital information and control systems, general systems engineering, automatic test equipment, pattern recognition and holography.
 Activities: R & D (20%), testing (20%), design (60%).
 Facilities: 32,000 sq. ft. of facilities including model shop, environmental laboratory, chemical processing laboratory, precision gauge room, optical laboratory and super clean room.
 Personnel: 5 scientists, 80 engineers, 65 technologists, 40 others.
- (386) **Magnetics International Limited,*** 315
 Suite 401, 621 Craig Street West,
 Montreal 101, Quebec. P.N. Carter, President.
- a) R & D Unit: Ferrox Iron Limited,* J.D. Nye, Director. 339
 Box 309,
 798 Edward Street,
 Prescott,
 Ontario.
 Fields: Applications of electronic ceramics.
 Activities: R & D (40%), pilot plant work (60%).
 Facilities: Laboratory and pilot plant facilities.
 Personnel: 1 scientist, 1 engineer, 3 technologists.
- (387) **Marathon Electric Research of Canada Limited,** 336
 359 Davis Road,
 Oakville, Ontario. David L. Duff, Vice-President.
- R & D Unit: Address as above. David L. Duff, Director.
 Fields: AC variable speed drives.
 Activities: R & D (50%), manufacturing (50%).
 Facilities: Laboratory and research offices of 3,000 sq. ft., electronic test equipment.
 Personnel: 2 engineers, 2 technologists, 3 others.
- (388) **Microsystems International Limited,*** 335
 Box 3529, Station C,
 Ottawa, Ontario.
 K1Y 4J1 A.O. Wolff, President.

R & D Unit: Development Organization,* J.M. Beddoes, Director.
 Address as above.
 Fields: Development of microelectronic systems, circuits and technologies.
 Activities: Systems development (40%), circuit design (40%), technology development (20%).
 Facilities: Three pilot facilities, circuits laboratory, library of 4,000 technical books.
 Personnel: 30 engineers, 30 technologists, 40 others.

- (389) **Milltronics Limited,*** 391
 730 The Kingsway,
 Peterborough, Ontario. J.P. Gemmel, President.
- R & D Unit: Address as above.* S. Sage, Director. 391-335
 Fields: Industrial process control.
 Activities: R & D (95%), consulting (5%).
 Facilities: Laboratory of 5,000 sq. ft., electrical/electronic test equipment.
 Personnel: 4 engineers, 2 technologists, 1 other.
- (390) **Moloney Electric Company of Canada Limited,** 336
 213 Sterling Road,
 Toronto 154, Ontario.
- R & D Unit: Moloney R & D Section, G.E. Dunfield, Director.
 Address as above.
 Fields: Machine design to specification for transformer cores, electrical design for the
 transformer industry.
 Activities: R & D (100%).
 Facilities: Machine shop of 1,000 sq. ft. (bench and development), related service facilities.
 Personnel: 1 engineer, 1 technologist, 1 other.
- (391) **Nash and Harrison Limited,*** 335
 Box 11220, Station H,
 Ottawa, Ontario.
 K2H 7V7 B.H. Young, President.
- R & D Unit: Address as above.* D.R. Strong, Director.
 Fields: Inspection equipment for web materials.
 Activities: R & D (70%), testing (20%), manufacturing (10%).
 Facilities: Laboratory of 1,000 sq. ft.
 Personnel: 3 engineers, 3 technologists.
- (392) **National Semiconductors Limited,*** 335
 2150 Ward Street,
 Montreal, Quebec. D.A. Anderson, President.
- R & D Unit: Address as above.* D.A. Anderson, Director.
 Fields: Photocells, semiconductors, measurements of light.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory of 3,500 sq. ft., machine shop, library.
 Personnel: 5 scientists, 2 engineers, 4 technologists.
- (393) **Nautical Electronic Laboratories Limited,*** 335
 Hacketts Cove,
 Halifax County, Nova Scotia. D.H. Covill, President.
- R & D Unit: Address as above.* D.H. Covill, Director.
 Fields: Electronic aids to navigation, radio communications, high power solid state
 transmitters.

INDUSTRIES MANUFACTURIÈRES – Produits électriques

Activities:	R & D (70%), testing (20%), other (10%).		
Facilities:	Laboratory of 2,400 sq. ft., model shop, technical library.		
Personnel:	4 engineers, 4 technologists, 6 others.		
(394) Neeco Industries Limited,*			165
3077 Mainway Drive, Burlington, Ontario.		D.P. Robertson, President.	
b) R & D Unit:	Neeco Division,* 80 Galaxy Boulevard, Rexdale, Ontario.	E. Giddy, Director.	335
Fields:	Alarm systems, emergency lighting systems, heating cable.		
Activities:	R & D including testing (100%).		
Facilities:	Plant at Rexdale.		
Personnel:	2 engineers, 2 technologists, 1 other.		
(395) Edmunds Newhall Associates Limited,*			864-335
1245 Martin Grove Road, Rexdale, Ontario.		E.E. Newhall, President.	
R & D Unit:	R & D Division,* Address as above.	E.E. Newhall, Director.	
Fields:	Data communications.		
Activities:	R & D (70%), consulting (30%).		
Facilities:	Laboratory of 3,500 sq. ft., printed circuit shop, machine shop, dark room.		
Personnel:	5 engineers, 4 technologists, 3 others.		
(396) Northern Radio Manufacturing Company Limited,			335
1950 Bank Street, Ottawa, Ontario. K1V 7Z8		J.G. Macmillan, President.	
R & D Unit:	1927 and 1959 Bank Street, Ottawa, Ontario.	A.C. Smart, Director.	
Fields:	Frequency division and time division multiplex VFCT and data transmission systems and ancillary items.		
Activities:	R & D (70%), testing (20%), manufacturing (10%).		
Facilities:	Laboratory, machine shop and related facilities.		
Personnel:	5 engineers, 8 technologists, 3 others.		
(397) Philips Electronics Industries Limited,*			334
116 Vanderhoof Avenue, Toronto, Ontario. M4G 2J1		C. Bruynes, President.	
a) R & D Unit:	Television Engineering,* Address as above.	E. Lubchenko, Director.	334-391
Fields:	Television receivers, factory test equipment and systems.		
Activities:	R & D (50%), testing (40%), consulting (10%).		
Facilities:	Laboratory of 5,000 sq. ft., model shop, library.		
Personnel:	6 engineers, 6 technologists, 4 others.		
b) R & D Unit:	Electron Optics Application Laboratory,* Address as above.	I. Grinyer, Director.	391

Fields: Research into methods of application of electron microscopes.
 Activities: Application research (50%), training and testing (50%).
 Facilities: Laboratory of 500 sq. ft., dark room, electron microscope.
 Personnel: 1 scientist, 1 technologist.

c) R & D Unit: Analytical X-ray Application Laboratory,* C. Whitelow, Director. 391
 Address as above.
 Fields: Research into technique for application of x-rays in the analysis and inspection of materials.
 Activities: Application research (50%), training and testing (50%).
 Facilities: Laboratory of 400 sq. ft., x-ray diffraction equipment, specimen preparation facilities.
 Personnel: 1 engineer, 1 other.

d) R & D Unit: Telecommunication Division,* M. Geleynse, Director. 335-391
 1001 Ellesmere Road,
 Scarborough,
 Ontario.
 Fields: Navigation aids, quartz crystal units.
 Activities: R & D (20%), testing (70%), consulting (10%).
 Facilities: Laboratory of 2,000 sq. ft., and model shop of 600 sq. ft.
 Personnel: 12 engineers, 10 technologists, 8 others.

(398) **Pirelli Cables Limited,** 338
 77 Richelieu Street,
 St. Jean, Quebec. D.G. McKay, President.

a) R & D Unit: Address as above. G.B. Maund, Director.
 Fields: Development techniques applying to new or improved cables and wires.
 Activities: R & D (80%), development testing (10%), consulting (10%).
 Facilities: Rubber plastic chemical laboratory of 3,000 sq. ft. and H.V. test laboratory of 4,000 sq. ft.
 Personnel: 8 engineers, 5 technologists, 2 others.

b) R & D Unit: Guelph, Ontario. G.B. Maund, Director.
 Fields: Magnet wire development.
 Activities: R & D (80%), development testing (10%), consulting (10%).
 Facilities: Enamel wire laboratory.
 Personnel: 2 engineers, 2 technologists, 1 other.

(399) **Polygon Industries Limited,*** 336
 50 Northline Road,
 Toronto, Ontario.
 M4B 3E2 E.C. Hamlin, President.

R & D Unit: Address as above.* P.D. Smith, Director.
 Fields: Non-liquid insulation systems for transformers to 34.5 KV class.
 Activities: Development and testing of electro-magnetic devices.
 Facilities: Impulse testing facilities, corona detection facilities, recurrent surge equipment, heat run facilities.
 Personnel: 4 engineers, 2 technologists.

(400) **Pylon Electronic Development Company Limited,*** 335
 2300 Victoria Street,
 Lachine, Quebec. John E. Pinneze, President.

INDUSTRIES MANUFACTURIÈRES – Produits électriques

<p>R & D Unit: Engineering Department,* Address as above.</p> <p>Fields: Telecommunications.</p> <p>Facilities: Solid state switching equipment.</p> <p>Personnel: 1 scientist, 5 engineers, 5 technologists, 6 others.</p>	<p>H. Laks, Director.</p>	
<p>(401) Quality Communication Products Limited, 27th Floor, Alberta Telephone Towers, Edmonton, Alberta.</p> <p>R & D Unit: Morden, Manitoba.</p> <p>Fields: Voice frequency, telecommunications by wire.</p> <p>Activities: Manufacture of telecommunications apparatus.</p> <p>Facilities: Laboratory of 700 sq. ft., machine shop, limited technical library.</p> <p>Personnel: 2 engineers, 2 technologists.</p>	<p>S.L. Wilson Jr., President.</p> <p>S.L. Wilson Jr., Director.</p>	<p>335</p>
<p>(402) RCA Limited,* 21001 North Service Road, Trans-Canada Highway, Ste. Anne de Bellevue, Quebec.</p> <p>a) R & D Unit: Electronic Components and Electro-Optics,* Address as above.</p> <p>Fields: Silicon photosensors.</p> <p>Activities: Development (80%), assembly (20%).</p> <p>Facilities: Laboratory of 5,000 sq. ft., and related facilities.</p> <p>Personnel: 5 scientists, 3 engineers, 2 technologists, 4 others.</p> <p>b) R & D Unit: Government and Commercial Systems Research,* Address as above.</p> <p>Fields: Plasma and space physics, optical and microwave physics, semiconductor electronics, electronic and communications systems.</p> <p>Activities: R & D (100%).</p> <p>Facilities: 18,500 sq. ft. of laboratories and related facilities, technical library.</p> <p>Personnel: 15 scientists, 10 engineers, 10 technologists, 5 others.</p> <p>c) R & D Unit: Government and Commercial Systems Engineering,* Address as above.</p> <p>Fields: Communications and scientific satellites, communications earth stations, microwave systems, information processing and display equipment, broadcast equipment.</p> <p>Activities: R & D (30%), equipment design, evaluation and testing (65%), consulting (5%).</p> <p>Facilities: Laboratory of 11,000 sq. ft., library of 2,000 technical books, N.C. equipped machine shop.</p> <p>Personnel: 115 engineers, 61 technologists, 130 others.</p>	<p>J.D. Houlding, President.</p> <p>R.C. Power, Director.</p> <p>M.P. Bachynski, Director.</p> <p>J.R.G. Cox, Director.</p>	<p>335</p> <p>339</p> <p>391-335</p> <p>335</p>
<p>(403) Radio Engineering Products,* Atholville, New Brunswick.</p> <p>R & D Unit: Montreal Laboratories,* 5780 Decelles Avenue, Montreal 251, Quebec.</p>	<p>C.B. Fisher, President.</p> <p>Lewis Illingworth, Chief Engineer.</p>	<p>335</p>

Fields: Military tactical electronic communications systems, multiplex equipment and accessories used with telephone, telegraph radio links, field telephones, switchboards.
 Activities: R & D (90%), testing (10%).
 Facilities: Laboratory of 8,000 sq. ft., model shop, drafting and reproduction facilities, other related facilities, library.
 Personnel: 14 engineers, 16 technologists, 12 others.

(404) **Radio Speakers of Canada Limited,*** 335
 221 Norseman Street,
 Toronto, Ontario.
 M8Z 2R5 Charles F. Cornick, President.

R & D Unit: Address as above.* D.C. Adam, P. Milton, Directors.
 Fields: Loudspeakers of all types, noise level evaluation.
 Activities: Manufacturing (90%), R & D and testing (10%).
 Facilities: Laboratory and related service facilities of 1,720 sq. ft.
 Personnel: 2 engineers, 1 other.

(405) **Raycon Incorporated,*** 336
 218 Brunswick Boulevard,
 Pointe Claire, Quebec. Ian H. Rutherford, President.

R & D Unit: Address as above.* A.J. McInroy, Director.
 Fields: Industrial computer control systems.
 Facilities: Electronics laboratory.
 Personnel: 1 engineer, 1 other.

(406) **Raytheon Canada Limited,*** 335-391
 400 Phillip Street,
 Waterloo, Ontario. J.R. Cann, President.

R & D Unit: Engineering Department,* J.B. Knox, Director.
 Address as above.
 Fields: Radar and navigational aids, computer driven display systems, microwave relay equipment and systems and satellite ground stations.
 Activities: Design and development of electronic equipment for manufacture.
 Facilities: Laboratories of 15,000 sq. ft., machine shop, and model shop.
 Personnel: 2 scientists, 64 engineers, 2 technologists, 78 others.

(407) **SCM (Canada) Limited,*** 331
 Glidden Company Division,
 351 Wallace Avenue,
 Toronto 9, Ontario.

R & D Unit: Glidden R & D Laboratory,* G.G. Davis, Director. 375
 Address as above.
 Fields: Protective coatings and resins.
 Activities: R & D (90%), consulting (10%).
 Facilities: Laboratory of 11,000 sq. ft., pilot reactor plant, pilot application plant, library of 300 technical books.
 Personnel: 11 scientists, 3 engineers, 9 technologists, 3 others.

(408) **Sangamo Company Limited,** 336
 215 Laird Drive,
 Toronto 352, Ontario. A.E. Van Clieaf, President.

INDUSTRIES MANUFACTURIÈRES – Produits électriques

R & D Unit:	Address as above.	V.E. Dickson, Director.	
Fields:	Electrical power metering and associated apparatus.		
Activities:	R & D (50%), testing (50%).		
Facilities:	Portion of the engineering department.		
Personnel:	2 engineers, 2 technologists.		
(409) Scapa Dryers (Canada) Limited,*			181
Box 159, Joliette, Quebec.		James Haythornthwaite, President.	
R & D Unit:	Engineering Division,* Address as above.	James Haythornthwaite, Director.	339
Fields:	Microwave moisture meters.		
Activities:	R & D (70%), field testing (20%), consulting (10%).		
Facilities:	Production plant of 76,000 sq. ft.		
Personnel:	1 engineer, 1 technologist, 1 other.		
(410) Sinclair Radio Laboratories Limited,*			335
122 Rayette Road, Maple, Ontario.		George Sinclair, President.	
R & D Unit:	R & D Division,* Address as above.	W.V. Tilsion, Director.	
Fields:	Antenna systems, filter systems, propagation.		
Activities:	R & D (90%), testing (10%).		
Facilities:	Laboratory of 4,000 sq. ft., antenna test range, library.		
Personnel:	1 scientist, 4 engineers, 5 technologists, 5 others.		
(411) Sioc Limited,*			335
3085 Lenworth Drive, Mississauga, Ontario.		K.S. Boorman, President.	
R & D Unit:	Address as above.*	W.H. Lowry, Director.	
Fields:	Electronics, digital logic.		
Activities:	R & D (100%).		
Facilities:	Laboratory, drafting and environment testing facilities.		
Personnel:	1 engineer, 2 technologists, 1 other.		
(412) C.R. Snelgrove Company Limited,*			335
141 Bond Avenue, Don Mills, Ontario. M3B 1M2		W.C. Hickling, President.	
R & D Unit:	Address as above.*	Jack F. Gehrels, Director.	
Fields:	Frequency control devices, such as quartz crystals, filters, oscillators.		
Activities:	Development, manufacturing.		
Facilities:	Laboratory of 3,000 sq. ft., machine shop of 1,000 sq. ft., environmental test facility for small devices.		
Personnel:	7 engineers, 8 technologists, 2 others.		
(413) Space Research Corporation,*			864-315
Highwater, Quebec.		G.V. Bull, President.	
b) R & D Unit:	Electronics Division,* Address as above.	K. Urbatzka, Director.	335
Fields:	Air traffic control simulators, high G hardened circuitry, radar and special instrumentation development and installation.		

Activities: R & D (60%), manufacturing (40%).
 Facilities: 9,600 sq. ft. of service space.
 Personnel: 7 engineers, 9 technologists, 10 others.

(414) **Sparton of Canada Limited,*** 335

Box 5125,
 London, Ontario.

J.H. Gregson, President.

R & D Unit: Address as above.* J.P. Chevalier, Director.
 Fields: Underwater acoustics, hydrophones, transducers.
 Activities: R & D (50%), testing (50%).
 Facilities: 5,000 sq ft. laboratory, instrumented test tank, high pressure tanks for deep water testing.
 Personnel: 2 engineers, 8 technologists, 2 others.

(415) **TMC (Canada) Limited,*** 335

R.R. # 5,
 Ottawa, Ontario.

D.V. Carroll, President.

R & D Unit: Address as above.* J.C. Adair, Director.
 Fields: Sophisticated synthesized SSB and digital control systems.
 Activities: R & D (60%), testing (30%), consulting (10%).
 Facilities: 3,000 sq. ft. laboratory, machine shop, screened room, environmental oven, laboratory equipment and library.
 Personnel: 4 engineers, 6 others.

(416) **TRW Canada Limited,*** 335

United-Carr Division,
 455 Arvin Avenue,
 Stoney Creek, Ontario.
 L8E 2N2

Robert M. Healey, President.

R & D Unit: R & D Laboratories,* Rodney Hayden, Director. 335-325
 Address as above.
 Fields: Electronic safety devices for automobiles and electronic devices for television.
 Activities: Product development.
 Personnel: 3 engineers, 4 technologists, 7 others.

(417) **Tele-Radio Systems Limited,*** 335

301 Supertest Road,
 Downsview Post Office,
 Toronto, Ontario.

I.H. Nixon, President.

R & D Unit: Address as above.* N.C. McDermott, Director.
 Fields: Telecommunications, testing, control and monitoring equipment and systems.
 Activities: R & D (75%), testing (20%), consulting (5%).
 Facilities: R & D laboratory, machine shop, design office.
 Personnel: 1 scientist, 3 engineers, 2 technologists, 5 others.

(418) **J.E. Thomas Specialties Limited,** 335

50 Mary Street West,
 Lindsay, Ontario.

John E. Thomas, President.

R & D Unit: Electronic Engineering Laboratory, F.C. Pennypacker, Director.
 Address as above.
 Fields: Electronics, particularly equipment for the distribution of television signals.
 Activities: R & D (85%), testing (15%).

INDUSTRIES MANUFACTURIÈRES – Produits électriques

- Facilities: Laboratory of 10,000 sq. ft., electronic test equipment.
 Personnel: 5 engineers, 10 technologists, 6 others.
- (419) **Unelco Limited,** 335
 103 Gun Street,
 Pointe Claire, Quebec. C.J. Pratt, President.
- R & D Unit: Address as above. J. Poesl, Director.
 Fields: Electronics, specifically fire alarm systems, clock systems, electrical teaching systems and emergency lighting.
 Activities: R & D (60%), testing (40%).
 Facilities: Laboratory of 400 sq. ft., related service facilities.
 Personnel: 1 engineer, 1 technologist.
- (420) **Unican Security Systems Limited,*** 335
 5795 Avenue de Gaspe,
 Montreal 326, Quebec. A.A. Fish, President.
- R & D Unit: R & D Department,* 339
 Address as above.
 Fields: Batteries and other self-contained energy sources for scientific, medical and industrial uses.
 Activities: R & D (100%).
 Facilities: Laboratory of 10,000 sq. ft., related machinery and technical library.
 Personnel: 5 scientists, 4 engineers, 5 technologists, 1 other.
- (421) **Union Carbide Canada Limited,*** 378
 123 Eglinton Avenue East,
 Toronto 12, Ontario. J.S. Dewar, President.
- d) R & D Unit: Technology Department, 339-373
 Consumer Products Division,*
 Address as above.
 Fields: Dry batteries, film wraps.
 Activities: R & D (60%), quality control (40%).
 Facilities: 5,000 sq. ft. of laboratory space.
 Personnel: 3 engineers, 3 technologists, 2 others.
- (422) **Varian Associates of Canada Limited,*** 335
 45 River Drive,
 Georgetown, Ontario. R.G. Webster, President.
- R & D Unit: Address as above.*
 Fields: Microwave tubes, infrared detectors, high vacuum technology, electronic instrumentation and subsystems.
 Activities: Microwave tube manufacturing and development.
 Facilities: 40,000 sq. ft. manufacturing and development facility for microwave tubes.
 Personnel: 2 scientists, 3 engineers, 10 technologists.
- (423) **Welwyn Canada Limited,*** 335
 Box 2484,
 1255 Brydges Street,
 London, Ontario. K.J. Davis, General Manager.
- R & D Unit: Research Department,*
 Address as above. J.P. Marton, Director.
 Fields: Thin film solid state physics, electrical and electronic components.

Activities: R & D (100%).
 Facilities: Laboratory of 10,000 sq. ft., modern solid state physics and thin film electronics equipment.
 Personnel: 8 scientists, 1 technologist, 1 other.

(424) **Westinghouse Canada Limited,*** 336
 286 Sanford Avenue North,
 Hamilton, Ontario. W.J. Cheesman, President.

a) R & D Unit: Product Assurance Laboratory,* 864
 Address as above. D.L. Brignall, Manager.
 Fields: Chemical, metallurgical and mechanical evaluation of materials and components.
 Activities: R & D (25%), testing (30%), specialty manufacturing processes (25%), consultation (20%).
 Facilities: Laboratory of 15,000 sq. ft. with extensive chemical, metallurgical, mechanical and non-destructive testing and machine shop facilities.
 Personnel: 2 scientists, 3 engineers, 7 technologists, 1 other.

b) R & D Unit: Electronic Systems Division,* 335
 777 Walker's Line,
 Burlington,
 Ontario. E.M. Hepburn, Manager.
 Fields: Information display systems, electronic warfare systems, underwater sound control technology.
 Activities: R & D (65%), testing (25%), consulting (10%).
 Facilities: Electronic test equipment and environmental test facilities, model shop, library.
 Personnel: 20 engineers, 19 technologists, 17 others.

c) R & D Unit: Atomic Power Division,* 309
 175 Longwood Road,
 Hamilton,
 Ontario. D.E. Tough, Manager.
 Fields: Heat transfer, tribology, development of new alloys, fluid-flow and stability, corrosion testing.
 Activities: Manufacturing processes development (98%), consulting (2%).
 Facilities: Closed loop dynamic test facility for two-phase fluid tests.
 Personnel: 5 scientists, 30 engineers, 42 technologists, 8 others.

(425) **W.C. Wood Company Limited,** 332
 5 Arthur Street South,
 Guelph, Ontario. W.C. Wood, President.

R & D Unit: Address as above. G. Argay, Director.
 Fields: Appliance development.
 Activities: R & D (50%), design maintenance (50%).
 Facilities: Design office, laboratory of 7,000 sq. ft., prototype department.
 Personnel: 1 engineer, 2 technologists.

15. Non-Metallic Mineral Products Industries/Fabrication de produits minéraux non métalliques (351-359)

(426) **Almax Ceramic Industries Limited,*** 339-359
 31 Kent Street East,
 Lindsay, Ontario. Maxwell H. Fallis, President.

INDUSTRIES MANUFACTURIÈRES – Produits minéraux non métalliques

R & D Unit: Address as above.*
 Fields: Electronic ceramics: coprecipitation of materials and design of ceramics for electronic specification.
 Activities: R & D (100%).
 Facilities: Ceramic R & D facilities.
 Personnel: 2 scientists, 2 engineers.

(427) Beer Precast Concrete Limited, 354
 110 Manville Road,
 Scarborough, Ontario. F.A. Beer, President.

R & D Unit: R & D Department, P.R. Bennett, Director.
 Address as above.
 Fields: Precast concrete.
 Activities: R & D (80%), testing (20%).
 Personnel: 1 scientist, 1 engineer.

(428) Canada Cement Lafarge Limited,* 352
 606 Cathcart Street,
 Montreal 111, Quebec. J. Taylor Kennedy, President.

a) R & D Unit: Research Department,* W.S. Weaver, Director.
 Address as above.
 Fields: Cement and concrete manufacture and application.
 Activities: R & D (40%), administration (40%), consulting (20%).
 Facilities: Offices and library.
 Personnel: 2 scientists, 2 others.

b) R & D Unit: Research Laboratory, P.S. Grindrod, Research Chemist.
 Box 398,
 Belleville,
 Ontario.
 Fields: Cement and concrete manufacture and application.
 Activities: R & D (80%), testing (10%), consulting (5%), administration (5%).
 Facilities: 3 laboratories totalling 6,000 sq. ft.
 Personnel: 2 scientists, 1 engineer, 5 technologists, 1 other.

(429) Canadian Porcelain Company Limited,* 351
 Studholme Road,
 Hamilton, Ontario. R.R. Farrell, President.

R & D Unit: R & D Department,* G. Rosenblatt, Director. 351-359
 Address as above.
 Fields: Ceramic glazes and bodies pertaining to electrical and electronic insulation.
 Activities: R & D (100%).
 Facilities: Laboratory of 1,800 sq. ft., related ceramic and electrical equipment, high voltage laboratory.
 Personnel: 2 engineers, 1 technologist.

(430) Consumers Glass Company Limited, 356
 777 Kipling Avenue,
 Toronto 550, Ontario. J.D. Mingay, President.

R & D Unit: R & D Department, K. Burchmore, Director.
 Address as above.
 Fields: Glass properties and related matters.
 Activities: Research (15%), testing (15%), development, aid in manufacturing (70%).

Facilities: Laboratory of 1,250 sq. ft., related service facilities.
 Personnel: 4 scientists, 3 technologists.

- (431) **Dominion Glass Company Limited,*** 356
 100 West Drive,
 Bramalea, Ontario. E.A. Thompson, President.
- a) R & D Unit: Research and Product Development G.A. Simmons, Director. 356
 Department,*
 Address as above.
 Fields: Glass composition research, glass strength (coatings), glass mold research,
 refractory corrosion, new product development.
 Activities: R & D (70%), technical assistance to plants (30%).
 Facilities: 4,000 sq. ft. of office and laboratory space, technical library.
 Personnel: 7 scientists, 2 engineers, 3 technologists, 3 others.
- b) R & D Unit: Research and Product Development, G.A. Simmons, Director. 315
 Experimental Forming,*
 Box 3015, Station B,
 Hamilton,
 Ontario.
 Fields: Forming machine developments, new mold design experimentation.
 Activities: R & D (50%), technical assistance to plants (50%).
 Facilities: Testing and development area of 2,000 sq. ft., a three-section IS bottle forming
 machine and annealing Lehr.
 Personnel: 2 engineers, 6 technologists, 2 others.
- (432) **Dresser Industries Canada Limited,** 359
 Canadian Refractories Division,
 1685 Boundary Road,
 Vancouver 6, British Columbia. D.D. Dogherty, President.
- a) R & D Unit: Box 160, D. Albon, Director. 359-351
 Abbotsford,
 British Columbia.
 Fields: Refractories, structural clay products, refractory specialty products, and insulating
 refractories.
 Activities: R & D (55%), quality control (45%).
 Facilities: General laboratory of 3,000 sq. ft., kiln room, grinding room, analytical and two
 pioneer laboratories, library.
 Personnel: 2 engineers, 3 technologists.
- b) R & D Unit: Research Laboratories, L.J. Davies, Director. 359
 Box 160,
 Granville,
 Quebec.
 Fields: Refractories.
 Activities: R & D (50%), testing (50%).
 Facilities: Laboratories of 12,000 sq. ft., pilot plant of 7,200 sq. ft., library of 1,700 technical
 books.
 Personnel: 4 scientists, 1 engineer, 16 technologists, 4 others.
- (433) **Duplate Canada Limited,*** 356-359
 50 St. Clair Avenue West,
 Toronto 195, Ontario. D.S. Chant, President.

INDUSTRIES MANUFACTURIÈRES – Produits minéraux non métalliques

<p>R & D Unit: Ceramics Division,* First Avenue, Oshawa, Ontario.</p> <p>Fields: R & D on electronic ceramic materials.</p> <p>Activities: R & D (100%).</p> <p>Facilities: Laboratory of 13,700 sq. ft.</p> <p>Personnel: 9 scientists, 2 engineers, 4 technologists, 2 others.</p>	<p>C.E. Harrott, Director.</p>	
<p>(434) Elastometal Limited,*</p> <p>397 Hendrie Avenue, Burlington, Ontario.</p> <p>R & D Unit: Address as above.*</p> <p>Fields: Construction products.</p> <p>Activities: R & D (60%), testing (20%), consulting (10%).</p> <p>Facilities: 500 sq. ft. of testing facilities, 500 sq. ft. of design facilities.</p> <p>Personnel: 1 engineer, 2 technologists.</p>	<p>E.R. Fyfe, President.</p> <p>E.R. Fyfe, Director.</p>	<p>359</p>
<p>(435) Ferro Enamels (Canada) Limited,*</p> <p>354 Davis Road, Oakville, Ontario.</p> <p>R & D Unit: Address as above.*</p> <p>Fields: Porcelain enamel and ceramic products, polyester systems, stabilizers and thermo-plastics.</p> <p>Activities: Product development.</p> <p>Facilities: Chemistry laboratory, porcelain enamel development laboratory, glaze, stain and glass colour laboratory.</p> <p>Personnel: 7 scientists, 3 engineers, 12 others.</p>	<p>M.M. Reagan, President.</p> <p>G.O. Zeller, Vice-President, Operations.</p>	<p>359</p> <p>359-375</p>
<p>(436) Fiberglas Canada Limited,*</p> <p>48 St. Clair Avenue West, Toronto 195, Ontario.</p> <p>a) R & D Unit: General Products Development, Technical Centre,* # 40 Highway, Sarnia, Ontario.</p> <p>Fields: Insulating materials technology, glass and resins.</p> <p>Activities: R & D (100%).</p> <p>Facilities: Technical centre and development laboratory.</p> <p>Personnel: 6 scientists, 12 engineers, 18 technologists, 4 others.</p> <p>b) R & D Unit: Textile and Reinforcing Materials Development,* # 7 Highway, Guelph, Ontario.</p> <p>Fields: Reinforcing glass fibre products, composite materials.</p> <p>Activities: Development (100%).</p> <p>Personnel: 1 scientist, 3 engineers, 4 technologists, 2 others.</p>	<p>A.J. Fisher, President.</p> <p>F.W. Henkelman, Director.</p> <p>F.W. Henkelman, Director.</p>	<p>359-183</p> <p>359</p> <p>183</p>
<p>(437) Houston Aggregate Company of Canada Limited,*</p> <p>2545 Delorimier Avenue, Longueuil, Quebec.</p>	<p>L.S. Ochman, President.</p>	<p>079</p>

- R & D Unit: Address as above.* L.S. Ochman, Director. 359
 Fields: Heavy aggregates, mineral fillers, filtration media, biological shielding.
 Activities: R & D (25%), testing and quality control (5%), manufacturing (65%), consulting (5%).
 Facilities: Laboratory of 2,500 sq. ft. equipped for physical testing and chemical analysis of ores and minerals, engineering and design facilities.
 Personnel: 2 scientists, 4 engineers, 5 technologists, 20 others.
- (438) **Norton Company,*** 357-359
 8001 Daly Street,
 Niagara Falls, Ontario.
 L2G 6S2 John J. Jeppson, President.
- R & D Unit: Norton Research Corporation,* R.A. Rowse, Director.
 Address as above.
 Fields: Abrasives and refractories: analytical chemistry, electrical testing, crystallographic studies, chemical processing of ceramic materials.
 Activities: R & D (75%), testing (25%).
 Facilities: Laboratory of 22,100 sq. ft., pilot plant of 22,000 sq. ft. with arc furnaces, induction, molding, calcining, crushing and screening equipment, machine shop of 2,700 sq. ft., library.
 Personnel: 4 scientists, 4 engineers, 4 technologists, 11 others.
- (439) **Raybestos-Manhattan (Canada) Limited,*** 359
 944 Crawford Drive,
 Peterborough, Ontario. D.L. Juhl, President.
- R & D Unit: Address as above. G.F. Butt, Director. 359-162
 Fields: Friction materials, rubber hose.
 Activities: Product development (30%), testing (70%).
 Facilities: Laboratory of 3,000 sq. ft.
 Personnel: 2 scientists, 1 technologist, 4 others.
- (440) **Reuter-Stokes Canada Limited,*** 391
 1315 Industrial Road,
 Preston, Ontario. R.A. Kempe, President.
- R & D Unit: Development Department,* J.C. Kroon, Director. 391-359
 Address as above.
 Fields: Nuclear instrumentation, ceramics.
 Activities: R & D (90%), testing (10%).
 Facilities: Approximately 1,000 sq. ft. of facilities, mostly manufacturing machinery.
 Personnel: 1 scientist, 2 technologists.
- (441) **St. Lawrence Cement Company,** 352
 Suite 1024,
 50, Place Crémazie,
 Montréal 351, Québec. Jacques J. Giasson, Président.
- Centre de R-D: 2391 Lakeshore Road West, J. Laneuville, Directeur.
 Mississauga,
 Ontario.
 L5J 1K1
 Domaines: Ciments et bétons.
 Activités: Amélioration des propriétés des ciments portland et développement de nouveaux liants hydrauliques.
 Installations: 2 spectromètres à rayons X, 1 analyseur à particules, système Holderbank.

- Personnel: 1 scientifique, 2 techniciens.
- (442) **Union Carbide Canada Limited,*** 378
 123 Eglinton Avenue East,
 Toronto 12, Ontario. J.S. Dewar, President.
- e) R & D Unit: Technology Department, 291-359
 Metals and Carbon Division,*
 Address as above.
- Fields: Ferro alloy manufacturing of chromium, silicon, and manganese, carbon and graphite products.
- Activities: R & D (60%), technical service (40%).
- Facilities: 5,000 sq. ft. of laboratory space.
- Personnel: 2 engineers.
- (443) **Westroc Industries Limited,*** 359
 2650 Lakeshore Highway,
 Mississauga, Ontario.
 L5J 1K4 N.W. Puttock, President.
- R & D Unit: Address as above.* C.J. Wightman, Development Manager.
- Fields: Basic gypsum products, jointing materials for drywall systems, glass fibre insulation, PVC material, perlite, etc.
- Activities: R & D (50%), applied service work (50%).
- Facilities: Laboratory and testing area of 7,000 sq. ft., technical library.
- Personnel: 2 scientists, 4 engineers, 3 technologists, 11 others.
- 16. Petroleum and Coal Products/Fabrication de produits du pétrole et du charbon (365-369)**
- (444) **Burmah-Castrol Canada Limited,** 369
 3660 Lakeshore Boulevard West,
 Toronto, Ontario.
 M8V 3S4 R.J. Street, President.
- a) R & D Unit: Kleen-Flo Corporation, A.E. Spector, Managing Director.
 Address as above.
- Fields: Lubricating oils and greases, metalworking oils and corrosion prevention.
- Activities: R & D (10%), marketing (80%), testing (10%).
- Facilities: 1,000 sq. ft. laboratory.
- Personnel: 1 scientist, 2 technologists.
- b) R & D Unit: Address as above. R.J. Street, Director.
- Fields: Lubricating oils and greases, metalworking oils and corrosion prevention.
- Activities: R & D (10%), testing (20%), manufacturing (10%), marketing (60%).
- Facilities: Lubricants blending plant, 1,000 sq. ft. laboratory.
- Personnel: 1 scientist, 2 engineers, 4 technologists.
- (445) **Canadian Carbonization Research Association,*** 864-369
 c/o Department of Energy, Mines and Resources,
 562 Booth Street,
 Ottawa, Ontario.
 K1A 0G1, J.O. Thomas, Chairman.

R & D Unit: Address as above.* J.T. Collier, Technical Chairman.
 Fields: Coal carbonization technology including form-coking, evaluation of coals for coking.
 Activities: R & D (60%), evaluation (40%).
 Facilities: Cooperative with the Department of Energy, Mines and Resources: 800 lb. and 500 lb. movable-wall coke ovens and related ancillaries including tar recovery, form-coke assessment apparatus, bench-scale research facilities.
 Personnel: 1 engineer, students from the University of Waterloo, 8 others.

(446) **Gulf Oil Canada Limited,*** 064
 Sheridan Park, Ontario. J. McAfee, President.

R & D Unit: Address as above.* R.M. Donald, Manager. 365
 Fields: Petroleum products and processes.
 Activities: R & D (100%).
 Facilities: Analytical laboratory, product development pilot plant and engine testing facilities.
 Personnel: 40 scientists, 17 engineers, 57 technologists, 19 others.

(447) **Imperial Oil Limited,*** 365
 111 St. Clair Avenue West,
 Toronto, Ontario.
 M5W 1K3 J.A. Armstrong, President.

a) R & D Unit: Research Department,* C.H. Caesar, Manager. 365
 Box 3022,
 Sarnia,
 Ontario.
 N7T 7M1
 Fields: Technology related to petroleum and chemical products and processes.
 Activities: R & D (90%), consulting and service (10%).
 Facilities: 110,000 sq. ft. of laboratory space, including 15,000 sq. ft. pilot plant, engine laboratory, chassis dynamometer, and analytical equipment including mass spectrometer and x-ray diffraction equipment.
 Personnel: 62 scientists, 16 engineers, 151 technologists, 19 others.

b) R & D Unit: PVC Applications Laboratory,* W. Taylor, Manager. 373
 Esso Chemical Canada,
 480 Christina Street South,
 Sarnia,
 Ontario.
 N7T 7H8
 Fields: PVC compound development, polymer processing and rheology.
 Activities: R & D (60%), testing (10%), consulting and service (30%).
 Facilities: 17,000 sq. ft. of laboratory space.
 Personnel: 1 scientist, 2 engineers, 2 technologists, 9 others.

c) R & D Unit: Production Research and Technical G.G. Mainland, Manager. 099-864
 Service,*
 339-50th Avenue Southeast,
 Calgary,
 Alberta.
 T2G 2B3
 Fields: Petroleum drilling, production and gas processing operations, permafrost geotechnical studies, ice mechanics and offshore facilities, automated analytical systems.
 Activities: R & D (60%), analytical services (40%).
 Facilities: A 37,000 sq. ft. laboratory, machine shop, computer terminals, library.
 Personnel: 23 engineers, 28 technologists, 17 others.

INDUSTRIES MANUFACTURIÈRES – Produits du pétrole et du charbon

d) R & D Unit:	Exploration Service and Research, 500-6th Avenue Southwest, Calgary, Alberta.	M.G. Parsons, Manager.	099-864
Fields:	Geophysics, including seismic field processing and interpretation techniques; geology, including geochemistry, paleontology, facies interpretation, and fluid movement; formation evaluation, systems applications.		
Activities:	R & D (15%), service and consulting (85%).		
Facilities:	10,000 sq. ft. of laboratory and processing facilities.		
Personnel:	49 scientists, 25 technologists, 36 others.		
e) R & D Unit:	Cold Lake Project, Edmonton, Alberta.	J.H. Nicholls, Project Manager.	064
Fields:	Development of process for recovery of Cold Lake heavy oil deposits.		
Activities:	R & D (100%).		
Facilities:	Pilot plant consisting of wells, distribution and gathering systems, separation facilities and steam generation facilities.		
Personnel:	5 engineers, 14 others.		
(448) Shell Canada Limited,			064
	505 University Avenue, Toronto, Ontario.	J.F. Bookout, President.	
R & D Unit:	Oakville Research Centre, Address as above.	G. Shane, Director.	365
Fields:	Petroleum products.		
Activities:	R & D (100%).		
Facilities:	Laboratory of 56,000 sq. ft.		
Personnel:	21 scientists, 3 engineers, 30 technologists, 12 others.		
(449) Texaco Canada Limited,			365
	1425 Mountain Street, Montreal 107, Quebec.	A.G. Farquharson, President.	
a) R & D Unit:	Montreal Plant, Address as above.	W.J. Orłowski, Director.	
Fields:	Chemical engineering and organic chemistry.		
Activities:	Process and petrochemical research.		
Facilities:	Laboratory of 2,200 sq. ft.		
Personnel:	1 scientist, 1 engineer, 1 technologist.		
b) R & D Unit:	Toronto Blending and Lube Manufacturing Plant,	R.W. Shapka, Director.	
Fields:	Lubricants, greases and cutting fluids.		
Activities:	Development (100%).		
Facilities:	Laboratory of 3,750 sq. ft.		
Personnel:	2 scientists, 1 technologist.		

17. Chemical and Chemical Products Industries/Industrie chimique (372-379)

(450) Abbott Laboratories Limited,			374
	5400 Cote de Liesse Road, Montreal 307, Quebec.	C.G. Cornell, President.	

- R & D Unit: Scientific Division, P.H. Nash, Director.
Address as above.
- Fields: New pharmaceuticals.
- Activities: Organic chemical research (100%).
- Facilities: Laboratory of 2,500 sq. ft., spectroscopic instruments, library of 1,500 books.
- Personnel: 11 scientists, 2 technologists, 1 other.
- (451) **Abrex Specialty Coatings Limited,*** 375
280 Wycroft Road,
Oakville, Ontario. G.R. Bailey, President.
- R & D Unit: Address as above.* F.R. Crowne, Director.
- Fields: Industrial paints and electrocoating for paints.
- Activities: R & D (80%), technical services (10%), testing (10%).
- Facilities: 3 laboratories totalling 1,500 sq. ft.
- Personnel: 2 scientists, 2 engineers, 4 technologists, 1 other.
- (452) **Air Liquide Canada Limitée,*** 378
1210 ouest, rue Sherbrooke,
Montréal 110, Québec. Pierre Salbaing, Président.
- Centre de R-D: Même adresse.* Guy Savard, Directeur.
- Domaines: Applications des gaz oxygène, nitrogène, argon, hydrogène, acide carbonique, en métallurgie et pour le traitement des eaux polluées.
- Activités: R - D (100%).
- Installations: Laboratoire de 10,000 pieds carrés, équipement d'analyse avancée.
- Personnel: 6 ingénieurs, 2 techniciens.
- (453) **Arrow Tape Industries Incorporated,*** 162
475 George V Avenue,
Lachine, Quebec. Sam Ramelson, President.
- R & D Unit: Address as above.* Sam Ramelson, Director. 379
- Fields: Chemical research on pressure sensitive adhesive tapes.
- Activities: R & D (100%).
- Facilities: Laboratory of 850 sq. ft., machine shop, boiler room, air compressor.
- Personnel: 2 scientists, 1 engineer, 1 technologist, 1 other.
- (454) **Ashland Oil Canada Limited,** 064
800 Standard Life Building,
Calgary, Alberta. H. Earl Joudrie, President.
- R & D Unit: Resin and Chemical Division, R.C. Burrows, Director. 373-379
200 Fairbank Avenue,
Toronto,
Ontario.
- Fields: Coatings, resins, foundry sand binders, specialty chemicals.
- Activities: R & D (80%), testing (15%), in house consulting (5%).
- Facilities: 3,000 sq. ft. laboratory, analytical and test equipment.
- Personnel: 2 scientists, 1 engineer, 3 technologists.
- (455) **Avmor Limited,** 376
433 St. Helen Street,
Montreal 125, Quebec. A. Morrow, President.
- R & D Unit: Address as above. M.N. Fineman, Director.
- Fields: Detergents, disinfectants, floor polishes, coatings, chemical specialties.

INDUSTRIES MANUFACTURIÈRES – Industrie chimique

- Activities: R & D (100%).
 Facilities: Laboratory of 2,700 sq. ft. and related service facilities.
 Personnel: 3 scientists, 1 engineer, 1 technologist, 2 others.
- (456) **Ayerst Laboratories,*** 374
 Box 6115,
 Montreal, Quebec. J.A. Walker, President.
- R & D Unit: Address as above.* R. Deghenghi, Director.
 Fields: Pharmaceuticals.
 Activities: R & D (100%).
 Facilities: Laboratories of 100,000 sq. ft. including library of 42,000 volumes.
 Personnel: 156 scientists, 69 technologists, 72 others.
- (457) **Bapco Paint Limited,** 375
 201 Belleville Street,
 Victoria, British Columbia. J.R. Law, President.
- R & D Unit: Address as above. R.G. Nickells, Laboratory Manager.
 Fields: Paint, resin and emulsion technology.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory of 3,000 sq. ft., small scale equipment for manufacture of resins and paints, application equipment, library.
 Personnel: 7 scientists, 7 technologists, 1 other.
- (458) **Bate Chemical Company Limited,** 373
 Polyresins Division,
 160 Lesmill Road,
 Don Mills 405, Ontario. R.B. Smith, President.
- R & D Unit: Address as above. C.P. Mason, Director.
 Fields: Resins and polymers.
 Activities: R & D (75%), technical services (12%), plant assistance and product control (13%).
 Facilities: Laboratory of 4,000 sq. ft., plant of 40,000 sq. ft.
 Personnel: 3 scientists, 2 technologists.
- (459) **H.L. Blachford Limited,*** 379-165
 977 Aqueduct Street,
 Montreal 107, Quebec. H.L. Blachford, President.
- R & D Unit: Address as above.* J. Blachford, Director.
 Fields: Lubricants for wire drawing, epoxy flooring compounds, rigid urethane foam insulation, acoustical products.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory of 4,000 sq. ft.
 Personnel: 9 scientists, 5 technologists.
- (460) **Bristol Laboratories of Canada,*** 374
 100 Industrial Boulevard,
 Candiac, Quebec. E.R. Rowe, President.
- R & D Unit: Address as above.* Y.G. Perron, Director.
 Fields: Pharmaceuticals including antibiotics, analgesics, narcotic antagonists, CNS agents.
 Activities: R & D (100%).
 Facilities: Laboratory of 16,000 sq. ft., library, related equipment.
 Personnel: 22 scientists, 5 technologists.

- (461) **Bristol-Myers Products Canada,** 377
 111 Richmond Street West,
 Toronto, Ontario. R.A. McNair, President.
- R & D Unit: Scientific Division, D.F. Carrothers, Director.
 106 North Queen Street,
 Toronto 540,
 Ontario.
- Fields: Laundry, household cleaning, health, and beauty aid consumer products.
 Activities: R & D (60%), quality control (20%), technical services (20%).
 Facilities: Laboratory of 8,400 sq. ft., including administrative offices and library.
 Personnel: 8 scientists, 6 technologists, 2 others.
- (462) **Canada Packers Limited,** 108
 95 St. Clair Avenue West,
 Toronto 7, Ontario. W.F. McLean, President.
- R & D Unit: 2211 St. Clair Avenue West, L.J. Rubin, Director. 108-378
 Toronto 9,
 Ontario.
- Fields: Foods, fine chemicals, leather, edible oils and feeds.
 Activities: R & D (100%).
 Facilities: Laboratory and 5 pilot plants.
 Personnel: 31 scientists, 5 engineers, 24 technologists, 8 others.
- (463) **Canada Printing Ink Company Limited,** 379
 Box 265, Station N,
 Toronto 14, Ontario. G.L. Hagen, President.
- R & D Unit: 111 Brockhouse Road, D.M. Henry, Director.
 Toronto 14,
 Ontario.
- Fields: Printing inks.
 Activities: R & D (20%), testing (80%).
 Facilities: Laboratory of 1,200 sq. ft., related service facilities.
 Personnel: 1 scientist, 3 technologists, 3 others.
- (464) **Canadian General Electric Company Limited,*** 336
 214 King Street West,
 Toronto, Ontario. W.G. Ward, Chairman.
- g) R & D Unit: Nuclear and Chemical Products W.M. Brown, Director. 378-315
 Department,*
 Peterborough,
 Ontario.
- Fields: Nuclear reactors and related equipment, heavy water, synthetic resins, electrical
 insulating compounds, silicones, plastics.
 Activities: R & D (50%), testing (40%), manufacturing (10%).
 Facilities: Laboratories (4 locations) of 23,500 sq. ft., library.
 Personnel: 68 engineers, 22 technologists, 100 others.
- (465) **Canadian Hanson Limited,** 298
 45 Vansco Road,
 Toronto, Ontario.
 M8Z 5J7 B.O. Winter, President.

INDUSTRIES MANUFACTURIÈRES – Industrie chimique

- R & D Unit: Address as above. A.R. Moores, Director. 379-189
 Fields: Metal and plastic finishing, buffing compounds, metal cleaners, buffs made of cotton, sisal, synthetics.
 Activities: R & D (85%), quality control (15%).
 Facilities: Research laboratory of approximately 1,400 sq. ft., atomic absorption infrared spectrophotometers, scientific library, viscometers.
 Personnel: 1 scientist, 2 technologists.
- (466) **Canadian Hoechst Limited,*** 374
 4045 Cote Vertu Boulevard,
 Montreal, Quebec. R.L. Hoffman, President.
- a) R & D Unit: Hoechst Pharmaceuticals Division, I. Horowitz, Director.
 Address as above.
 Fields: Pharmaceutical agents, clinical assessment.
 Activities: Testing (90%), consulting (10%).
 Facilities: Library and access to I.B.M. computer system 360-70.
 Personnel: 3 scientists, 2 technologists.
- b) R & D Unit: Hoechst Pharmaceuticals Division,* H. Kruse, Director.
 Box 610,
 Varennes,
 Quebec.
 Fields: Pharmaceutical agents, quality control.
 Activities: Testing (100%).
 Facilities: Laboratory of 600 sq. ft. and related service facilities.
 Personnel: 1 scientist, 3 technologists.
- (467) **Canadian Industries Limited,*** 379
 Box 10,
 Montreal 101, Quebec. E.L. Hamilton, President.
- a) R & D Unit: Lambton Works Technical Section, J. Oroszky, Director. 372
 Box 1900,
 Courtright,
 Ontario.
 Fields: Agricultural chemicals and fertilizers.
 Activities: R & D (40%), testing (10%), service work (50%).
 Facilities: Laboratory of 5,000 sq. ft., library.
 Personnel: 5 engineers, 4 technologists.
- b) R & D Unit: Plastics Technical Centre, A.M. Birks, Director. 373
 142 Kennedy Road South,
 Brampton,
 Ontario.
 Fields: Development of polyethylene resins and compounds, development of polyethylene film products and processes.
 Activities: R & D (80%), technical services (20%).
 Facilities: Laboratory and machine shop totalling 28,000 sq. ft.
 Personnel: 3 scientists, 3 engineers, 1 technologist, 17 others.
- c) R & D Unit: Edmonton Research Group, A.M. Birks, Director. 373
 Box 428,
 Edmonton,
 Alberta.
 Fields: Development of polyethylene resins and compounds, development of polyethylene production processes.
 Personnel: 2 scientists.

d) R & D Unit:	Paints Research Group,* 1330 Castlefield Avenue, Toronto 19, Ontario.	C.H. Kaufmann, Director.	375
Fields:	Decorative and protective coatings and systems.		
Activities:	R & D (50%), product support (40%), manufacturing assistance (10%).		
Facilities:	Laboratory of 35,000 sq. ft., library of 2,000 technical books.		
Personnel:	26 scientists, 3 engineers, 43 technologists, 6 others.		
e) R & D Unit:	Central Research Laboratory,* McMasterville, Quebec.	G.H. Segall, Director.	378
Fields:	Applied and development research.		
Activities:	R & D (73%), technical assistance and other activities (27%).		
Facilities:	Laboratories of 32,500 sq. ft., machine shop, library and related service facilities.		
Personnel:	26 scientists, 9 engineers, 27 technologists, 34 others.		
f) R & D Unit:	Explosives Research Laboratory,* McMasterville, Quebec.	L.C. Thompson, Director.	379
Fields:	Commercial explosives, military explosives and technology of breaking rock.		
Activities:	R & D (55%), routine testing (20%), technical services (25%).		
Facilities:	Chemical laboratory, 2 pilot plants, physics laboratory, 2 explosives laboratories, field test site, library with 5,000 technical books, computer terminal.		
Personnel:	17 scientists, 10 engineers, 27 technologists, 7 others.		
g) R & D Unit:	Paints Research Laboratory, 8200 Keele Street, Concord, Ontario.	R.L. Heppolette, Director.	379
Fields:	Development of new paints and process studies.		
Activities:	Development (40%), control testing (40%), process studies (20%).		
Facilities:	2,500 sq. ft. of laboratory space.		
Personnel:	5 scientists, 1 engineer, 7 technologists.		
(468) Canadian Safety Fuse Company Limited,*			379
	Brownsburg, Quebec.	E.L. Hamilton, President.	
R & D Unit:	Address as above.*	J.G. Finlayson, Director.	
Fields:	Explosives accessories for mining and construction use.		
Activities:	R & D (60%), testing (37%), consulting (3%).		
Facilities:	Laboratories and test areas totalling 8,000 sq. ft.		
Personnel:	2 scientists, 2 engineers, 11 technologists, 3 others.		
(469) Canadian Titanium Pigments Limited,			378
	Varenes, Quebec.	E.G. Orling, President.	
R & D Unit:	Address as above.	R.L. Lister, Director.	
Fields:	Pigments and chemicals.		
Activities:	R & D (100%).		
Facilities:	Laboratory.		
Personnel:	1 scientist, 5 technologists, 1 other.		
(470) Chinook Chemical Corporation Limited,*			378
	Box 160, Sombra, Ontario.	P. Copland, President.	

INDUSTRIES MANUFACTURIÈRES – Industrie chimique

<p>a) R & D Unit: Sombra Division,* Address as above.</p> <p>Fields: Methylamines production, analyses, ethylene oxide reactions, computer simulation, equilibrium and dynamic processes.</p> <p>Activities: R & D (80%), consulting (10%), testing (10%).</p> <p>Personnel: 4 scientists, 1 engineer.</p>	<p>D.M. Bisset, Director.</p>	<p>378</p>	
<p>b) R & D Unit: Acme Division,* 229 Niagara Street, Toronto 3, Ontario.</p> <p>Fields: Chemical specialty formulation.</p> <p>Activities: R & D (60%), testing (30%), consulting (10%).</p> <p>Personnel: 2 scientists.</p>	<p>D.M. Bisset, Director.</p>	<p>379</p>	
<p>c) R & D Unit: Montreal Division,* 8963-70th Avenue, Riviere des Prairies, Quebec.</p> <p>Fields: Organic peroxides.</p> <p>Activities: R & D (55%), testing (10%), process development (25%), consulting (10%).</p> <p>Personnel: 1 engineer, 1 technologist.</p>	<p>D.M. Bisset, Director.</p>	<p>378</p>	
<p>(471) Chipman Chemicals Limited,* 519 Parkdale Avenue North, Hamilton, Ontario.</p>	<p>R & D Unit: Technical Department,* Box 3100, Station C, Hamilton, Ontario.</p> <p>Fields: Development and evaluation of new agricultural pest control chemicals.</p> <p>Activities: R & D (70%), testing (30%).</p> <p>Facilities: Laboratory of 1,300 sq. ft., rented land for field research at several locations across Canada.</p> <p>Personnel: 7 scientists, 1 technologist, 2 others.</p>	<p>R.A. Costen, Director.</p>	<p>379</p> <p>379-021</p>
<p>(472) Ciba-Geigy Canada Limited, 205 Bouchard Boulevard, Dorval 780, Quebec.</p>	<p>R & D Unit: Green Cross, 1200 Franklin Boulevard, Cambridge, Ontario. N1R 5W8</p> <p>Fields: Agrochemicals, pesticides.</p> <p>Activities: Service to Canadian agriculture.</p> <p>Facilities: Research laboratory.</p> <p>Personnel: 7 scientists, 4 technologists, 3 others.</p>	<p>T.W. Parton, President.</p> <p>H. Pass, Director.</p>	<p>374</p> <p>379-021</p>
<p>(473) Clough Chemical Company Limited, 178 St. Pierre, St. Jean, Quebec.</p>	<p>William A. Clough, President.</p>	<p>379</p>	

R & D Unit: Address as above. Roger Payen, Director.
 Fields: Development of metallic compounds, basic products for cosmetics, resins, dilating agents for use in tanneries, textiles.
 Activities: Development and manufacturing.
 Facilities: Laboratory, related equipment, including stainless steel reactors, facilities for gas chromatography.
 Personnel: 2 scientists, 4 technologists.

(474) **Dearborn Chemical Company Limited,*** 379
 3451 Erindale Station Road,
 Mississauga, Ontario.

H.N. Potter, President.

R & D Unit: Address as above.*
 Fields: Water treatment.
 Activities: R & D (80%), testing (20%).
 Facilities: Laboratory of 2,000 sq. ft.
 Personnel: 3 scientists, 2 technologists.

E.J. Dewar, Director.

(475) **Delmar Chemicals Limited,*** 374
 9321 Airlie Street,
 LaSalle 650, Quebec.

G.J. Dunne, President.

R & D Unit: Address as above.*
 Fields: Synthesis of pharmaceutical chemicals.
 Activities: R & D (80%), assistance to production (20%).
 Facilities: Laboratories of 6,600 sq. ft., instrument room, related service facilities and library.
 Personnel: 13 scientists, 2 technologists, 9 others.

C. Podesva, Director.

(476) **Desbergers Limitée,** 374
 8480, boulevard St-Laurent,
 Montréal, Québec.

Jacques Carrière, Président.

Centre de R-D: Même adresse.
 Domaines: Produits pharmaceutiques et cosmétiques.
 Activités: R - D (100%).
 Installations: Laboratoire de 2,152 pieds carrés.
 Personnel: 7 scientifiques, 5 techniciens.

A. Faille, Directeur.

(477) **Desoto Coatings Limited,*** 375
 523 The Queensway,
 Toronto, Ontario.
 M8Y 1J7

G.C. Chapman, President.

R & D Unit: R & D Research Center,*
 Address as above.
 Fields: Chemical coatings.
 Activities: R & D (80%), other (20%).
 Facilities: Laboratory of 6,000 sq. ft.
 Personnel: 3 scientists, 4 engineers, 4 technologists, 2 others.

E. Mikazans, Director.

(478) **Diagnostic Chemicals Limited,** 374
 4 Newland Crescent,
 Charlottetown, Prince Edward Island.

J. Regis Duffy, President.

R & D Unit: Cumberland Street,
 Charlottetown,
 Prince Edward Island.

John Fenwick, Director.

INDUSTRIES MANUFACTURIÈRES – Industrie chimique

- Fields: Chemical specialty manufacturing.
 Activities: R & D (100%).
 Personnel: 1 scientist, 1 technologist.
- (479) **Diversey (Canada) Limited,*** 376
 2645 Royal Windsor Drive,
 Mississauga, Ontario. J.C. Pick, President.
- R & D Unit: Diversey Research Centre,* D.R. Kane, Director
 Address as above.
- Fields: Industrial cleaning chemicals and dispensing control equipment, metal treating,
 sanitizers and disinfectants, chemical specialities.
- Activities: Development (60%), applied research (10%), product improvement and testing
 (30%).
- Facilities: Laboratory of 6,700 sq. ft., small library.
- Personnel: 9 scientists, 3 engineers, 1 technologist, 2 others.
- (480) **Dominion Colour Corporation Limited,*** 378
 199 New Toronto Street,
 Toronto 14, Ontario.
 M8V 2E9 D. Robb, President.
- R & D Unit: Address as above.* J.D. Easton, Director.
- Fields: Synthetic inorganic and organic coloured pigments.
- Activities: R & D (60%), testing (40%).
- Facilities: Laboratory of 4,500 sq. ft. with facilities for preparation and evaluation of pigments,
 paints and printing inks.
- Personnel: 7 scientists, 15 technologists, 3 others.
- (481) **Dow Chemical of Canada Limited,*** 378
 Sarnia, Ontario. Clyde H. Boyd, President.
- R & D Unit: Address as above.* B.B. Hillary, Director. 378-373
- Fields: Chemicals and plastics.
- Activities: R & D (100%).
- Facilities: 60,000 sq. ft. of research laboratories and development areas and technical library.
- Personnel: 36 scientists, 8 engineers, 8 technologists, 4 others.
- (482) **Dryden Chemicals Limited,*** 378
 Lignosol Chemicals Division,
 Box 2025,
 Quebec 2, Quebec. Harold Elgee, President.
- R & D Unit: Address as above.* K.F. Keirstead, Director.
- Fields: Lignosulphonate products.
- Activities: R & D (77%), testing (23%).
- Facilities: Laboratory of 1,750 sq. ft.
- Personnel: 5 scientists, 4 technologists.
- (483) **Dyer and Miller Brothers Limited,** 315
 42 Rivalda Road,
 Weston, Ontario. R.C. Miller, President.
- R & D Unit: CDN Research & Development Company R.C. Miller, Director. 315-378
 (partnership joint venture with
 Nordic Steel Products Limited),
 Address as above.

Fields: Foam systems for crash rescue vehicles.
 Activities: R & D (50%), manufacturing (50%).
 Facilities: Machine shop, vehicle shop, foundry.
 Personnel: 2 engineers, 1 technologist, 12 others.

(484) **Electric Reduction Company of Canada Limited,*** 378

2 Gibbs Road,
 Islington 678, Ontario.

L.G. Lillico, President.

a) R & D Unit: Industrial Phosphates,* J.D. McGilvery, Director.
 Address as above.

Fields: Industrial phosphate chemicals, agricultural phosphates.
 Activities: R & D (75%), technical service (25%).
 Facilities: Laboratory of 12,000 sq. ft., related service facilities.
 Personnel: 2 scientists, 1 engineer, 2 technologists, 1 other.

b) R & D Unit: Pulp and Paper,* R. Swindells, Director.
 Address as above.

Fields: Pulp and paper chemicals, primarily chlorates, chlorine dioxide; electrochemical technology.
 Activities: R & D (85%), technical service (15%).
 Facilities: Same as above (shared by the 2 units)
 Personnel: 3 scientists, 1 engineer, 2 technologists.

(485) **Electrohome Limited,*** 334

809 Wellington Street North,
 Kitchener, Ontario.

J.A. Pollock, President.

a) R & D Unit: Planning & Development Laboratory,* 864-379
 330 Weber Street North,
 Waterloo,
 Ontario.

Fields: Chemical and anti-pollution research.
 Activities: R & D (100%).
 Facilities: Laboratory of 2,500 sq. ft., related service facilities.
 Personnel: 1 scientist, 2 engineers, 1 technologist, 2 others.

(486) **Emery Industries (Canada) Limited,*** 378

425 Kipling Avenue,
 Toronto 530, Ontario.

R.H. Ruebottom, President.

R & D Unit: Address as above.* R.H. Riem, Director.
 Fields: Organic specialty chemicals.
 Activities: R & D (80%), technical service (20%).
 Facilities: General organic laboratories.
 Personnel: 5 scientists, 2 technologists.

(487) **Ethyl Corporation of Canada Limited,** 378

48 St. Clair Avenue West,
 Toronto 7, Ontario.

K.A. Freberg, President.

R & D Unit: Address as above. R.H. Shannon, Director.
 Fields: Metallurgy, hydrometallurgy, organometallic chemistry.
 Activities: Engineering and economic evaluation of contract research.
 Personnel: 3 engineers, 2 others.

(488)	FMC of Canada Limited,*		335
	Box 10, Stoney Creek, Ontario.	B. Carter, President.	
	b) R & D Unit: Niagara Chemical Division,*	G.E. Willan, President, John A. Riddell, Director.	379
	Burlington, Ontario.		
	Fields: Agricultural chemicals.		
	Activities: R & D (60%), technical sales service (40%).		
	Facilities: Research laboratory of 10,000 sq. ft., quality control laboratory of 5,000 sq. ft.		
	Personnel: 10 scientists, 7 technologists.		
(489)	Ferro Enamels (Canada) Limited,*		359
	354 Davis Road, Oakville, Ontario.	M.M. Reagan, President.	
	R & D Unit: Address as above.*	G.O. Zeller, Vice-President, Operations.	359-375
	Fields: Porcelain enamel and ceramic products, polyester systems, stabilizers and thermo-plastics.		
	Activities: Product development.		
	Facilities: Chemistry laboratory, porcelain enamel development laboratory, glaze, stain and glass colour laboratory.		
	Personnel: 7 scientists, 3 engineers, 12 others.		
(490)	Glaxo Canada Limited,*		374
	Barclay Avenue, Toronto 550, Ontario.	F.J. Burke, President.	
	R & D Unit: Address as above.*	V. Chivers-Wilson, Director.	
	Fields: Pharmaceutical product development.		
	Activities: R & D (50%), analytical development (50%).		
	Facilities: Laboratory, associated control laboratory and instrument room, library.		
	Personnel: 3 scientists, 1 technologist, 6 others.		
(491)	B.F. Goodrich Canada Limited,*		162
	Executive Offices, Kitchener, Ontario.	Peter B. Mason, President.	
	c) R & D Unit: Shawinigan Laboratory,*	E. Powell, Manager.	373
	Avenue des Cedres, Shawinigan, Quebec.		
	Fields: Polyvinyl chloride resins, compounds and converted products for construction, agriculture, extractive and industrial purposes.		
	Activities: Development and application.		
	Facilities: Laboratory mills, related equipment, including spectrophotometers and gas-liquid chromatography.		
	Personnel: 1 scientist, 1 engineer, 7 technologists.		
	d) R & D Unit: Commercial Products Technical,*	H. Sears, A.H. Todd, Directors.	162-378
	521 King Street West, Kitchener, Ontario.		
	Fields: Varied range of rubber and chemical products, with emphasis on domestic and export requirements.		
	Activities: R & D, testing.		

	Facilities:	Laboratory mills, presses, ovens, and testing equipment.	
	Personnel:	14 engineers, 4 technologists.	
f)	R & D Unit:	Niagara Plant Laboratory, Niagara Falls, Ontario.	J.J. Dunn, Director. 373
	Fields:	Polyvinyl chloride resins and environmental control methods.	
	Activities:	Research and product development.	
	Facilities:	Laboratory mills, presses, ovens, cold chamber, spectrophotometers, plastograph, microscopes.	
	Personnel:	4 engineers, 7 technologists.	
(492)	Hart Chemical Limited,*		379
	Box 450, Guelph, Ontario.		Robert L Allen, President.
	R & D Unit:	Address as above.*	H.J.S. Shane, Director. 864-379
	Fields:	Surfactants, emulsifiers, pulp and paper processing, chemicals, textile auxiliary products.	
	Activities:	Development (50%), technical service (50%).	
	Facilities:	Five laboratories: analytical, development, pulp and paper, textile application, biochemical.	
	Personnel:	4 scientists, 5 technologists.	
(493)	Frank W. Horner Limited,*		374
	5485 Ferrier Street West, Montreal, Quebec.		D.W. Sutherland, President.
	R & D Unit:	Address as above.*	D.L. Simmons, Director.
	Fields:	Pharmaceuticals.	
	Activities:	R & D (90%), production (5%), control (5%).	
	Facilities:	Laboratories of 33,000 sq. ft., pilot plant, library of 1,000 books, animals.	
	Personnel:	24 scientists, 24 technologists, 2 others.	
(494)	ICN Strong Cobb Arner of Canada,*		374
	575 Niagara Boulevard, Fort Erie, Ontario.		M. Goodman, President.
	R & D Unit:	Address as above.*	H. Whener, Director.
	Fields:	Pharmaceuticals development and manufacturing.	
	Activities:	R & D (70%), testing (20%), consulting (10%).	
	Facilities:	Pharmaceutical product development laboratory, analytical laboratories.	
	Personnel:	1 scientist, 2 technologists, 1 other.	
(495)	Imperial Oil Limited,*		365
	111 St. Clair Avenue West, Toronto, Ontario. M5W 1K3		J.A. Armstrong, President.
b)	R & D Unit:	PVC Applications Laboratory,* Esso Chemical Canada, 480 Christina Street South, Sarnia, Ontario.	W. Taylor, Manager. 373
	Fields:	PVC compound development, polymer processing and rheology.	
	Activities:	R & D (60%), testing (10%), consulting and service (30%).	
	Facilities:	17,000 sq. ft. of laboratory space.	

Personnel: 1 scientist, 2 engineers, 2 technologists, 9 others.

- (496) **Industrial Adhesives Limited,** 379
 90 Tycos Drive,
 Toronto 10, Ontario. C.L. Kalthoff, President.
- a) R & D Unit: R & D Laboratory, D.L. Adam, Director.
 Address as above.
 Fields: Adhesives, coatings, plastisols, laminants.
 Activities: R & D (75%), customer service (15%), quality control (10%).
 Facilities: Laboratory of 1,400 sq. ft.
 Personnel: 5 scientists, 2 technologists.
- b) R & D Unit: R & D Laboratory, D.L. Adam, Director.
 255 Labrosse Avenue,
 Pointe Claire 730,
 Quebec.
 Fields: Adhesives, coatings, laminants.
 Activities: R & D (75%), customer service (15%), quality control (10%).
 Facilities: Laboratory of 450 sq. ft.
 Personnel: 1 scientist.
- (497) **Inmont Canada Limited,*** 375
 845 Wyandotte West,
 Windsor, Ontario. N. Beckwith, President.
- a) R & D Unit: Address as above.* L.S. Hughes, Director.
 Fields: Protective coatings and transportation finishes.
 Activities: R & D (75%), testing and evaluation (25%).
 Facilities: Laboratory of 5,000 sq. ft., and related facilities.
 Personnel: 9 scientists, 10 technologists, 1 other.
- b) R & D Unit: 313 Campbell Avenue,* L.S. Hughes, Director.
 Toronto,
 Ontario.
 Fields: Protective coatings and industrial finishes.
 Activities: R & D (100%).
 Facilities: Laboratory of 2,000 sq. ft.
 Personnel: 4 scientists, 2 technologists.
- c) R & D Unit: Scarfe and Company Limited,* L.S. Hughes, Director.
 Brantford,
 Ontario.
 Fields: Protective coatings and trade sale finishes.
 Activities: R & D (75%), testing and evaluation (25%).
 Facilities: Laboratory of 2,000 sq. ft.
 Personnel: 2 scientists, 1 technologist, 3 others.
- (498) **International Laboratories,** 375
 490 des Meurons,
 Winnipeg 6, Manitoba.
- R & D Unit: Address as above. E.J. Irving, Director.
 Fields: Coatings, paints.
 Activities: Development and testing (100%).
 Facilities: Laboratories of 1,600 sq. ft.
 Personnel: 1 scientist, 1 engineer.

- (499) **International Paints (Canada) Limited,** 375
 6700 Park Avenue,
 Montreal, Quebec. F.P. Baker, President.
- R & D Unit: Montreal Technical Group, R.A. Hartley, Director.
 Address as above.
- Fields: Chemical surface coatings for industrial and consumer application.
- Facilities: Paint laboratory.
- Personnel: 6 scientists, 1 other.
- (500) **K-Vet Limited,*** 374
 Queen Street West,
 Hespeler, Ontario. D.L. Kimpel, President.
- R & D Unit: Research Laboratory,* J.L. Bhasin, Director.
 Preston,
 Ontario.
- Fields: Animal and poultry vaccines, livestock feed ingredient analyses.
- Activities: R & D (80%), testing (20%).
- Facilities: Laboratory of 6,000 sq. ft., equipment including freeze driers, high speed chemical and bacteriological centrifuges.
- Personnel: 7 scientists, 2 others.
- (501) **Laboratoire Octo Limitée,*** 374
 2775, Montée St-Aubin,
 Chomedey, Ville de Laval, Québec. Jean-Marie Pépin, Président.
- Centre de R-D: Département de Mise-au-Point,* Marcel Trudel, Directeur.
 Même adresse.
- Domaines: Recherches et mise-au-point de produits et formes pharmaceutiques et la conception de machines spécialisées à ce domaine.
- Activités: R - D (50%), essais (40%), fabrication (10%).
- Installations: Laboratoires, atelier, et bibliothèques de 5,000 pieds carrés.
- Personnel: 5 scientifiques, 6 techniciens, 4 autres.
- (502) **Laurentian Concentrates Limited,*** 379
 1785 Woodward Drive,
 Ottawa, Ontario.
 K2C 0P9 W.N. Howe, President.
- R & D Unit: Address as above.* J.W. Butler, Director.
- Fields: Fire fighting foam compounds, agricultural foam for frost protection of vegetation.
- Activities: Manufacturing (70%), R & D (30%).
- Facilities: Manufacturing facilities of 17,000 sq. ft., R & D facilities of 10,000 sq. ft.
- Personnel: 1 scientist, 1 engineer, 2 technologists, 28 others.
- (503) **Laurentide Chemicals Incorporated,*** 378
 4650, 12e Avenue,
 Shawinigan, Québec. Gabriel Buisson, Président.
- Centre de R-D: Même adresse.* Gilles Belisle, Directeur.
- Domaines: Peinture, lacques, vernis, produits sanitaires, spécialités pour l'automobile.
- Activités: R - D (90%), contrôle (10%).
- Installations: Laboratoire de 2,500 pieds carrés.
- Personnel: 3 scientifiques, 8 techniciens, 2 autres.

- (504) **Lepage's Limited,** 379
 50 West Drive,
 Bramalea, Ontario. N.Riley, President.
 R & D Unit: Address as above. J. Fernandez, Director.
 Fields: Adhesives, coatings, specialty chemicals.
 Activities: R & D (75%), consulting and other activities (25%).
 Personnel: 1 scientist, 1 engineer, 1 technologist.
- (505) **Lever Detergents Limited,** 376
 1 Sunlight Park Road,
 Toronto, Ontario. A.J. Rae, President.
 M4M 1B6
 R & D Unit: R & D Department, K. Clark, Manager. 376-378
 Address as above.
 Fields: Detergents, soaps, toilet goods and industrial chemical products.
 Activities: R & D (80%), quality control (20%).
 Personnel: 5 scientists, 5 engineers, 7 others.
- (506) **Merck, Sharp and Dohme Canada Limited,** 374
 Laboratoires Merck Frosst Laboratories Division,
 16711 Trans-Canada Highway,
 Kirkland, Quebec. F.C. Becker, President.
 R & D Unit: Address as above. R.S. Stuart, Director.
 Fields: Research in pharmacy, chemistry and pharmacology for new ethical drugs.
 Activities: R & D (100%).
 Facilities: Laboratory of 55,452 sq. ft., library of 18,000 technical books and bound journals.
 Personnel: 46 scientists, 5 technologists, 15 others.
- (507) **Mobil Paint Company,** 375
 645 Coronation Drive,
 West Hill, Ontario. J.S. Hooper, President.
 M1E 4R6
 R & D Unit: Address as above. F.W. LaRoche, Director.
 Fields: Industrial use of protective coatings and synthetic resins, with particular interest in
 high polymers, metal corrosion, process design, pigments.
 Activities: Development (100%).
 Personnel: 8 scientists, 9 technologists.
- (508) **Benjamin Moore & Company Limited,** 378-373
 15 Lloyd Avenue,
 Toronto 9, Ontario. R.A. Hicks, President.
 R & D Unit: Research Laboratory, E.S. Brough, Director.
 Address as above.
 Fields: Polymer chemistry, particularly the development of synthetic resins.
 Activities: R & D (75%), testing (20%), consulting (5%).
 Facilities: Laboratory of 1,000 sq. ft., library of 200 technical books, infrared
 spectrophotometer.
 Personnel: 1 scientist, 1 engineer, 1 technologist.
- (509) **Mowatt & Moore Limited,*** 374
 115 Brunswick Boulevard,
 Pointe Claire, Quebec. William R. Telfer, President.

R & D Unit: Technical Department,* N.D. Gyan, Director.
 Address as above.
 Fields: Drug research and development, including some cosmetics.
 Activities: R & D (80%), quality assurance (20%).
 Facilities: Drug manufacturing and packaging facilities especially for tablets, capsules,
 ointments, creams, suppositories and liquid dosages.
 Personnel: 1 scientist, 4 technologists, 1 other.

- (510) **Noranda Mines Limited,** 059
 Box 45,
 Commerce Court West,
 Toronto, Ontario. A. Powis, President.
- R & D Unit: Noranda Research Centre, W.H. Gauvin, Director. 295-378
 240 Hymus Boulevard,
 Pointe Claire 730,
 Quebec.
 Fields: Metallurgical and chemical manufacturing.
 Activities: R & D (70%), testing (10%), consulting (20%).
 Facilities: 40,000 sq. ft. of facilities, including 2 pilot plants, laboratories, library.
 Personnel: 20 scientists, 22 engineers, 24 technologists, 33 others.
- (511) **Nordic Biochemicals Limited,*** 374
 2775 Montee St. Aubin,
 Chomedey, Ville de Laval, Quebec. Marcel Trudel, President.
- R & D Unit: Address as above.* M. Riverin, Director.
 Fields: Hormones and pharmaceuticals: ACTH, TSH, injectables, ophthalmics, human growth
 hormones.
 Activities: R & D (100%)
 Facilities: Laboratory of 4,000 sq. ft.
 Personnel: 3 scientists, 1 technologist, 2 others.
- (512) **Northern Pigment Company Limited,*** 378
 36 Towns Road,
 Box 1,
 Toronto 14, Ontario.
 M8Y 3S5 J. Boyd Clarke, President.
- R & D Unit: R & D Department and Technical Andrew Jaworski, Director.
 Services,*
 Address as above.
 Fields: Solid state chemistry and ceramics including synthetic metal oxides for the
 electronics industry, single crystals, iron oxides for magnetic tapes and ferrites,
 aluminas and magnesias.
 Activities: R & D (70%), testing (20%), consulting (10%).
 Facilities: Laboratory and pilot plants of 10,000 sq. ft., electron microscopy and x-ray groups.
 Personnel: 5 scientists, 3 engineers, 4 technologists, 8 others.
- (513) **Nuodex Canada Limited,** 378
 34 Industrial Street,
 Toronto, Ontario.
 M4G 1Y9 J.F. Lang, President.
- R & D Unit: Address as above. I. Fraser, Director.
 Fields: Paint and vinyl additives, industrial biocides and lubricant additives.
 Activities: R & D (50%), plant service and control (50%).

Facilities: Wet analysis laboratory, plastics and paint milling equipment.
 Personnel: 2 scientists, 1 engineer, 3 technologists.

(514) **Ortho Pharmaceutical (Canada) Limited,*** 374

19 Greenbelt Drive,
 Don Mills, Ontario.

R.L. MacKenzie, President.

R & D Unit: Address as above.* F.A. Philbrook, Director.
 Fields: New and existing pharmaceutical and diagnostic products especially in birth control, obstetrics-gynaecology, blood banking.
 Activities: Clinical and biological drug research.
 Facilities: Clinical research facilities, animal rooms, laboratories for biochemistry, haematology, histology, pharmacology, metabolism, diagnosis, microbiology, cold-room.
 Personnel: 5 scientists, 20 technologists.

(515) **Pfizer Company Limited,** 374

50 Place Cremazie,
 Montreal 351, Quebec.

R.E. Cawthorn, President.

a) R & D Unit: Medical Division, R.C. Daigle, Director.
 Address as above.
 Fields: Clinical evaluation of drugs.
 Activities: R & D (100%).
 Facilities: Medical and technical library.
 Personnel: 3 scientists.

b) R & D Unit: R & D Department for Animal Products, B.I. Groves, Director.
 Address as above.
 Fields: Clinical research, particularly antibiotics and psychotropic drugs.
 Activities: R & D (75%), technical services, (25%).
 Facilities: Library.
 Personnel: 1 scientist.

(516) **Pharma-Research Canada Limited,** 864-374

250 Hymus Boulevard,
 Pointe Claire 730, Quebec.

A.M. Weldon, President.

R & D Unit: Address as above. P.B. Stewart, Director. 374
 Fields: Pharmaceutical research.
 Activities: R & D (100%).
 Facilities: Fully equipped laboratories of 21,000 sq. ft., animal facilities of 15,000 sq. ft., library of 500 technical books.
 Personnel: 10 scientists, 23 technologists, 14 others.

(517) **Polymer Corporation Limited,*** 373

Sarnia, Ontario.

I.C. Rush, President.

R & D Unit: Address as above.*
 Fields: Rubber, latices, petrochemicals, plastics.
 Activities: R & D (100%).
 Facilities: Laboratories of 64,000 sq. ft., applications laboratories of 15,000 sq. ft., machine shops of 1,980 sq. ft., pilot plants of 24,000 sq. ft., and library of 15,000 technical books.
 Personnel: 44 scientists, 10 engineers, 18 technologists, 118 others.

- (518) **Polysar Plastics Limited,*** 373
 Box 338,
 Cambridge (Preston), Ontario.
- R & D Unit: Kayson Division,* George Detlor, Director.
 Address as above.
- Fields: Polystyrene polymerization.
- Activities: R & D (100%).
- Facilities: Laboratory of 900 sq. ft., pilot scale polymerization kettles.
- Personnel: 2 scientists, 1 technologist.
- (519) **The Procter & Gamble Company of Canada Limited,** 377
 2 St. Clair Avenue West,
 Box 355, Terminal A,
 Toronto, Ontario.
- G. Williams, President.
- R & D Unit: Product Development Department, J.F. Goodman, Director. 377-108
 Burlington Street East,
 Box 589,
 Hamilton,
 Ontario.
- Fields: Soaps, synthetic detergents, shortenings, cooking oils, prepared cake mixes,
 dentifrice, mouthwashes, shampoo and deodorants.
- Activities: R & D (100%).
- Facilities: Laboratories, office and library, totalling 20,000 sq. ft.
- Personnel: 7 scientists, 13 engineers, 38 others.
- (520) **Produits Familex Products Limited,** 377
 1600 Delorimier,
 Montreal, Quebec.
- Maurice Parent, President.
- R & D Unit: Address as above. Edmond C. Junod, Director.
- Fields: Beauty preparations and cosmetics, patented medicine, cleaning fluids, wax polish,
 polishes, detergents, food products and insecticides.
- Activities: R & D (30%), control analyses (70%).
- Personnel: 1 scientist, 2 technologists.
- (521) **Professional Pharmaceutical Corporation,*** 377
 2795 Bates Road,
 Montreal 251, Quebec.
- M.G. Cape, President.
- R & D Unit: Address as above.* L. Sestanj, Director.
- Fields: Dermatological specialties, hypo-allergenic cosmetics.
- Activities: Manufacturing (80%), R & D (20%).
- Facilities: Laboratory with related service facilities (chemical and microbiological).
- Personnel: 2 scientists, 2 technologists, 3 others.
- (522) **Purdue Frederick Company (Canada) Limited,** 374
 123 Sunrise Avenue,
 Toronto 375, Ontario.
- R & D Unit: Medical Department, R.T. Towson, Director.
 Address as above.
- Fields: Pharmaceutical drugs, pharmacology, clinical efficacy.
- Activities: Testing (90%), consulting (10%).
- Personnel: 1 other.

- (523) **Quebec Iron and Titanium Corporation,** 059
 Box 40,
 Sorel, Quebec. W.L. Walsh, President.
- R & D Unit: Research Centre, H.Y. Lee, Director. 291-378
 Address as above.
- Fields: Ilmenite ores, titanium dioxide slags, pig iron.
- Activities: R & D (100%).
- Facilities: Research centre incorporating laboratories, library, offices and pilot plant.
- Personnel: 11 scientists, 27 engineers, 50 technologists, 3 others.
- (524) **Raylo Chemicals Limited,*** 378
 8045 Argyll Road,
 Edmonton, Alberta.
 T6C 4A9 R.U. Lemieux, President.
- R & D Unit: Address as above.* R.U. Lemieux, Director.
- Fields: Chemical research.
- Activities: R & D (80%), manufacture of chemicals (20%).
- Facilities: Laboratory of 5,500 sq. ft., library of 1,000 technical books.
- Personnel: 9 scientists, 7 technologists, 4 others.
- (525) **Reichhold Chemicals (Canada) Limited,** 373
 1919 Wilson Avenue,
 Weston, Ontario. G.L. Hagen, President.
- a) R & D Unit: Central Division, A. Jansen, Director. 373-375
 Address as above.
- Fields: Synthetic resins, alkyd, urethane and epoxy resins for paint and varnish; polyesters for reinforced plastics; polyvinyl acetate and acrylic emulsions for paint, adhesives, floor polish and paper coating, and phenolic resins for adhesives and molding compounds.
- Activities: R & D (70%), testing and evaluation (30%).
- Facilities: Library with 2,000 technical books, 8,150 sq. ft. of laboratory space.
- Personnel: 6 scientists, 2 engineers, 8 technologists, 2 others.
- b) R & D Unit: Eastern Division, A. Berchem, Director. 373
 Box 120,
 Ste. Therese de Blainville,
 Quebec.
- Fields: Synthetic resins, phenolic and U/F resins for adhesives in forest products industry; phenolic resins for general adhesive and molding use; urethane foams, polyesters and urethanes for furniture casting, and resins for wet strength paper.
- Activities: R & D (70%), testing and evaluation (30%).
- Facilities: 2,200 sq. ft. of laboratory space.
- Personnel: 2 scientists, 9 technologists, 1 other.
- c) R & D Unit: Western Division, W.B. Smith, Director. 373
 Box 130,
 Port Moody,
 British Columbia.
- Fields: Synthetic resins for forest products industry, phenolic and U/F resins for various applications, and resins for treating and coating paper.
- Activities: R & D (70%), testing and evaluation (30%).
- Facilities: 2,800 sq. ft. of laboratory space.
- Personnel: 4 scientists, 3 engineers, 4 technologists, 1 other.

- (526) **Reliance Universal of Canada Limited,** 375
 1001 Daniel Johnson Boulevard,
 St. Jerome, Quebec. J.C. Hendershot, President.
- R & D Unit: R & D Division, S.L. Mole, Director.
 Address as above.
- Fields: Surface coating with particular emphasis on fire retardent finishes for wood substrates.
- Activities: R & D (100%).
- Facilities: Laboratory of 2,000 sq. ft. and instrumentation for surface coating testing.
- Personnel: 3 scientists and technologists, 2 others.
- (527) **SCM (Canada) Limited,*** 331
 Glidden Company Division,
 351 Wallace Avenue,
 Toronto 9, Ontario. J.W. Fowler, President.
- R & D Unit: Glidden R & D Laboratory,* G.G. Davis, Director. 375
 Address as above.
- Fields: Protective coatings and resins.
- Activities: R & D (90%), consulting (10%).
- Facilities: Laboratory of 11,000 sq. ft., pilot reactor plant, pilot application plant, library of 300 technical books.
- Personnel: 11 scientists, 3 engineers, 9 technologists, 3 others.
- (528) **Schenectady Chemicals Canada Limited,** 373-375
 309 Comstock Road,
 Scarborough 705, Ontario. H.D. Wright, President.
- R & D Unit: Research Department, E.L. Humburger, Director. 373
 Address as above.
- Fields: Synthetic resins.
- Activities: R & D (100%).
- Facilities: Laboratory equipped with all services necessary for work on synthetic resins and allied materials.
- Personnel: 3 scientists, 3 technologists.
- (529) **Scholl (Canada) Incorporated,** 374
 174 Bartley Drive,
 Toronto 375, Ontario. C.A. Holt, Vice-President and General Manager.
- R & D Unit: Address as above. W. Turkewitsch, Director. 374-162
- Fields: Pressure sensitive adhesive tapes, keratolytics, and products for skin care.
- Activities: R & D analytical work (100%).
- Facilities: Chemical laboratory.
- Personnel: 2 scientists, 2 technologists.
- (530) **Serdary Research Laboratories Incorporated,*** 378
 1643 Kathryn Drive,
 London 72, Ontario. B. Serdarevich, President.
- R & D Unit: Address as above.* B. Serdarevich, Director.
- Fields: Fine chemicals and biochemicals for research.
- Activities: R & D (60%), manufacturing (40%).
- Facilities: Laboratory of 600 sq. ft. and service facilities.
- Personnel: 1 scientist, 3 others.

- (531) **The Sherwin-Williams Company of Canada Limited,** 375
 2875 Centre Street,
 Montreal 104, Quebec. R.F. Curley, President.
- R & D Unit: Address as above. D.H. Hargrave, Director. 375-379
 Fields: Paint, lacquer, varnish and chemical coatings for household, maintenance, industrial,
 automotive and government road-marking uses.
 Activities: R & D (75%), quality control (25%).
 Facilities: Laboratory of 32,000 sq. ft., including library of technical books and other related
 equipment.
 Personnel: 21 scientists, 2 engineers, 14 technologists, 17 others.
- (532) **Sico Incorporé,** 375
 3280, boulevard Ste-Anne,
 Québec 2, Québec. Marcel Deslauriers, Président.
- a) Centre de R-D: Même adresse. Jean-Claude Asselin, Directeur.
 Domaines: Peintures et vernis pour usage commercial.
 Activités: R - D (100%).
 Installations: Laboratoire de 2,800 pieds carrés.
 Personnel: 3 scientifiques, 1 ingénieur, 8 techniciens, 10 autres.
- b) Centre de R-D: 2505, de la Métropole, Ken Delameter, Directeur.
 Longueuil,
 Québec.
 Domaines: Peintures, lacques et vernis pour usage industriel.
 Activités: R - D (100%).
 Installations: Laboratoire de 3,000 pieds carrés.
 Personnel: 5 scientifiques, 5 techniciens, 8 autres.
- c) Centre de R-D: 5669, Casgrain,
 Montréal 151,
 Québec.
 Domaines: Peintures et vernis pour usage commercial.
 Activités: R - D (100%).
 Installations: Laboratoire de 700 pieds carrés.
 Personnel: 1 scientifique, 2 techniciens, 4 autres.
- (533) **Sinclair & Valentine Company of Canada Limited,** 375-379
 4590 Dufferin Street,
 Downsview, Ontario. W.L. Kitchen, President.
- R & D Unit: R & D section, Technical Department, S.W. Paul Wyszkowski, Director.
 Address as above.
 Fields: Printing ink and coatings.
 Activities: R & D (100%).
 Facilities: Laboratory of 1,500 sq. ft., related equipment including microscopy,
 spectrophotometry, library of 1,000 technical books.
 Personnel: 3 scientists, 2 engineers, 7 technologists, 1 other.
- (534) **Smith Kline & French Canada Limited,*** 374
 300 Laurentian Boulevard,
 Montreal 379, Quebec. W.M. Robson, President.
- R & D Unit: R & D Division,* J.K.C. Yen, Director.
 87 Senneville Road,
 Senneville,

Quebec.
 Fields: Pharmacy research: formulation, biopharmaceutics, analytical chemistry, clinical coordination, clinical evaluation of tranquilizers, diuretics, vaccines.
 Activities: R & D, testing.
 Personnel: 7 scientists, 6 technologists.

- (535) **E.R. Squibb & Sons Limited,** 374
 2365 Cote de Liesse Road,
 Montreal 379, Quebec. Donald E. Clippinger, President.
- R & D Unit: Address as above. M.H. King, Director.
 Fields: Clinical research in new pharmaceutical products.
 Activities: R & D (100%).
 Personnel: 2 scientists, 2 technologists, 3 others.
- (536) **Stein-Hall Limited,** 379
 465 Coronation Drive,
 West Hill, Ontario. W.H. Holt, President.
- R & D Unit: Research Laboratories, G. van Oyen, Director.
 Address as above.
 Fields: Synthetic resins and adhesives.
 Activities: R & D (50%), technical services (50%).
 Facilities: Laboratory of 3,750 sq. ft.
 Personnel: 2 scientists, 1 engineer, 3 technologists, 1 other.
- (537) **Swift Canadian Company Limited,** 379
 Swift Chemical Company Division,
 383 Orenda Road,
 Bramalea, Ontario. C.F. Patterson, Vice-President and General Manager.
- R & D Unit: Address as above.
 Fields: Adhesives and coatings.
 Activities: R & D (65%), testing (25%), formulating (10%).
 Facilities: Laboratory of 12,000 sq. ft. (bench and development), related service facilities.
 Personnel: 2 scientists, 1 technologist, 3 others.
- (538) **TCF of Canada Limited,** 373
 Box 159,
 Cornwall, Ontario. B. Sutcliffe, President.
- R & D Unit: Research and Technical Laboratory, J. Smelko, Director. 373-274
 Address as above.
 Fields: Cellulose and plastic packaging films.
 Activities: R & D (50%), testing (50%).
 Facilities: Laboratory of 7,000 sq. ft., library of 300 technical books.
 Personnel: 6 scientists, 2 technologists, 4 others.
- (539) **Tioxide of Canada Limited,** 378
 Box 3,
 Sorel, Quebec. W.A. Arbuckle, President.
- R & D Unit: Technical Department, C. Shore, Director.
 Address as above.
 Fields: Development of improved titanium dioxide pigments.
 Activities: R & D (60%), manufacturing (40%).
 Facilities: Laboratory, pilot plant.

INDUSTRIES MANUFACTURIÈRES – Industrie chimique

Personnel: 3 scientists, 2 engineers, 3 technologists, 12 others.

- (540) **Tonecraft Limited,*** 375
 10 Carson Street,
 Toronto 19, Ontario. D.R. Strongman, President.
- R & D Unit: Address as above.* H.R. Ankenmann, Director.
 Fields: Protective and decorative coatings.
 Activities: Development, testing and manufacturing.
 Facilities: Laboratory of 1,000 sq. ft.
 Personnel: 2 scientists, 1 engineer, 2 technologists, 1 other.
- (541) **Unik Medical Laboratories Incorporated,** 374
 7961 Alfred Street,
 Ville d'Anjou,
 Montreal, Quebec. Lionel Corbin, President.
- R & D Unit: Address as above. J. Tremblay, Director.
 Fields: Pharmaceuticals and diagnostic preparations and accessories for medical x-ray.
 Activities: R & D (50%), consulting (50%).
 Facilities: Manufacturing laboratories for contrast media used in x-ray machines.
 Personnel: 4 scientists, 2 technologists, 10 others.
- (542) **Union Carbide Canada Limited,*** 378
 123 Eglinton Avenue East,
 Toronto 12, Ontario. J.S. Dewar, President.
- a) R & D Unit: Development and Technical Services J.W. Ross, Director. 315-378
 Department, Gas Products Division,*
 Address as above.
- Fields: Industrial and medical gases, equipment for scarfing, burning, welding, food freezing.
 Activities: R & D (50%), manufacturing (assembly) (10%), technical service (40%).
 Facilities: Laboratory of 20,000 sq. ft., with related service facilities.
 Personnel: 8 engineers, 3 technologists, 14 others.
- b) R & D Unit: Technology Department, 378-274
 Plastics and Chemicals Division,*
 Address as above.
- Fields: Petrochemicals, plastics, packaging materials.
 Activities: R & D (50%), technical service (50%).
 Facilities: Extensive analytical, pilot plant and plastics testing facilities, library of 3,500
 technical books.
 Personnel: 19 scientists, 9 engineers, 17 technologists, 6 others.
- c) R & D Unit: Technology Department, W.M. Palmer, Director. 183
 Fibres Division,*
 Address as above.
- Fields: Nylon yarns, fibres and polymers, development of modified nylon yarns and fibres for
 carpets.
 Facilities: Chemical and dye laboratory, physical and textile laboratory, pilot plants for
 developing polymers and melt-spinning fibres.
 Personnel: 2 scientists, 4 engineers, 7 technologists.
- d) R & D Unit: Technology Department, H.M. Brown, Director. 339-373
 Consumer Products Division,*
 Address as above.
- Fields: Dry batteries, film wraps.

Activities: R & D (60%), quality control (40%).
 Facilities: 5,000 sq. ft. of laboratory space.
 Personnel: 3 engineers, 3 technologists, 2 others.

e) R & D Unit: Technology Department, 291-359
 Metals and Carbon Division,*
 Address as above.
 Fields: Ferro alloy manufacturing of chromium, silicon, and manganese, carbon and graphite products.
 Activities: R & D (60%), technical service (40%).
 Facilities: 5,000 sq. ft. of laboratory space.
 Personnel: 2 engineers.

(543) **Uniroyal Limited,*** 162
 550 Papineau Avenue,
 Montreal, Quebec. H.D. Glenn, President.

a) R & D Unit: Uniroyal Research Laboratories* 379
 120 Huron Street,
 Guelph,
 Ontario. J.C.R. Warren, Co-ordinator.
 Fields: Exploratory organic chemistry, herbicides, insecticides, fungicides, bactericides, pharmaceuticals, rubber chemicals, kinetics and reaction mechanisms; polymers and plastics, physical properties of materials, computer technology, experimental design and process simulation, marine products, plant biochemistry, environmental pollution control.
 Activities: R & D (100%).
 Facilities: Laboratory of 45,000 sq. ft., library of 3,000 volumes, analytical laboratory, machine shop of 1,600 sq. ft.
 Personnel: 50 scientists, 9 engineers, 22 technologists, 27 others.

b) R & D Unit: Development Department, F.M. Hager, Manager. 378
 Chemical Division,*
 Elmira,
 Ontario.
 Fields: Development of new and/or improved rubber, industrial and agricultural chemicals, polyesters and other resins.
 Activities: Development (100%).
 Facilities: Laboratories of 7,600 sq. ft. for chemical development and rubber compounding, plastics workshop of 1,800 sq. ft., pilot plant of 5,800 sq. ft., agricultural experimental station of 6 acres, including laboratories and growth chambers of 2,500 sq. ft.
 Personnel: 9 scientists, 12 engineers, 3 technologists, 6 others.

c) R & D Unit: Development Department, F.M. Hager, Manager. 162-379
 Chemical Division,*
 8145-4th Avenue,
 Ville d'Anjou,
 Quebec.
 Fields: Development of new and/or improved reclaimed rubbers and polymers, construction products, latices and adhesives.
 Activities: Development (100%).
 Facilities: Laboratories of 3,200 sq. ft., including laboratory equipment for mixing and testing properties of rubber and plastic products.
 Personnel: 5 scientists, 1 engineer, 2 technologists, 5 others.

(544) **The Upjohn Company of Canada,** 374
 865 Yorks Mills Road,
 Don Mills, Ontario. Ley S. Smith, President.

- R & D Unit: Address as above. E.L. Masson, Director.
 Fields: Pharmaceuticals.
 Activities: R & D (5%), clinical trials of new drugs (95%).
 Facilities: Clinical research performed in universities and private medical practices.
 Personnel: 1 scientist, 3 others.
- (545) **Vac Incorporated,** 379
 7995-14th Avenue,
 Montreal 455, Quebec. Robert L. Vachon, President.
- R & D Unit: 512 Sauve,
 St. Eustache,
 Quebec.
 Fields: Photographic and graphic arts chemicals and allied products.
 Activities: R & D (70%), testing (20%), manufacturing (10%).
 Facilities: Laboratory of 5,000 sq. ft., related service facilities.
 Personnel: 3 scientists, 2 engineers, 5 technologists, 5 others.
- (546) **Virchem of Canada Limited,*** 378
 1440-10th Street East,
 Box 307,
 Cornwall, Ontario. D.W. Duncan, President.
- R & D Unit: Development Laboratory,*
 70 Hymus Boulevard,
 Pointe Claire,
 Quebec.
 Fields: Industrial chemicals, principally for pulp and paper industry.
 Activities: R & D (100%).
 Personnel: 3 scientists, 3 technologists, 1 other.
- (547) **Virina Dental Products,*** 373
 230 Nepean Street,
 Ottawa, Ontario. Sam Wasif, President.
- R & D Unit: Address as above.*
 Fields: Vinyl dental materials.
 Activities: Research (50%), testing (20%), consulting (30%).
 Facilities: Laboratory, production facilities.
 Personnel: 2 scientists, 1 technologist.
- (548) **Walker Brothers Limited,** 375
 5684 Beresford Street,
 Burnaby 1, British Columbia. C.S. Walker, Managing Director.
- R & D Unit: Address as above.
 Fields: Paints.
 Activities: R & D (100%).
 Facilities: 1,500 sq. ft. of service facilities, related paint testing equipment.
 Personnel: 1 scientist, 1 technologist.
- (549) **Western Cooperative Fertilizers Limited,** 372
 Box 2500,
 Calgary 2, Alberta. D.A. Sim, President.

R & D Unit: Address as above. P.J. Putland, Director.
 Fields: Quality control, pollution control, process development, product development and improvement, agronomic plots.
 Activities: Testing (60%), R & D (30%), other (10%).
 Facilities: Laboratory of 9,000 sq. ft., green house, and small technical library.
 Personnel: 3 scientists, 2 engineers, 9 technologists.

(550) **Winfield Chemical Industries Limited,*** 372
 Box 1134,
 Woodstock, New Brunswick. Kenneth E. Winfield, President.

R & D Unit: Address as above.* K.E. Winfield, Director. 378
 Fields: Mineral and chemical processing, primarily calcium, magnesium and aluminum chemistry.
 Activities: R & D (60%), consulting (30%), testing (10%).
 Personnel: 2 scientists, 5 technologists.

(551) **G.H. Wood and Company Limited,** 376
 Box 34,
 Queen Elizabeth Way,
 Toronto, Ontario.
 M8Z 5M8 G.H. Wood, President.

R & D Unit: Research Laboratories, W.J. McCurdy, Director.
 Address as above.
 Fields: Speciality chemicals, including detergents, soaps, disinfectants, waxes, polishes, coatings.
 Activities: R & D (65%), technical service and quality control (35%).
 Facilities: Laboratory of 2,200 sq. ft., including microbiology laboratory.
 Personnel: 3 scientists, 3 technologists, 2 others.

(552) **Wyeth Limited,** 374
 4455 Chesswood Drive,
 Downsview 461, Ontario. B. Canavan, President.

R & D Unit: Box 1600, J.W. Jenkins, Director.
 Windsor,
 Ontario.
 Fields: Pharmaceutical dosage forms.
 Activities: Development (100%).
 Facilities: 3,745 sq. ft. of service facilities.
 Personnel: 8 scientists, 8 technologists.

(553) **Zochem Limited,** 378
 1435 Island Street,
 Montreal 104, Quebec. David B. Clark, General Manager.

R & D Unit: Address as above. K.E. Jabalpurwala, Director.
 Fields: Process development and product applications relative to zinc oxide and zinc dust pigments.
 Activities: R & D (50%), quality control (50%).
 Facilities: Laboratory of 2,000 sq. ft., related equipment for studies on zinc pigments, including electron microscope, nitrogen absorption sorptometer.
 Personnel: 2 scientists, 1 engineer, 2 technologists.

18. Miscellaneous Manufacturing Industries/Industries manufacturières diverses (391-399)

- (554) **Aviation Electric Limited,*** 391
 200 Laurentian Boulevard,
 St. Laurent, Montreal 379, Quebec. D.R. Taylor, President.
- R & D Unit: Address as above.* A.E. Maine, Director.
 Fields: Aerospace systems, including jet engine controls; navigation systems, electro-optical systems, and underwater instrumentation systems.
 Activities: R & D (65%), testing (35%).
 Facilities: Laboratory areas of 22,800 sq. ft., machine shop, technical library of 1,500 books.
 Personnel: 2 scientists, 22 engineers, 10 technologists, 38 others.
- (555) **Bach-Simpson Limited,*** 336-391
 Box 2489,
 1255 Brydges Street,
 London, Ontario. R. Wilton, President.
- R & D Unit: Research Department,* G.R. Hosker, Director.
 Address as above.
 Fields: Ultrasonics to 20 MHz, ultrasonic measuring and diagnostic systems, electro-optics, electromechanisms.
 Activities: R & D in ultrasonic techniques for medical diagnosis and physical measurements.
 Facilities: Laboratory of 6,500 sq. ft., model shop, environmental testing laboratory.
 Personnel: 3 scientists, 1 engineer, 2 technologists, 1 other.
- (556) **Barringer Research Limited,*** 864-391
 304 Carlingview Drive,
 Rexdale, Ontario. A.R. Barringer, President.
- R & D Unit: Research Division,* J.M. Davies, Director.
 Address as above.
 Fields: Remote sensing instrumentation, geophysical systems, trace analytical techniques, electro-optical research, electromagnetic research, atmospheric physics, air pollution, exploration research, experimental airborne surveys.
 Activities: R & D (60%), instrument development (23%), airborne experimental surveys (17%).
 Facilities: 16,000 sq. ft. of laboratory space, machine shop, library, computing facilities.
 Personnel: 10 scientists, 10 engineers, 20 technologists, 20 others.
- (557) **Bowmar Canada Limited,*** 391
 1257 Algoma Road,
 Ottawa, Ontario.
 K1B 3W7 James Clifton, President.
- R & D Unit: Address as above.* D.I. Kennedy, Director. 335
 Fields: Solid state physics, light emitting semiconductors for use in electronic displays.
 Activities: Development of materials, low volume special products manufacturing.
 Personnel: 7 scientists, 13 technologists.
- (558) **CAE Electronics Limited,*** 335
 8585 Cote de Liesse,
 Box 1800,
 St. Laurent, Montreal 379, Quebec. R.W. Cooke, President.

- R & D Unit: R & D Department,*
Address as above. D.R. Tait, Director. 335-391
- Fields: Aircraft flight simulators, visual simulators, magnetic anomaly detection equipment, digital supervisory and control systems, ATC systems, CRT displays, digital communications equipment, digital data processing equipment, weather satellite receiving and processing equipment, miscellaneous electronic devices, and tactical simulators.
- Activities: R & D (100%).
- Facilities: 15,000 sq. ft. of laboratory and office facilities, technical library, model shop, related test equipment.
- Personnel: 8 scientists, 31 engineers, 16 technologists, 8 others.
- (559) **Campbell Manufacturing Company Limited,*** 393-162
45 Sheppard Avenue East,
Willowdale, Ontario. J.R. Brisson, President.
- R & D Unit: Address as above.* R.D. Nesbitt, Director.
- Fields: Golf equipment, rubber technology.
- Activities: R & D (60%), testing (30%), manufacturing (10%).
- Facilities: Laboratory of 500 sq. ft., rubber processing equipment, test equipment.
- Personnel: 2 technologists, 1 other.
- (560) **Canadian Admiral Corporation Limited,*** 334
501 Lakeshore Road East,
Port Credit, Ontario. E. Whittaker, President.
- R & D Unit: Special Products Division,*
Address as above. R.F. Maskell, Director-Manager. 391
- Fields: Nuclear radiation detection devices.
- Activities: Contract work.
- Facilities: Co-60 calibration facility, equipment for military testing in high and low temperatures, and temperature humidity.
- Personnel: 3 engineers, 2 technologists, 1 other.
- (561) **Canadian Research Institute,*** 391
85 Curlew Drive,
Don Mills, Ontario. R.S. Soanes, President.
- R & D Unit: Development Department,*
Address as above. E.S. Manthey, Director.
- Fields: All aspects of instrumentation.
- Activities: Development of new instruments and applications.
- Facilities: Chemical, electrical, optical, mechanical and thermal laboratories, standards laboratory.
- Personnel: 2 scientists, 3 engineers, 2 technologists, 1 other.
- (562) **Computing Devices of Canada Limited,*** 391-318
Box 8508,
Ottawa, Ontario.
K1G 3M9 E.B. Daubney, President.
- R & D Unit: Research & Engineering Department,*
Address as above. R.J. Patton, Vice-President, Engineering.
- Fields: Airborne navigation and displays, aerodynamics, computer systems analysis, hydrographic survey systems, acoustic data processing system, artillery fire direction computing systems.
- Activities: R & D (90%), consulting (10%).

- Facilities: 60,000 sq. ft. of facilities, including library, electronics laboratory of 15,000 sq. ft., optical laboratory, electromagnetic capability laboratory, major computing facilities.
 Personnel: 25 scientists, 84 engineers, 35 technologists, 70 others.
- (563) **Ethicon Sutures Limited,** 391
 Peterborough, Ontario. R.H. James, President.
- R & D Unit: Address as above. E.A. Nugent, Director.
 Fields: Surgical sutures.
 Activities: R & D (75%), testing (25%).
 Facilities: 10,000 sq. ft. of laboratory space.
 Personnel: 5 scientists, 1 engineer, 3 technologists, 2 others.
- (564) **General Precision Industries Limited,*** 391
 Box 88,
 Place Bonaventure,
 Montreal 114, Quebec. T.W. Toczylowski, President.
- R & D Unit: R & D Section, Engineering 335
 Department,*
 555 Boivin Boulevard,
 Granby,
 Quebec. Z.A.A. Krajewski, Director.
- Fields: Radio-direction-finding, receivers and antenna systems in VLF, MF, HF, VHF and UHF ranges.
 Activities: R & D (70%), testing (30%).
 Facilities: Laboratory of 3,000 sq. ft., complete electronic manufacturing facilities, design offices, shop facilities, and experimental test station.
 Personnel: 7 engineers, 7 technologists, 3 others.
- (565) **Geonics Limited,*** 391
 2 Thorncliffe Park Drive,
 Toronto 17, Ontario. V. Ronka, President.
- R & D Unit: R & D Division,*
 Address as above. A. Routledge, Director.
- Fields: Geophysical instruments, medical research instruments, remote sensing.
 Activities: R & D (80%), consulting (5%), prototype production (15%).
 Facilities: 500 sq. ft. electronics laboratory, library and machine shop.
 Personnel: 2 engineers, 2 technologists.
- (566) **Harco Electronics Limited,*** 391
 740 Century Street,
 Winnipeg, Manitoba.
 R3H 0M1 M. Settler, President.
- R & D Unit: Address as above.* M. Settler, Director.
 Fields: Medical electronic equipment.
 Activities: R & D (100%).
 Facilities: 1,800 sq. ft. laboratory.
 Personnel: 3 scientists, 6 engineers, 4 technologists, 1 other.
- (567) **Hermes Electronics Limited,*** 335
 Esson Road,
 Dartmouth, Nova Scotia. A.C. Cagney, President.

R & D Unit:	Address as above.*	E.S. Smierciak, Director.	335-391
Fields:	Buoy and ocean systems, electronic systems, adaptive communications systems, ionospheric sounding.		
Activities:	R & D (25%), manufacturing (75%).		
Facilities:	Laboratory and engineering offices of 15,000 sq. ft., machine shop, environmental test facilities, library.		
Personnel:	4 scientists, 30 engineers, 40 technologists, 5 others.		
(568) Honeywell Limited,			339-318
	740 Ellesmere Road, Scarborough, Ontario.		
		R.J. Bilodeau, President.	
R & D Unit:	Design Engineering, Address as above.	K.J. Cuthbertson, Manager.	391-318
Fields:	Environmental control equipment and systems, test and instrumentation equipment, computer and communication equipment.		
Activities:	R & D (30%), product design (70%).		
Facilities:	Office and laboratories of 5,000 sq. ft.		
Personnel:	6 engineers, 10 technologists, 4 others.		
(569) Huntec (70) Limited,*			391
	1450 O'Connor Drive, Toronto 374, Ontario.		
		R.C. Carroll, President.	
R & D Unit:	Address as above.*	R.W. Hutchins, Director.	
Fields:	Geophysical instruments.		
Facilities:	Electronics laboratory.		
Personnel:	2 scientists, 3 engineers, 2 technologists, 2 others.		
(570) Leigh Instruments Limited,*			391
	Marsland Engineering Division, 350 Weber Street North, Waterloo, Ontario. N2J 4E3		
		E.J. Pollock, President.	
R & D Unit:	Applied R & D Centre,* Address as above.	A.S. Armstrong, Director.	318-335
Fields:	Digital and analog data processing equipment, communications equipment.		
Activities:	Designing, modelling, applications engineering.		
Facilities:	Drafting office, laboratory, model shop, whiteprint and offset print facilities.		
Personnel:	4 engineers, 5 technologists, 14 others.		
(571) Litton Systems (Canada) Limited,*			335
	25 Cityview Drive, Rexdale, Ontario. M9W 5A7		
		R.R. Keating, Vice-President.	
R & D Unit:	Engineering Department,* Address as above.	L.A. Borth, Vice-President, Engineering.	335-391
Fields:	Airborne navigation systems and components, avionics systems integration, digital information and control systems, general systems engineering, automatic test equipment, pattern recognition and holography.		
Activities:	R & D (20%), testing (20%), design (60%).		
Facilities:	32,000 sq. ft. of facilities including model shop, environmental laboratory, chemical processing laboratory, precision gauge room, optical laboratory and super clean room.		
Personnel:	5 scientists, 80 engineers, 65 technologists, 40 others.		

- (572) **Lumonics Research Limited,*** 391
 1755 Woodward Drive,
 Ottawa, Ontario.
 K2C 0P9 A.R. Buchanan, President.
- R & D Unit: Address as above.* T.R. Scheim, Director.
 Fields: Infrared lasers (TEA CO₂).
 Activities: Applied research and product development (100%).
 Facilities: 4 laboratories with necessary electronic and optical equipment.
 Personnel: 5 scientists, 1 engineer, 5 technologists, 2 others.
- (573) **McPhar Geophysics Limited,*** 391
 139 Bond Avenue,
 Don Mills, Ontario. Philip G. Hallof, President.
- R & D Unit: Address as above.* W.A. Robinson, Director.
 Fields: Mineral geophysical exploration.
 Activities: R & D (100%).
 Facilities: Laboratory of 4,000 sq. ft., machine shop.
 Personnel: 2 scientists, 7 engineers, 6 technologists.
- (574) **Milltronics Limited,*** 391
 730 The Kingsway,
 Peterborough, Ontario. J.P. Gemmel, President.
- R & D Unit: Address as above.* S. Sage, Director. 391-335
 Fields: Industrial process control.
 Activities: R & D (95%), consulting (5%).
 Facilities: Laboratory of 5,000 sq. ft., electrical/electronic test equipment.
 Personnel: 4 engineers, 2 technologists, 1 other.
- (575) **Multiscreen Corporation Limited,** 391
 20 Hobson Street,
 Box 224,
 Galt, Ontario. I.G. Ferguson, President.
- R & D Unit: Address as above. W.C. Shaw, Director.
 Fields: Motion picture camera and projector development.
 Activities: R & D (70%), testing (30%).
 Facilities: Drafting, technical library, test facilities totalling 1,000 sq. ft.
 Personnel: 1 engineer, 2 technologists.
- (576) **Novatronics of Canada Limited,** 391
 677 Erie Street,
 Stratford, Ontario. C.T. Thompson, President.
- R & D Unit: Address as above. Sid G. Spracklan, Director.
 Fields: Aerospace flight control systems.
 Activities: R & D (70%), testing (30%).
 Facilities: Laboratory of 4,000 sq. ft., machine shop.
 Personnel: 4 engineers, 5 technologists, 1 other.
- (577) **Philips Electronics Industries Limited,*** 334
 116 Vanderhoof Avenue,
 Toronto, Ontario.
 M4G 2J1 C. Bruynes, President.

- a) R & D Unit: Television Engineering,* E. Lubchenko, Director. 334-391
 Address as above.
 Fields: Television receivers, factory test equipment and systems.
 Activities: R & D (50%), testing (40%), consulting (10%).
 Facilities: Laboratory of 5,000 sq. ft., model shop, library.
 Personnel: 6 engineers, 6 technologists, 4 others.
- b) R & D Unit: Electron Optics Application I. Grinyer, Director. 391
 Laboratory,*
 Address as above.
 Fields: Research into methods of application of electron microscopes.
 Activities: Application research (50%), training and testing (50%).
 Facilities: Laboratory of 500 sq. ft., dark room, electron microscope.
 Personnel: 1 scientist, 1 technologist.
- c) R & D Unit: Analytical X-ray Application C. Whitelow, Director. 391
 Laboratory,*
 Address as above.
 Fields: Research into technique for application of x-rays in the analysis and inspection of materials.
 Activities: Application research (50%), training and testing (50%).
 Facilities: Laboratory of 400 sq. ft., x-ray diffraction equipment, specimen preparation facilities.
 Personnel: 1 engineer, 1 other.
- d) R & D Unit: Telecommunication Division,* M. Geleynse, Director. 335-391
 1001 Ellesmere Road,
 Scarborough,
 Ontario.
 Fields: Navigation aids, quartz crystal units.
 Activities: R & D (20%), testing (70%), consulting (10%).
 Facilities: Laboratory of 2,000 sq. ft., and model shop of 600 sq. ft.
 Personnel: 12 engineers, 10 technologists, 8 others.
- (578) **Physico-Medical Systems Corporation,*** 391
 Suite M101, 9250 Park Avenue,
 Montreal 354, Quebec. J.E. Bata, Vice-President.
- a) R & D Unit: Address as above.* J.E. Bata, Director.
 Fields: Biomedical engineering and medical instrumentation, implantable electronic devices,
 muscle stimulation, urological devices, and orthotics for paraplegics.
 Personnel: 1 scientist, 1 engineer, 2 technologists, 2 others.
- b) R & D Unit: Faculty of Pure Science,* J. Lefavre, Director.
 University of Sherbrooke,
 Sherbrooke,
 Quebec.
 Fields: Biomedical engineering and medical instrumentation, implantable electronic devices,
 muscle stimulation, urological devices, and orthotics for paraplegics.
 Facilities: Use of facilities at the University of Sherbrooke.
 Personnel: 1 scientist, 1 engineer, 1 technologist.
- (579) **Polytronics Company,*** 391
 582 Bathurst Street,
 Toronto, Ontario.
 M5S 2P9 J. Zubko, President.

INDUSTRIES MANUFACTURIÈRES – Diverses

<p>R & D Unit: Address as above.*</p> <p>Fields: Precision electronic resistors, earth and global radiation (particularly net radiometers), ventilation of underground tunnels.</p> <p>Activities: R & D (40%), testing and consulting (15%), manufacturing (45%).</p> <p>Facilities: Laboratory, temperature testing facilities, and auxiliary machine shop totalling 2,000 sq. ft.</p> <p>Personnel: 2 scientists, 2 engineers, 2 technologists.</p>	<p>J. Zubko, Director.</p>	
<p>(580) Quantum Technology Limited,*</p> <p>Block 5, 60 Nugget Avenue, Agincourt, Ontario.</p> <p>R & D Unit: Research Section,* Address as above.</p> <p>Fields: Electro-optic crystals and modulation.</p> <p>Activities: R & D (50%).</p> <p>Facilities: Shop of 2,000 sq. ft.</p> <p>Personnel: 2 scientists, 2 technologists, 5 others.</p>	<p>R. Adhav, President.</p> <p>A. Vlassopoulos, Director.</p>	<p>391</p>
<p>(581) RCA Limited,*</p> <p>21001 North Service Road, Trans-Canada Highway, Ste. Anne de Bellevue, Quebec.</p> <p>b) R & D Unit: Government and Commercial Systems Research,* Address as above.</p> <p>Fields: Plasma and space physics, optical and microwave physics, semiconductor electronics, electronic and communications systems.</p> <p>Activities: R & D (100%).</p> <p>Facilities: 18,500 sq. ft. of laboratories and related facilities, technical library.</p> <p>Personnel: 15 scientists, 10 engineers, 10 technologists, 5 others.</p>	<p>J.D. Houlding, President.</p> <p>M.P. Bachynski, Director.</p>	<p>335</p> <p>391-335</p>
<p>(582) Radiation Development Company Limited,*</p> <p>3454 East Broadway, Vancouver, British Columbia.</p> <p>a) R & D Unit: Radiation Development,* Address as above.</p> <p>Fields: Wood chip irradiation.</p> <p>Activities: Manufacturing (50%), R & D (50%).</p> <p>Facilities: Laboratory of 4,000 sq. ft., prototype facilities.</p> <p>Personnel: 2 scientists, 1 engineer, 4 technologists.</p> <p>b) R & D Unit: Radi-Pulp Research,* Address as above.</p> <p>Fields: Pulp and paper.</p> <p>Activities: Consulting R & D (100%).</p> <p>Facilities: Laboratory of 4,000 sq. ft.</p> <p>Personnel: 1 scientist, 4 technologists.</p>	<p>R.G. Friend, President.</p> <p>D. Free, Director.</p> <p>G. Mitchell, Director.</p>	<p>391</p> <p>391-271</p> <p>864-271</p>
<p>(583) Raytheon Canada Limited,*</p> <p>400 Phillip Street, Waterloo, Ontario.</p>	<p>J.R. Cann, President.</p>	<p>335-391</p>

R & D Unit: Engineering Department,* J.B. Knox, Director.
 Address as above.
 Fields: Radar and navigational aids, computer driven display systems, microwave relay equipment and systems and satellite ground stations.
 Activities: Design and development of electronic equipment for manufacture.
 Facilities: Laboratories of 15,000 sq. ft., machine shop, and model shop.
 Personnel: 2 scientists, 64 engineers, 2 technologists, 78 others.

(584) **Reliable Fur Dressers & Dyers,** 399
 400 Richmond Street West,
 Toronto 28, Ontario. Harry Topper, President.

R & D Unit: Address as above. Victor Topper, Director.
 Fields: New processes for fur industry.
 Activities: R & D (100%).
 Facilities: Laboratory and shop of 7,000 sq. ft.
 Personnel: 1 scientist, 3 technologists, 12 others.

(585) **Reuter-Stokes Canada Limited,*** 391
 1315 Industrial Road,
 Preston, Ontario. R.A. Kempe, President.

R & D Unit: Development Department,* J.C. Kroon, Director. 391-359
 Address as above.
 Fields: Nuclear instrumentation, ceramics.
 Activities: R & D (90%), testing (10%).
 Facilities: Approximately 1,000 sq. ft. of facilities, mostly manufacturing machinery.
 Personnel: 1 scientist, 2 technologists.

(586) **Scintrex Limited,*** 391
 222 Snidercroft Road,
 Concord, Ontario. H.O. Seigel, President.

R & D Unit: Scintrex R & D Division,* V. Burda, Director.
 Address as above.
 Fields: Earth sciences; geophysical, nuclear and scientific instrumentation; audio radio communication; gravity sensing; airborne survey instrumentation; pollution of air and water resources.
 Activities: R & D (100%).
 Facilities: Laboratory of 9,000 sq. ft., fused quartz work facilities, neutron activation facilities, single and twin engine aircraft.
 Personnel: 3 scientists, 18 engineers, 7 technologists, 5 others.

(587) **Selco Mining Corporation Limited,** 059
 6th Floor, 55 Yonge Street,
 Toronto, Ontario.
 M5E 1J4 M.A. Upham, President.

b) R & D Unit: Gyro-Log Limited, J. Hainey, Project Director. 391
 20 Mulock Avenue,
 Toronto,
 Ontario.
 Fields: Drill-hole survey instruments.
 Activities: R & D (60%), testing (30%), contract surveying (10%).
 Facilities: Machine shop and laboratory facilities of 2,000 sq. ft.
 Personnel: 1 engineer, 3 technologists.

<p>(588) T.S. Simms & Company Limited,* Box 820, Saint John, New Brunswick.</p>	<p>T.S. Simms, President.</p>	<p>399</p>
<p>R & D Unit: Machinery Division,* Address as above.</p>	<p>J.R. Gardner, Director.</p>	<p>315</p>
<p>Fields: Prototype machinery for manufacture of paint brushes, roller coaters and paint applicator in handle dipping, process developments for manufacturing paint applicators and paint applicator products.</p>		
<p>Facilities: Machine shop.</p>		
<p>Personnel: 5 engineers, 4 technologists.</p>		
<p>(589) Space Optic Limited,* 320 Moodie Drive, Ottawa, Ontario. K2H 8G3</p>	<p>J.R.B. Steacie, President.</p>	<p>391</p>
<p>R & D Unit: Address as above.*</p>	<p>A.D. Vanderliet, Director.</p>	
<p>Fields: Equipment for the mapping industry.</p>		
<p>Activities: R & D (60%), production (40%).</p>		
<p>Facilities: Laboratory of 500 sq. ft.</p>		
<p>Personnel: 3 engineers, 2 technologists, 2 others.</p>		
<p>(590) Strite Industries Limited,* 298 Oak Street, Cambridge, Ontario.</p>	<p>J.D. Strite, President.</p>	<p>308</p>
<p>R & D Unit: Address as above.*</p>	<p>W. From, Director.</p>	<p>391-308</p>
<p>Fields: High temperature, high pressure sealing systems including close tolerance machining for neutron counters, liquid metal servactuation packages for flight controls, metallic seals and mating hardware for heavy water control, lens mountings for stereomapping equipment.</p>		
<p>Personnel: 1 scientist, 1 engineer, 2 technologists, 6 others.</p>		
<p>(591) Unitron Industries Limited,* 685 Wabanaki Drive, Kitchener, Ontario.</p>	<p>F. Stork, President.</p>	<p>391</p>
<p>R & D Unit: Address as above.*</p>		
<p>Fields: Hearing aids and subminiature electronic devices.</p>		
<p>Activities: Manufacture and research.</p>		
<p>Personnel: 2 engineers, 1 technologist.</p>		

V. CONSTRUCTION INDUSTRY / BÂTIMENT ET TRAVAUX PUBLICS

1. General Contractors/Entrepreneurs généraux (404)

<p>(592) Can-Air Hangar Corporation Limited,* 287 MacLaren Street, Ottawa, Ontario.</p>	<p>D'Arcy G. Helmer, President.</p>	<p>404</p>
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R & D Unit: Address as above.*
 Fields: Hangars for jumbo aircraft.
 Activities: R & D (100%).
 Facilities: Design office.
 Personnel: 2 engineers, 2 technologists, 2 others.

2. Special-Trade Contractors/Entrepreneurs spécialisés (421)

(593) **Hambro Structural Systems Limited,** 421
 1489D Merivale Road,
 Ottawa, Ontario. E.O. Butts, President.

R & D Unit: Address as above. E.O. Butts, Director.
 Fields: Composite floor systems.
 Activities: R & D (25%), testing (25%), consulting (50%).
 Personnel: 4 engineers.

VI. TRANSPORTATION, COMMUNICATION AND OTHER UTILITIES/ TRANSPORTS, COMMUNICATIONS ET AUTRES SERVICES PUBLICS

1. Transportation/Transports (503-516)

(594) **Alcan Shipping Services Limited,*** 507
 1060 University Street,
 Montreal 101, Quebec. John L. Eyre, President.

R & D Unit: Research Division,* 864-504
 Address as above. James E. Balfour, Director.
 Fields: Marine and total transportation systems.
 Activities: Consulting (75%), research (25%).
 Facilities: Reference library, office facilities.
 Personnel: 2 engineers, 3 technologists, 5 others.

(595) **Canadian National Railways,*** 503
 Box 8100,
 Montreal, Quebec. N.J. MacMillan, President.

R & D Unit: Technical Research Center,* R.P. Rennie, Director.
 3950 Hickmore Avenue,
 St. Laurent,
 Quebec.
 Fields: Materials, equipment and systems for rail, road, water and intermodal transportation.
 Activities: R & D (85%), testing (15%).
 Personnel: 16 scientists, 26 engineers, 17 technologists, 20 others.

(596) **Eastern Steel Products Limited,*** 304
 777 Laurel Street,
 Preston, Ontario. P. Slaughter, President.

- R & D Unit: Address as above.* D.M. Henry, Director. 516
 Fields: Snow removal and ice control methods.
 Activities: R & D (100%).
 Facilities: Laboratory of 2,000 sq. ft., test vehicles and equipment.
 Personnel: 2 engineers, 1 technologist, 1 other.
- (597) **ShelPac Research and Development Limited,*** 864-515
 Box 102,
 401 Bay Street,
 Toronto 103, Ontario. R.A. King, General Manager.
- R & D Unit: Address as above.*
 Fields: Design and operation of slurry pipelines.
 Activities: Business development (33%), engineering (33%), project management (34%).
 Personnel: 1 scientist, 8 engineers, 1 technologist, 7 others.
- (598) **The Solids Pipeline Research & Development Association,*** 864-515
 c/o Techman Limited,
 3rd Floor, 310-9th Avenue Southwest,
 Calgary, Alberta.
 T2P 1K5 J.A. Macdonald, President.
- R & D Unit: Address as above.* J.G. Bruce, Director.
 Fields: Solids pipeline R & D (capsule pipelining).
 Activities: Industrial support for Research Council of Alberta.
 Personnel: 1 engineer.
- (599) **The Toronto Harbour Commissioners,*** 504
 60 Harbour Street,
 Toronto, Ontario.
 M5J 1B7 E.B. Griffith, General Manager.
- R & D Unit: Coastal Engineering Section,* K.J. Gilbert, Director. 504-505
 Address as above.
 Fields: Shore protection, artificial beaches and aquatic parks.
 Activities: R & D (50%), testing (30%), consulting (20%).
 Facilities: 7 miles of artificial beaches and shore protection under test.
 Personnel: 2 engineers, 2 technologists, 3 others.
- 2. Communication/Communications (543-544)**
- (600) **Bell Canada,** 544
 1050 Beaver Hall Hill,
 Montreal 128, Quebec. R.C. Scrivener, President.
- R & D Unit: Department of Engineering Design, J.D. Fahey, Director.
 620 Belmont Street,
 Montreal 101,
 Quebec.
 Fields: Communications.
 Activities: R & D (75%), testing (25%).
 Facilities: Laboratory of 2,250 sq. ft., library of 1,000 books.
 Personnel: 30 engineers, 6 technologists, 26 others.

(601)	Bell Canada – Northern Electric Research Limited,*		544
	Box 3511, Station C, Ottawa, Ontario.	D.A. Chisholm, President.	
a)	R & D Unit: Central Laboratories,* Ottawa, Ontario.	H.L. Webster, W.J. Inkster, F.S. Eadie, J.S. Kyles, R.W. Quirk, Directors.	335-544
	Fields: Administrative services for all regional laboratories, electronic switching, electronic devices, materials and processes, reliability engineering, systems engineering, telecommunications apparatus, components, industrial design, microwave and satellite systems, ground stations, multiplex, digital and broadband transmission systems, product quality.		
	Activities: R & D (100%).		
	Facilities: Laboratories of 375,000 sq. ft., technical library of 15,000 volumes, advanced vacuum sputtering chamber, electron microscope, scanning electron microscope, electron microprobes, audio and radio frequency anechoic chambers, gas phase deposition facilities, advanced photographic equipment, IBM 360/67 with remote terminals, and a wide range of electronic test equipment.		
	Personnel: 478 scientists and engineers, 307 technologists, 551 others.		
b)	R & D Unit: Regional Laboratories,* Belleville, Ontario.	J.S. Kyles, Director.	335
	Fields: Outside plant apparatus, PBX, components, data terminals.		
	Activities: R & D (100%).		
	Facilities: Laboratories of 7,200 sq. ft., related specialized laboratory facilities and equipment.		
	Personnel: 13 scientists and engineers, 18 technologists, 14 others.		
c)	R & D Unit: Regional Laboratories,* London, Ontario.	J.S. Kyles, Director.	335
	Fields: Telephone apparatus.		
	Activities: R & D (100%).		
	Facilities: Laboratories of 8,400 sq. ft., related specialized laboratory facilities and equipment.		
	Personnel: 15 scientists and engineers, 18 technologists, 14 others.		
d)	R & D Unit: Regional Laboratories,* Toronto, Ontario.	H.L. Webster, Director.	335
	Fields: Electromechanical and electronic switching systems.		
	Activities: R & D (100%).		
	Facilities: Laboratories of 28,000 sq. ft., related specialized laboratory facilities and equipment.		
	Personnel: 45 scientists and engineers, 26 technologists, 19 others.		
e)	R & D Unit: Regional Laboratories,* Montreal, Quebec.	H.L. Webster, Director.	335
	Fields: Transmission systems and components.		
	Activities: R & D (100%).		
	Facilities: Laboratories of 26,700 sq. ft., related specialized laboratory facilities and equipment.		
	Personnel: 58 scientists and engineers, 45 technologists, 32 others.		
f)	R & D Unit: Regional Laboratories,* Lachine, Quebec.	J.S. Kyles, Director.	338
	Fields: Telecommunications wire and cable, power cable.		
	Activities: R & D (100%).		

Facilities: Laboratories of 27,700 sq. ft., related specialized laboratory facilities and equipment.
Personnel: 39 scientists and engineers, 22 technologists, 19 others.

(602) **British Columbia Telephone Company,** 544
768 Seymour Street,
Vancouver 2, British Columbia. J.E. Richardson, President.

R & D Unit: Staff Operations, Engineering Services,
Address as above. G.F. Auchinleck, Vice-President.
Fields: Communications equipment.
Activities: Equipment testing and evaluation (20%), administration and standards (80%).
Facilities: Laboratory and service space of 13,000 sq. ft., related testing equipment.
Personnel: 47 engineers, 30 technologists, 60 others.

(603) **Canadian Broadcasting Corporation,** 543
Ottawa, Ontario. L. Pickard, President.

R & D Unit: Development Department,
Engineering Headquarters,
7925 Cote St. Luc,
Montreal,
Quebec. S.F. Quinn, Chief Development Engineer.
Fields: Broadcast engineering, TV, radio.
Activities: Investigation, studies, evaluations, testing.
Facilities: Various laboratories.
Personnel: 9 engineers, 10 others.

3. Electric Power, Gas and Water Utilities / *Énergie électrique, gaz et eau (572-579)*

(604) **Benson Industries Limited,** 579
1515 Pemberton Avenue,
North Vancouver, British Columbia. R.R. Benson, President.

R & D Unit: Address as above, and
1205 West 14th Avenue,
North Vancouver,
British Columbia. R.R. Benson, Director.
Fields: Solid waste management and equipment.
Activities: R & D (20%), testing (20%), marketing and sales (60%).
Facilities: Testing laboratory of 1,000 sq. ft.
Personnel: 3 engineers, 2 technologists, 1 other.

(605) **British Columbia Hydro and Power Authority,** 572
970 Burrard Street,
Vancouver, British Columbia. D. Cass-Beggs, Chairman.

a) R & D Unit: Material Research and Testing
Laboratory,
8809 Heather Street,
Vancouver 14,
British Columbia. C.G. Killam, Director.
Fields: Mechanical, metallurgical, civil and chemical engineering, non-destructive testing.
Activities: R & D (40%), testing (50%), consulting (10%).
Facilities: Laboratory of 12,000 sq. ft., 2 mobile units, machine shop.

Personnel: 3 scientists, 5 engineers, 19 technologists, 3 others.

b) R & D Unit: Electrical Research, R.M. Shier, Director.
 Address as above.
 Fields: High voltage electrical systems.
 Activities: R & D (80%), testing (10%), consulting (10%).
 Facilities: Laboratory of 500 sq. ft., field facilities.
 Personnel: 7 engineers, 1 technologist.

(606) **The Consumers' Gas Company,**

574

19 Toronto Street,
 Toronto, Ontario.
 M5C 2E8

R & D Unit: R & D Department, G.S. Kohli, Manager.
 Address as above.
 Fields: Gas distribution technology, gas utilization technology, new techniques in gas exploration technology, environmental control technology, alternative energy systems technology.
 Activities: R & D (85%), testing (10%), consulting (5%).
 Facilities: Laboratory of 3,000 sq. ft., library of 2,500 reports, 1,350 books, 300 journals.
 Personnel: 1 scientist, 3 engineers, 2 technologists, 1 other.

(607) **The Hydro-Electric Power Commission of Ontario,**

572

620 University Avenue,
 Toronto 2, Ontario.

D.J. Gordon, General Manager.

R & D Unit: Research Division, J.H. Waghorne, Director.
 800 Kipling Avenue,
 Toronto 18,
 Ontario.
 Fields: Problems relating to the design, construction, operation and maintenance of the power system, and to the efficient, safe and economical use of electricity.
 Activities: R & D (65%), testing and consulting (35%).
 Facilities: Laboratory of 150,000 sq. ft., related outdoor test and service facilities.
 Personnel: 25 scientists, 100 engineers, 190 technologists, 55 others.

(608) **Hydro-Québec,***

572

75 ouest, rue Dochester,
 Montréal, Québec.

Roland Giroux, Président.

Centre de R-D: Institut de recherche,* Lionel Boulet, Directeur.
 Case Postale 1000,
 Varennes,
 Québec.
 Domaines: Production, transport et distribution de l'énergie électrique.
 Activités: R - D (80%), essais de matériel électrique (20%).
 Installations: Laboratoires généraux de 216,000 pieds carrés, laboratoire grande puissance de 150,000 pieds carrés, laboratoire haute tension de 135,000 pieds carrés.
 Personnel: 23 scientifiques, 52 ingénieurs, 52 techniciens, 83 autres.

(609) **Saskatchewan Power Corporation,**

572-574

Victoria at Scarth,
 Regina, Saskatchewan.

R.R. Keith, President.

R & D Unit: Address as above. M.F. Barabas, Director.
 Fields: Power and gas generation, transmission, distribution.

Activities: R & D (90%), product and material evaluation (10%).
Facilities: Laboratory of 3,000 sq. ft.
Personnel: 5 engineers, 4 technologists, 1 other.

VII. COMMUNITY AND BUSINESS SERVICE INDUSTRIES/ SERVICES SOCIO-CULTURELS ET COMMERCIAUX

1. Health and Welfare Services/Services médicaux et sociaux (826)

- (610) **McIntyre Research Foundation,** 826
814-1849 Yonge Street,
Toronto 295, Ontario. W.B. Dix, President.
- R & D Unit: Address as above. J.W.G. Hannon, Director.
Fields: Industrial diseases of miners, particularly silicosis and other forms of pneumoconiosis.
Activities: Research (80%), manufacturing (20%).
Facilities: Library of technical publications, manufacturing plant.
Personnel: 1 scientist, 1 engineer, 1 technologist, 2 others.

2. Services to Business Management/Services fournis aux entreprises (853-869)

- (611) **Acres Consulting Services Limited,*** 864
5259 Dorchester Road,
Niagara Falls, Ontario. H.C. Rynard, President.
- a) R & D Unit: Address as above.* I.W. McCaig, Vice-President.
Fields: Environment and hydraulics: hydraulic modelling, air modelling, ice meteorology, limnology, air and water sampling and analysis for major pollutants.
Facilities: Hydraulics laboratory and chemical laboratory.
Personnel: 4 scientists, 15 engineers, 6 technologists.
- b) R & D Unit: Address as above.*
Fields: Materials, geotechnical and rock mechanics, soil testing, fly ash.
Facilities: Geotechnical laboratory.
Personnel: 24 engineers and geologists, 16 technologists.
- c) R & D Unit: Address as above.*
Fields: Applied mechanics and systems engineering: mathematical models, finite element analysis, bin problems, structural analysis, laser measurement.
Facilities: GE 415 computer.
Personnel: 9 engineers, 2 technologists.
- (612) **Aerofall Mills Limited,*** 864-099
2640 South Sheridan Way,
Mississauga, Ontario.
L5J 2M4 R.C. Meaders, President.
- a) R & D Unit: Comminution & Process Development,* R.R. Turner, Director.
Address as above.

Fields: Comminution, mineral processing and recovery.
 Activities: R & D (10%), testing and evaluation (75%), consulting (15%).
 Facilities: Complete grinding classification and test facilities.
 Personnel: 1 engineer, 1 technologist, 2 others.

b) R & D Unit: Particulate System Research,* R.S. Hart, Director.
 Address as above.

Fields: Classification and/or separation of granular materials.
 Activities: R & D (80%), testing and evaluation (20%).
 Facilities: Complete classification research and testing equipment.
 Personnel: 1 engineer, 1 technologist, 1 other.

(613) **Alberta Dairymen's Association Research Unit,** 864-104

c/o Department of Food Science,
 University of Alberta,
 Edmonton, Alberta.

G.M. Carlyle, President.

R & D Unit: Address as above. L.F.L. Clegg, Director.
 Fields: Dairy products development and improvement.
 Activities: R & D (60%), testing (15%), consulting (25%).
 Facilities: Laboratory and service area totalling 2,500 sq. ft., access to the facilities of the University of Alberta.
 Personnel: 3 scientists, 3 technologists, 2 others.

(614) **Alcan Shipping Services Limited,*** 507

1060 University Street,
 Montreal 101, Quebec.

John L. Eyre, President.

R & D Unit: Research Division,* James E. Balfour, Director. 864-504
 Address as above.
 Fields: Marine and total transportation systems.
 Activities: Consulting (75%), research (25%).
 Facilities: Reference library, office facilities.
 Personnel: 2 engineers, 3 technologists, 5 others.

(615) **Barringer Research Limited,*** 864-391

304 Carlingview Drive,
 Rexdale, Ontario.

A.R. Barringer, President.

R & D Unit: Research Division,* J.M. Davies, Director.
 Address as above.
 Fields: Remote sensing instrumentation, geophysical systems, trace analytical techniques, electro-optical research, electromagnetic research, atmospheric physics, air pollution, exploration research, experimental airborne surveys.
 Activities: R & D (60%), instrument development (23%), airborne experimental surveys (17%).
 Facilities: 16,000 sq. ft. of laboratory space, machine shop, library, computing facilities.
 Personnel: 10 scientists, 10 engineers, 20 technologists, 20 others.

(616) **B.D. Beamish – Consultant Designer,*** 864

Unit F,
 3289 Lenworth Drive,
 Mississauga, Ontario.

R & D Unit: Address as above.* B.D. Beamish, Director. 335
 Fields: Automation systems, solid state and integrated circuit controls.
 Activities: R & D (60%), testing (30%), consulting (10%).
 Facilities: Solid state laboratory, assembly shop, drafting office and circuit card assembly room.

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Personnel: 1 engineer, 5 technologists, 1 other.

- (617) **Bio-Research Laboratories Limited,*** 864
 265 Hymus Boulevard,
 Pointe Claire, Quebec. C.I. Chappel, President.
- R & D Unit: Address as above.* C.I. Chappel, Director.
 Fields: Toxicology, physiology, pharmacology, microbiology, chemistry, quality control and air and water pollution services.
 Activities: Research, consulting and analytical services in the life sciences.
 Facilities: 24,000 sq. ft. of laboratory facilities.
 Personnel: 14 scientists, 1 engineer, 48 technologists, 15 others.
- (618) **The Bobtex Corporation Limited,*** 864-315
 Suite 310, 1435 St. Alexander Street,
 Montreal 111, Quebec. Emilian Bobkowicz, President.
- R & D Unit: Address as above.* Andrew J. Bobkowicz, Director.
 Fields: Textile process R & D, textile machinery and products.
 Activities: R & D (100%).
 Facilities: Laboratories and machine shop of 15,100 sq. ft., library and related service facilities.
 Personnel: 4 scientists, 8 engineers, 13 technologists, 10 others.
- (619) **Brewing and Malting Barley Research Institute,** 864-109
 206-167 Lombard Avenue,
 Winnipeg, Manitoba.
 R3B 0T6 R.J.D. Martin, Vice-President, Production.
- R & D Unit: Address as above. W.W. Sisler, Director.
 Fields: Malting barley, malt, beer.
 Activities: R & D (80%), consulting (20%).
 Facilities: Laboratory of 1,500 sq. ft., pilot brewery.
 Personnel: 2 scientists, 2 technologists, 1 other.
- (620) **CIP Research Limited,*** 864-271
 179 Main Street West,
 Hawkesbury, Ontario. W.R. Saxton, President.
- R & D Unit: Address as above.* W.R. Saxton, Director.
 Fields: Research in pulp, paper and related areas.
 Activities: R & D (75%), technical and mill services (25%).
 Facilities: 70,000 sq. ft. of laboratories, pilot plants, offices and machine shop, library of 12,000 volumes, extensive facilities for pulping, bleaching, facilities for analytical, microscopic and physical test work.
 Personnel: 19 scientists, 8 engineers, 54 technologists, 22 others.
- (621) **Canadian Carbonization Research Association,*** 864-369
 c/o Department of Energy, Mines and Resources,
 562 Booth Street,
 Ottawa, Ontario.
 K1A 0G1, J.O. Thomas, Chairman.
- R & D Unit: Address as above.* J.T. Collier, Technical Chairman.
 Fields: Coal carbonization technology including form-coking, evaluation of coals for coking.
 Activities: R & D (60%), evaluation (40%).

Facilities: Cooperative with the Department of Energy, Mines and Resources: 800 lb. and 500 lb. movable-wall coke ovens and related ancillaries including tar recovery, form-coke assessment apparatus, bench-scale research facilities.
 Personnel: 1 engineer, students from the University of Waterloo, 8 others.

(622) **Canadian Galvanizing Research Association,*** 864-304
 c/o Department of Energy, Mines and Resources,
 568 Booth Street,
 Ottawa, Ontario.
 K1A 0G1 D.B. Clay, Chairman.

R & D Unit: Address as above.*
 Fields: Hot-dip galvanizing process and products.
 Activities: Cooperative contract R & D with government and industrial laboratories.
 Facilities: As available in contracting laboratories.
 Personnel: As available in contracting laboratories.

(623) **Canadian Gas Association,*** 864-307
 55 Scarsdale Road,
 Don Mills, Ontario. A.R. McMurrich, President.

R & D Unit: R & D Section,* H. Wank, Director.
 Address as above.
 Fields: R & D source for industry, chiefly in the field of fuel-fired equipment.
 Activities: R & D (75%), testing and evaluation (25%).
 Facilities: Complete facilities for testing gas, oil, electrical equipment and accessories.
 Personnel: 1 scientist, 4 engineers, 1 technologist.

(624) **Chemical Projects Limited,*** 864
 36 Greensboro Drive,
 Rexdale, Ontario. L.A. Pogorski, President.

R & D Unit: Address as above.*
 Fields: Geochemistry, chemical engineering, chemistry.
 Activities: Geochemistry (75%), testing and consulting (20%), manufacturing (5%).
 Personnel: 4 scientists, 1 engineer, 3 technologists, 1 other.

(625) **Conlor Molding Systems Limited,*** 864-162
 Suite 6, 74 Cassandra Boulevard,
 Don Mills, Ontario. Keith P. Copping, President.

R & D Unit: Address as above.*
 Fields: Development of designs for plastic containers and design of the molds required to produce them, all to particular custom needs of clients.
 Activities: R & D and consulting (70%), testing (30%).
 Facilities: Mold constructions are sub-contracted and molding facilities for testings are rented.
 Personnel: 2 engineers.

(626) **Council of Forest Industries of British Columbia,** 864-259
 1500-1055 West Hastings Street,
 Vancouver 1, British Columbia. G.L. Draeseke, President.

R & D Unit: Research Laboratory, A.J. McGraw, Director.
 735 West 15th Street,
 North Vancouver,
 British Columbia.
 Fields: Development of forest product properties and applications.

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- Activities: R & D (100%).
 Facilities: Laboratory of 7,000 sq. ft., work shop.
 Personnel: 5 engineers, 9 technologists, 1 other.
- (627) **Cowley Consultants Limited,*** 864
 4480 Chesswood Drive,
 Downsview, Ontario.
- R & D Unit: Address as above.* J. Cowley, Director.
 Fields: Electromechanical design and development.
 Activities: Development, design and consulting.
 Facilities: 2,000 sq. ft. shop and offices.
 Personnel: 1 engineer, 2 technologists.
- (628) **Digital Methods Limited,*** 853
 1716 Woodward Drive,
 Ottawa, Ontario.
 K2C 0P8
- B. Farrell Chown, President.
- a) R & D Unit: Address as above.* B.F. Chown, Director.
 Fields: Information retrieval, air traffic.
 Activities: R & D (10%), consulting (90%).
 Facilities: Data processing facility.
 Personnel: 1 scientist, 6 engineers, 4 technologists, 3 others.
- b) R & D Unit: Within the Defence Research Board, J. Currie, Director.
 Ottawa.
 Fields: Information retrieval, automated data banks.
 Activities: R & D (100%).
 Facilities: Data processing facility.
 Personnel: 3 engineers, 3 technologists, 5 others.
- (629) **Dodwell, Dyer & Associates,*** 864-329
 1177 St. Laurent Boulevard,
 Ottawa, Ontario.
 K1K 3B7
- Gordon Dodwell, President.
- R & D Unit: Affiliated with Jones, Kirwan & D. Jones, Director.
 Associates,*
 Box 238,
 Hagersville,
 Ontario.
- Fields: Air cushion vehicle technology, air cushion systems, air cushion assist vehicles for off-road uses, air cushion models and testing, air cushion design and prototype production.
 Activities: R & D (50%), testing (30%), consulting (20%).
 Facilities: Workshop and laboratory.
 Personnel: 3 engineers.
- (630) **Dudas Kuypers Adamson Limited,*** 869
 96 Bloor Street West,
 Toronto, Ontario.
- Jan Kuypers, President.
- R & D Unit: Address as above.* J. Kuypers, G. Adamson, I. Norton,
 Directors.
 Fields: Environmental and exhibition project design and development of consumer products.
 Activities: Consulting (100%).

Facilities: Design and engineering office space, model shop, library of 1,000 volumes.
 Personnel: 1 technologist, 9 others.

(631) **ESE Limited,*** 864

1780 Albion Road,
 Rexdale, Ontario.

D.K. Ritchie, President.

R & D Unit: R & D Department,*
 Address as above.

G.R. Lang, Director.

Fields: Electrical network synthesis, communications systems analysis.

Activities: R & D (100%).

Facilities: Electronic laboratory facilities.

Personnel: 2 scientists, 3 engineers.

(632) **École Polytechnique,*** 864

2500, avenue Marie-Guyard,
 Montréal 250, Québec.

J. Bernard Lavigueur, Président.

Centre de R-D: Centre de Développement Technologique,*
 Même adresse.

Marc A. St-Jacques, Directeur.

Domaines: Recherche scientifique, développement de procédés de fabrication; génies biomédical,
 du transport, de l'environnement, des systèmes et de l'informatique.

Activités: Génies: civil, mécanique, électrique, chimique, métallurgique, minier, géologique,
 physique, industriel, nucléaire.

Installations: Laboratoires, bibliothèque scientifique, centre de calcul, ateliers d'ajustage.

Personnel: 135 scientifiques, 106 ingénieurs, 46 techniciens.

(633) **Econotech Services Limited,*** 864-271

852 Derwent Way,
 Annacis Island,
 New Westminster, British Columbia.

E.S. Becker, President.

R & D Unit: Address as above.*

E.S. Becker, P.R. Thomas, Directors.

Fields: Research in pulp and paper and other technologies, pollution.

Activities: General technical consulting, R & D, testing and analysis.

Facilities: Pilot plant for pulp cooking and bleaching, pilot plant for wide variety of technical
 processing, laboratories, related service facilities.

Personnel: 4 scientists, 1 engineer, 8 technologists, 1 other.

(634) **Eco-Research Limited,*** 864

265 Hymus Boulevard,
 Pointe Claire 730, Québec.

Louis Philippe Roy, President.

a) R & D Unit: Address as above.*

Louis Philippe Roy, Director.

Fields: Multidisciplinary expertise in testing, consulting services and research in
 environmental science.

Activities: Testing (50%), consulting (25%), research (25%).

Facilities: Laboratory, as well as facilities of Bio-Research Laboratories and CIL.

Personnel: 12 scientists, 37 technologists, 12 others.

b) R & D Unit: 360 Eddystone Avenue,*
 Downsview,
 Ontario.

J. Kennedy, Director.

Fields: Multidisciplinary expertise in testing, consulting services and research in
 environmental science.

Activities: Testing (75%), consulting (10%), research (10%).

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Personnel: 1 scientist, 1 engineer, 4 technologists, 1 other.

- (635) **Eco-Tec Limited,*** 864
 25 Curity Avenue,
 Toronto 16, Ontario. L.W. Nourse, President.
- R & D Unit: R & D Department,* P.J. Simmons, Director.
 Address as above.
- Fields: Pollution abatement systems.
- Activities: R & D (100%).
- Facilities: Laboratory of 800 sq. ft., related services.
- Personnel: 3 engineers, 3 technologists.
- (636) **Electrohome Limited,*** 334
 809 Wellington Street North,
 Kitchener, Ontario. J.A. Pollock, President.
- a) R & D Unit: Planning & Development Laboratory,* L.A. Annett, Director. 864-379
 330 Weber Street North,
 Waterloo,
 Ontario.
- Fields: Chemical and anti-pollution research.
- Activities: R & D (100%).
- Facilities: Laboratory of 2,500 sq. ft., related service facilities.
- Personnel: 1 scientist, 2 engineers, 1 technologist, 2 others.
- (637) **The Electrolyser Corporation Limited,*** 336
 122 The West Mall,
 Etobicoke,
 Toronto, Ontario. A.K. Stuart, President.
- R & D Unit: Address as above.* R.F. Sullivan, Director. 336-864
- Fields: Design and development of electrochemical processes and apparatus, electrolysis of water technology including hydrogen and oxygen generation and heavy water electrolysis and upgrading.
- Activities: Manufacture of electrolytic plants, technical consultation and prototype development and testing.
- Facilities: Plant of 15,000 sq. ft. incorporating laboratory and testing area.
- Personnel: 4 engineers, 1 technologist, 2 others.
- (638) **Free Piston Development Company Limited,*** 864-315
 745 Gardiners Road,
 Kingston, Ontario. J.S. Campbell, President.
- R & D Unit: Address as above.* J.S. Campbell, Director. 315-308
- Fields: Engines and air compressors.
- Activities: R & D (10%), consulting (10%), sub-contract machine work (80%).
- Facilities: 2 test cells, machine shop, related equipment.
- Personnel: 2 engineers, 2 technologists, 9 others.
- (639) **F.T. Gerson Limited,*** 864
 67 Yonge Street,
 Toronto 215, Ontario. F.T. Gerson, President.
- R & D Unit: Address as above.* F.T. Gerson, Director. 864-165
- Fields: Metallurgy, materials science, plastics product development and evaluation.
- Activities: R & D (40%), consulting (45%), testing (15%).

Facilities: Engineering office and library.
 Personnel: 2 engineers, 2 others.

- (640) **Hart Chemical Limited,*** 379
 Box 450,
 Guelph, Ontario. Robert L. Allen, President.
- R & D Unit: Address as above.* H.J.S. Shane, Director. 864-379
 Fields: Surfactants, emulsifiers, pulp and paper processing, chemicals, textile auxiliary products.
 Activities: Development (50%), technical service (50%).
 Facilities: Five laboratories: analytical, development, pulp and paper, textile application, biochemical.
 Personnel: 4 scientists, 5 technologists.
- (641) **S.W. Hooper & Company Limited,*** 315
 731 Gait Street West,
 Sherbrooke, Quebec. S.W. Hooper, President.
- R & D Unit: Address as above.* A.C. Martin, Director. 315-864
 Fields: Pulp and paper machinery.
 Activities: R & D (50%), testing (10%), consulting (40%).
 Facilities: Pilot plant of 1,356 sq. ft.
 Personnel: 1 engineer, 1 technologist.
- (642) **Hovey & Associates Limited,*** 864-325
 2378 Holly Lane,
 Ottawa, Ontario.
 K1V 7P1 G.E. Hovey, President.
- R & D Unit: R & D Section,* N.D. Eryou, Director.
 Address as above.
 Fields: Vehicle systems engineering, systems for operation of vehicles in low temperature climates.
 Activities: R & D (50%), testing (30%), consulting (20%).
 Facilities: Workshop area of 15,000 sq. ft., (bench and development) and related service facilities.
 Personnel: 1 scientist, 6 engineers, 6 technologists, 20 others.
- (643) **Howden Apco Research Limited,*** 864-315
 1510 Birchmount Road,
 Scarborough, Ontario. M.F. Caffrey, President.
- R & D Unit: 30 Continental Place,* C.H. Pettersson, Director.
 Scarborough,
 Ontario.
 Fields: Centrifugal and axial fan development in performance and structures, flow simulation studies, sound measuring and analysis.
 Activities: R & D (70%), testing (20%), consulting (10%).
 Facilities: 2 performance test stands, blower overspeed test rig, sound measuring and analysis equipment.
 Personnel: 2 engineers, 2 technologists.
- (644) **Imperial Oil Limited,*** 365
 111 St. Clair Avenue West,
 Toronto, Ontario.
 M5K 1K3 J.A. Armstrong, President.

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- c) R & D Unit: Production Research and Technical Service,*
339-50th Avenue Southeast,
Calgary,
Alberta.
T2G 2B3
Fields: Petroleum drilling, production and gas processing operations, permafrost geotechnical studies, ice mechanics and offshore facilities, automated analytical systems.
Activities: R & D (60%), analytical services (40%).
Facilities: 37,000 sq. ft. laboratory, machine shop, computer terminals, library.
Personnel: 23 engineers, 28 technologists, 17 others. G.G. Mainland, Manager. 99-864
- d) R & D Unit: Exploration Service and Research,
500-6th Avenue Southwest,
Calgary,
Alberta.
Fields: Geophysics, including seismic field processing and interpretation techniques; geology, including geochemistry, paleontology, facies interpretation, fluid movement; formation evaluation, systems applications.
Activities: R & D (15%), service and consulting (85%).
Facilities: 10,000 sq. ft. of laboratory and processing facilities.
Personnel: 49 scientists, 25 technologists, 36 others. M.G. Parsons, Manager. 099-864
- (645) **Instronics Limited,*** 853
171 Neil Avenue,
Stittsville, Ontario.
John E. Knowles, President.
R & D Unit: Research Department,*
Address as above. R. Hamaguchi, Director.
Fields: Two and three axis digital graphics, information systems.
Activities: R & D (100%).
Facilities: 2,000 sq. ft. of service space.
Personnel: 1 scientist, 2 engineers, 4 technologists, 2 others.
- (646) **The International Nickel Company of Canada Limited,*** 059-295
Toronto-Dominion Centre,
Toronto 111, Ontario.
M5K 1E3
L.E. Grubb, President.
a) R & D Unit: Process Development,*
Address as above. D. Kelly, Director. 869
Activities: Economic feasibility studies, flowsheet design, process simulations.
Facilities: Computer terminal and service facilities of 6,000 sq. ft.
Personnel: 20 scientists, 1 technologist.
- (647) **K.S.F. Chemical Processes Limited,*** 864-315
Savage Drive,
Cambridge, Ontario.
David Krofchak, Senior Vice-President.
R & D Unit: Address as above.*
Gunter Mueller, Director.
Fields: Water and chemical recovery from industrial processes.
Activities: R & D (20%), engineering and construction (80%).
Facilities: Engineering design office and laboratory.
Personnel: 1 scientist, 3 engineers, 2 technologists, 3 others.

- (648) **Keramchemie (Canada) Limited,*** 864
 180 Duncan Mill Road,
 Don Mills, Ontario. H. Reicher, President.
 R & D Unit: Research Division,* H.M. Gomaa, Director.
 Address as above.
 Fields: Air and water pollution control systems.
 Activities: R & D (100%).
 Facilities: Laboratory of 850 sq. ft.
 Personnel: 2 scientists, 4 engineers, 1 technologist.
- (649) **Laboratoire d'Hydraulique Lasalle Limitée,*** 864
 2050, rue St-Patrick,
 Lasalle, Québec. Ernest Pariset, Président.
 Centre de R-D: Même adresse.* René Hausser, Directeur.
 Domaines: Hydraulique fluviale, portuaire, industrielle, urbaine, hydro-électricité.
 Activités: R - D (100%).
 Installations: Laboratoire de 25,000 pieds carrés, bibliothèque.
 Personnel: 7 ingénieurs, 15 techniciens, 8 autres.
- (650) **Lakefield Research of Canada Limited,*** 864-099
 Box 40,
 Commerce Court West,
 Toronto, Ontario. G.T.N. Woodrooffe, President.
 R & D Unit: Box 430,* A.G. Scobie, Director.
 Lakefield,
 Ontario.
 Fields: Mining process research.
 Activities: Metallurgical, mineralogical and analytical research.
 Facilities: Metallurgical, mineralogical, chemical laboratory (analytical), and pilot plant.
 Personnel: 3 scientists, 3 engineers, 15 technologists, 10 others.
- (651) **B.H. Levelton & Associates Limited,*** 864
 1755 West 4th Avenue,
 Vancouver, British Columbia. B.H. Levelton, President.
 R & D Unit: Address as above.* B.H. Levelton, Director.
 Fields: Pollution control, process development.
 Activities: Consulting (70%), testing (10%), R & D (20%).
 Facilities: Laboratory of 3,000 sq. ft., chemistry laboratory, physical testing, pilot plant.
 Personnel: 3 scientists, 6 engineers, 3 technologists, 5 others.
- (652) **Lockheed Petroleum Services Limited,*** 864-099
 1 Grosvenor Square,
 New Westminster, British Columbia. E.P. Wheaton, President.
 R & D Unit: Address as above.* 099
 Fields: Subsea oil field production systems, marine engineering.
 Activities: R & D (75%), commercial sales (25%).
 Facilities: Engineering and administrative offices, assembly and test facilities.
 Personnel: 24 engineers, 9 technologists, 21 others.
- (653) **Magnetics International Limited,*** 315
 Suite 401, 621 Craig Street West,
 Montreal 101, Quebec. P.N. Carter, President.

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- b) R & D Unit: Ferro-Magnetics Limited,*
2367-43rd Avenue,
Lachine,
Quebec.
Fields: Mineral separation.
Activities: R & D (30%), testing (40%), consulting (30%).
Facilities: Laboratory of 3,000 sq. ft.
Personnel: 1 scientist, 1 engineer, 2 technologists. J.A. Bartnik, Director. 864-099
- (654) **McDaniel Consultants (1965) Limited,*** 864-099
640-8th Avenue Southwest,
Calgary 2, Alberta. R.R. McDaniel, President.
R & D Unit: Petroleum Engineering,* G.C. Knutson, Director.
Address as above.
Fields: Petroleum reservoir engineering.
Activities: Systems analysis and computer program development.
Personnel: 1 scientist, 1 engineer, 1 technologist, 1 other.
- (655) **Morgan Schaffer Corporation,*** 864
5110 Courtraï,
Montreal 252, Quebec. James E. Morgan, President.
R & D Unit: Research Division,* James E. Morgan, Director.
Address as above.
Fields: Mass spectrometric analysis, transformer gas analysis.
Activities: R & D (20%), analysis and consulting (80%).
Facilities: Laboratory of 1,000 sq. ft. and related service facilities.
Personnel: 3 scientists, 2 others.
- (656) **Edmund Newhall Associates Limited,*** 864-335
1245 Martin Grove Road,
Rexdale, Ontario. E.E. Newhall, President.
R & D Unit: R & D Division,* E.E. Newhall, Director.
Address as above.
Fields: Data communications.
Activities: R & D (70%), consulting (30%).
Facilities: Laboratory of 3,500 sq. ft., printed circuit shop, machine shop, dark room.
Personnel: 5 engineers, 4 technologists, 3 others.
- (657) **North East Alfalfa Dehydrators Research Association,** 864-106
Box 670,
Tisdale, Saskatchewan. J.F. Lalonde, President.
R & D Unit: Research Laboratory, D.A. Pulkinen, Director.
Address as above.
Fields: Dehydrated alfalfa products and processes.
Activities: R & D (75%), testing (20%), consulting (5%).
Facilities: 850 sq. ft. laboratory, 4 dehydration plants.
Personnel: 2 scientists, 1 technologist, 2 others.
- (658) **Nucro-Technics Limited,*** 864
2000 Ellesmere Road,
Unit 16,
Scarborough, Ontario. Ian W. French, President.

R & D Unit: Address as above.*
 Fields: Food, drug, cosmetics analyses, toxicology clinical trials and bioavailability.
 Activities: Analysis.
 Facilities: 4,000 sq. ft. of chemical and microbiological laboratories and offices, 4,000 sq. ft. of small animal facilities.
 Personnel: 4 scientists, 18 technologists, 3 others.

(659) **Petroleum Recovery Research Institute,** 864-099
 c/o The University of Calgary,
 Calgary, Alberta.
 T2N 1N4 J.E. Baugh, President.

R & D Unit: Address as above. N. Mungan, Director.
 Fields: More efficient recovery of oil and gas.
 Activities: R & D (100%).
 Facilities: Laboratory space of 5,000 sq. ft., related research equipment.
 Personnel: 2 scientists, 5 engineers, 8 technologists, 1 other.

(660) **Pharma-Research Canada Limited,** 864-374
 250 Hymus Boulevard,
 Pointe Claire 730, Quebec. A.M. Weldon, President.

R & D Unit: Address as above. P.B. Stewart, Director. 374
 Fields: Pharmaceutical research.
 Activities: R & D (100%).
 Facilities: Fully equipped laboratories of 21,000 sq. ft., animal facilities of 15,000 sq. ft., library of 500 technical books.
 Personnel: 10 scientists, 23 technologists, 14 others.

(661) **Pulmac Research Limited,*** 864-271
 5048 Boulevard de Maisonneuve West,
 Montreal, Quebec. W.F. Cowan, President.

R & D Unit: Address as above.*
 Fields: Pulp and paper products and process improvement.
 Activities: Consulting.
 Facilities: Laboratory.
 Personnel: 1 scientist, 3 technologists.

(662) **Pulp and Paper Research Institute of Canada,*** 864-271
 570 St. John's Boulevard,
 Pointe Claire 720, Quebec. Pierre R. Gendron, President.

R & D Unit: Address as above.* D.A.I. Goring, Director. 271-039
 Fields: Pulp and paper, and logging.
 Activities: Pulp and paper research (83%), logging research (17%).
 Facilities: Laboratories, pilot plant, machine shop, library of 12,000 books, IBM 1130, scanning electron microscope, transmission electron microscope.
 Personnel: 53 scientists, 22 engineers, 88 technologists, 64 others.

(663) **Radiation Development Company Limited,*** 391
 3454 East Broadway,
 Vancouver, British Columbia. R.G. Friend, President.

b) R & D Unit: Radi-Pulp Research,* G. Mitchell, Director. 864-271
 Address as above.
 Fields: Pulp and paper.

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Activities: Consulting R & D (100%).
 Facilities: Laboratory of 4,000 sq. ft.
 Personnel: 1 scientist, 4 technologists.

- (664) **Redpath Sugars Limited,*** 108
 1720 du Canal,
 Montreal, Quebec. J.H. Magee, President.
- a) R & D Unit: Operations Research,* 864
 Address as above. K. Baker, Director.
 Fields: Systems and mathematical analysis, programming.
 Activities: R & D (25%), consulting (75%).
 Facilities: UNIVAC 9400 with peripheral equipment.
 Personnel: 1 scientist, 1 engineer, 3 technologists, 1 other.
- b) R & D Unit: Engineering Consulting Services,* 864
 1410 Montmorency Street,
 Montreal,
 Quebec. M. Day, Director.
 Fields: Feasibility studies of agricultural and technological concerns, design and engineering of sugar mills and refineries, design and engineering of water treatment processes.
 Activities: R & D (30%), consulting (70%).
 Facilities: Drawing office, laboratory.
 Personnel: 3 engineers, 3 technologists.
- (665) **Renco Design Limited,*** 864
 Suite 310, 3089 Bathurst Street,
 Toronto 19, Ontario. T.A. Reeve, President.
- R & D Unit: Address as above.* 864-315
 S. Harbord, Director.
 Fields: Engineering of mechanical and machine tools and aircraft, and development of manufacturing processes and special machinery.
 Facilities: Design office.
 Personnel: 2 engineers, 2 technologists.
- (666) **Selco Mining Corporation Limited,** 059
 6th Floor, 55 Yonge Street,
 Toronto, Ontario.
 M5E 1J4 M.A. Upham, President.
- a) R & D Unit: Questor Division, 864
 20 Canso Road,
 Rexdale,
 Ontario. P.G. Lazenby, Managing Director.
 Fields: Airborne geophysical survey systems.
 Activities: Contract surveying (80%), R & D (20%).
 Facilities: Laboratory of 1,500 sq. ft.
 Personnel: 1 scientist, 1 engineer, 2 technologists.
- (667) **I.P. Sharp Associates Limited,*** 853-318
 Box 71,
 Toronto-Dominion Centre,
 Toronto, Ontario. Ian P. Sharp, President.
- a) R & D Unit: Proprietary Software Division,* 853
 Address as above. Roger D. Moore, Director.
 Fields: Computer software.

- Activities: R & D (100%).
 Facilities: IBM 370/145.
 Personnel: 6 technologists.
- b) R & D Unit: Computer Products Division,* A.C.S. Jempson, Director. 318
 Address as above.
 Fields: Communications couplers, spectrometer readout systems, computer hardware.
 Activities: R & D (50%), manufacturing (50%).
 Facilities: Plant of 3,200 sq. ft., access to IBM 370/145.
 Personnel: 3 engineers, 3 technologists.
- (668) **ShelPac Research and Development Limited,*** 864-515
 Box 102,
 401 Bay Street,
 Toronto 103, Ontario. R.A. King, General Manager.
- R & D Unit: Address as above.*
 Fields: Design and operation of slurry pipelines.
 Activities: Business development (33%), engineering (33%), project management (34%).
 Personnel: 1 scientist, 8 engineers, 1 technologist, 7 others.
- (669) **Sidbec-Dosco Limitée,*** 291
 507, Place d'Armes,
 Montréal 126, Québec. Jean-Paul Gignac, Président.
- c) Centre de R-D: Contrecoeur,* 869
 Québec.
 Domaines: Recherches opérationnelles.
 Activités: R - D (100%).
 Installations: Ordinateur Honeywell G-437.
 Personnel: 1 scientifique, 1 ingénieur, 1 technicien, 1 autre.
- (670) **The Solids Pipeline Research & Development Association,*** 864-515
 c/o Techman Limited,
 3rd Floor, 310-9th Avenue Southwest,
 Calgary, Alberta.
 T2P 1K5 J.A. Macdonald, President.
- R & D Unit: Address as above.* J.G. Bruce, Director.
 Fields: Solids pipeline R & D (capsule pipelining).
 Activities: Industrial support for Research Council of Alberta.
 Personnel: 1 engineer.
- (671) **Space Research Corporation,*** 864-315
 Highwater, Quebec. G.V. Bull, President.
- a) R & D Unit: Highwater Aeroballistics 309-315
 Laboratories,*
 Address as above.
 Fields: Ordnance test and development, heavy and custom machining, photo-optical
 systems, industrial machinery design and fabrication.
 Activities: R & D (30%), testing (30%), manufacturing (40%).
 Facilities: 7,700 acre test range with full complement of ordnance test equipment and facilities.
 Personnel: 1 scientist, 18 engineers, 24 technologists, 115 others.
- b) R & D Unit: Electronics Division,* 335
 Address as above K. Urbatzka, Director.

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Fields: Air traffic control simulators, high G hardened circuitry, radar and special instrumentation development and installation.
 Activities: R & D (60%), manufacturing (40%).
 Facilities: 9,600 sq. ft. of service space.
 Personnel: 7 engineers, 9 technologists, 10 others.

(672) **Spartan Aero Limited,*** 864
 380 Hunt Club Road,
 Ottawa, Ontario. D.G. MacKay, President.

R & D Unit: Address as above.* J.H. Deacon, Director.
 Fields: Mapping, photogrammetry, geophysical surveying, geodesic surveying, soils mapping, land use mapping, forestry inventory, and remote sensing.
 Facilities: Combined repair, maintenance, research and development electronics shop of 1,200 sq. ft., machine and sheet metal shops.
 Personnel: 9 scientists, 4 engineers, 12 technologists, 160 others.

(673) **Steel Castings Institute of Canada,*** 864-291
 Box 294,
 Kleinburg, Ontario. F.W. Hore, Chairman.

R & D Unit: 568 Booth Street,* M.J. Breton, Director.
 Ottawa,
 Ontario.
 Fields: Metallurgy.
 Activities: R & D (100%).
 Personnel: 1 engineer.

(674) **Technological Advisory Services Limited,*** 864
 727 King Street West,
 Toronto 139, Ontario. G.F. Wright, President.

R & D Unit: Address as above,* G.F. Wright, Director.
 Fields: Chemistry.
 Activities: Chemical analysis and synthesis.
 Facilities: Laboratory and pilot plant facilities of 5,000 sq. ft.
 Personnel: 2 scientists, 2 technologists, 2 others.

(675) **Templeton Engineering Company,*** 864
 Box 1409,
 Winnipeg, Manitoba.
 R3C 2Z1

R & D Unit: Northern Projects Group,* L.E. Hurwitz, Director.
 528 St. James Street South,
 Winnipeg 10,
 Manitoba.
 Fields: Soil mechanics, thermal soil mechanics and heat transfer in permafrost.
 Activities: R & D (20%), consulting (80%).
 Facilities: Laboratory.
 Personnel: 4 engineers, 2 technologists, 1 other.

(676) **Terratech Limited,*** 864
 275 Benjamin-Hudon,
 Montreal 379, Quebec. Laval Samson, President.

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R & D Unit: Address as above.* Laval Samson, Director.
 Fields: Geotechnical and foundation engineering, soil mechanics, rock mechanics, permafrost, engineering geology.
 Activities: Consulting (65%), testing (25%), R & D (10%).
 Facilities: Laboratory of 4,000 sq. ft., library of 1,000 technical books.
 Personnel: 7 engineers, 20 technologists, 4 others.

- (677) **United Aircraft of Canada Limited,*** 321
 Box 10,
 Longueuil, Quebec. T.E. Stephenson, President.
- c) R & D Unit: Industrial and Marine Division,* R.H. Guthrie, Director. 315-864
 Address as above.
 Fields: Non-aeronautical applications for gas turbines.
 Activities: Design (25%), consulting (60%), development (15%).
 Facilities: Engineering offices, access to test facilities of parent company.
 Personnel: 29 engineers, 19 technologists, 18 others.
- (678) **Weather Engineering Corporation of Canada Limited,*** 864
 Suite 105, 315 Dorval Avenue,
 Dorval 780, Quebec. B.A. Power, President.
- R & D Unit: Address as above.*
 Field: Weather modification, overhead transmission lines.
 Activities: Consulting (90%), R & D (10%).
 Facilities: 1,500 sq. ft. of service space, meteorological research library, and instrumented aircraft.
 Personnel: 2 scientists, 1 technologist.
- (679) **Westinghouse Canada Limited,*** 336
 286 Sanford Avenue North,
 Hamilton, Ontario. W.J. Cheesman, President.
- a) R & D Unit: Product Assurance Laboratory,* D.L. Brignall, Manager. 864
 Address as above.
 Fields: Chemical, metallurgical and mechanical evaluation of materials and components.
 Activities: R & D (25%), testing (30%), specialty manufacturing processes (25%), consultation (20%).
 Facilities: Laboratory of 15,000 sq. ft. with extensive chemical metallurgical, mechanical and non-destructive testing and machine shop facilities.
 Personnel: 2 scientists, 3 engineers, 7 technologists, 1 other.

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Each entry is followed by numbers that indicate its location in the text: numbers in regular script refer to the complete listing(s) of a company's activities, and numbers in italic script refer to listings of R&D units with activities that differ from those of the parent company.

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Les codes de la Classification des activités économiques figurent à l'extrême droite.

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Where R&D units are located in different provinces, company names are repeated and accompanied by letters in brackets indicating which R&D units are being referred to.

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Chaque nom de société est suivi de numéros permettant de le repérer dans le texte: ceux en caractère ordinaire signalent l'inscription ou les inscriptions complètes des activités d'une société, alors que ceux en italique se rapportent aux centres de R-D dont les activités sont différentes de celles de la société mère.

Si une société a des centres de R-D dans plus d'une province, son nom est répété et suivi de lettres entre parenthèses indiquant les centres de R-D en question.

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