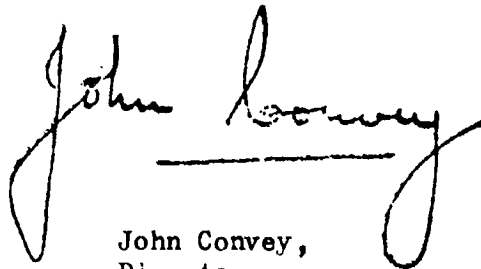


F O R E W O R D

Scientific and technical information, the principal product of research, is the key input to modern technology. While it is generally recognized that the application of science and technology is becoming an important factor in the national economy, it is essential to understand that the rate of change in innovation is accelerating not only because of the rapid increase in the amount of research and development being conducted, but also because of much more deliberate planning to apply new findings quickly in order to gain a competitive advantage nationally or internationally. Hence, it is vitally important that Canada should develop the ability to obtain, manage and use information, whether technical or economic.

Mines Branch considers that a well-equipped Information Centre is essential for its needs, not only to avoid unnecessary duplication of research and development by its scientists and engineers, but also to assist the Canadian mining industry in exploiting the world's rapidly expanding pool of knowledge.

The Mines Branch is emphasizing information on mining initially. Language control in technical information systems is frequently achieved by using a thesaurus of technical terms. This publication should provide a useful tool for systematically accumulating and using technical information on mining.

A handwritten signature in cursive script that reads "John Convey". The signature is written in black ink and is positioned above a horizontal line.

John Convey,  
Director,  
Mines Branch.

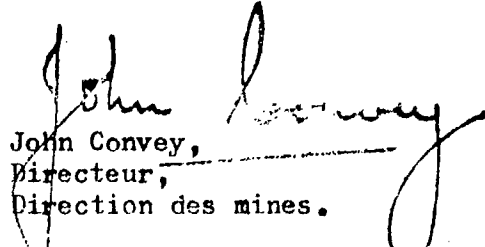
June 1969

## AVANT-PROPOS

Les données scientifiques et techniques, qui sont le dérivé principal de la recherche, constituent l'apport nécessaire à la technologie moderne. Bien qu'il soit généralement reconnu que l'application de la science et de la technologie représente un facteur important de l'économie nationale, il est essentiel de comprendre que le rythme de changement des innovations s'accélère non seulement en raison de l'accroissement rapide du volume de recherche et de mises en valeur entreprises, mais également par suite d'une planification beaucoup plus rationnelle en vue d'appliquer sans attendre les nouvelles découvertes permettant d'obtenir un avantage sur le plan de la concurrence nationale et internationale. Il est donc d'une importance vitale que le Canada améliore ses moyens d'obtention, de gestion et d'utilisation des données, tant techniques qu'économiques.

La Direction des mines juge qu'un centre de renseignements bien équipé est nécessaire pour répondre à ses besoins, non seulement pour éviter tout double emploi dans les travaux de recherche et de mise en valeur effectués par ses scientifiques et ses ingénieurs, mais également pour venir en aide à l'industrie minière canadienne dans l'exploitation des connaissances mondiales mises en commun et caractérisées par une rapide expansion.

Au début, la Direction des mines met l'accent sur les renseignements du domaine minier. Le contrôle du langage des systèmes de renseignements techniques est souvent assuré grâce à l'emploi d'une banque de termes techniques. La présente publication devrait fournir un moyen pratique pour accumuler systématiquement et utiliser les données techniques concernant le secteur minier.

  
John Convey,  
Directeur,  
Direction des mines.

Juin 1969

Mines Branch Information Circular IC 225

THESAURUS OF MINING TERMS

by

A.S. Romaniuk\*

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ABSTRACT

This thesaurus provides the language control for the technical information service being developed in the Mines Branch for mining technology, and is presented for the use of others who may be striving to systematically accumulate and rapidly retrieve mining information. It contains about 850 terms, also called keywords or descriptors, related mostly to those mining activities which occur after a mineral deposit has been located, but before metallurgical processing or marketing begins. Accordingly, the majority of terms relate to drilling, blasting, loading, hauling, crushing, rock mechanics and mining environment.

Terms were compiled according to the rules and conventions recommended by the Engineers Joint Council from the expressions used in several hundred mining reports by Canadian authors in industry, universities and government, as well as from actual requests for technical information received by the Mines Branch. Relationships between terms are shown by the following five types of cross references: USE, USED FOR, BROADER TERM, NARROWER TERM, RELATED TERM.

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Direction des Mines  
Circulaire d'information IC 225

THÉSAURUS DE TERMES MINIERS

par

A. S. Romaniuk<sup>†</sup>

RÉSUMÉ

Le présent recueil est un guide terminologique employé par le service d'information technique que la Direction des mines est en voie d'établir pour la technologie minière; il est offert à ceux qui cherchent peut-être à compiler systématiquement et à récupérer rapidement des renseignements sur les mines. Il renferme environ 850 mots, appelés également mots clés ou descripteurs, se rapportant principalement aux activités minières survenant après la localisation d'un gisement et avant le traitement métallurgique ou la mise en marché. En conséquence, la majorité des termes concernent le forage, le dynamitage, le chargement, le transport, le broyage, la mécanique des roches, et autres sujets du milieu minier.

Les termes ont été compilés conformément aux règles et conventions recommandées par la Commission mixte des ingénieurs à partir d'expressions employées dans des centaines de rapports miniers rédigés par des auteurs canadiens dans l'industrie, les universités et les services de l'État, et à la suite de demandes de renseignements techniques parvenues à la Direction des mines. Les rapports existant entre les divers termes sont indiqués d'après les cinq genres de renvois suivants: USAGE COURANT, UTILISE POUR, TERME PLUS GENERAL, TERME PLUS RESTREINT, TERME CONNEXE.

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\*Chef du Centre de renseignements miniers, Direction des mines, ministère de l'Énergie, des Mines et des Ressources, Ottawa, Canada.

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AUTHOR'S PREFACE

This thesaurus of mining terms provides the language control for the technical information service being developed by the Mines Branch for mining.

Listed are approximately 850 terms, which can be referred to as keywords or descriptors. Hopefully, these include all the important terms used by persons in industry, universities and government to describe their particular contributions to mining. There are several reasons why it can only be hoped that this has been achieved. Perhaps, basically, it is a problem of communications, which can be expected for any subject where different persons use different words to mean the same thing.

The communication of mining information is complicated by the multi-discipline nature of the subject, by the locality preference given to certain terminology, and by the natural expansion of vocabulary that occurs in any dynamic subject. Furthermore, it is a subject that can be viewed by individuals in quite different ways, whether as a technology or a science or a business. Therefore, additions and deletions to this thesaurus are expected and, indeed, will be welcomed. Readers are invited to use the tear-out at the back of this publication for their comments and suggestions.

In compiling this work it was necessary at an early stage to determine how broad the coverage should be. It was decided to emphasize those mining activities that occur after a deposit has been located, but before metallurgical processing or marketing begins. Thus, most terms relate to drilling, blasting, loading, hauling and crushing operations, including, of course, the base science of rock mechanics and the environmental aspects of mining. Incidentally, the names of various technical journals and geographic regions have been included in the Thesaurus because they pertain to the retrieval of information.

The terms were selected from the abstracts of several hundred technical articles written by persons in Canadian industry, universities and government. Also considered was the phrasing of actual requests for mining information directed over a period of two years to the writer. A record was kept of the frequency with which terms recurred and this, of course, served as a factor in term selection.

The rules and conventions detailed in the publication Thesaurus Rules and Conventions, Engineers Joint Council, New York, 1966, were used as guidelines in compiling the Thesaurus, because of an anticipated need for compatibility between information systems serving different segments of technology and science. Accordingly, the relationships between various terms listed in the Thesaurus are shown by the following five types of cross references:

USE	(no abbreviation)
USED FOR	UF
BROADER TERM	BT
NARROWER TERM	NT
RELATED TERM	RT

The USE reference guides the information indexer or retriever from one term to another, which is preferred. For example:

STOWING  
USE BACKFILLING (BACKFILLING is the term used in most  
Canadian mines)

The USED FOR reference is the inverse of the USE reference. Thus the inverse of the example just mentioned is:

BACKFILLING  
UF STOWING (BACKFILLING is the preferred term)

The BROADER TERM reference, abbreviated BT, refers to a term which is generically broader. For example:

PNEUMATIC BACKFILLING  
BT BACKFILLING

For every BROADER TERM reference there is a corresponding NARROWER TERM. This is in keeping with the convention that each term mentioned in the Thesaurus is tied to at least one other term by a cross reference. The NARROWER TERM reference abbreviated NT is as follows:

BACKFILLING  
NT PNEUMATIC BACKFILLING

The RELATED TERM (RT) reference indicates that terms are closely related in concept or are frequently associated. They are not necessarily of the same hierarchy. For example:

BACKFILLING  
RT WASTE DISPOSAL

Each RT reference has its inverted counterpart, which in this example is:

WASTE DISPOSAL  
RT BACKFILLING

It is in the RT cross references that the variation in point of view shows up most frequently, with the result that RT selections are often a matter of opinion.

Terms have been arranged alphabetically, letter by letter, regardless of spaces between words. Punctuation has been omitted so that no hyphens are used, even for words that are normally hyphenated. Parentheses have been used with some terms to clarify their meaning, as in the following examples:

FATIGUE (HUMAN) and FATIGUE (MATERIALS)

Section II is an alphabetical listing of all terms minus cross

references and is intended to serve as a check list for quick reference. In this section a dash (-) preceding a term signifies that there are other more specific or narrower terms for that particular concept.

Several members of the Mines Branch reviewed and commented upon the initial draft of this thesaurus. Their assistance is gratefully acknowledged.

A. S. Romaniuk

Ottawa, June 1969



THESAURUS OF MINING TERMS

PART I

**ABRASION**

RT ABRASIVES  
EROSION  
FRICTION  
GRINDING  
HARDNESS  
POLISHING  
WEAR

**ABRASIVES**

RT ABRASION  
DIAMONDS  
SILICA

**ABSTRACTS**

RT BIBLIOGRAPHIES  
INDEXES  
INFORMATION RETRIEVAL  
INFORMATION STORAGE

**ABUTMENT ZONE**

RT CLOSURE  
ROOF CONTROL & GROUND SUPPORT  
STRESS RING

**ACCELEROMETERS**

BT MEASURING INSTRUMENTS  
RT PARTICLE VELOCITY  
VELOCITY

**ACCLIMATIZATION**

RT COLD WEATHER OPERATIONS  
MINE SAFETY  
PERSONNEL

**ACCURACY**

RT CALIBRATION  
ERRORS  
MEASUREMENT  
PRECISION

**ACOUSTICS**

USE SONICS

**ACOUSTIC VELOCITY**

USE SONIC VELOCITY

**ADHESIVES**

RT BONDINGS  
BONDING STRENGTH  
CEMENTS  
COATINGS

**ADITS**

USE TUNNELS

**ADVANCE MINING**

RT LONGWALL MINING  
MINING METHODS  
RETREAT MINING  
SHORTWALL MINING  
UNDERGROUND MINES  
MINING

**AERIAL PHOTOGRAPHY**

RT MINING SURVEYING  
PHOTOGRAMMETRY

**AFRICA**

NT SOUTH AFRICA  
RT EUROPE  
FAR EAST  
LATIN AMERICA & CARIBBEAN  
NEAR EAST  
SOUTH ASIA  
SOUTH PACIFIC

**AGGREGATES**

RT BACKFILLS  
CONCRETE  
GRAVELS  
ROCKS  
SANDS  
SLAGS

**AGING**

RT CORROSION

**AIR**

BT GASES  
NT COMPRESSED AIR  
RT AIR COMPRESSORS  
HUMIDITY  
MINE VENTILATION  
OXIDATION

**AIR BLASTS**

RT FAILURE  
ROCK BURSTS

**AIR COMPRESSORS**

UF COMPRESSORS  
RT AIR  
COMPRESSED AIR  
PUMPS

AIR FILTRATION  
USE FILTRATION

AIRLIFT PUMP  
USE PUMPS

AIR POLLUTION  
UF ATMOSPHERIC POLLUTION  
BT POLLUTION  
RT DUST CONTROL  
EXHAUST GASES  
MINE GASES  
MINE VENTILATION  
RADIOACTIVE DUST  
RESPIRABLE DUST  
WATER POLLUTION

ALBERTA  
BT CANADA

ALUMINA MINES & MINING  
USE BAUXITE MINES & MINING

AMBIENT PRESSURE  
USE PRESSURES

AMMONIUM DYNAMITES  
BT DYNAMITES (STICK EXPLOSIVES)  
RT STRAIGHT (NG) DYNAMITES

AMMONIUM NITRATE FUEL OIL EXPLOSIVES  
UF ANFO  
NCN  
BT EXPLOSIVES  
RT EXPLOSIVES MIXING PLANTS  
PENTOLITE  
PLASTIC LINERS

AMPLIFIERS  
RT OSCILLOSCOPES

AMPLITUDES  
RT FREQUENCY  
MAGNITUDE  
VIBRATIONS  
WAVES

ANALOG COMPUTERS  
BT COMPUTERS  
RT COMPUTER PROGRAMS  
DIGITAL COMPUTERS  
MODELS

ANALOG MODELS  
USE MATHEMATICAL MODELS

ANALYSIS  
UF ANALYTICAL WORK  
ASSAYING

NT CHEMICAL ANALYSIS  
COMPOSITION  
MATHEMATICAL ANALYSIS  
NON DESTRUCTIVE TESTING  
NUMERICAL ANALYSIS  
PHYSICAL ANALYSIS  
SAMPLING  
STATISTICAL ANALYSIS  
STRESS ANALYSIS  
TESTING  
WATER ANALYSIS  
RT COMPUTATION

ANALYTICAL WORK  
USE ANALYSTS

ANCHORAGE CAPACITIES  
BT STRENGTH OF MATERIALS  
RT ANCHORAGE MECHANICS  
ANCHORAGE MODULUS  
ANCHORAGE TESTS  
ANCHORING  
LOAD YIELD CURVES  
ROCK BOLTS

ANCHORAGE MECHANICS  
BT MECHANICS  
RT ANCHORAGE CAPACITIES  
ANCHORAGE MODULUS  
ANCHORAGE TESTS  
ANCHORING  
ROCK BOLTS  
ROCK MECHANICS

ANCHORAGE MODULUS  
RT ANCHORAGE CAPACITIES  
ANCHORAGE MECHANICS  
ANCHORAGE TESTS  
ANCHORING  
PULL TESTS  
ROCK BOLTS

ANCHORAGE TESTS  
RT ANCHORAGE CAPACITIES  
ANCHORAGE MECHANICS  
ANCHORAGE MODULUS  
PULL TESTS  
ROCK BOLTS

ANCHOR BOLTS  
USE ROCK BOLTS

ANCHORING  
RT ANCHORAGE CAPACITIES

ANCHORAGE MECHANICS  
ANCHORAGE MODULUS  
BINDING  
CEMENTING  
COUPLING  
SEALING

ANEMOMETERS  
BT MEASURING INSTRUMENTS  
MINE VENTILATION

ANFO  
USE AMMONIUM NITRATE FUEL OIL  
EXPLOSIVE

ANGLE OF REPOSE  
RT FAILURE  
FRICTION  
INTERNAL FRICTION  
SLIDES (ROCK)  
SLOPES  
STABILITY

ANTHRACOSIS  
USE PNEUMOCONIOSIS

APPARATUS  
USE EQUIPMENT

APPRAISALS  
UF ASSESSMENTS  
RT CRITIQUES  
EVALUATIONS  
LITERATURE SEARCHES

APRON FEEDERS  
USE FEEDERS

ARCH SUPPORTS  
RT HYDRAULIC ROOF SUPPORTS  
ROOF CONTROL & GROUND SUPPORT  
STEEL PROPS

ARCTIC & SUBARCTIC REGIONS  
UF SUBARCTIC REGIONS  
RT COLD WEATHER OPERATIONS  
PERMAFROST

ARGILLITES  
USE SEDIMENTARY ROCKS

ARTESIAN WELLS  
USE WELLS

ARRAYS  
RT BLASTING RESEARCH

ASBESTOS DUST  
BT DUST  
FIBROUS DUST  
RT PNEUMOCONIOSIS  
RESPIRABLE DUST

ASBESTOSIS  
USE PNEUMOCONIOSIS

ASBESTOS MINES & MINING  
BT MINES & MINING

ASSAYING  
USE ANALYSIS

ASSEMBLING  
RT CALIBRATION  
CONSTRUCTION  
DEVELOPMENT  
INSTALLING  
MAINTENANCE (EQUIPMENT)  
OPERATION (EQUIPMENT)  
TESTING

ASSESSMENTS  
USE APPRAISALS

ASSOCIATION OF MINE MANAGERS OF SOUTH  
AFRICA PAPERS & DISCUSSIONS  
(JOHANNESBURG S A)  
BT ENGLISH LANGUAGE PERIODICALS

ATMOSPHERIC POLLUTION  
USE AIR POLLUTION

ATOMIZERS  
RT MINE VENTILATION  
SPRAYERS  
VALVES

ATTENUATION  
RT DAMPING  
NOISE CONTROL  
PROPAGATION  
WAVE SHAPES

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM.

AUGER DRILLS & DRILLING

- BT DRILLING  
DRILLS
- RT ROTARY DRILLS & DRILLING

AUSTRALASIAN INST OF MINING & METALL-  
URGY PROCEEDINGS (MELBOURNE AUST-  
RALIA)

- BT ENGLISH LANGUAGE PERIODICALS

AUSTRALIA

- BT SOUTH PACIFIC

AUSTRALIAN MINING (MELBOURNE AUST-  
RALIA)

- BT ENGLISH LANGUAGE PERIODICALS

AUTOLOADERS

- BT LOADING  
MINING MACHINERY

AUTOMATION

- RT COMPUTERS  
CONTROL SYSTEMS  
DATA PROCESSING  
EFFICIENCY  
MECHANIZATION  
PROCEDURES  
REMOTE CONTROL

BACK (HANGINGWALL)

- USE ROOF (HANGINGWALL)

BACKFILLING

- UF STOWING
- NT HAND BACKFILLING  
HYDRAULIC BACKFILLING  
MECHANICAL BACKFILLING  
PNEUMATIC BACKFILLING
- RT BACKFILLS  
COMPACTING  
CUT & FILL MINING  
EXCAVATION  
FILLS  
FLOCCULATION  
PERCOLATION  
PIPES & PIPELINES  
QUARRIES & QUARRYING  
RETAINING WALLS  
ROOF CONTROL & GROUND SUPPORT  
STOCKPILING  
UNDERCUT & FILL MINING  
WASTE DISPOSAL

BACKFILLS

- UF SAND FILL
- NT CONSOLIDATED BACKFILLS  
UNCONSOLIDATED BACKFILLS
- BT FILLS
- RT AGGREGATES  
BACKFILLING  
COMPACTING  
FINES  
GRAVELS  
MILL TAILINGS  
PERCOLATION RATE  
ROCKS  
SANDS  
STOVE ANALYSIS  
SLAGS  
TAILINGS

BACKHOES

- BT MINING MACHINERY  
BUCKET WHEEL EXCAVATORS  
CLAMSHELLS  
DRAGLINES  
DREDGES  
SHOVELS

BACTERIAL LEACHING

- BT LEACHING  
OXIDATION
- RT URANIUM MINES & MINING

BASALTS

- USE IGNEOUS ROCKS

BATTERY LOCOMOTIVES

- USE MINE LOCOMOTIVES

BAUXITE MINES & MINING

- UF ALUMINA MINES & MINING
- BT MINES & MINING

BEAMS (STRUCTURAL)

- UF FIXED BEAMS
- RT BEAM THEORY

BEAM THEORY

- BT THEORIES
- RT BEAMS  
EXTRACTION RATIO  
TRIBUTARY AREA THEORY

BEDDED MINERAL DEPOSITS  
BT MINERAL DEPOSITS  
RT COAL  
EVAPORITES  
MASSIVE MINERAL DEPOSITS  
SEDIMENTARY ROCKS  
VEIN MINERAL DEPOSITS

BEDDING  
RT BED SEPARATION  
SEDIMENTARY ROCKS  
STRUCTURAL GEOLOGY

BED SEPARATION  
UF STRATA SEPARATION  
RT BEDDING  
COAL MINES & MINING  
FAILURE  
FAULTS (GEOLOGICAL)  
MINE FLOODS  
ROCK BOLTS  
ROOF CONTROL & GROUND SUPPORT  
SAG  
STRESS CONCENTRATION

BELGIUM  
BT EUROPE

BELT CONVEYORS  
UF CONVEYOR BELTS  
CABLE BELT CONVEYORS  
BT CONVEYORS  
RT LOADING POCKETS  
MATERIALS HANDLING  
MINE HAULAGE

BELT FEEDERS  
USE FEEDERS

BENDING STRESSES  
BT STRESSES  
RT ECCENTRIC LOADING  
FLEXIBILITY  
SAG

BENEFICIATION  
RT COMMINUTION  
CONCENTRATING  
EXTRACTION  
FLOTATION  
LEACHING  
MILLING

SCREENING  
WASHING  
WASTE DISPOSAL

BENEFIT COST RATIO  
RT COSTS  
ECONOMICS  
FEASIBILITY  
FORECASTING

BENTONITE  
BT CLAYS  
RT SWELLING

BIAXIAL LOADS  
BT LOADS (FORCES)  
RT BIAXIAL STRESSES  
TRIAxIAL LOADS  
UNIAXIAL LOADS

BIAXIAL STRESSES  
BT STRESSES  
RT BIAXIAL LOADS

BIBLIOGRAPHIES  
RT ABSTRACTS  
INDEXES  
INFORMATION RETRIEVAL  
INFORMATION STORAGE  
TABULATION

BINDING  
RT ANCHORING  
CEMENTING  
COUPLING  
SEALING

BINS  
UF HOPPERS  
RT MATERIALS HANDLING  
STORAGE  
WALL FRICTION

BITS (DRILLS)  
USE DRILL BITS

BLASTHOLE MINING  
BT MINING METHODS  
RT BLASTHOLE  
UNDERGROUND MINES & MINING

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM.

BLASTHOLES

BT BOREHOLES  
RT BLASTHOLE MINING

PROPAGATION VELOCITY  
RADIAL DISPLACEMENT  
ROCK BREAKAGE RESEARCH  
STRESS WAVES  
WAVE SHAPES

BLASTING

NT PERIMETER BLASTING  
PRIMARY BLASTING  
SECONDARY BLASTING  
RT BLASTING ACCESSORIES  
BLASTING RESEARCH  
BOOTLEGS  
BREAKING  
BURDEN  
COLUMN CHARGES  
DETONATION  
DETONATORS  
DRILLING  
EXCAVATION  
EXPLOSIONS  
EXPLOSIVES  
IMPACT  
LOADING  
MINE VENTILATION  
MISFIRES  
NUCLEAR ENERGY  
ROCK BREAKAGE RESEARCH  
SHOCK WAVES

BLENDING

USE MIXING

BLOCK CAVING MINING

USE CAVING MINING

BLOCK FLOW

BT FAILURE  
RT PLANE SHEAR  
ROTATIONAL SHEAR

BONDINGS

RT ADHESIVES  
BONDING STRENGTH

BONDING STRENGTH

BT STRENGTH OF MATERIALS  
RT ADHESIVES  
BONDINGS  
CEMENTS

BLASTING ACCESSORIES

NT DETONATORS  
RT BLASTING  
BOOSTERS  
EXPLOSIVES

BOOSTERS

UF PENTOLITE  
BT BLASTING ACCESSORIES  
RT DETONATION  
DETONATORS  
EXPLOSIVES  
SENSITIVITY

BLASTING AGENTS

USE EXPLOSIVES

BOOTLEGS

RT BLASTING  
MISFIRES

BLASTING RESEARCH

BT MINING RESEARCH  
RT ARRAYS  
BLASTING  
COOPERATIVE RESEARCH  
CRATERING STUDIES  
DETONATION VELOCITY  
DETONATION PRESSURE  
DYNAMIC TENSILE STRENGTH  
EXPLOSIVES  
FIELD EXPERIMENTATION  
FIELD INVESTIGATIONS  
FREE FACES  
LABORATORY EXPERIMENTATION  
PARTICLE VELOCITY

BOREHOLE DEFORMATION METERS

USE DEFORMATION METERS

BOREHOLE EXTENSOMETERS

BT EXTENSOMETERS  
RT DEFORMATION METERS

BOREHOLES

UF DRILL HOLES  
NT BLASTHOLES  
RT OVERCORING

BORING

USE DRILLING

BORING MACHINES  
USE DRILLS & DRILLING  
TUNNELLING MACHINES

BOUNDARIES  
RT MINE SURVEYING  
PROFILES

BRAKES  
RT FRICTION  
MINING MACHINERY

BRATTICE WALLS  
RT MINE VENTILATION  
RETAINING WALLS  
SHAFT SINKING

BRAZILIAN TESTS  
RT COMPRESSIVE STRENGTH  
LOADS (FORCES)  
TENSILE STRENGTH

BREAKAGE  
USE BREAKING

BREAKING  
UF BREAKAGE  
RT BLASTING  
COMMUNITION  
CRUSHING  
FAILURE  
SPALLING

BREAKS  
USE FRACTURES

BRITISH COLUMBIA  
BT CANADA

BRITTLE FAILURE  
BT FAILURE  
RT BRITTLE MATERIALS  
ELASTIC DEFORMATION  
PLASTIC FAILURE

BRITTLE MATERIALS  
BT MATERIALS  
RT BRITTLE FAILURE  
ELASTIC DEFORMATION  
PLASTIC MATERIALS  
STRONG ROCKS

BUCKET WHEEL EXCAVATORS  
BT MINING MACHINERY  
RT BACKHOES  
SHOVELS

BUILDING  
USE CONSTRUCTION

BUILDINGS  
USE MINE BUILDINGS

BULK HANDLING  
RT BULK TRANSPORTERS  
CONVEYING  
DILUTION (ORE)  
HAULING  
HOISTING  
MATERIALS HANDLING  
STACKING  
STORAGE  
TRANSPORTATION

BULKHEADS  
USE RETAINING WALLS

BULK TRANSPORTERS  
RT BULK HANDLING  
CONVEYORS  
HAULING  
LOADERS  
MATERIALS HANDLING  
MINE CARS  
MINE HAULAGE  
PACKAGED CONTAINERS  
RAILROADS  
SOLIDS PIPELINING

BULLDOZERS  
USE TRACTORS

BUMPS  
RT FAILURE  
ROCK BURSTS  
SHOCK WAVES

BURDEN  
RT BLASTING

BURNING  
USE COMBUSTION

BURSTS (MINES)  
USE ROCK BURSTS

CABLE BELT CONVEYORS  
BT BELT CONVEYORS  
CONVEYORS

CABLE DRILLS  
USE CHURN DRILLS & DRILLING

CABLES  
RT POWER CABLES  
WIRE ROPES

CAGES  
RT HOISTS  
SKIPS  
WIRE ROPES

CALCULATION  
USE COMPUTATION

CALGARY POWER LTD CALGARY ALTA  
USE THERMAL POWER GENERATING  
PLANTS

CALIBRATION  
RT ACCURACY  
ASSEMBLING  
INSTALLING  
MAINTENANCE (EQUIPMENT)  
MEASUREMENT  
MEASURING INSTRUMENTS  
OPERATION (EQUIPMENT)

CANADA  
NT ALBERTA  
BRITISH COLUMBIA  
MANITOBA  
NEW BRUNSWICK  
NEWFOUNDLAND  
NORTH WEST TERRITORIES  
NOVA SCOTIA  
ONTARIO  
QUEBEC PROVINCE  
SASKATCHEWAN  
YUKON  
RT CDN ADVISORY CMTTE ON ROCK  
MECHANICS  
UNITED STATES

CANADIAN ADVISORY CMTTE ON ROCK  
MECHANICS  
RT CANADA  
GRANTS IN AID  
MINING RESEARCH  
NATIONAL ACADEMY OF SCIENCES  
CMTTE ON ROCK MECHANICS

CANADIAN EXPLOSIVES RESEARCH LABORAT-  
ORY MINING RESEARCH CENTRE OTTAWA  
USE MINES BRANCH DEPT OF ENERGY  
MINES & RESOURCES OTTAWA

CANADIAN MINING & METALLURGICAL BULL-  
ETIN (MONTREAL P Q)  
BT ENGLISH LANGUAGE PERIODICALS

CANADIAN MINING JOURNAL (GARDENVALE P Q)  
BT ENGLISH LANGUAGE PERIODICALS

CAPACITANCE GAUGES  
BT MEASURING INSTRUMENTS

CAPS (EXPLOSIVE)  
USE DETONATORS

CASE HISTORIES  
RT REPORTS

CASINGS  
RT DRILLING  
WELLS

CASTING  
RT MODELS

CAVES  
RT UNDERGROUND MINES & MINING

CAVING  
USE COLLAPSE

CAVING MINING  
UF BLOCK CAVING MINING  
SUB LEVEL CAVING MINING  
BT MINING METHODS  
RT LONGWALL MINING  
RETREAT MINING  
SUBSIDENCE  
UNDERGROUND MINES & MINING



CEMENTED BACKFILL  
USE CONSOLIDATED BACKFILL

CEMENTED SAND FILL  
USE CONSOLIDATED BACKFILL

CEMENT GROUTS  
RT CHEMICAL GROUTS  
GROUTING

CEMENTING  
RT ANCHORING  
BINDING  
CEMENTS  
COUPLING  
GROUTING  
SEALING

CEMENTS  
NT PORTLAND CEMENT  
RESIN CEMENTS  
SALT CEMENTS  
RT ADHESIVES  
BONDING STRENGTH  
CEMENTING  
CONCRETE  
ROCK BOLTS  
SOIL CEMENT

CENTRIFUGAL PUMPS  
USE PUMPS

CHAIN CONVEYORS  
USE CONVEYORS

CHALKS  
USE SEDIMENTARY ROCKS

CHAMBERING  
RT JET PIERCING DRILLS & DRILLING CLASSIFICATION

CHARACTERISTICS  
RT PARAMETERS

CHEMICAL ANALYSIS  
UF CHEMICAL COMPOSITION  
BT ANALYSIS  
RT INFRARED ANALYSIS  
MEASUREMENT  
MICROSCOPIC ANALYSIS  
PHYSICAL ANALYSIS  
QUALITY CONTROL

SAMPLING  
WATER ANALYSIS  
XRAY ANALYSIS

CHEMICAL COMPOSITION  
USE CHEMICAL ANALYSIS

CHEMICAL GROUTS  
RT CEMENT GROUTS  
GROUTING

CHERTS  
USE SEDIMENTARY ROCKS

CHINA  
BT FAR EAST

CHURN DRILLS & DRILLING  
UF CABLE DRILLS  
BT DRILLS  
DRILLING  
RT PERCUSSION DRILLS & DRILLING

CHUTES  
RT CONVEYORS  
LOADING POCKETS  
MATERIALS HANDLING

C I M BULLETIN  
USE CANADIAN MINING & METALLURGICAL  
BULLETIN (MONTREAL P Q)

CLAMSHELLS  
BT MINING MACHINERY  
RT BACKHOES  
DRAGLINES  
DREDGES  
SHOVELS

UF CLASSIFYING  
SORTING  
RT PARTICLE SIZE DISTRIBUTION  
SCREENING  
SIEVE ANALYSIS

CLASSIFYING  
USE CLASSIFICATION

CLAYS

BT SOILS  
NT BENTONITE  
RT FINES  
FLOCCULATION  
ROCKS  
SEDIMENTARY ROCKS  
SURFACE STRIPPING  
SWELLING

CLOSURE

RT ABUTMENT ZONE  
DEFORMATION METERS  
DISPLACEMENTS  
EXTENSOMETERS  
SAG

COAL

BT FUELS  
RT BEDDED MINERAL DEPOSITS  
COAL DUST  
COAL MINES & MINING  
ENERGY  
FLY ASH  
PEAT  
SEDIMENTARY ROCKS

COAL AGE (NEW YORK N Y)

BT ENGLISH LANGUAGE PERIODICALS

COAL DUST

BT DUST  
RT COAL  
COAL MINES & MINING  
DUST RESEARCH  
MINE FIRES  
PNEUMOCONIOSIS  
RESPIRABLE DUST

COAL MINES & MINING

BT MINES & MINING  
RT BED SEPARATION  
COAL  
COAL DUST  
CUTTING  
LONGWALL MINING  
METHANE GAS  
MINE FIRES  
SHORTWALL MINING

COATINGS

UF PROTECTIVE COATINGS  
RT ADHESIVES  
CORROSION  
CORROSION CONTROL  
FILMS  
FIRE PROTECTION  
OXIDATION  
PHOTOELASTICITY  
PLASTIC LINERS  
WEATHERPROOFING

COEFFICIENTS

UF CONSTANTS  
RT EQUATIONS  
FORMULAS  
PARAMETERS  
VARIABLES

COEFFICIENT OF FRICTION  
USE FRICTION

COEFFICIENT OF PERMEABILITY  
USE PERMEABILITY

COLD WEATHER OPERATIONS

UF WINTER OPERATIONS  
RT ACCLIMATIZATION  
ARCTIC & SUBARCTIC REGIONS  
ELECTRIC HEATING  
FREEZING  
PERMAFROST  
STEAM HEATING  
TEMPERATURE  
THAWING  
WEATHERPROOFING

COLLAPSE

UF CAVING  
RT DEFORMATION  
FAILURE  
SLOUGHING

COLLARING

RT DRILLING  
SHAFT SINKING

COLLIERY ENGINEERING (LONDON ENGLAND)

BT ENGLISH LANGUAGE PERIODICALS

COLLIERY GUARDIAN (LONDON ENGLAND)  
BT ENGLISH LANGUAGE PERIODICALS

COLORADO SCHOOL OF MINES (GOLDEN  
COLORADO MINERAL INDUSTRIES BULLETIN)  
BT ENGLISH LANGUAGE PERIODICALS

COLUMBIUM MINES & MINING  
BT MINES & MINING

COLUMN CHARGES (EXPLOSIVES)  
RT BLASTING  
EXPLOSIVES  
LOADING

COMBUSTION  
UF BURNING  
NT SPONTANEOUS COMBUSTION  
RT EXPLOSIONS  
HEATING  
MINE FIRES  
MINE GASES  
MINE VENTILATION  
OXIDATION

COMMINUTION  
UF PARTICLE SIZE REDUCTION  
SIZE REDUCTION  
NT CRUSHING  
DRY GRINDING  
GRINDING  
WET GRINDING  
RT BENEFICIATION  
BREAKING  
COMMINUTION HISTORY  
CRUSHERS  
MILLING  
MILLS  
MIXING  
ROCK BREAKAGE RESEARCH  
SCREENING

COMMINUTION HISTORY  
RT COMMINUTION

COMMUNICATING  
USE COMMUNICATIONS

COMMUNICATIONS  
UF COMMUNICATING  
RT COMMUNICATION SYSTEMS  
PROCEDURES

COMMUNICATIONS SYSTEMS  
RT COMMUNICATIONS  
INFORMATION SYSTEMS  
RADIO  
TELEPHONES  
TELEVISION

COMPACTION  
USE COMPACTING

COMPACTING  
UF COMPACTION  
RT BACKFILLING  
COMPRESSIBILITY  
CONSOLIDATED BACKFILLS  
DENSITY  
DIKES AND DAMS  
FILLS  
POROSITY  
STABILIZATION  
VIBRATION  
VOID RATIO

COMPETENT ROCKS  
USE STRONG ROCKS

COMPONENTS  
UF PARTS  
RT MATERIALS

COMPOSITIONS  
RT ANALYSIS

COMPRESSED AIR  
BT AIR  
GASES  
RT AIR COMPRESSORS  
DRILLING  
ENERGY STORAGE  
MINE SAFETY  
MINES & MINING  
MINE VENTILATION  
PUMPING  
VALVES

COMPRESSIBILITY  
BT MECHANICAL PROPERTIES  
RT COMPACTING  
COMPRESSION  
COMPRESSIVE STRENGTH  
CONSOLIDATION  
DEFORMATION

DENSITY  
ELASTICITY  
COMPRESSION  
RT COMPRESSIBILITY  
COMPRESSIVE STRENGTH  
COMPRESSIVE STRESS  
CONSOLIDATION  
DEFORMATION  
LOADS (FORCES)  
TENSION

COMPRESSIVE FAILURE  
USE FAILURE

COMPRESSIVE STRENGTH  
UF CRUSHING STRENGTH  
BT MECHANICAL PROPERTIES  
NT UNIAXIAL COMPRESSIVE STRENGTH  
TRIAXIAL COMPRESSIVE STRENGTH  
RT BRAZILIAN TESTS  
COMPRESSIBILITY  
COMPRESSION  
COMPRESSIVE STRESS  
SHEAR STRENGTH  
STRENGTH OF MATERIALS  
TENSILE STRENGTH

COMPRESSIVE STRESS  
BT STRESSES  
RT COMPRESSION  
COMPRESSIVE STRENGTH  
NORMAL STRESS  
PRINCIPAL STRESS  
SHEAR STRESS  
TENSILE STRESS  
TOTAL STRESS

COMPRESSOMETERS  
BT MEASURING INSTRUMENTS  
RT STRAIN GAUGES

COMPRESSORS  
USE AIR COMPRESSORS

COMPUTATION  
UF CALCULATION  
RT ANALYSIS  
COMPUTER PROGRAMS  
COMPUTERS

COMPUTER PROGRAMS  
UF PROGRAMS (COMPUTERS)  
SOFTWARE  
RT ANALOG COMPUTERS  
COMPUTATIONS  
COMPUTERS  
DATA PROCESSING  
DIGITAL COMPUTERS  
MATHEMATICAL MODELS  
PROGRAMMING LANGUAGES

COMPUTERS  
NT ANALOG COMPUTERS  
DIGITAL COMPUTERS  
RT AUTOMATION  
COMPUTATION  
COMPUTER PROGRAMS  
DATA PROCESSING  
PROGRAMMING LANGUAGES

CONCENTRATING  
UF CONCENTRATION  
RT BENEFICIATION  
CONCENTRATORS  
EXTRACTION  
FLOCCULATION  
FLOTATION  
MILLING

CONCENTRATION  
USE CONCENTRATING

CONCRETE  
UF MASS CONCRETE  
REINFORCED CONCRETE  
NT SHOTCRETE  
RT AGGREGATES  
CEMENTS  
CONCRETE BLOCKS  
CONCRETE FLOORS  
CONCRETE MIXING  
CONCRETE PLACING  
CONSOLIDATED BACKFILLS  
FLY ASH  
GROUTING  
PORTLAND CEMENT

CONCRETE BLOCKS  
RT CONCRETE  
ROCKBOLTS  
ROOF CONTROL & GROUND SUPPORT

CONCRETE FLOORS  
RT CONCRETE  
CONSOLIDATED BACKFILLS  
CUT & FILL MINING

CONCRETE MATS  
USE MATS

CONCRETE MIXING  
RT CONCRETE  
CONCRETE PLACING  
CONSOLIDATED BACKFILLS

CONCRETE PLACING  
UF CONCRETING  
RT CONCRETE  
CONCRETE MIXING  
SHAFT SINKING  
SHOTCRETE

CONCRETING  
USE CONCRETE PLACING

CONE CRUSHERS  
BT CRUSHERS  
GYRATORY CRUSHERS  
RT JAW CRUSHERS  
ROLL CRUSHERS

CONGLOMERATES  
BT ROCKS  
SEDIMENTARY ROCKS

CONFERENCES  
USE SYMPOSIA

CONSOLIDATED BACKFILLS  
UF CEMENTED BACKFILLS  
CEMENTED SAND FILLS  
BT BACKFILLS  
RT COMPACTING  
CONCRETE  
CONCRETE FLOORS  
CONCRETE MIXING  
HYDRAULIC BACKFILLING  
MILL TAILINGS  
PORTLAND CEMENT  
SAND  
SLAGS  
UNCONSOLIDATED BACKFILLS  
UNDERCUT & FILL MINING

CONSOLIDATION  
BT DEFORMATION  
COMPRESSIBILITY  
COMPRESSION  
FREEZING  
ICE WALLS  
PORE PRESSURES  
STABILIZATION

CONSTANT CURRENT POWER SUPPLIERS  
BT MEASURING INSTRUMENTS

CONSTANTS  
USE COEFFICIENTS

CONSTRUCTION  
UF BUILDING  
ERECTION  
RT ASSEMBLING  
DESIGN  
DEVELOPMENT (EQUIPMENT)  
DEWATERING  
DREDGING  
LAYOUT  
MINE DEVELOPMENT  
SPECIFICATIONS  
TOWNSITES

CONTAINERS  
UF PACKAGED CONTAINERS  
RT BULK TRANSPORTERS  
MATERIALS HANDLING  
STORAGE

CONTINUITY  
RT HETEROGENEITY  
HOMOGENEITY

CONTINUOUS BORERS  
USE CONTINUOUS MINERS

CONTINUOUS MINERS  
UF CONTINUOUS BORERS  
BT MINING MACHINERY  
RT CONTINUOUS MINING

CONTINUOUS MINING  
UF NON CYCLIC MINING  
RT CONTINUOUS MINERS  
MINING METHODS

CONTROL

NT CORROSION CONTROL  
DUST CONTROL  
GRADE CONTROL (ORE)  
MOISTURE CONTROL  
NOISE CONTROL  
QUALITY CONTROL  
TEMPERATURE CONTROL  
WATER CONTROL  
RT CONTROL SYSTEMS  
CRITICAL PATH METHOD  
OPERATIONS RESEARCH

CONTROL SYSTEMS

RT AUTOMATION  
CONTROL  
CRITICAL PATH METHOD  
DETECTORS  
MEASURING INSTRUMENTS  
PROCEDURES  
REMOTE CONTROL  
SCHEDULING

CONVERGENCE

RT CONVERGENCE RATE  
DEPTH  
EXTRACTION RATIO  
GROUND CONTROL (UNDERGROUND  
RESEARCH)

CONVERGENCE RATE

RT CONVERGENCE

CONVEX PROFILING

RT OPEN PIT MINES & MINING  
SLOPE STABILITY RESEARCH

CONVEYING

RT BULK HANDLING  
CONVEYORS  
FEEDING  
HAULING  
LOADING  
MATERIALS HANDLING  
MINERS TRANSPORTATION  
STACKING  
TRAMMING  
TRANSPORTATION

CONVEYOR BELTS

USE BELT CONVEYORS

CONVEYORS

UF CHAIN CONVEYORS  
SCREW CONVEYORS  
BT MINING MACHINERY  
NT BELT CONVEYORS  
CABLE BELT CONVEYORS  
RT BULK TRANSPORTERS  
CHUTES  
CONVEYING  
FEEDERS  
MINE HAULAGE  
LOADERS  
MATERIALS HANDLING

COOLING

RT FANS  
FREEZING  
HEATING  
MINE VENTILATION  
REFRIGERATION  
THERMAL STRESSES

COOPERATIVE RESEARCH

UF JOINT RESEARCH  
RT BLASTING RESEARCH  
DUST RESEARCH  
GROUND CONTROL (UNDERGROUND)  
RESEARCH  
MINE VISITS  
MINING RESEARCH  
PROPOSALS  
RESEARCH PROGRAMS  
ROCK BREAKAGE RESEARCH  
SLOPE STABILITY RESEARCH  
UNIVERSITIES

COPPER MINES & MINING

BT MINES & MINING

CORE DRILLING

USE CORING

CORING

UF CORE DRILLING  
BT DRILLING  
RT DIAMOND DRILLS & DRILLING  
OVERCORING  
TREPANNING

CORROSION

RT AGING  
COATINGS

DAMAGES  
DETERIORATION  
OXIDATION

CORROSION CONTROL  
BT CONTROL  
RT COATINGS  
CORROSION  
FILMS  
PIPELINES  
WELLS

COSTS  
NT MAINTENANCE COSTS  
OPERATING COSTS  
RT BENEFIT COST RATIO  
DAMAGES  
ECONOMICS  
EFFICIENCY  
EVALUATIONS  
TAXES

COUNCIL FOR SCIENTIFIC & INDUSTRIAL  
RESEARCH PRETORIA SOUTH AFRICA  
UF CSIR  
BT LABORATORIES  
RT MINES BRANCH DEPT OF ENERGY  
MINES & RESOURCES OTTAWA  
UNITED STATES BUREAU OF  
MINES WASHINGTON D C

COUPLING  
RT ANCHORING  
BINDING  
CEMENTING  
SEALING

CPM  
USE CRITICAL PATH METHOD

CRACKS  
UF FISSURES  
SHEAR CRACKS  
TENSION CRACKS  
RT DAMAGES  
DEFECTS  
FAILURE  
FAULTS (GEOLOGICAL)  
FOLDS  
FRACTURES  
JOINTS  
SHEAR STRESS  
TENSILE STRESS

CRATERING STUDIES  
RT BLASTING RESEARCH  
EXPLOSIVE ENERGY TRANSMISSION

CREEP  
UF TIME DEPENDENT DEFORMATION  
BT DEFORMATION  
RT CREEP TESTS  
ELASTICITY  
FLOW  
INTERNAL FRICTION  
PLASTIC FAILURE  
PLASTIC MATERIALS  
ROCKS  
SLOPES  
SLOPE STABILITY RESEARCH  
SOIL MECHANICS  
SOILS  
STRENGTH OF MATERIALS  
STRESSES  
TIME DEPENDENCE

CREEP TESTS  
RT CREEP  
HOISTING

CRITICAL PATH METHOD  
UF CPM  
PERT  
RT CONTROL  
CONTROL SYSTEMS  
FORECASTING  
PLANNING  
SCHEDULING

CRITIQUES  
RT APPRAISALS  
EVALUATIONS  
LITERATURE SEARCHES

CRUSHERS  
NT CONE CRUSHERS  
GYRATORY CRUSHERS  
IMPACT CRUSHERS  
JAW CRUSHERS  
ROLL CRUSHERS  
RT COMMUNITION  
CRUSHING  
HOPPERS  
MILLS  
SCREENING PLANTS

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM.

CRUSHING

BT COMMINATION  
NT UNDERGROUND CRUSHING  
RT BREAKING  
CRUSHERS  
GRINDING  
MILLING  
QUARRIES & QUARRYING  
ROCK BREAKAGE RESEARCH  
SCREENING  
SPALLING

CRUSHING STRENGTH

USE COMPRESSIVE STRENGTH

CSIR

USE COUNCIL FOR SCIENTIFIC &  
INDUSTRIAL RESEARCH PRETORIA  
SOUTH AFRICA

CUT & FILL MINING

BT MINING METHODS  
RT BACKFILLING  
CONCRETE FLOORS  
CUTTING  
MATS  
UNDERCUT & FILL MINING  
UNDERGROUND MINES & MINING

CUTTING

UF OVERCUTTING  
UNDERCUTTING  
RT COAL MINES & MINING  
CUT & FILL MINING  
TOP SLICE MINING  
UNDERCUT & FILL MINING

DALHOUSIE UNIVERSITY HALIFAX N S

BT UNIVERSITIES

DAMAGES

RT CORROSION  
COSTS  
DEFECTS  
DETERIORATION  
EROSION  
FRACTURES  
MINE FIRES  
MINE FLOODS  
SUBSIDENCE

DAMPING

RT ATTENUATION  
MUFFLERS  
NOISE CONTROL  
VIBRATIONS

DAMS

USE DIKES & DAMS

DATA

UF EXPERIMENTAL DATA  
FIELD DATA  
MEASUREMENTS  
RT MEASUREMENT  
STATISTICS  
TABULATIONS

DATA PROCESSING

UF ELECTRONIC DATA PROCESSING  
RT AUTOMATION  
COMPUTER PROGRAMS  
COMPUTERS  
MECHANIZATION  
PROGRAMMING LANGUAGES  
TABULATIONS

DEEP WELLS

USE WELLS

DEFECTS

UF FLAWS  
IMPERFECTIONS  
RT CRACKS  
DAMAGES  
FRACTURES

DEFLECTION DRILLING

USE DIRECTIONAL DRILLING

DEFORMATION

NT CONSOLIDATION  
CREEP  
ELASTIC DEFORMATION  
SUBSIDENCE  
VISCOUS DEFORMATION  
RT COLLAPSE  
COMPRESSIBILITY  
COMPRESSION  
DEFORMATION METERS  
DISPLACEMENTS  
ELASTICITY  
ELASTICITY MODULUS  
ELASTIC THEORY  
FAILURE



FOLDS  
MECHANICAL PROPERTIES  
STRAINS  
STRESS STRAIN CURVES  
TENSION  
TIME DEPENDENCE

DEFORMATION METERS  
UF BOREHOLE DEFORMATION METERS  
BT MEASURING INSTRUMENTS  
RT BOREHOLE EXTENSOMETERS  
CLOSURE  
DEFORMATION  
EXTENSOMETERS  
STRAIN GAUGES

DEFORMATION MODULUS  
USE ELASTICITY MODULUS

DENSITY  
UF SPECIFIC GRAVITY  
BT PHYSICAL PROPERTIES  
RT COMPACTING  
COMPRESSIBILITY  
POROSITY  
VOID RATIO  
VOLUME  
WEIGHT

DEPLETION  
RT ECONOMICS  
FORECASTING  
LEGISLATION & REGULATIONS  
MINERAL DEPOSITS  
RESERVES (ORE)

DEPTH  
RT CONVERGENCE  
SUBSIDENCE

DESIGN (EQUIPMENT)  
RT CONSTRUCTION  
DEVELOPMENT (EQUIPMENT)  
ECONOMICS  
EVALUATIONS  
LAYOUT  
MAINTENANCE (EQUIPMENT)  
MINE DEVELOPMENT  
OPERATION (EQUIPMENT)  
PLANNING  
SAFETY FACTORS  
SPECIFICATIONS  
TESTING

DETECTION  
UF SENSING  
RT DETECTORS  
MEASUREMENT  
MONITORING  
OBSERVATION

DETECTORS  
RT CONTROL SYSTEMS  
GEOPHYSICAL SURVEYS  
MEASURING INSTRUMENTS  
MINE GASES  
MINE SAFETY

DETONATION  
UF DETONATION WAVES  
RT BLASTING  
BOOSTERS  
DETONATION PRESSURE  
DETONATORS  
EXPLOSIONS  
EXPLOSIVES  
SHOCK WAVES

DETONATION PRESSURE  
RT BLASTING RESEARCH  
DETONATION  
DETONATION VELOCITY  
PARTICLE VELOCITY  
PROPAGATION VELOCITY

DETONATION VELOCITY  
BT VELOCITY  
RT BLASTING RESEARCH  
DETONATION PRESSURE

DETONATION WAVES  
USE DETONATION  
SHOCK WAVES

DETONATORS  
UF CAPS (EXPLOSIVE)  
PENTOLITE  
PRIMERS  
BT BLASTING ACCESSORIES  
RT BLASTING  
BOOSTERS  
DETONATION  
EXPLOSIVES  
LOADING  
SENSITIVITY

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM.

DEVELOPMENT (EQUIPMENT)

RT ASSEMBLING  
CONSTRUCTION  
DESIGN  
MAINTENANCE (EQUIPMENT)  
OPERATION (EQUIPMENT)  
TESTING

DEVELOPMENT (MINES)

USE MINE DEVELOPMENT

DEVIATION

USE HOLE DEVIATION

DEWATERING

RT DIKES & DAMS  
DRAINAGE  
DRAWDOWN  
DREDGING  
EXTRACTION  
FILTERS  
FINES  
FLOCCULATION  
GROUND WATER  
LAND RECLAMATION  
MINE FLOODS  
MINING METHODS  
PERCOLATION RATE  
PERMEABILITY  
PUMPING  
RETAINING WALLS  
SEEPAGE  
SETTLING  
SUMPS  
WATER  
WATER CONTROL  
WATER POLLUTION  
WATER TABLES  
WELLS

DIABASES

USE IGNEOUS ROCKS

DIAMOND DRILLS & DRILLING

BT DRILLING  
DRILLS  
RT CORING  
DIAMONDS  
DIRECTIONAL DRILLING  
LOGGING (RECORDING)  
TREPANNING

DIAMONDS

RT ABRASIVES  
DIAMOND DRILLS & DRILLING  
DRILL BITS

DIESEL ELECTRIC HAULAGE TRUCKS

BT HAULAGE TRUCKS  
RT HAULING  
MINE HAULAGE

DIESEL LOCOMOTIVES

USE MINE LOCOMOTIVES

DIGGING

USE EXCAVATION

DIGITAL COMPUTERS

BT COMPUTERS  
RT ANALOG COMPUTERS  
COMPUTER PROGRAMS

DIKES & DAMS

UF DAMS  
RT COMPACTING  
DEWATERING  
DRAINAGE  
FILLS  
RETAINING WALLS  
SOIL CEMENT  
STORAGE  
SUMPS  
TAILINGS  
TAILINGS PONDS  
TOPOGRAPHY  
WASTE DISPOSAL  
WATER  
WATER CONTROL  
WATER SUPPLY

DILUTION (ORE)

RT BULK HANDLING  
GRADE CONTROL  
MINING METHODS  
MIXING

DIRECTIONAL DRILLING

UF DEFLECTION DRILLING  
BT DRILLING  
RT DIAMOND DRILLS & DRILLING  
HOLE DEVIATION  
OFFSHORE DRILLING  
PERCUSSION DRILLS & DRILLING  
ROTARY DRILLS & DRILLING  
STABILIZATION

**DIRECTIONAL FAILURE**

- BT FAILURE
- RT PLANE SHEAR

**DISCING**

- UF DISCS (SHAPES)
- RT FAILURE
- SLABBING

**DISCS (SHAPES)**

- USE DISCING

**DISPERSION**

- NT DUST DISPERSION
- RT FLOCCULATION
- HETEROGENEITY
- PROPAGATION

**DISPLACEMENTS**

- UF MOVEMENTS
- RT CLOSURE
- DEFORMATION
- MAGNITUDE
- SAG
- STRAINS
- VIBRATIONS
- VELOCITY

**DITCHING**

- USE EXCAVATION

**DIVIDED DRUM HOISTS**

- USE DRUM HOISTS

**DOLOMITES**

- USE SEDIMENTARY ROCKS

**DOUBLE DRUM HOISTS**

- USE DRUM HOISTS

**DOWNHOLE DRILLS & DRILLING**

- BT DRILLING
- DRILLS

**DRAG CHAIN FEEDERS**

- USE FEEDERS

**DRAGLINES**

- BT MINING MACHINERY
- RT BACKHOES
- CLAMSHELLS
- DREDGES
- SHOVELS

**DRAINAGE**

- RT DEWATERING
- DIKES & DAMS
- PUMPING
- RETAINING WALLS
- SEEPAGE
- SUMPS
- TAILINGS PONDS
- WATER CONTROL
- WATER POLLUTION
- WATER TABLES
- WELLS

**DRAINAGE WELLS**

- USE WELLS

**DRAWDOWN**

- RT DEWATERING
- GROUND WATER
- PERMEABILITY
- PUMPING
- WATER TABLES
- WELLS

**DRAWING**

- USE DRAW POINT LOADING

**DRAW POINT LOADING**

- UF DRAWING
- BT LOADING
- RT LOADERS
- MATERIALS HANDLING
- MINE CARS
- WALL FRICTION

**DREDGES**

- BT MINING MACHINERY
- RT BACKHOES
- CLAMSHELLS
- DRAGLINES
- DREDGING

**DREDGING**

- RT CONSTRUCTION
- DEWATERING
- DREDGES
- EXCAVATION
- HYDRAULIC MINING
- MARINE MINING
- OVERBURDEN

DRIFTING

USE TUNNELLING

DRILL BITS

UF BITS (DRILLS)  
RT DIAMONDS  
DRILLING  
DRILLS  
DRILL STEELS

DRILL HOLES

USE BOREHOLES

DRILLING

UF BORING  
NT AUGER DRILLS & DRILLING  
CHURN DRILLS & DRILLING  
CORING  
DIAMOND DRILLS & DRILLING  
DIRECTIONAL DRILLING  
DOWNHOLE DRILLS & DRILLING  
FAN DRILLING  
JET PIERCING DRILLS & DRILLING  
LONGHOLE DRILLS & DRILLING  
OFFSHORE DRILLING  
OVERCORING  
PERCUSSION DRILLS & DRILLING  
ROTARY DRILLS & DRILLING  
SUBGRADE DRILLING  
TREPANNING  
TURBO DRILLS & DRILLING  
RT BLASTING  
CASINGS  
COLLARING  
COMPRESSED AIR  
DRILL BITS  
DRILLS  
EXCAVATION  
HOLE DEVIATION  
LASERS  
MINE DEVELOPMENT  
MINE EXPLORATION  
NOISE CONTROL  
REAMING  
ROCK BOLTS  
ROCK BREAKAGE RESEARCH  
SHAFT SINKING  
TUNNELLING  
WELLS

DRILLING EQUIPMENT

USE DRILLS

DRILLING RESEARCH

USE ROCK BREAKAGE RESEARCH

DRILLING RIGS

USE DRILLS

DRILL JUMBOS

USE DRILLS

DRILLS

UF BORING MACHINES  
DRILLING EQUIPMENT  
DRILLING RIGS  
DRILL JUMBOS  
BT MINING MACHINERY  
NT AUGER DRILLS & DRILLING  
CHURN DRILLS & DRILLING  
DIAMOND DRILLS & DRILLING  
DOWNHOLE DRILLS & DRILLING  
JET PIERCING DRILLS & DRILLING  
LONGHOLE DRILLS & DRILLING  
OIL WELL DRILLS  
PERCUSSION DRILLS & DRILLING  
ROTARY DRILLS & DRILLING  
TURBO DRILLS & DRILLING  
RT DRILL BITS  
DRILLING  
DRILL STEELS  
TUNNELLING MACHINES

DRILL STEELS

RT DRILL BITS  
DRILLS

DRUM HOISTS

UF DIVIDED DRUM HOISTS  
DOUBLE DRUM HOISTS  
SINGLE DRUM HOISTS  
SPLIT DRUM HOISTS  
BT HOISTS  
RT FRICTION HOISTS

DUMPS

UF SPOIL HEAPS  
RT LAND RECLAMATION  
SURFACE STRIPPING  
TAILINGS PONDS  
WASTE DISPOSAL

DRY GRINDING

BT COMMINUTION  
GRINDING  
RT WET GRINDING

DUNITES  
USE IGNEOUS ROCKS

DUST  
NT ASBESTOS DUST  
COAL DUST  
FIBROUS DUST  
RADIOACTIVE DUST  
RESPIRABLE DUST  
SILICA DUST  
TOTAL DUST  
RT AIR POLLUTION  
DUST CONTROL  
DUST PRODUCTION  
DUST RESEARCH  
DUST SAMPLERS  
EXPLOSIONS  
FLY ASH  
PARTICLES  
PNEUMOCONIOSIS  
ROCKS

DUST CHAMBERS  
RT DUST COLLECTORS  
DUST CONCENTRATIONS  
DUST RESEARCH  
DUST SAMPLERS

DUST COLLECTORS  
RT DUST CHAMBERS  
DUST CONTROL  
DUST FILTERS  
DUST SAMPLERS  
ELECTROSTATIC PRECIPITATION  
IMPINGERS  
IMPINGEMENT

DUST CONCENTRATIONS  
UF DUST COUNTS  
RT DUST CHAMBERS  
DUST SAMPLERS  
GRAVIMETRIC ASSESSMENT  
LIGHT SCATTERING ASSESSMENT  
MICROSCOPIC ANALYSIS  
NUMBER ASSESSMENT  
RESPIRABLE DUST

DUST CONTROL  
UF DUST SUPPRESSION  
BT CONTROL  
RT AIR POLLUTION  
DUST  
DUST COLLECTORS

DUST DISPERSION  
DUST FILTERS  
DUST PRODUCTION  
ELECTROSTATIC PRECIPITATION  
MINE VENTILATION

DUST COUNTS  
USE DUST CONCENTRATIONS

DUST DISPERSION  
BT DISPERSION  
RT DUST CONTROL  
DUST PRODUCTION

DUST FILTERS  
BT FILTERS  
RT DUST COLLECTORS  
DUST CONTROL  
DUST SAMPLERS  
MICROSCOPIC ANALYSIS  
PROTECTIVE MASKS

DUST MASKS  
USE PROTECTIVE MASKS

DUST MEASUREMENT  
USE MEASUREMENT

DUST PRODUCTION  
RT DUST  
DUST CONTROL  
DUST DISPERSION

DUST RESEARCH  
BT MINING RESEARCH  
RT COOPERATIVE RESEARCH  
DUST  
DUST CHAMBERS  
FIELD EXPERIMENTATION  
LABORATORY EXPERIMENTATION  
MINE SAFETY

DUST SAMPLERS  
NT ELECTROSTATIC SAMPLERS  
KONIMETERS  
IMPINGERS  
THERMAL PRECIPITATORS  
TYNDALLOSCOPES  
RT DUST  
DUST CHAMBERS  
DUST COLLECTORS  
DUST CONCENTRATIONS

DUST FILTERS  
GRAVIMETRIC ASSESSMENT  
LIGHT SCATTERING ASSESSMENT  
NUMBER ASSESSMENT  
RESPIRABLE DUST

DUST SUPPRESSION  
USE DUST CONTROL

DYNAMIC LOADS  
BT LOADS (FORCES)  
RT DYNAMICS  
STATIC LOADS

DYNAMICS  
NT KINETICS  
RT DYNAMIC LOADS  
DYNAMOMETERS  
VELOCITY  
VIBRATIONS

DYNAMIC TENSILE STRENGTH  
BT TENSILE STRENGTH  
RT BLASTING RESEARCH

DYNAMITES (STICK EXPLOSIVES)  
NT AMMONIUM DYNAMITES  
STRAIGHT (N G) DYNAMITES  
RT MILITARY EXPLOSIVES

DYNAMOMETERS  
UF PACK DYNAMOMETERS  
BT MEASURING INSTRUMENTS  
RT DYNAMICS  
PRESSURES

EAST GERMANY  
UF GERMANY  
PEOPLES DEMOCRATIC REPUBLIC  
BT EUROPE  
RT WEST GERMANY

ECCENTRIC LOADING  
BT LOADING  
RT BENDING STRESSES  
LOADS  
STEEL PROPS

ECOLE POLYTECHNIQUE MONTREAL P Q  
BT UNIVERSITIES

ECONOMICS  
RT BENEFIT COST RATIO  
COSTS  
DEPLETION  
DESIGN  
EVALUATIONS  
FORECASTING  
MINERAL RESOURCES  
OPERATIONS RESEARCH  
OPTIMIZATION  
STATISTICS  
TAXES

EDUCATION  
UF TRAINING  
RT GRANTS IN AID  
LECTURES  
MINE SAFETY  
MINING RESEARCH  
PERSONNEL  
UNIVERSITIES

EFFECTIVE STRESS  
BT STRESSES  
RT INTERNAL FRICTION  
NORMAL STRESS  
PORE PRESSURES  
PRINCIPAL STRESS  
TOTAL STRESS

EFFICIENCY  
RT AUTOMATION  
COSTS  
MECHANIZATION  
OPTIMIZATION

ELASTIC BEHAVIOR  
USE ELASTICITY

ELASTIC DEFORMATION  
BT DEFORMATION  
RT BRITTLE FAILURE  
BRITTLE MATERIALS

ELASTICITY  
UF ELASTIC BEHAVIOR  
INELASTICITY  
BT MECHANICAL PROPERTIES  
RT COMPRESSIBILITY  
CREEP  
DEFORMATION  
ELASTICITY MODULUS  
ELASTIC THEORY

PHOTOELASTICITY  
POISSON RATIO  
RIGIDITY  
TENSILE STRENGTH

ELASTICITY MODULUS  
UF DEFORMATION MODULUS  
MODULUS OF ELASTICITY  
MODULUS OF DEFORMATION  
YOUNGS MODULUS  
BT PHYSICAL PROPERTIES  
RT DEFORMATION  
ELASTICITY  
ELASTIC THEORY  
MECHANICAL PROPERTIES  
POISSON RATIO  
RIGIDITY  
STRESS STRAIN CURVES

ELASTIC THEORY  
BT THEORIES  
RT DEFORMATION  
ELASTICITY  
ELASTICITY MODULUS  
STRESS ANALYSIS

ELECTRICAL PRECIPITATORS  
USE ELECTROSTATIC PRECIPITATORS

ELECTRIC HEATING  
BT HEATING  
RT COLD WEATHER OPERATIONS  
HEATING PLANTS  
OIL & GAS HEATING  
STEAM HEATING  
THAWING

ELECTRIC LOCOMOTIVES  
USE MINE LOCOMOTIVES

ELECTRIC POWER  
RT ELECTRIC POWER CONSUMPTION  
ELECTRIC POWER DISTRIBUTION  
ELECTRIC POWER GENERATION  
ELECTRIC POWER TRANSMISSION

ELECTRIC POWER CONSUMPTION  
RT ELECTRIC POWER  
POWER

ELECTRIC POWER DISTRIBUTION  
UF POWER DISTRIBUTION (ELECTRIC)  
RT ELECTRIC POWER  
ELECTRIC POWER GENERATION  
ELECTRIC POWER TRANSMISSION  
POWER

ELECTRIC POWER GENERATION  
UF ELECTRIC POWER PLANTS  
POWER GENERATION  
POWER PLANTS  
RT ELECTRIC POWER  
ELECTRIC POWER DISTRIBUTION  
ELECTRIC POWER TRANSMISSION  
POWER

ELECTRIC POWER PLANT  
USE ELECTRIC POWER GENERATION

ELECTRIC POWER TRANSMISSION  
UF ELECTRIC TRANSMISSION (POWER)  
POWER TRANSMISSION (ELECTRIC)  
RT CABLES  
ELECTRIC POWER  
ELECTRIC POWER DISTRIBUTION  
ELECTRIC POWER GENERATION  
POWER

ELECTRIC TRANSMISSION (POWER)  
USE ELECTRIC POWER TRANSMISSION

ELECTRONIC DATA PROCESSING  
USE DATA PROCESSING

ELECTRONIC SCANNERS  
BT SCANNERS  
RT OPTICAL SCANNERS  
PHOTOELASTIC SCANNERS

ELECTROSTATIC PRECIPITATION  
RT DUST COLLECTORS  
DUST CONTROL  
ELECTROSTATIC PRECIPITATORS

ELECTROSTATIC PRECIPITATORS  
UF ELECTRICAL PRECIPITATORS  
RT ELECTROSTATIC PRECIPITATION  
ELECTROSTATIC SEPARATORS

ELECTROSTATIC SAMPLERS  
BT DUST SAMPLERS  
RT GRAVIMETRIC ASSESSMENT

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM.

ELLIOT LAKE LABORATORY MINES BRANCH  
ELLIOT LAKE ONTARIO  
USE MINES BRANCH DEPT ENERGY  
MINES & RESOURCES OTTAWA

ENDURANCE (TESTING)  
USE FATIGUE (MATERIALS)

ENERGY

NT HEAT  
NUCLEAR ENERGY  
RT COAL  
FUELS  
KINETICS  
OIL (FUEL & DIESEL)  
OIL SANDS  
OIL SHALES  
OXIDATION  
POWER  
RADIATION  
WAVES

ENERGY STORAGE

RT COMPRESSED AIR  
ENERGY TRANSFER

ENERGY TRANSFER

RT ENERGY STORAGE  
EXPLOSIVE ENERGY TRANSMISSION  
HEAT TRANSFER

ENGINEERING & MINING JOURNAL

(NEW YORK N Y)  
BT ENGLISH LANGUAGE PERIODICALS

ENGLAND

USE UNITED KINGDOM

ENGLISH LANGUAGE PERIODICALS

UF JOURNALS  
PERIODICALS  
PUBLICATIONS  
NT ASSOCIATION OF MINE MANAGERS  
OF SOUTH AFRICA PAPERS &  
DISCUSSIONS (JOHANNESBURG SA)  
AUSTRALASIAN INSTITUTE OF MINING  
& METALLURGY PROCEEDINGS  
(MELBOURNE AUSTRALIA)  
AUSTRALIAN MINING (MELBOURNE  
AUSTRALIA)  
CANADIAN MINING & METALLUR-  
GICAL BULLETIN (MONTREAL PQ)  
CANADIAN MINING JOURNAL  
(GARDENVALE P Q)  
COAL AGE (NEW YORK N Y)

COLLIERY ENGINEERING (LONDON  
ENGLAND)

COLLIERY GUARDIAN (LONDON  
ENGLAND)

COLORADO SCHOOL OF MINES  
(GOLDEN COLO) MINERAL INDUST-  
RIES BULLETIN

ENGINEERING & MINING JOURNAL  
(NEW YORK N Y)

INSTITUTION OF MINING & METALL-  
URGY TRANSACTIONS (LONDON  
ENGLAND)

INTERNATIONAL JOURNAL OF ROCK  
MECHANICS & MINING SCIENCES  
(NEW YORK N Y)

JOURNAL OF GEOPHYSICAL RESEARCH  
(WASHINGTON D C)

MINING & MINERALS ENGINEERING  
(LONDON ENGLAND)

MINING CONGRESS JOURNAL (WASH-  
INGTON D C)

MINING ENGINEER (LONDON ENGLAND)

MINING ENGINEERING (NEW YORK  
N Y)

MINING MAGAZINE (LONDON ENGLAND)

SOCIETY OF MINING ENGINEERS OF  
AIME TRANSACTIONS

WESTERN MINER (VANCOUVER B C)  
WORLD MINING (SAN FRANCISCO  
CAL)

RT FRENCH LANGUAGE PERIODICALS  
GERMAN LANGUAGE PERIODICALS  
POLISH LANGUAGE PERIODICALS  
RUSSIAN LANGUAGE PERIODICALS

EPOXY RESINS

USE RESIN CEMENTS

EQUATIONS

RT COEFFICIENTS  
FORMULAS  
MATHEMATICAL ANALYSIS  
NUMERICAL ANALYSIS  
PARAMETERS

EQUIPMENT

UF APPARATUS  
RT MINING MACHINERY  
PROCEDURES  
RESEARCH PROGRAMS

ERECTION

USE CONSTRUCTION



EROSION

RT ABRASION  
DAMAGES

ERRORS

UF MISTAKES  
RT ACCURACY  
PRECISION  
TESTING

EUROPE

NT BELGIUM  
EAST GERMANY  
FRANCE  
POLAND  
SOVIET UNION  
SWEDEN  
UNITED KINGDOM  
WEST GERMANY  
RT AFRICA  
FAR EAST  
LATIN AMERICA & CARIBBEAN  
NEAR EAST  
SOUTH ASIA  
SOUTH PACIFIC

EVALUATIONS

RT APPRAISALS  
COSTS  
CRITIQUES  
DESIGN  
ECONOMICS  
FORECASTING  
LITERATURE SEARCHES  
MEASUREMENT  
MINERAL DEPOSITS

EVAPORITES

BT ROCKS  
NT POTASH  
ROCK SALTS  
RT BEDDED MINERAL DEPOSITS  
SEDIMENTARY ROCKS  
SOLUTION MINING

EXCAVATION

UF DIGGING  
DITCHING  
STOPE  
RT BACKFILLING  
BLASTING

DREDGING

DRILLING  
HAULING  
LOADING  
OPEN PIT MINES & MINING  
ROCK MECHANICS  
SHAFT SINKING  
SOIL MECHANICS  
SURFACE STRIPPING  
TUNNELLING

EXHAUST GASES

BT GASES  
RT AIR POLLUTION  
MINE VENTILATION  
WASTE DISPOSAL

EXPERIMENTAL DATA

USE DATA

EXPERIMENTATION

UF EXPERIMENTS  
NT FIELD EXPERIMENTATION  
LABORATORY EXPERIMENTATION  
RT RESEARCH PROGRAMS  
TESTING

EXPERIMENTS

USE EXPERIMENTATION

EXPLORATION

USE MINE EXPLORATION

EXPLOSIONS

UF OUTBURSTS  
RT BLASTING  
COMBUSTION  
DETONATION  
DUST  
EXPLOSIVES  
IMPACT  
MINE FIRES  
MINE GASES  
MINE SAFETY  
SHOCK WAVES  
SPONTANEOUS COMBUSTION  
STATIC ELECTRICITY

EXPLOSIVE ENERGY TRANSMISSION

RT CRATERING STUDIES  
ENERGY TRANSFER

MICROSEISMIC MONITORING  
PROPAGATION VELOCITY  
SHOCK WAVES  
STRESS WAVES  
TRANSIT TIME

EXPLOSIVE GASES

BT MINE GASES  
NT METHANE GAS  
RT SUFFOCATING GASES  
TOXIC GASES

EXPLOSIVES

UF BLASTING AGENTS  
HIGH EXPLOSIVES  
POWDER (EXPLOSIVE)  
NT AMMONIUM NITRATE FUEL OIL  
EXPLOSIVES  
DYNAMITES (STICK EXPLOSIVES)  
MILITARY EXPLOSIVES  
WATER GELS (EXPLOSIVES)  
RT BLASTING  
BLASTING ACCESSORIES  
BLASTING RESEARCH  
BOOSTERS  
COLUMN CHARGES  
DETONATORS  
EXPLOSIONS  
SENSITIVITY

EXTENSOMETERS

BT MEASURING INSTRUMENTS  
NT BOREHOLE EXTENSOMETERS  
RT CLOSURE  
DEFORMATION METERS  
STRAIN GAUGES  
STRESSMETERS

EXTRACTION

RT BENEFICIATION  
CONCENTRATING  
DEWATERING  
EXTRACTION RATIO  
FILTRATION  
LEACHING

EXTRACTION RATIO

RT BEAM THEORY  
CONVERGENCE  
EXTRACTION  
MINES & MINING  
PILLARS  
TRIBUTARY AREA THEORY

FACTORS

USE VARIABLES

FAILURE

UF COMPRESSION FAILURE  
SHEAR FAILURE  
TENSION FAILURE  
NT BLOCK FLOW  
BRITTLE FAILURE  
DIRECTIONAL FAILURE  
PLANE SHEAR  
PLASTIC FAILURE  
ROTATIONAL SHEAR  
RT AIR BLASTS  
ANGLE OF REPOSE  
BED SEPARATION  
BREAKING  
BUMPS  
COLLAPSE  
CRACKS  
DEFORMATION  
DISCING  
FATIGUE (MATERIALS)  
FAULTS (GEOLOGICAL)  
FOLDS  
GROUND CONTROL (UNDERGROUND  
RESEARCH)  
FRACTURES  
MECHANICAL PROPERTIES  
MOHR DIAGRAMS  
RAYLEIGH WAVES  
ROCK BURSTS  
ROCK MECHANICS  
RESIDUAL STRESSES  
ROOF CONTROL & GROUND SUPPORT  
SAFETY FACTORS  
SLABBING  
SLIDES (ROCK)  
SLOPE STABILITY RESEARCH  
SLOUGHING  
SOIL MECHANICS  
SPALLING  
STABILITY  
STRENGTH OF MATERIALS  
SWELLING

FAN DRILLING

BT DRILLING  
RT LONGHOLE DRILLS & DRILLING

FANS

RT COOLING  
HEATING  
MINE VENTILATION  
REFRIGERATION

FAR EAST

NT CHINA  
    JAPAN  
RT AFRICA  
    EUROPE  
    LATIN AMERICA & CARIBBEAN  
    NEAR EAST  
    SOUTH ASIA  
    SOUTH PACIFIC

FATIGUE (HUMAN)

RT FATIGUE (MATERIALS)  
    MINE PRODUCTION  
    MINE SAFETY  
    MINE VENTILATION  
    TEMPERATURE

FATIGUE (MATERIALS)

UF ENDURANCE (TESTING)  
    MECHANICAL FATIGUE  
BT MECHANICAL PROPERTIES  
RT FAILURE  
    FATIGUE (HUMAN)  
    MOISTURE CONTROL  
    SHEAR STRENGTH  
    SHEAR STRESS  
    STRESS CONCENTRATION  
    STRENGTH OF MATERIALS  
    THERMAL STRESSES

FAULTS (GEOLOGICAL)

UF GEOLOGICAL FAULTS  
RT BED SEPARATION  
    CRACKS  
    FAILURE  
    FOLDS  
    FRACTURES  
    JOINTS  
    RESIDUAL STRESSES  
    STRUCTURAL GEOLOGY

FEASIBILITY

RT BENEFIT COST RATIO  
    FORECASTING

FEDERAL REPUBLIC OF GERMANY

    USE WEST GERMANY

FEEDERS

UF APRON FEEDERS  
    BELT FEEDERS  
    DRAG CHAIN FEEDERS  
    PLATE FEEDERS  
    SCREW FEEDERS  
    VIBRATING FEEDERS

BT MINING MACHINERY

RT CONVEYORS  
    FEEDING  
    LOADERS  
    MATERIALS HANDLING

FEEDING

RT CONVEYING  
    FEEDERS  
    LOADING  
    MATERIALS HANDLING

FIBROUS DUST

UF GLASS FIBRE DUST  
BT DUST  
NT ASBESTOS DUST  
RT RESPIRABLE DUST

FIELD DATA

    USE DATA

FIELD EXPERIMENTATION

BT EXPERIMENTATION  
RT BLASTING RESEARCH  
    DUST RESEARCH  
    FIELD INVESTIGATIONS  
    GROUND CONTROL (UNDERGROUND) RESEARCH  
    IN SITU  
    LABORATORY EXPERIMENTATION  
    RESEARCH PROGRAMS  
    ROCK BREAKAGE RESEARCH  
    OPEN PIT MINE & MINING  
    SLOPE STABILITY RESEARCH  
    TESTING  
    UNDERGROUND MINES & MINING

FIELD INVESTIGATIONS

RT BLASTING RESEARCH  
    FIELD EXPERIMENTATION  
    GROUND CONTROL (UNDERGROUND)  
    RESEARCH  
    LABORATORY EXPERIMENTATION  
    ROCK BREAKAGE RESEARCH  
    SLOPE STABILITY RESEARCH

FILLS

NT BACKFILLS  
RT BACKFILLING  
    COMPACTING  
    DIKES & DAMS

FILMS

RT COATINGS  
CORROSION CONTROL

FILTERS

NT DUST FILTERS  
RT DEWATERING  
FILTRATION

FILTRATION

UF AIR FILTRATION  
WATER FILTRATION  
RT EXTRACTION  
FILTERS  
PERCOLATION

FINES

RT BACKFILLS  
CLAYS  
DEWATERING  
FLOCCULATION  
HYDRAULIC BACKFILLING  
PARTICLES  
PARTICLE SIZE DISTRIBUTION  
PERMEABILITY  
SANDS  
SETTLINGS  
SIEVE ANALYSIS  
TAILINGS  
WASTE DISPOSAL

FIRE DAMP

USE METHANE GAS

FIRE PROTECTION

RT COATINGS  
MINE FIRES  
MINE GASES  
MINE SAFETY  
SPONTANEOUS COMBUSTION

FISSURES

USE CRACKS

FIXED BEAMS

USE BEAMS (STRUCTURAL)

FLAWS

USE DEFECTS

FLEXIBILITY

RT BENDING STRESSES  
RIGIDITY  
SAG

FLEXIBLE METAL MATS

USE MATS

FLOCCULATION

RT BACKFILLING  
CLAYS  
CONCENTRATING  
DEWATERING  
DISPERSION  
FINES  
FLOCCULANTS  
FLOTATION  
FLY ASH  
SETTLING

FLOODS

USE MINE FLOODS

FLOTATION

RT BENEFICIATION  
CONCENTRATING  
FLOCCULATION  
MILLING  
SETTLING

FLOW

UF LAMINAR FLOW  
PLASTIC FLOW  
STEADY STATE FLOW  
TURBULENT FLOW  
RT CREEP  
FRICTION  
GROUND WATER  
PERCOLATION  
SOLIDS PIPELINING  
VISCOSITY

FLUORITE MINES

USE FLUORSPAR MINES

FLUORSPAR MINES & MINING

BT MINES & MINING

FLY ASH

RT COAL  
CONCRETE  
DUST  
FLOCCULATION  
PARTICLES  
PORTLAND CEMENT  
THERMAL POWER GENERATING PLANTS

FOLDS  
RT DEFORMATION  
FAILURE  
FAULTS (GEOLOGICAL)  
FRACTURES  
JOINTS  
RESIDUAL STRESSES  
STRAINS  
STRUCTURAL GEOLOGY

FORCE  
RT KINETICS  
LOADS (FORCES)  
PRESSURES  
TECTONICS  
TORQUE

FORECASTING  
UF PREDICTING  
RT BENEFIT COST RATIO  
CRITICAL PATH METHOD  
DEPLETION  
ECONOMICS  
EVALUATIONS  
FEASIBILITY  
OPERATIONS RESEARCH  
PLANNING  
PREDICTIONS  
RESERVES (ORE)  
SCHEDULING  
STATISTICAL ANALYSIS

FORMULAS  
RT COEFFICIENTS  
EQUATIONS  
NUMERICAL ANALYSIS  
PARAMETERS

FORTRAN  
BT PROGRAMMING LANGUAGES

FORUMS  
USE SYMPOSIA

FRACTURES  
UF BREAKS  
RT CRACKS  
DAMAGES  
DEFECTS  
DEFORMATION  
FAULTS (GEOLOGICAL)  
FAILURE

FOLDS  
JOINTS  
SPALLING

FRANCE  
BT EUROPE

FREE FACES  
RT BLASTING RESEARCH

FREEZE HOLES  
RT FREEZING  
ICE WALLS  
SHAFT SINKING

FREEZING  
RT COLD WEATHER OPERATIONS  
CONSOLIDATION  
COOLING  
FREEZE HOLES  
FROST ACTION  
HEAT TRANSFER  
ICE WALLS  
PERMAFROST  
REFRIGERATION  
TEMPERATURE  
TEMPERATURE CONTROL  
THAWING

FRENCH LANGUAGE PERIODICALS  
UF JOURNALS  
PERIODICALS  
PUBLICATIONS  
RT ENGLISH LANGUAGE PERIODICALS  
GERMAN LANGUAGE PERIODICALS  
POLISH LANGUAGE PERIODICALS  
RUSSIAN LANGUAGE PERIODICALS  
TRANSLATIONS

FREQUENCIES  
RT AMPLITUDES  
SONICS  
ULTRASONICS  
VIBRATIONS  
WAVES

FRICTION  
UF COEFFICIENT OF FRICTION  
NT INTERNAL FRICTION  
WALL FRICTION  
RT ABRASION  
ANGLE OF REPOSE

BREAKS  
FLOW  
LUBRICATION  
SHEAR STRENGTH  
VISCOSITY  
WEAR

FRICITION HOISTS  
BT HOISTS  
RT DRUM HOISTS

FRICITION PROPS  
USE STEEL PROPS

FRINGE PATTERNS  
RT PHOTOELASTIC THEORY  
PHOTOELASTICITY

FROST ACTION  
RT ARCTIC AND SUBARCTIC REGIONS  
COLD WEATHER OPERATIONS  
FREEZING  
HEAT TRANSFER  
PERMAFROST  
TEMPERATURE  
THAWING

FUELS  
NT COAL  
OIL (FUEL & DIESEL)  
PEAT  
RT ENERGY  
HEATING

FUMES  
USE MINE GASES

GABROS  
USE IGNEOUS ROCKS

GAS DETECTORS  
RT FIRE PROTECTION  
MINE FIRES  
MINE GASES  
MINE SAFETY  
SPONTANEOUS COMBUSTION

GASES  
NT AIR  
COMPRESSED AIR  
EXHAUST GASES  
MINE GASES

GEODIMETERS  
USE SURVEYING INSTRUMENTS

GEOLOGICAL FAULTS  
USE FAULTS (GEOLOGICAL)

GEOLOGY  
NT MINE GEOLOGY  
PETROLOGY  
REGIONAL GEOLOGY  
STRUCTURAL GEOLOGY  
RT GROUND WATER  
IGNEOUS ROCKS  
METAMORPHIC ROCKS  
MINE EXPLORATION  
MINERAL DEPOSIT  
RESERVES (ORE)  
ROCK MECHANICS  
ROCKS  
SEDIMENTARY ROCKS  
SOIL MECHANICS  
SOILS  
STRATIGRAPHY  
TECTONICS  
TOPOGRAPHY

GEOPHYSICAL SURVEYS  
UF GRAVITY SURVEYS  
MAGNETIC SURVEYS  
SEISMIC SURVEYS  
RT DETECTORS  
MINE EXPLORATION  
MINE GEOLOGY

GEOHERMAL GRADIENTS  
RT HEAT TRANSMISSION  
TEMPERATURE  
MINE VENTILATION

GERMAN LANGUAGE PERIODICALS  
UF JOURNALS  
PERIODICALS  
PUBLICATIONS  
RT ENGLISH LANGUAGE PERIODICALS  
FRENCH LANGUAGE PERIODICALS  
POLISH LANGUAGE PERIODICALS  
RUSSIAN LANGUAGE PERIODICALS  
TRANSLATIONS

GERMANY  
USE EAST GERMANY  
WEST GERMANY

GLASS FIBRE DUST  
USE FIBROUS DUST

GLOSSARIES DICTIONARIES THESAURI

UF TERMINOLOGY  
RT INFORMATION SYSTEMS

GNEISSES

USE METAMORPHIC ROCKS

GOALS

USE OBJECTIVES

GOB

USE WASTE (ROCK)

GOLD MINES & MINING

BT MINES & MINING

GONIOMETERS

BT MEASURING INSTRUMENTS  
RT LIGHT SCATTERING ASSESSMENT

GRADATION ANALYSIS

USE PARTICLE SIZE DISTRIBUTION

GRADE CONTROL (ORE)

UF ORE GRADING  
BT CONTROL  
RT DILUTION (ORE)  
MINE GEOLOGY  
QUALITY CONTROL  
SAMPLING  
STOCKPILING  
TONNAGE FACTOR

GRADING (SIZING)

USE PARTICLE SIZE DISTRIBUTION

GRADERS

BT MINING MACHINERY  
RT ROADS  
SCRAPERS  
SURFACE STRIPPING  
TRACTORS

GRANITES

USE IGNEOUS ROCKS

GRANTS IN AID

RT CANADIAN ADVISORY COMMITTEE  
ON ROCK MECHANICS  
EDUCATION  
MINING RESEARCH  
UNIVERSITIES

GRAVELS

RT AGGREGATES  
BACKFILLS  
MILL TAILINGS  
QUARRIES & QUARRYING  
ROCKS  
SANDS  
SOILS

GRAVIMETRIC ASSESSMENT

UF MASS ASSESSMENT  
RT DUST CONCENTRATIONS  
DUST SAMPLERS  
ELECTROSTATIC SAMPLERS  
LIGHT SCATTERING ASSESSMENT  
NUMBER ASSESSMENT

GRAVIMETRIC FEEDERS

USE FEEDERS

GRAVITY SURVEYS

USE GEOPHYSICAL SURVEYS

GREASING

USE LUBRICATION

GRINDING

UF PULVERIZING  
NT DRY GRINDING  
WET GRINDING  
BT COMMINATION  
RT ABRASION  
CRUSHING  
MILLING  
MIXING  
ROCK BREAKAGE RESEARCH

GROUND CONTROL (UNDERGROUND) RESEARCH

BT MINING RESEARCH  
RT CONVERGENCE  
COOPERATIVE RESEARCH  
FAILURE  
FIELD EXPERIMENTATION  
FIELD INVESTIGATION  
MICROSEISMIC MONITORING  
PILLAR MECHANICS  
PILLARS  
ROCK BOLTS  
ROCK MECHANICS  
ROOF CONTROL & GROUND SUPPORT  
SLOPE STABILITY RESEARCH

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM.

GROUND SHOCK  
USE SHOCK WAVES

GROUND SUPPORT  
USE ROOF CONTROL & GROUND SUPPORT

GROUND WATER  
BT WATER  
RT DEWATERING  
DRAWDOWN  
FLOW  
GEOLOGY  
GROUTING  
LEACHING  
PERCOLATION  
PERMEABILITY  
SUBSIDENCE  
WATER SUPPLY  
WATER TABLES  
WELLS

GROUND WATER LEVELS  
USE WATER TABLES

GROUTING  
RT CEMENT GROUTS  
CEMENTING  
CHEMICAL GROUTS  
CONCRETE  
EPOXY RESINS  
GROUND WATER  
RESIN CEMENTS  
ROCK BOLTS  
SEEPAGE

GUNITE  
USE SHOTCRETE

GYPSUM MINES & MINING  
BT MINES & MINING

GYRATORY CRUSHERS  
NT CONE CRUSHERS  
BT CRUSHERS  
RT IMPACT CRUSHERS  
JAW CRUSHERS  
ROLL CRUSHERS

HAND BACKFILLING  
BT BACKFILLING  
RT HYDRAULIC BACKFILLING  
MECHANICAL BACKFILLING  
PNEUMATIC BACKFILLING

HARDNESS  
BT PHYSICAL PROPERTIES  
RT ABRASION  
IMPACT STRENGTH  
RIGIDITY  
STRENGTH OF MATERIALS  
WEAR

HAULAGE  
USE MINE HAULAGE

HAULAGE TRUCKS  
UF TRUCKS  
BT MINING MACHINERY  
NT DIESEL ELECTRIC HAULAGE TRUCKS  
RT MATERIALS HANDLING  
MINE HAULAGE

HAULING  
RT BULK HANDLING  
BULK TRANSPORTERS  
CONVEYING  
DIESEL ELECTRIC HAULAGE TRUCKS  
EXCAVATION  
LOADING  
MINE HAULAGE  
TRANSPORTATION

HEADFRAMES  
RT HOISTING  
HOISTS  
SHAFT SINKING

HEAT  
BT ENERGY  
RT HEATING  
TEMPERATURE

HEAT CONDUCTION  
USE HEAT TRANSFER

HEAT FLOW  
USE HEAT TRANSFER

HEATING  
NT ELECTRIC HEATING  
OIL & GAS HEATING  
STEAM HEATING  
RT COMBUSTION  
COOLING  
FANS  
FUELS  
HEAT



HEAT TRANSFER  
MINE FIRES  
MINE GASES  
MINE VENTILATION  
SPONTANEOUS COMBUSTION  
THAWING  
THERMAL STRESSES

HEATING PLANTS  
RT ELECTRIC HEATING  
OIL & GAS HEATING  
STEAM HEATING

HEAT TRANSFER  
UF HEAT CONDUCTION  
HEAT FLOW  
RT ENERGY TRANSFER  
FREEZING  
FROST ACTION  
GEOHERMAL GRADIENTS  
HEATING  
REFRIGERATION  
THERMAL CONDUCTIVITY

HETEROGENEITY  
RT CONTINUITY  
DISPERSION  
HETEROGENEOUS MATERIALS  
HOMOGENEITY  
SAMPLING  
VARIABLES

HETEROGENEOUS MATERIALS  
BT MATERIALS  
RT HETEROGENEITY  
HOMOGENEOUS MATERIALS  
ROCKS

HIGH EXPLOSIVES  
USE EXPLOSIVES

HOISTING  
UF LIFTING  
MINE HOISTING  
WINDING  
NT HYDRAULIC HOISTING  
RT BULK HANDLING  
HEADFRAMES  
HOISTS  
LOADING  
MATERIALS HANDLING

MINES & MINING  
SHAFTS  
SHAFT SINKING  
TORQUE  
TRANSPORTATION  
WIRE ROPES

HOISTING MACHINERY  
USE HOISTS

HOISTS  
UF HOISTING MACHINERY  
MINE HOISTS  
NT DRUM HOISTS  
FRICTION HOISTS  
RT CAGES  
HEADFRAMES  
HOISTING  
SKIPS  
WIRE ROPES

HOLE DEVIATION  
UF DEVIATION  
RT DIRECTIONAL DRILLING  
DRILLING  
STABILIZATION

HOMOGENEITY  
RT CONTINUITY  
HETEROGENEITY  
HOMOGENEOUS MATERIALS  
QUALITY CONTROL  
SAMPLING

HOMOGENEOUS MATERIALS  
BT MATERIALS  
RT HETEROGENEOUS MATERIALS  
HOMOGENEITY

HOPPERS  
USE BINS

HUMIDITY  
RT AIR  
MINE VENTILATION  
MOISTURE  
WATER ANALYSIS

HYDRAULIC BACKFILLING  
BT BACKFILLING  
RT CONSOLIDATED BACKFILLS  
FINES

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM

HAND BACKFILLING  
MECHANICAL BACKFILLING  
PNEUMATIC BACKFILLING  
SOLIDS PIPELINING  
WATER

HYDRAULIC HOISTING  
BT HOISTING  
MATERIALS HANDLING  
SOLIDS PIPELINING  
WATER

HYDRAULIC MINING  
BT MINING METHODS  
RT MARINE MINING  
PLACER MINING  
PUMPS  
SOLUTION MINING  
UNDERGROUND MINES & MINING

HYDRAULIC ROOF SUPPORTS  
BT PROPS  
RT ARCH SUPPORTS  
LONGWALL MINING  
ROOF CONTROL & GROUND SUPPORT  
STEEL PROPS  
TIMBER SUPPORTS

HYDROELECTRIC POWER COMMISSION OF  
ONTARIO TORONTO ONTARIO  
USE THERMAL POWER GENERATING  
PLANTS

HYDROMEX  
USE WATER GELS (EXPLOSIVES)

HYPOTHESES  
RT THEORIES

ICE WALLS  
RT CONSOLIDATION  
FREEZE HOLES  
FREEZING  
REFRIGERATION  
SHAFT SINKING

IGNEOUS ROCKS  
UF BASALTS  
DIABASES  
DUNITES  
GABBROS  
GRANITES  
PERIDOTITES  
SYENITES  
BT ROCKS  
RT GEOLOGY  
METAMORPHIC ROCKS  
SEDIMENTARY ROCKS

IMPACT  
UF IMPACT PRESSURE  
RT BLASTING  
EXPLOSIONS  
IMPACT STRENGTH  
LOADS (FORCES)  
PRESSURES  
SHOCK WAVES  
STRESS CONCENTRATION  
STRESSES

IMPACT CRUSHERS  
BT CRUSHERS  
RT GYRATORY CRUSHERS  
IMPACT STRENGTH  
JAW CRUSHERS  
ROLL CRUSHERS

IMPACT STRENGTH  
BT STRENGTH OF MATERIALS  
RT HARDNESS  
IMPACT CRUSHERS  
IMPACT

IMPERFECTIONS  
USE DEFECTS

IMPINGEMENT  
RT DUST COLLECTORS  
IMPINGERS

IMPINGERS  
UF MIDGET IMPINGERS  
BT MEASURING INSTRUMENTS  
RT DUST COLLECTORS  
DUST SAMPLERS  
IMPINGEMENT  
NUMBER ASSESSMENT

INCOMPETENT ROCKS  
USE WEAK ROCKS

INDEXES  
RT ABSTRACTS  
BIBLIOGRAPHIES  
INFORMATION RETRIEVAL  
INFORMATION STORAGE

INDIA  
BT SOUTH ASIA

INELASTICITY  
USE ELASTICITY

INFORMATION RETRIEVAL

RT ABSTRACTS  
BIBLIOGRAPHIES  
INDEXES  
INFORMATION STORAGE  
INFORMATION SYSTEM

INFORMATION STORAGE

RT ABSTRACTS  
BIBLIOGRAPHIES  
INDEXES  
INFORMATION RETRIEVAL  
INFORMATION SYSTEMS

INFORMATION SYSTEMS

RT COMMUNICATIONS SYSTEMS  
GLOSSARIES DICTIONARIES  
AND THESAURI  
INFORMATION RETRIEVAL  
INFORMATION STORAGE

INFRARED ANALYSIS

BT PHYSICAL ANALYSIS  
RT CHEMICAL ANALYSIS  
XRAY ANALYSIS

IN SITU

RT FIELD EXPERIMENTATION  
RESIDUAL STRESSES  
ROCKS

INSTABILITY

USE STABILITY

INSTALLATION

USE INSTALLING

INSTALLING

UF INSTALLATION  
RT ASSEMBLING  
CALIBRATION  
MAINTENANCE (EQUIPMENT)

INSTITUTION OF MINING & METALLURGY  
TRANSACTION (LONDON ENGLAND)

BT ENGLISH LANGUAGE PERIODICALS

INSTRUMENTATION

USE MEASURING INSTRUMENTS

INSTRUMENTS (MEASURING)

USE MEASURING INSTRUMENTS

INTERMEDIATE PRINCIPAL STRESS  
USE PRINCIPAL STRESS

INTERNAL FRICTION

BT FRICTION  
RT ANGLE OF REPOSE  
CREEP  
EFFECTIVE STRESS  
MOHR DIAGRAMS  
SHEAR STRENGTH

INTERNATIONAL JOURNAL OF ROCK MECH-  
ANICS & MINING SCIENCES (NEW YORK NY)

BT ENGLISH LANGUAGE PERIODICALS

INTERNATIONAL MINING CONGRESSES  
USE SYMPOSIA

IRON ORE MINES & MINING

BT MINES & MINING  
RT MAGNETITES (ROCK OR ORE)

JACKLEG DRILLS

USE PERCUSSION DRILLS & DRILLING

JAPAN

BT FAR EAST

JAW CRUSHERS

BT CRUSHERS  
RT CONE CRUSHERS  
GYRATORY CRUSHERS  
IMPACT CRUSHERS  
ROLL CRUSHERS

JET PIERCING DRILLS & DRILLING

BT DRILLING  
DRILLS  
RT CHAMBERING  
SPALLING  
THERMAL STRESSES

JET PUMPS

USE PUMPS

JOINT RESEARCH

USE COOPERATIVE RESEARCH

JOINTS

RT CRACKS  
FAULTS (GEOLOGICAL)  
FISSURES

FOLDS  
FRACTURES  
STRUCTURAL GEOLOGY

JOURNAL OF GEOPHYSICAL RESEARCH  
(WASHINGTON D C)  
BT ENGLISH LANGUAGE PERIODICALS

JOURNALS  
USE ENGLISH LANGUAGE PERIODICALS  
FRENCH LANGUAGE PERIODICALS  
GERMAN LANGUAGE PERIODICALS  
POLISH LANGUAGE PERIODICALS  
RUSSIAN LANGUAGE PERIODICALS

KINETICS  
BT DYNAMICS  
MECHANICS  
RT ENERGY  
FORCE

KONIMETERS  
BT MEASURING INSTRUMENTS  
DUST SAMPLERS  
RT LIGHT SCATTERING ASSESSMENT  
NUMBER ASSESSMENT  
TYNDALLOSOPES

LABOR  
USE PERSONNEL

LABORATORIES  
NT COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH PRETORIA  
S A  
MINES BRANCH DEPT ENERGY  
MINES & RESOURCES OTTAWA ONT  
UNITED STATES BUREAU OF MINES  
WASHINGTON D C  
RT LABORATORY EXPERIMENTATION  
MINING RESEARCH  
RESEARCH PROGRAMS  
TESTING

LABORATORY EXPERIMENTATION  
BT EXPERIMENTATION  
RT BLASTING RESEARCH  
DUST RESEARCH  
FIELD EXPERIMENTATION  
FIELD INVESTIGATIONS  
LABORATORIES  
RESEARCH PROGRAMS  
ROCK BREAKAGE RESEARCH  
SAMPLE PREPARATION  
TESTING

LAMINAR FLOW  
USE FLOW

LAND RECLAMATION  
UF REFORESTATION  
SOIL CONSERVATION  
RT DEWATERING  
DUMPS  
OPEN PIT MINES & MINING  
POLLUTION  
SLOPES  
SURFACE STRIPPING  
TAILINGS PONDS

LANDSLIDES  
USE SLIDES (ROCK)

LASERS  
RT DRILLING  
SHAFT SINKING  
MINE SURVEYING  
RADIATION HAZARDS

LATIN AMERICA & CARIBBEAN  
RT AFRICA  
EUROPE  
FAR EAST  
NEAR EAST  
SOUTH ASIA  
SOUTH PACIFIC

LAVAL UNIVERSITY QUEBEC P Q  
BT UNIVERSITIES

LAWS  
USE LEGISLATION & REGULATIONS

LAYOUT  
RT CONSTRUCTION  
DESIGN (EQUIPMENT)  
MAPPING  
MINE DEVELOPMENT  
MINE SURVEYING  
PLANNING

LEACHING  
NT BACTERIAL LEACHING  
RT BENEFICIATION  
EXTRACTION  
GROUND WATER  
PERCOLATION  
PERMEABILITY  
SOLUTION MINING

LEAD MINES & MINING  
BT MINES & MINING

LECTURES  
RT EDUCATION  
MINING RESEARCH  
UNIVERSITIES

LEGISLATION & REGULATIONS  
UF LAWS  
REGULATIONS  
RULES  
STATUTES  
RT DEPLETION  
PATENTS  
POLLUTION  
TAXES  
WASTE DISPOSAL

LIFTING  
USE HOISTING

LIGHT SCATTERING ASSESSMENT  
RT DUST CONCENTRATIONS  
DUST SAMPLERS  
GONIOMETERS  
GRAVIMETRIC ASSESSMENT  
KONIMETERS  
NUMBER ASSESSMENT  
TYNDALLOSOPES

LIMESTONE  
USE SEDIMENTARY ROCKS

LISTINGS  
USE TABULATIONS

LITERATURE SEARCHES  
RT APPRAISALS  
BIBLIOGRAPHIES  
CRITIQUES  
EVALUATIONS

LOAD CELLS  
BT MEASURING INSTRUMENTS  
RT LOADING  
LOADS (FORCES)

LOADERS  
BT MINING MACHINERY  
RT BULK TRANSPORTERS  
CONVEYORS

DRAW POINT LOADING  
FEEDERS  
LOADING  
MATERIALS HANDLING

LOADING  
UF UNLOADING  
NT DRAW POINT LOADING  
ECCENTRIC LOADING  
RT AUTO LOADERS  
BLASTING  
COLUMN CHARGES  
CONVEYING  
DETONATORS  
EXCAVATION  
FEEDING  
HAULING  
HOISTING  
LOAD CELLS  
LOADERS  
LOADS (FORCES)  
MATERIALS HANDLING  
MINE HAULAGE  
SKIPS  
STACKING  
STRESSES  
TRIBUTARY AREA THEORY

LOADING POCKETS  
RT BELT CONVEYORS  
CHUTES  
MATERIALS HANDLING  
STORAGE

LOADS (FORCES)  
NT BIAXIAL LOADS  
DYNAMIC LOADS  
STATIC LOADS  
TRIAxIAL LOADS  
UNIAXIAL LOADS  
RT BRAZILIAN TESTS  
COMPRESSION  
ECCENTRIC LOADING  
FORCE  
IMPACT  
LOAD CELLS  
LOADING  
LOAD YIELD CURVES  
PRESSURES  
RETAINING WALLS  
STRESS ANALYSIS  
STRESSES

TENSION  
TRIBUTARY AREA THEORY  
WEIGHT

LOAD YIELD CURVES  
RT ANCHORAGE CAPACITIES  
LOADS (FORCES)  
ROCK BOLTS

LOGGING (RECORDING)  
RT DIAMOND DRILLS & DRILLING

LONGHOLE DRILLS & DRILLING  
BT DRILLING  
DRILLS  
RT FAN DRILLING

LONGWALL MINING  
BT MINING METHODS  
RT ADVANCE MINING  
CAVING MINING  
COAL MINES & MINING  
HYDRAULIC ROOF SUPPORTS  
RETREAT MINING  
SHORTWALL MINING  
TOP SLICE MINING  
UNDERGROUND MINES & MINING

LUBRICATION  
UF GREASING  
OILING  
RT FRICTION  
MAINTENANCE (EQUIPMENT)

MACHINE LANGUAGES  
USE PROGRAMMING LANGUAGES

MAGNETIC SURVEYS  
USE GEOPHYSICAL SURVEYS

MAGNETITES (ROCK OR ORE)  
BT ROCKS  
RT IRON ORE MINES & MINING

MAGNITUDE  
RT AMPLITUDES  
DISPLACEMENTS

MAINTENANCE (EQUIPMENT)  
UF PREVENTIVE MAINTENANCE  
SERVICING  
RT ASSEMBLING

CALIBRATION  
DESIGN  
DEVELOPMENT (EQUIPMENT)  
INSTALLING  
LUBRICATION  
OPERATION (EQUIPMENT)  
TESTING

MAINTENANCE COSTS  
UF REPAIR COSTS  
BT COSTS  
RT OPERATING COSTS

MAJOR PRINCIPAL STRESS  
USE PRINCIPAL STRESS

MANITOBA  
BT CANADA

MANRIDING  
USE MINERS TRANSPORTATION

MAPPING  
UF CARTOGRAPHY  
RT AERIAL PHOTOGRAPHY  
MINE SURVEYING  
PHOTOGRAMMETRY  
LAYOUT  
PROFILES  
SECTIONS

MARINE DRILLING  
USE OFFSHORE DRILLING

MARINE MINING  
UF UNDERSEA MINES & MINING  
RT DREDGING  
HYDRAULIC MINING  
MINING METHODS  
OFFSHORE DRILLING  
OPEN PIT MINES & MINING  
UNDERGROUND MINES & MINING

MASS ASSESSMENT  
USE GRAVIMETRIC ASSESSMENT

MASS CONCRETE  
USE CONCRETE

MASSIVE MINERAL DEPOSITS  
BT MINERAL DEPOSITS  
RT BEDDED MINERAL DEPOSITS  
VEIN MINERAL DEPOSITS

**MATERIALS**

NT BRITTLE MATERIALS  
HOMOGENEOUS MATERIALS  
HETEROGENEOUS MATERIALS  
PLASTIC MATERIALS  
RT COMPONENTS  
MATERIALS HANDLING  
RESERVES (ORE)

**MATERIALS HANDLING**

UF MUCKING  
RT BELT CONVEYORS  
BINS  
BULK HANDLING  
BULK TRANSPORTERS  
CHUTES  
CONTAINERS  
CONVEYING  
CONVEYORS  
DRAW POINT LOADING  
FEEDERS  
FEEDING  
HAULAGE TRUCKS  
HOISTING  
HYDRAULIC HOISTING  
LOADERS  
LOADING  
LOADING POCKETS  
MATERIALS  
MECHANIZATION  
MINE HAULAGE  
MINING METHODS  
PACKAGED CONTAINERS  
PIPES & PIPELINES  
PUMPING  
RADIOACTIVE ISOTOPES  
RAILROADS  
ROADS  
SCREW FEEDERS  
SHAFTS  
SKIPWAYS  
SOLIDS PIPELINING  
STACKING  
STOCKPILING  
STORAGE  
TRAMMING  
TRANSLOADERS  
TRANSPORTATION  
WASTE DISPOSAL

**MATHEMATICAL ANALYSIS**

BT ANALYSIS  
NT NUMERICAL ANALYSIS  
STATISTICAL ANALYSIS  
RT EQUATIONS  
FORMULAS  
SAMPLING

**MATHEMATICAL MODELS**

UF ANALOG MODELS  
BT MODELS  
RT COMPUTER PROGRAMS

**MATS**

UF FLEXIBLE STEEL MATS  
CONCRETE MATS  
RT CUT & FILL MINING  
ROOF CONTROL & GROUND SUPPORT  
UNDERCUT & FILL MINING

**MCGILL UNIVERSITY MONTREAL P Q**

BT UNIVERSITIES

**MEASUREMENT**

UF DUST MEASUREMENT  
WEIGHT MEASUREMENT  
RT ACCURACY  
CALIBRATION  
CHEMICAL ANALYSIS  
DATA  
DETECTION  
EVALUATIONS  
MINE SURVEYING  
MONITORING  
OBSERVATION  
SIEVE ANALYSIS  
TESTING

**MEASUREMENTS**

USE DATA

**MEASURING INSTRUMENTS**

UF INSTRUMENTATION  
INSTRUMENTS (MEASURING)  
NT ACCELEROMETERS  
ANEMOMETERS  
CAPACITANCE GAUGES  
COMPRESSOMETERS  
CONSTANT CURRENT POWER SUPPLIERS  
DEFORMATION METERS  
DYNOMOMETERS  
EXTENSOMETERS

GONIOMETERS  
IMPINGERS  
KONIMETERS  
LOAD CELLS  
OSCILLOSCOPES  
PHOTOSTRESS GAUGES  
POLARIMETERS  
SONISCOPE  
STRAIN GAUGES  
STRESS METERS  
TELLUROMETERS  
THERMAL PRECIPITATORS  
TYNDALLOSCOPES  
RT CALIBRATION  
CONTROL SYSTEMS  
DETECTORS  
OPTICAL INSTRUMENTS  
RADIOACTIVE ISOTOPES  
SENSITIVITY  
SURVEYING INSTRUMENTS  
TOOLS

MECHANICAL BACKFILLING  
BT BACKFILLING  
RT HAND BACKFILLING  
HYDRAULIC BACKFILLING  
PNEUMATIC BACKFILLING

MECHANICAL FATIGUE  
USE FATIGUE (MATERIALS)

MECHANICAL PROPERTIES  
BT PROPERTIES  
NT COMPRESSIBILITY  
COMPRESSIVE STRENGTH  
ELASTICITY  
FATIGUE (MATERIALS)  
RIGIDITY  
SHEAR STRENGTH  
TENSILE STRENGTH  
RT DEFORMATION  
FAILURE  
ELASTICITY MODULUS  
PHOTOELASTICITY  
PHYSICAL PROPERTIES  
STRENGTH OF MATERIALS

MECHANICAL SHOVELS  
USE SHOVELS

MECHANICAL STRESSES  
BT STRESSES  
RT THERMAL STRESSES

MECHANICS  
NT ANCHORAGE MECHANICS  
DYNAMICS  
KINETICS  
PILLAR MECHANICS  
ROCK MECHANICS  
SOIL MECHANICS

MECHANIZATION  
RT AUTOMATION  
DATA PROCESSING  
EFFICIENCY  
MATERIALS HANDLING  
TRACKLESS MINING

METAMORPHIC ROCKS  
UF GNEISSES  
QUARTZITES  
SCHISTS  
SLATES  
BT ROCKS  
RT GEOLOGY  
IGNEOUS ROCKS  
SEDIMENTARY ROCKS

METHANE GAS  
UF FIRE DAMP  
BT EXPLOSIVE GASES  
MINE GASES  
RT COAL MINES & MINING

MICROSCOPES  
RT MICROSCOPIC ANALYSIS  
OPTICAL INSTRUMENTS  
OPTICAL SCANNERS

MICROSCOPIC ANALYSIS  
BT ANALYSIS  
RT CHEMICAL ANALYSIS  
DUST CONCENTRATIONS  
MICROSCOPES  
NUMBER ASSESSMENT  
PHYSICAL ANALYSIS

MICROSEISMIC MONITORING  
BT MONITORING  
RT EXPLOSIVE ENERGY TRANSMISSION  
GROUND CONTROL (UNDERGROUND)  
RESEARCH  
SHOCK WAVES

MIDGET IMPINGERS  
USE IMPINGERS



MILITARY EXPLOSIVES

UF T N T  
BT EXPLOSIVES  
RT DYNAMITES (STICK EXPLOSIVES)

MILLING

RT BENEFICIATION  
COMMINUTION  
CONCENTRATING  
CRUSHING  
FLOTATION  
GRINDING  
MILLS  
SCREENING  
TAILINGS

MILLS

BT MINE BUILDINGS  
RT COMMINUTION  
CRUSHERS  
MILLING  
SCREENING PLANTS

MILL TAILINGS

RT BACKFILLS  
GRAVELS  
SANDS  
CONSOLIDATED BACKFILLS

MINE BUILDINGS

UF BUILDINGS  
MINE PLANTS  
NT MILLS  
SCREENING PLANTS  
RT MINES & MINING  
MINING MACHINERY  
TOWNSITES

MINE CARS

RT BULK TRANSPORTERS  
DRAW POINT LOADING  
MINE HAULAGE  
MINE LOCOMOTIVES  
RAILROADS  
TRAMMING

MINE DEVELOPMENT

UF DEVELOPMENT (MINES)  
STOPE PREPARATION  
RT CONSTRUCTION  
DESIGN  
DRILLING

LAYOUT

MINE EXPLORATION  
MINE GEOLOGY  
MINE PRODUCTION  
MINERAL DEPOSITS  
MINES & MINING  
MINE SURVEYING  
MINING METHODS  
PLANNING  
RAISING  
RESERVES (ORE)  
SHAFTS  
SHAFT SINKING  
TOWNSITES  
TUNNELLING  
WASTE

MINE EXPLORATION

UF EXPLORATION  
RT DRILLING  
GEOLOGY  
GEOPHYSICAL SURVEYS  
MINE DEVELOPMENT  
MINE PRODUCTION  
MINERAL DEPOSITS  
MINES & MINING  
RESERVES (ORE)

MINE FIRES

RT COAL DUST  
COAL MINES & MINING  
COMBUSTION  
DAMAGES  
EXPLOSIONS  
FIRE PROTECTION  
GAS DETECTORS  
HEATING  
MINE FLOODS  
MINE GASES  
MINE SAFETY  
MINES & MINING  
MINE VENTILATION  
SPONTANEOUS COMBUSTION  
SPRAYERS

MINE FLOODS

UF FLOODS  
RT BED SEPARATION  
DAMAGES  
DEWATERING  
MINE FIRES  
MINES & MINING

RETAINING WALLS  
WATER  
WATER CONTROL

MINE GASES

UF FUMES  
BT GASES  
NT EXPLOSIVE GASES  
METHANE GAS  
SUFFOCATING GASES  
TOXIC GASES  
RT AIR POLLUTION  
COMBUSTION  
DETECTORS  
EXPLOSIONS  
GAS DETECTORS  
FIRE PROTECTION  
HEATING  
MINE FIRES  
MINE SAFETY  
MINES & MINING  
MINE VENTILATION  
SPONTANEOUS COMBUSTION

MINE GEOLOGY

BT GEOLOGY  
RT GEOPHYSICAL SURVEYS  
GRADE CONTROL (ORE)  
MINE DEVELOPMENT  
STRATIGRAPHY  
TONNAGE FACTOR

MINE HAULAGE

UF HAULAGE  
RT BELT CONVEYORS  
BULK TRANSPORTERS  
CONVEYORS  
DIESEL ELECTRIC HAULAGE  
TRUCKS  
HAULAGE TRUCKS  
HAULING  
LOADING  
MATERIALS HANDLING  
MINE CARS  
MINE LOCOMOTIVES  
MINES & MINING  
MINING METHODS  
RAILROADS  
ROADS  
SCRAPERS  
TRAMMING  
TRANSLOADERS  
TRANSPORTATION  
WASTE DISPOSAL

MINE HOISTING  
USE HOISTING

MINE HOISTS  
USE HOISTS

MINE LOCOMOTIVES

UF BATTERY LOCOMOTIVES  
DIESEL LOCOMOTIVES  
ELECTRIC LOCOMOTIVES  
TROLLY LOCOMOTIVES  
RT MINE CARS  
MINE HAULAGE  
RAILROADS  
TRAMMING

MINE PLANTS

USE MINE BUILDINGS

MINE PRODUCTION

UF PRODUCTION  
PRODUCTIVITY  
RT FATIGUE (HUMAN)  
MINE DEVELOPMENT  
MINE EXPLORATION  
MINES & MINING  
MINING METHODS  
PERSONNEL  
RESERVES (ORE)  
STATISTICS

MINERAL DEPOSITS

UF MINERAL RESOURCES  
ORE BODIES  
ORE DEPOSITS  
NT BEDDED MINERAL DEPOSITS  
MASSIVE MINERAL DEPOSITS  
VEIN MINERAL DEPOSITS  
RT DEPLETION  
ECONOMICS  
EVALUATIONS  
GEOLOGY  
MINE DEVELOPMENT  
MINE EXPLORATION  
MINERALS  
MINES & MINING  
MINING METHODS  
RESERVES (ORE)  
ROCKS  
SAMPLING

MINERAL RESOURCES

USE MINERAL DEPOSITS

MINERALS

RT MINERAL DEPOSITS  
ROCKS

MINERS TRANSPORTATION

UF MANRIDING  
BT TRANSPORTATION  
RT CONVEYING  
MINES & MINING

MINE SAFETY

UF SAFETY  
RT ACCLIMATIZATION  
COMPRESSED AIR  
DETECTORS  
DUST RESEARCH  
EDUCATION  
EXPLOSIONS  
FATIGUE (HUMAN)  
FIRE PROTECTION  
GAS DETECTORS  
MINE FIRES  
MINE GASES  
MINES & MINING  
MINE VENTILATION  
MINING METHODS  
PNEUMOCONIOSIS  
PROTECTIVE MASKS  
RADIATION HAZARDS  
ROCK BOLTS  
ROOF CONTROL & GROUND SUPPORT  
STATIC ELECTRICITY

MINES & MINING

NT ASBESTOS MINES & MINING  
BAUXITE MINES & MINING  
COAL MINES & MINING  
COLUMBIUM MINES & MINING  
COPPER MINES & MINING  
FLUORSPAR MINES & MINING  
GOLD MINES & MINING  
GYPSUM MINES & MINING  
IRON ORE MINES & MINING  
LEAD MINES & MINING  
MOLYBDENUM MINES & MINING  
NICKEL MINES & MINING  
OPEN PIT MINES & MINING  
POTASH MINES & MINING  
SALT MINES & MINING  
SILVER MINES & MINING  
TIN MINES & MINING  
UNDERGROUND MINES & MINING

URANIUM MINES & MINING

ZINC MINES & MINING

RT BACKFILLING  
COMPRESSED AIR  
CONTINUOUS MINING  
EXTRACTION RATIO  
HOISTING  
MINE BUILDINGS  
MINE DEVELOPMENT  
MINE EXPLORATION  
MINE FIRES  
MINE HAULAGE  
MINE PRODUCTION  
MINERAL DEPOSITS  
MINERS TRANSPORTATION  
MINE SAFETY  
MINE SURVEYING  
MINE VENTILATION  
MINING MACHINERY  
MINING METHODS  
MINING RESEARCH  
QUARRIES & QUARRYING  
RAISING  
RESERVES  
ROCKS  
SHAFT SINKING  
SUBSIDENCE  
TUNNELLING

MINES BRANCH DEPT ENERGY MINES &  
RESOURCES OTTAWA

UF CANADIAN EXPLOSIVES RESEARCH  
LABORATORY MINING RESEARCH  
CENTRE OTTAWA  
ELLIOT LAKE LABORATORY MINES  
BRANCH ELLIOT LAKE ONTARIO  
MINING RESEARCH CENTRE MINES  
BRANCH OTTAWA

BT LABORATORIES

RT COUNCIL FOR SCIENTIFIC & INDUST-  
RIAL RESEARCH PRETORIA S A  
UNITED STATES BUREAU OF MINES  
WASHINGTON D C

MINE SURVEYING

UF OPEN PIT SURVEYING  
SURVEYING  
UNDERGROUND SURVEYING  
RT AERIAL PHOTOGRAPHY  
BOUNDARIES  
LASERS  
LAYOUT

MAPPING  
MEASUREMENTS  
MINE DEVELOPMENT  
MINES & MINING  
PHOTOGRAMMETRY  
PROFILES  
RESERVES (ORE)  
SECTIONS  
SHAFT PLUMMING

MINE TIMBERS  
USE TIMBER SUPPORTS

MINE VENTILATION  
UF VENTILATION  
RT AIR  
AIR POLLUTION  
ANEMOMETERS  
ATOMIZERS  
BLASTING  
BRATTICE WALLS  
COMBUSTION  
COMPRESSED AIR  
COOLING  
DUST CONTROL  
EXHAUST GASES  
FATIGUE (HUMAN)  
FANS  
GEOHERMAL GRADIENTS  
HEATING  
HUMIDITY  
MINE FIRES  
MINE GASES  
MINE SAFETY  
MINES & MINING  
MINING METHODS  
MOISTURE  
PNEUMOCONIOSIS  
RAISING  
REFRIGERATION  
SPRAYERS  
TEMPERATURE CONTROL  
TUNNELS

MINE VISITS  
UF VISITS  
RT COOPERATIVE RESEARCH

MINING  
USE MINING METHODS

MINING & MINERALS ENGINEERING (LONDON ENGLAND)  
BT ENGLISH LANGUAGE PERIODICALS

MINING CONGRESS JOURNAL (WASHINGTON D C)  
BT ENGLISH LANGUAGE PERIODICALS

MINING ENGINEER (LONDON ENGLAND)  
BT ENGLISH LANGUAGE PERIODICALS

MINING ENGINEERING (NEW YORK N Y)  
BT ENGLISH LANGUAGE PERIODICALS

MINING MACHINERY  
NT AUTO LOADERS  
BACKHOES  
BUCKET WHEEL EXCAVATORS  
CLAMSHELLS  
CONTINUOUS MINERS  
CONVEYORS  
DRAGLINES  
DREDGES  
DRILLS  
FEEDERS  
GRADERS  
HAULAGE TRUCKS  
LOADERS  
SCRAPERS  
SHEARER LOADERS  
SHOVELS  
SLUSHERS  
TRACTORS  
TRANSLOADERS  
TUNNELLING MACHINES  
RT BRAKES  
EQUIPMENT  
MINE BUILDINGS  
MINES & MINING  
MINING METHODS  
PROPS

MINING MAGAZINE (LONDON ENGLAND)  
BT ENGLISH LANGUAGE PERIODICALS

MINING METHODS  
UF MINING  
STOPING  
NT BLASTHOLE MINING  
CAVING MINING  
CUT & FILL MINING  
HYDRAULIC MINING  
LONGWALL MINING

OPEN STOPE MINING	MINING RESEARCH CENTRE MINES BRANCH
PLACER MINING	OTTAWA
RESUING MINING	USE MINES BRANCH DEPT ENERGY MINES
ROOM & PILLAR MINING	& RESOURCES OTTAWA
SHORTWALL MINING	
SHRINKAGE STOPE MINING	MINOR PRINCIPAL STRESS
SOLUTION MINING	USE PRINCIPAL STRESS
SQUARE SET MINING	
TOP SLICE MINING	MISFIRES
TRACKLESS MINING	RT BLASTING
UNDERCUT & FILL MINING	BOOTLEGS
RT. ADVANCE MINING	
CONTINUOUS MINING	MISTAKES
DEWATERING	USE ERRORS
DILUTION (ORE)	
MARINE MINING	MIXING
MATERIALS HANDLING	UF BLENDING
MINE DEVELOPMENT	RT COMMINATION
MINE HAULAGE	DILUTION (ORE)
MINE PRODUCTION	GRINDING
MINERAL DEPOSITS	PARTICLE SIZE DISTRIBUTION
MINE SAFETY	SCREENING
MINES & MINING	
MINE VENTILATION	MODELS
MINING MACHINERY	NT MATHEMATICAL MODELS
OPEN PIT MINES & MINING	RT ANALOG COMPUTERS
PILLAR RECOVERY	CASTING
RETREAT MINING	SIMILITUDE
ROCK MECHANICS	TESTING
ROCKS	
SUBSIDENCE	MODULUS OF DEFORMATION
UNDERGROUND MINES & MINING	USE ELASTICITY MODULUS
WASTE DISPOSAL	
WATER CONTROL	MODULUS OF ELASTICITY
	USE ELASTICITY MODULUS
MINING RESEARCH	
NT BLASTING RESEARCH	MOHR CIRCLES
DUST RESEARCH	USE MOHR DIAGRAMS
GROUND CONTROL (UNDERGROUND)	
RESEARCH	MOHR DIAGRAMS
ROCK BREAKAGE RESEARCH	UF MOHR CIRCLES
SLOPE STABILITY RESEARCH	MOHR ENVELOPES
RT CANADIAN ADVISORY COMMITTEE ON	RT FAILURE
ROCK MECHANICS	INTERNAL FRICTION
COOPERATIVE RESEARCH	NORMAL STRESS
EDUCATION	SHEAR STRESS
GRANTS IN AID	STRENGTH OF MATERIALS
LABORATORIES	
LECTURES	MOHR ENVELOPES
MINES & MINING	USE MOHR DIAGRAMS
NATIONAL ACADEMY OF SCIENCES	
COMMITTEE ON ROCK MECHANICS	
RESEARCH PROGRAMS	

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM

MOISTURE  
RT HUMIDITY  
MINE VENTILATION  
MOISTURE CONTROL  
WATER  
WATER ANALYSIS

MOISTURE CONTROL  
BT CONTROL  
RT MOISTURE  
WATER CONTROL

MOLYBDENUM MINES & MINING  
BT MINES & MINING

MONITORING  
NT MICROSEISMIC MONITORING  
RT MEASUREMENT  
OBSERVATION

MONOGRAPHS  
RT REPORTS

MOVEMENTS  
USE DISPLACEMENTS

MUCKING  
USE MATERIALS HANDLING

MUDSTONE  
USE SEDIMENTARY ROCKS

MUFFLERS  
RT DAMPING  
NOISE CONTROL

NATIONAL ACADEMY OF SCIENCES  
COMMITTEE ON ROCK MECHANICS  
RT CANADIAN ADVISORY COMMITTEE ON ROCK MECHANICS

NEAR EAST  
RT AFRICA  
EUROPE  
FAR EAST  
LATIN AMERICA & CARIBBEAN  
SOUTH ASIA  
SOUTH PACIFIC

NCN  
USE AMMONIUM NITRATE FUEL OIL EXPLOSIVES  
WATER GELS (EXPLOSIVES)

NEW BRUNSWICK  
BT CANADA

NEWFOUNDLAND  
BT CANADA

NICKEL MINES & MINING  
BT MINES & MINING

NOISE CONTROL  
BT CONTROL  
RT ATTENUATION  
DAMPING  
DRILLING  
SONICS

NON CYCLICAL MINING  
USE CONTINUOUS MINING

NONDESTRUCTIVE TESTING  
BT TESTING  
NT XRAY ANALYSIS  
RT ANALYSIS  
SONIC PROBING  
SONICS  
ULTRA SONICS  
XRAY ANALYSIS

NORMAL STRESS  
BT STRESSES  
RT COMPRESSIVE STRESS  
EFFECTIVE STRESS  
MOHR DIAGRAMS  
PRESSURES  
PRINCIPAL STRESS  
SHEAR STRESS  
STRESS ANALYSIS  
STRESS DISTRIBUTION  
TENSILE STRESS  
TOTAL STRESS

NORTHWEST TERRITORIES  
BT CANADA  
RT YUKON

NOVA SCOTIA  
BT CANADA

NOVA SCOTIA TECHNICAL COLLEGE HALIFAX  
N S  
BT UNIVERSITIES

NUCLEAR ENERGY  
BT ENERGY  
RT BLASTING  
RADIATION  
RADIOACTIVE DUST  
RADIOACTIVE ISOTOPES  
SURFACE STRIPPING

NUMBER ASSESSMENT  
RT DUST CONCENTRATIONS  
DUST SAMPLERS  
GRAVIMETRIC ASSESSMENT  
KONIMETERS  
IMPINGERS  
LIGHT SCATTERING ASSESSMENT  
MICROSCOPIC ANALYSIS  
THERMAL PRECIPITATORS

NUMERICAL ANALYSIS  
BT ANALYSIS  
MATHEMATICAL ANALYSIS  
RT EQUATIONS  
FORMULAS

OBJECTIVES  
UF GOALS  
RT PLANNING  
RESEARCH PROGRAMS

OBSERVATIONS  
RT DETECTION  
MEASUREMENT  
MONITORING  
TESTING

OBSERVATION WELLS  
USE WELLS

OFFSHORE DRILLING  
UF MARINE DRILLING  
UNDERWATER DRILLING  
BT DRILLING  
RT DIRECTIONAL DRILLING  
MARINE MINING  
ROTARY DRILLS & DRILLING

OILING  
USE LUBRICATION

OIL (FUEL & DIESEL)  
BT FUELS  
RT ENERGY

OIL SANDS  
OIL SHALES

OIL & GAS HEATING  
BT HEATING  
RT ELECTRIC HEATING  
HEATING PLANTS  
STEAM HEATING  
THAWING

OIL SANDS  
BT SANDS  
RT ENERGY  
OIL (FUEL & DIESEL)  
OIL SHALES  
OPEN PIT MINES & MINING

OIL SHALES  
BT ROCKS  
RT ENERGY  
OIL (FUEL & DIESEL)  
OIL SANDS  
OPEN PIT MINES & MINING  
SEDIMENTARY ROCKS

ONTARIO  
BT CANADA

OPEN PIT MINING  
USE OPEN PIT MINES & MINING

OPEN PIT MINES & MINING  
UF OPEN PIT MINING  
STRIP MINING  
BT MINES & MINING  
RT CONVEX PROFILING  
EXCAVATION  
FIELD EXPERIMENTATION  
LAND RECLAMATION  
MARINE MINING  
MINING METHODS  
OIL SANDS  
OIL SHALES  
PLACER MINING  
QUARRIES & QUARRYING  
SKIPWAYS  
SLOPES  
SLOPE STABILITY RESEARCH  
STOCKPILING  
STRIPPING RATIO  
SUBGRADE DRILLING

SURFACE STRIPPING  
UNDERGROUND MINES & MINING

OPEN PIT SURVEYING  
USE MINE SURVEYING

OPEN STOPE MINING  
BT MINING METHODS  
RT SHRINKAGE STOPE MINING  
UNDERGROUND MINES & MINING

OPERATING COSTS  
BT COSTS  
RT MAINTENANCE COSTS

OPERATION (EQUIPMENT)  
RT ASSEMBLING  
CALIBRATION  
DESIGN  
DEVELOPMENT (EQUIPMENT)  
MAINTENANCE (EQUIPMENT)

OPERATIONS RESEARCH  
RT CONTROL  
ECONOMICS  
FORECASTING  
OPTIMIZATION  
SCHEDULING  
SIMULATION  
STATISTICS

OPTICAL INSTRUMENTS  
NT OPTICAL SCANNERS  
RT MEASURING INSTRUMENTS  
MICROSCOPES  
SURVEYING INSTRUMENTS

OPTICAL SCANNERS  
BT OPTICAL INSTRUMENTS  
SCANNERS  
RT ELECTRONIC SCANNERS  
MICROSCOPES  
PHOTOELASTIC SCANNERS

OPTIMIZATION  
RT ECONOMICS  
EFFICIENCY  
OPERATIONS RESEARCH  
PLANNING  
SCHEDULING

ORE BODIES  
USE MINERAL DEPOSITS

ORE DEPOSITS  
USE MINERAL DEPOSITS

ORE GRADING  
USE GRADE CONTROL (ORE)

ORE RESERVES  
USE RESERVES (ORE)

ORGANIZING  
USE PLANNING

OSCILLOSCOPES  
BT MEASURING INSTRUMENTS  
RT AMPLIFIERS

OUTBURSTS  
USE EXPLOSIONS

OVERBURDEN  
RT DREDGING  
ROCKS  
SOILS  
SURFACE STRIPPING

OVERCORING  
BT DRILLING  
RT BOREHOLES  
CORING  
STRESS ANALYSIS  
TREPANNING

OVERCUTTING  
USE CUTTING

OXIDATION  
RT AIR  
BACTERIAL LEACHING  
COATINGS  
CORROSION  
WEATHERPROOFING

PACKAGED CONTAINERS  
RT BULK TRANSPORTERS  
MATERIALS HANDLING  
SOLIDS PIPELINING  
TRANSPORTATION



PACK DYNAMOMETERS  
USE DYNAMOMETERS

PAINT ROCK  
USE SEDIMENTARY ROCKS

PANEL MINING  
USE ROOM & PILLAR MINING

PARAMETERS  
RT CHARACTERISTICS  
COEFFICIENTS  
EQUATIONS  
FORMULAS  
VARIABLES

PARTICLES  
RT DUST  
FINES  
FLY ASH  
PARTICLE SHAPE  
PARTICLE SIZE DISTRIBUTION  
PARTICLE VELOCITY

PARTICLE SHAPE  
BT SHAPES  
RT PARTICLES  
PARTICLE SIZE DISTRIBUTION  
SANDS  
SIEVE ANALYSIS  
VOID RATIO

PARTICLE SIZE DISTRIBUTION  
UF GRADING (SIZING)  
SIZE DISTRIBUTION (PARTICLES)  
RT CLASSIFICATION  
FINES  
MIXING  
PARTICLES  
PARTICLE SHAPE  
SANDS  
SCREENING  
SIEVE ANALYSIS  
VOID RATIO

PARTICLE SIZE REDUCTION  
USE COMMINUTION

PARTICLE VELOCITY  
BT VELOCITY  
RT ACCELEROMETERS  
BLASTING RESEARCH  
DETONATION PRESSURE

PARTICLES  
PROPAGATION VELOCITY  
RADIAL DISPLACEMENT  
STRESS WAVES

PARTS  
USE COMPONENTS

PATENTS  
RT LEGISLATION & REGULATIONS

PEAT  
BT FUELS  
RT COAL

PENTOLITE  
USE BOOSTERS

PEOPLES DEMOCRATIC REPUBLIC  
USE EAST GERMANY

PERCOLATION  
RT BACKFILLING  
FILTRATION  
FLOW  
GROUND WATER  
LEACHING  
PERCOLATION RATE  
PERMEABILITY  
SEEPAGE  
VOIDS

PERCOLATION RATE  
RT BACKFILLS  
DEWATERING  
PERCOLATION  
PERMEABILITY  
VOIDS

PERCUSSION DRILLS & DRILLING  
UF JACKLEG DRILLS  
PNEUMATIC DRILLS  
BT DRILLS  
DRILLING  
RT CHURN DRILLS & DRILLING  
DIRECTIONAL DRILLING  
ROTARY DRILLS & DRILLING

PERIDOTITES  
USE IGNEOUS ROCKS

PERIMETER BLASTING

BT BLASTING

PERIODICALS

USE ENGLISH LANGUAGE PERIODICALS  
FRENCH LANGUAGE PERIODICALS  
GERMAN LANGUAGE PERIODICALS  
POLISH LANGUAGE PERIODICALS  
RUSSIAN LANGUAGE PERIODICALS

PERMAFROST

RT ARCTIC & SUBARCTIC REGIONS  
COLD WEATHER OPERATIONS  
FREEZING  
FROST ACTION  
SOIL MECHANICS  
SOILS

PERMEABILITY

UF COEFFICIENT OF PERMEABILITY  
BT PHYSICAL PROPERTIES  
RT DEWATERING  
DRAWDOWN  
FINES  
GROUND WATER  
LEACHING  
PERCOLATION  
PERCOLATION RATE  
POROSITY  
SEEPAGE  
VISCOSITY  
VOIDS

PERSONNEL

UF LABOUR  
RT ACCLIMATIZATION  
EDUCATION  
MINE PRODUCTION  
PLANNING  
RESEARCH PROGRAMS

PERT

USE CRITICAL PATH METHOD

PETROLOGY

BT GEOLOGY  
RT MECHANICS  
ROCKS  
STRATIGRAPHY

PHOTOELASTICITY

RT COATINGS  
ELASTICITY  
FRINGE PATTERNS  
MECHANICAL PROPERTIES  
PHOTOELASTIC THEORY  
STRESS ANALYSIS  
STRESS CONCENTRATION  
STRESS DISTRIBUTION

PHOTOELASTIC SCANNERS

BT SCANNERS  
RT ELECTRONIC SCANNERS  
OPTICAL SCANNERS

PHOTOELASTIC STRESSMETERS

USE PHOTOSTRESS GAUGES

PHOTOELASTIC THEORY

BT THEORIES  
RT FRINGE PATTERNS  
PHOTOELASTICITY

PHOTOGRAMMETRY

RT AERIAL PHOTOGRAPHY  
MAPPING  
MINE SURVEYING

PHOTOSTRESS GAUGES

UF PHOTOELASTIC STRESSMETERS  
BT MEASURING INSTRUMENTS

PHYSICAL ANALYSIS

BT ANALYSIS  
NT INFRARED ANALYSIS  
XRAY ANALYSIS  
RT CHEMICAL ANALYSIS  
MICROSCOPIC ANALYSIS  
QUALITY CONTROL  
SAMPLINGS  
SIEVE ANALYSIS

PHYSICAL PROPERTIES

BT PROPERTIES  
NT DENSITY  
ELASTICITY MODULUS  
HARDNESS  
PERMEABILITY  
POROSITY  
VISCOSITY  
VOID RATIO  
RT MECHANICAL PROPERTIES  
STRENGTH OF MATERIALS  
STRESS STRAIN CURVES

PILLAR MECHANICS

- BT MECHANICS
- RT GROUND CONTROL (UNDERGROUND)  
PILLARS  
ROCK MECHANICS

PILLAR RECOVERY

- RT MINING METHODS  
PILLARS  
RETREAT MINING  
ROOM & PILLAR MINING  
UNDERGROUND MINES & MINING

PILLARS

- RT EXTRACTION RATIO  
GROUND CONTROL (UNDERGROUND)  
PILLAR MECHANICS RESEARCH  
PILLAR RECOVERY  
ROOF CONTROL & GROUND SUPPORT  
ROOM & PILLAR MINING  
TRIBUTARY AREA THEORY

PIPELINES

- USE PIPES & PIPELINES

PIPELINE TRANSPORT

- USE SOLIDS PIPELINING

PIPES & PIPELINES

- UF PIPELINES
- RT BACKFILLING  
CORROSION CONTROL  
MATERIALS HANDLING  
PUMPING  
PUMPS  
SOLIDS PIPELINING  
TRANSPORTATION  
VALVES  
WASTE DISPOSAL  
WATER SUPPLY

PLACER MINING

- BT MINING METHODS
- RT DREDGING  
HYDRAULIC MINING  
OPEN PIT MINES & MINING

PLANE SHEAR

- BT FAILURE
- RT BLOCK FLOW  
DIRECTIONAL FAILURE  
ROTATIONAL SHEAR

PLANNING

- UF ORGANIZING
- RT CRITICAL PATH METHOD  
DESIGN  
FORECASTING  
LAYOUT  
MINE DEVELOPMENT  
OBJECTIVES  
OPTIMIZATION  
PERSONNEL  
PREDICTIONS  
SCHEDULING

PLASTIC FAILURE

- UF VISCOUS FAILURE
- BT FAILURE
- RT BRITTLE FAILURE  
CREEP  
PLASTIC MATERIALS  
VISCOUS DEFORMATION

PLASTIC FLOW

- USE FLOW

PLASTIC LINERS

- RT AMMONIUM NITRATE FUEL OIL  
EXPLOSIVES  
COATINGS

PLASTIC MATERIALS

- BT MATERIALS
- RT BRITTLE MATERIALS  
CREEP  
PLASTIC FAILURE  
VISCOUS DEFORMATION  
WEAK ROCKS

PLATE FEEDERS

- USE FEEDERS

PLUMBING

- USE SHAFT PLUMBING

PNEUMATIC BACKFILLING

- BT BACKFILLING
- RT HAND BACKFILLING  
HYDRAULIC BACKFILLING  
MECHANICAL BACKFILLING

PNEUMATIC DRILLS

- USE PERCUSSION DRILLS & DRILLING

PNEUMOCOONIOSIS

- UF ANTHRACOSIS
- ASBESTOSIS
- SILICOSIS
- RT ASBESTOS DUST
- COAL DUST
- DUST
- MINE SAFETY
- MINE VENTILATION
- RESPIRABLE DUST
- SILICA DUST

POISSON RATIO

- RT ELASTICITY
- ELASTICITY MODULUS
- STRESS STRAIN CURVES

POLAND

- BT EUROPE

POLARIMETERS

- UF POLARISCOPE
- BT MEASURING INSTRUMENTS
- RT POLARIZED LIGHT

POLARISCOPES

- USE POLARIMETERS

POLARIZED LIGHT

- BT WAVES
- RT POLARIMETERS
- STRESS ANALYSIS

POLISHING

- RT ABRASION

POLISH LANGUAGE PERIODICALS

- UF JOURNALS
- PERIODICALS
- PUBLICATIONS
- RT ENGLISH LANGUAGE PERIODICALS
- FRENCH LANGUAGE PERIODICALS
- GERMAN LANGUAGE PERIODICALS
- RUSSIAN LANGUAGE PERIODICALS
- TRANSLATIONS

POLLUTION

- NT AIR POLLUTION
- WATER POLLUTION
- RT LEGISLATION & REGULATIONS
- QUALITY CONTROL
- WASTE DISPOSAL

PORE PRESSURES

- BT PRESSURES
- RT CONSOLIDATION
- EFFECTIVE STRESS
- TOTAL STRESS

POROSITY

- BT PHYSICAL PROPERTIES
- RT COMPACTING
- DENSITY
- PERMEABILITY
- VOID RATIO
- VOIDS

PORTLAND CEMENT

- BT CEMENTS
- RT CONCRETE
- CONSOLIDATED BACKFILLS
- FLY ASH
- RESIN CEMENTS
- SALT CEMENTS
- SOIL CEMENTS

POTASH

- BT EVAPORITES
- ROCKS
- RT POTASH MINES & MINING
- ROCK SALT

POTASH MINES & MINING

- BT MINES & MINING
- RT POTASH
- SALT MINES & MINING

POWDER (EXPLOSIVE)

- USE EXPLOSIVES

POWER

- RT ELECTRIC POWER
- ELECTRIC POWER CONSUMPTION
- ELECTRIC POWER DISTRIBUTION
- ELECTRIC POWER GENERATION
- ELECTRIC POWER TRANSMISSION
- ENERGY

POWER CABLES

- RT CABLES
- ELECTRIC POWER TRANSMISSION

POWER DISTRIBUTION (ELECTRIC)

- USE ELECTRIC POWER DISTRIBUTION

POWER GENERATION

- USE ELECTRIC POWER GENERATION

POWER PLANTS  
USE ELECTRIC POWER GENERATION

POWER SHOVELS  
USE SHOVELS

POWER TRANSMISSION (ELECTRIC)  
USE ELECTRIC POWER TRANSMISSION

PRACTICES  
USE PROCEDURES

PRECISION  
RT ACCURACY  
ERRORS  
QUALITY CONTROL

PREDICTING  
USE FORECASTING

PREDICTIONS  
RT FORECASTING  
PLANNING

PRE MINING STRESS  
USE RESIDUAL STRESS

PRESSURES  
UF AMBIENT PRESSURES  
NT LOADS (FORCES)  
PORE PRESSURES  
RT DYNAMOMETERS  
FORCE  
IMPACT  
LOADS (FORCES)  
NORMAL STRESS  
STRESSES  
WEIGHT

PRESTRESSING  
RT STRESSES  
STRENGTH OF MATERIALS

PREVENTIVE MAINTENANCE  
USE MAINTENANCE

PRIMARY BLASTING  
BT BLASTING  
RT SECONDARY BLASTING

PRIMERS  
USE DETONATORS

PRINCIPAL STRESS  
BT STRESSES  
RT COMPRESSIVE STRESS  
EFFECTIVE STRESS  
NORMAL STRESS

SHEAR STRESS  
TENSILE STRESS  
THERMAL STRESSES

PROCEDURES  
UF PRACTICES  
STEPS (PROCEDURES)  
TECHNIQUES  
RT AUTOMATION  
COMMUNICATIONS  
CONTROL SYSTEMS  
EQUIPMENT  
SCHEDULING

PRODUCTION  
USE MINE PRODUCTION

PROFILES  
RT BOUNDARIES  
SECTIONS  
MAPPING  
MINE SURVEYING  
SHAPES

PROGRAMMING LANGUAGES  
UF MACHINE LANGUAGES  
NT FORTRAN  
RT COMPUTER PROGRAMS  
COMPUTERS  
DATA PROCESSING

PROGRAMS (COMPUTERS)  
USE COMPUTER PROGRAMS

PROPERTIES  
NT MECHANICAL PROPERTIES  
PHYSICAL PROPERTIES

PROPAGATION  
RT ATTENUATION  
DISPERSION  
PROPAGATION VELOCITY  
WAVES

PROPAGATION VELOCITY  
BT VELOCITY  
RT BLASTING RESEARCH  
DETONATION PRESSURE  
EXPLOSIVE ENERGY TRANSMISSION  
PARTICLE VELOCITY  
PROPAGATION  
STRESS WAVES

PROPOSALS  
RT COOPERATIVE RESEARCH  
RESEARCH PROGRAMS

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM

PROPS

- NT HYDRAULIC ROOF SUPPORTS
- STEEL PROPS
- TIMBER SUPPORTS
- RT MINING MACHINERY
- ROCK BOLTS
- ROOF CONTROL & GROUND SUPPORT

PROTECTIVE COATINGS

- USE COATINGS

PROTECTIVE MASKS

- UF DUST MASKS
- RT DUST FILTERS
- MINE SAFETY
- RESPIRABLE DUST

PUBLICATIONS

- USE ENGLISH LANGUAGE PERIODICALS
- FRENCH LANGUAGE PERIODICALS
- GERMAN LANGUAGE PERIODICALS
- POLISH LANGUAGE PERIODICALS
- RUSSIAN LANGUAGE PERIODICALS

PUBLISHED REPORTS

- USE REPORTS

PULL TESTS

- RT ANCHORAGE MODULUS
- ANCHORAGE TESTS
- ROCK BOLTS
- TESTING

PULVERIZING

- USE GRINDING (COMMUNITION)

PUMPING

- RT COMPRESSED AIR
- DEWATERING
- DRAINAGE
- DRAWDOWN
- MATERIALS HANDLING
- PIPES & PIPELINES
- PUMPS
- SOLIDS PIPELINE
- SUMPS
- VALVES
- WATER CONTROL
- WATER TABLES

PUMPS

- UF AIRLIFT PUMPS
- JET PUMPS

RECIPROCATING PUMPS

- ROTARY PUMPS
- RT AIR COMPRESSORS
- HYDRAULIC MINING
- PIPES & PIPELINES
- PUMPING
- SUMPS
- WELLS

QUALITY CONTROL

- BT CONTROL
- RT CHEMICAL ANALYSIS
- GRADE CONTROL (ORE)
- HOMOGENEITY
- PHYSICAL ANALYSIS
- POLLUTION
- PRECISION
- SAMPLING
- SPECIFICATIONS
- STATISTICAL ANALYSIS
- TESTING
- WASTE DISPOSAL

QUARRIES & QUARRYING

- RT BACKFILLING
- CRUSHING
- GRAVELS
- MINES & MINING
- OPEN PIT MINES & MINING
- ROCKS
- SANDS
- STOCKPILING

QUARTZ DUST

- USE SILICA DUST

QUARTZITE

- USE METAMORPHIC ROCKS

QUEBEC PROVINCE

- BT CANADA

QUEENS UNIVERSITY KINGSTON ONTARIO

- BT UNIVERSITIES

RADIAL DISPLACEMENT

- RT BLASTING RESEARCH
- PARTICLE VELOCITY

RADIATION

- RT ENERGY
- NUCLEAR ENERGY
- RADIOACTIVE DUST

RADIOACTIVE ISOTOPES  
URANIUM MINES & MINING  
WAVES  
XRAY ANALYSIS

RADIATION HAZARDS  
RT LASERS  
MINE SAFETY  
RADIATION  
RADIOACTIVE DUST  
RADON GAS  
XRAY ANALYSIS

RADIONUCLIDES  
USE RADIOACTIVE ISOTOPES

RADIO  
RT COMMUNICATIONS SYSTEMS  
REMOTE CONTROL  
TELEVISION

RADIOACTIVE DUST  
UF RADON DAUGHTERS  
BT DUST  
RT AIR POLLUTION  
NUCLEAR ENERGY  
RADIATION  
RADON GAS  
URANIUM MINES & MINING

RADIOACTIVE ISOTOPES  
RT MATERIALS HANDLING  
MEASURING INSTRUMENTS  
NUCLEAR ENERGY  
RADIATION  
REMOTE CONTROL

RADON DAUGHTERS  
USE RADIOACTIVE DUST

RADON GAS  
BT TOXIC GASES  
RT RADIOACTIVE DUST  
URANIUM MINES & MINING

RAILROADS  
UF RAILWAYS  
RT BULK TRANSPORTERS  
MATERIALS HANDLING  
MINE CARS  
MINE HAULAGE  
MINE LOCOMOTIVES

ROADS  
TRANSPORTATION  
TUNNELS

RAILWAYS  
USE RAILROADS

RAISE BORING  
USE RAISING

RAISING  
UF RAISE BORING  
RT MINE DEVELOPMENT  
MINES & MINING  
MINE VENTILATION  
REAMING  
SHAFT SINKING  
TUNNELLING

RAPID EXCAVATORS  
USE TUNNELLING MACHINES

REAMING  
RT DRILLING  
RAISING  
TUNNELLING

RECIPROCATING PUMPS  
USE PUMPS

REFORESTATION  
USE LAND RECLAMATION

REFRIGERATION  
RT COOLING  
FANS  
FREEZING  
HEAT TRANSFER  
ICE WALLS  
MINE VENTILATION  
TEMPERATURE CONTROL

REGIONAL GEOLOGY  
BT GEOLOGY  
RT ROCK MASS  
STRUCTURAL GEOLOGY  
TECTONICS

REGRESSION ANALYSIS  
USE STATISTICAL ANALYSIS

REGULATIONS  
USE LEGISLATION & REGULATIONS

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM

REINFORCED CONCRETE  
USE CONCRETE

REMOTE CONTROL  
RT AUTOMATION  
CONTROL SYSTEMS  
RADIO  
RADIOACTIVE ISOTOPES  
TELEVISION

REPAIR COSTS  
USE MAINTENANCE COSTS

REPORTS  
UF PUBLISHED REPORTS  
RESEARCH REPORTS  
UNPUBLISHED REPORTS  
RT CASE HISTORIES  
MONOGRAPHS  
TRANSLATIONS

REQUIREMENTS  
USE SPECIFICATIONS

RESEARCH PROGRAMS  
RT COOPERATIVE RESEARCH  
EQUIPMENT  
EXPERIMENTATION  
FIELD EXPERIMENTATION  
LABORATORY EXPERIMENTATION  
LABORATORIES  
MINING RESEARCH  
OBJECTIVES  
PERSONNEL  
PROPOSALS  
TESTING

RESEARCH REPORTS  
USE REPORTS

RESERVES (ORE)  
UF ORE RESERVES  
RT DEPLETION  
FORECASTING  
GEOLOGY  
MATERIALS  
MINE DEVELOPMENT  
MINE EXPLORATION  
MINE PRODUCTION  
MINERAL DEPOSITS  
MINES & MINING  
MINE SURVEYING

STOCKPILING  
STORAGE

RESIDUAL STRESSES  
UF PREMINEING STRESS  
BT STRESSES  
RT FAILURE  
FAULTS (GEOLOGICAL)  
FOLDS  
IN SITU  
ROCK MECHANICS  
ROCK BURSTS  
TECTONICS

RESIN CEMENTS  
UF EPOXY RESINS  
BT CEMENTS  
RT GROUTING  
PORTLAND CEMENT  
ROCK BOLTS

RESPIRABLE DUST  
BT DUST  
RT AIR POLLUTION  
ASBESTOS DUST  
COAL DUST  
DUST CONCENTRATIONS  
DUST SAMPLERS  
FIBROUS DUST  
PNEUMOCONIOSIS  
PROTECTIVE MASKS  
SILICA DUST  
TOTAL DUST

RESUING MINING  
BT MINING METHODS  
RT UNDERGROUND MINES & MINING

RETAINING WALLS  
UF BULKHEADS  
RT BACKFILLING  
BRATTICE WALLS  
DEWATERING  
DIKES & DAMS  
DRAINAGE  
LOADS (FORCES)  
MINE FLOODS  
STORAGE  
SUMPS  
TAILINGS PONDS  
WALL FRICTION



RETREAT MINING

RT ADVANCE MINING  
CAVING MINING  
LONGWALL MINING  
MINING METHODS  
PILLAR RECOVERY  
SHORTWALL MINING  
UNDERGROUND MINES & MINING

RIGIDITY

UF STIFFNESS  
BT MECHANICAL PROPERTIES  
RT ELASTICITY  
ELASTICITY MODULUS  
FLEXIBILITY  
HARDNESS  
SAG  
STRENGTH OF MATERIALS

ROADS

RT GRADERS  
MATERIALS HANDLING  
MINE HAULAGE  
RAILROADS  
TRACKLESS MINING  
TRANSLOADERS  
TRANSPORTATION  
TUNNELS

ROCK ANCHORS

USE ROCK BOLTS

ROCK BEHAVIOUR

USE ROCK MECHANICS

ROCK BOLT PLATES

UF ROOF BOLT PLATES  
RT ROCK BOLTS  
ROCK BOLT SHELLS

ROCK BOLTS

UF ANCHOR BOLTS  
RT CONCRETE BLOCKS  
DRILLING  
GROUND CONTROL (UNDERGROUND)  
RESEARCH  
GROUTING  
MINE SAFETY  
PROPS  
PULL TESTS  
RESIN CEMENTS  
ROCK BOLT PLATES

ROCK BOLT SHELLS

ROCK BOLT SHELLS  
ROOF CONTROL & GROUND SUPPORT  
TORQUE  
TUNNELLING  
UNDERGROUND MINES & MINING

ROCK BOLT SHELLS

UF ROOF BOLT SHELLS  
RT ROCK BOLT PLATES  
ROCK BOLTS

ROCK BREAKAGE RESEARCH

UF DRILLING RESEARCH  
BT MINING RESEARCH  
RT BLASTING  
BLASTING RESEARCH  
COMMUNITION  
COOPERATIVE RESEARCH  
CRUSHING  
DRILLING  
FIELD EXPERIMENTATION  
FIELD INVESTIGATIONS  
GRINDING  
LABORATORY EXPERIMENTATION  
ROCK MECHANICS

ROCK BURSTS

UF BURSTS (MINES)  
ROCK FALL  
RT AIR BLASTS  
BUMPS  
FAILURE  
RESIDUAL STRESSES  
SHOCK WAVES  
STRESS CONCENTRATION

ROCKFALL

USE ROCK BURSTS

ROCK MASS

RT REGIONAL GEOLOGY  
ROCKS  
STRUCTURAL GEOLOGY  
TECTONICS

ROCK MECHANICS

UF ROCK BEHAVIOUR  
BT MECHANICS  
RT ANCHORAGE MECHANICS  
EXCAVATION  
FAILURE

GEOLOGY  
MINING METHODS  
PETROLOGY  
PILLAR MECHANICS  
RESIDUAL STRESS  
ROCK BREAKAGE RESEARCH  
ROCKS  
ROOF CONTROL & GROUND SUPPORT  
SLIDES (ROCK)  
SOIL MECHANICS  
SUBSIDENCE  
THEORIES

ROCKS  
NT COMGLOMERATES  
DIABASES  
EVAPORITES  
IGNEOUS ROCKS  
MAGNETITES (ROCK OR ORE)  
METAMORPHIC ROCKS  
OIL SHALES  
POTASH  
ROCK SALT  
SEDIMENTARY ROCKS  
STRONG ROCKS  
WEAK ROCKS  
RT AGGREGATES  
BACKFILLS  
CLAYS  
CREEP  
CRYSTAL STRUCTURE  
DUST  
GEOLOGY  
GRAVELS  
HETEROGENEOUS MATERIALS  
IN SITU  
MINERAL DEPOSITS  
MINERALS  
MINES & MINING  
MINING METHODS  
OVERBURDEN  
PETROLOGY  
QUARRIES & QUARRYING  
ROCK MASS  
ROCK MECHANICS  
SANDS  
SEDIMENTARY ROCKS  
SOILS  
STRUCTURAL GEOLOGY  
WASTE (ROCK)

ROCK SALT  
BT EVAPORITES  
ROCKS  
RT POTASH  
SALT MINES & MINING

ROCK SLIDES  
USE ROCK SLIDES (ROCK)

ROCK SLOPE RESEARCH  
USE SLOPE STABILITY RESEARCH

ROLL CRUSHERS  
BT CRUSHERS  
RT CONE CRUSHERS  
GYRATORY CRUSHERS  
IMPACT CRUSHERS  
JAW CRUSHERS

ROOF BOLT PLATES  
USE ROCK BOLT PLATES

ROOF BOLTS  
USE ROCK BOLTS

ROOF BOLT SHELLS  
USE ROCK BOLT SHELLS

ROOF CONTROL & GROUND SUPPORT  
UF GROUND SUPPORT  
ROOF SUPPORT  
SUPPORT  
RT ABUTMENT ZONE  
ARCH SUPPORTS  
BACKFILLING  
BED SEPARATION  
CONCRETE BLOCKS  
FAILURE  
GROUND CONTROL (UNDERGROUND)  
RESEARCH  
HYDRAULIC ROOF SUPPORTS  
MATS  
MINE SAFETY  
PILLARS  
PROPS  
ROCK BOLTS  
ROCK MECHANICS  
SAG  
SHOTCRETE  
STEEL PROPS  
SUBSIDENCE  
TIMBER SUPPORTS

ROOF SUPPORTS  
USE ROOF CONTROL & GROUND SUPPORT

ROOM & PILLAR MINING  
UF PANEL MINING  
BT MINING METHODS  
RT PILLAR RECOVERY  
PILLARS  
SHORTWALL MINING  
UNDERGROUND MINES & MINING

ROPES  
USE WIRE ROPES

ROTARY DRILLS & DRILLING  
BT DRILLING  
DRILLS  
RT AUGER DRILLS & DRILLING  
DIRECTIONAL DRILLING  
OFFSHORE DRILLING  
PERCUSSION DRILLS & DRILLING  
TUNNELLING MACHINES  
TURBO DRILLS & DRILLING

ROTARY PUMPS  
USE PUMPS

ROTATIONAL SHEAR  
BT FAILURE  
RT BLOCK FLOW  
PLANE SHEAR

RULES  
USE LEGISLATION & REGULATIONS

RUSSIA  
USE SOVIET UNION

RUSSIAN LANGUAGE PERIODICALS  
UF JOURNALS  
PERIODICALS  
PUBLICATIONS  
RT ENGLISH LANGUAGE PERIODICALS  
FRENCH LANGUAGE PERIODICALS  
GERMAN LANGUAGE PERIODICALS  
POLISH LANGUAGE PERIODICALS  
TRANSLATIONS

SAFETY  
USE MINE SAFETY

SAFETY FACTORS  
RT DESIGN

FAILURE  
SLOPE STABILITY RESEARCH  
STABILITY

SAG  
RT BED SEPARATION  
BENDING STRESSES  
CLOSURE  
DISPLACEMENTS  
FLEXIBILITY  
RIGIDITY  
ROOF CONTROL & GROUND SUPPORT  
STRAINS

SALT CEMENTS  
BT CEMENTS  
RT PORTLAND CEMENTS

SALT MINES & MINING  
BT MINES & MINING  
RT POTASH MINES & MINING  
ROCK SALT

SAMPLE PREPARATION  
RT LABORATORY EXPERIMENTATION  
SAMPLING  
TESTING

SAMPLING  
RT ANALYSIS  
CHEMICAL ANALYSIS  
GRADE CONTROL (ORE)  
HETEROGENEITY  
HOMOGENEITY  
MATHEMATICAL ANALYSIS  
MINERAL DEPOSITS  
PHYSICAL ANALYSIS  
QUALITY CONTROL  
SAMPLE PREPARATION  
STATISTICAL ANALYSIS  
TESTING  
WATER ANALYSIS

SAND FILL  
USE BACKFILLS

SANDS  
NT OIL SANDS  
RT AGGREGATES  
BACKFILLS  
CONSOLIDATED BACKFILLS  
FINES  
GRAVELS

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM

MILL TAILINGS  
PARTICLE SHAPE  
PARTICLE SIZE DISTRIBUTION  
QUARRIES & QUARRYING  
ROCKS  
SIEVE ANALYSIS  
SOILS

SANDSTONES  
USE SEDIMENTARY ROCKS

SASKATCHEWAN  
BT CANADA

SCALING  
RT SLABBING  
SLASHING

SCANNERS  
NT ELECTRONIC SCANNERS  
OPTICAL SCANNERS  
PHOTOELASTIC SCANNERS

SCHEDULING  
RT CONTROL SYSTEMS  
CRITICAL PATH METHOD  
FORECASTING  
OPERATIONS RESEARCH  
OPTIMIZATION  
PLANNING  
PROCEDURES

SCHISTS  
USE METAMORPHIC ROCKS

SCRAPERS  
BT MINING MACHINERY  
RT GRADERS  
MINE HAULAGE  
SURFACE STRIPPING  
TRACTORS

SCREEN ANALYSIS  
USE SIEVE ANALYSIS

SCREENING  
UF SIZING  
RT BENEFICIATION  
CLASSIFICATION  
COMMUNITION  
CRUSHING  
MILLING  
MIXING

PARTICLE SIZE DISTRIBUTION  
SCREENING PLANTS  
SIEVE ANALYSIS

SCREENING PLANTS  
BT MINE BUILDINGS  
RT CRUSHERS  
MILLS  
SCREENING

SCREW CONVEYORS  
USE CONVEYORS

SCREW FEEDERS  
USE FEEDERS

SEALING  
RT ANCHORAGE  
BINDING  
CEMENTING  
COUPLING

SECONDARY BLASTING  
BT BLASTING  
RT PRIMARY BLASTING

SECTIONS  
RT MAPPING  
MINE SURVEYING  
PROFILES

SEDIMENTARY ROCKS  
UF ARGILLITES  
CHALKS  
CHERTS  
CONGLOMERATES  
DOLOMITES  
LIMESTONES  
MUDSTONES  
PAINT ROCK  
SANDSTONES  
SHALES  
SILTSTONES  
BT ROCKS  
RT BEDDED MINERAL DEPOSITS  
BEDDING  
COAL  
EVAPORITES  
GEOLOGY  
IGNEOUS ROCKS  
METAMORPHIC ROCKS  
OIL SHALES

SEEPAGE

RT DEWATERING  
DRAINAGE  
GROUTING  
PERCOLATION  
PERMEABILITY  
SOIL MECHANICS

ICE WALLS  
LASERS  
MINE DEVELOPMENT  
MINES & MINING  
RAISING  
SHAFT PLUMBING  
SHAFTS  
TUNNELLING

SEISMIC SURVEYS

USE GEOPHYSICAL SURVEYS

SHALES

USE SEDIMENTARY ROCKS

SEMINARS

USE SYMPOSIA

SHALLOW WELLS

USE WELLS

SENSING

USE DETECTION

SHAPES

NT PARTICLE SHAPE

RT PROFILES

SENSITIVITY

RT BOOSTERS  
DETONATORS  
EXPLOSIVES  
MEASURING INSTRUMENTS

SHEAR CRACKS

USE CRACKS

SERVICING

USE MAINTENANCE

SHEARER LOADERS

BT MINING MACHINERY

SETTLING

RT DEWATERING  
FINES  
FLOTATION

SHEAR FAILURE

USE FAILURE

SHAFT PLUMBING

UF PLUMBING  
RT MINE SURVEYING  
SHAFTS  
SHAFT SINKING

SHEAR STRENGTH

BT MECHANICAL PROPERTIES  
RT COMPRESSIVE STRENGTH  
FATIGUE (MATERIALS)  
FRICTION  
INTERNAL FRICTION  
SHEAR STRESS  
STRENGTH OF MATERIALS  
TENSILE STRENGTH

SHAFTS

RT HOISTING  
MATERIALS HANDLING  
MINES DEVELOPMENT  
SHAFT PLUMBING  
SHAFT SINKING

SHEAR STRESS

BT STRESSES  
RT COMPRESSIVE STRESS  
CRACKS  
FATIGUE (MATERIALS)  
MOHR DIAGRAMS  
NORMAL STRESS  
PRINCIPAL STRESS  
SHEAR STRENGTH  
TENSILE STRESS  
TOTAL STRESS

SHAFT SINKING

RT BRATTICE WALLS  
COLLARING  
CONCRETE PLACING  
DRILLING  
EXCAVATION  
FREEZE HOLES  
HEADFRAMES  
HOISTING

SHOCK WAVES

UF DETONATION WAVES  
GROUND SHOCK  
BT WAVES  
RT BLASTING  
BUMPS  
DETONATION  
EXPLOSIONS  
EXPLOSIVE ENERGY TRANSMISSION  
IMPACT  
MICROSEISMIC MONITORING  
ROCK BURSTS  
SONICS  
STRESS WAVES  
TRANSIT TIMING

SHORTWALL MINING

BT MINING METHODS  
RT ADVANCE MINING  
COAL MINES & MINING  
LONGWALL MINING  
RETREAT MINING  
ROOM & PILLAR MINING  
UNDERGROUND MINES & MINING

SHOTCRETE

UF GUNITE  
BT CONCRETE  
RT CONCRETE PLACING  
ROOF CONTROL & GROUND SUPPORT

SHOVELS

UF POWER SHOVELS  
MECHANICAL SHOVELS  
MINING MACHINERY  
RT BACKHOES  
BUCKET WHEEL EXCAVATORS  
CLAMSHELLS  
DRAGLINES

SHRINKAGE STOPE MINING

BT MINING METHODS  
RT OPEN STOPE MINING  
UNDERGROUND MINES & MINING

SIEVE ANALYSIS

UF SCREEN ANALYSIS  
RT BACKFILLS  
CLASSIFICATION  
FINES  
MEASUREMENT  
PARTICLE SIZE DISTRIBUTION  
PARTICLE SHAPE  
PHYSICAL ANALYSIS

SANDS

SCREENING

SIFTO SALT MINE GODERICH ONTARIO  
USE SALT MINES & MINING

SILICA DUST

UF QUARTZ DUST  
BT DUST  
RT PNEUMOCONIOSIS  
RESPIRABLE DUST

SILICOSIS

USE PNEUMOCONIOSIS

SILTSTONES

USE SEDIMENTARY ROCKS

SILVER MINES & MINING

BT MINES & MINING

SIMILITUDE

RT MODELS

SINGLE DRUM HOISTS

USE DRUM HOISTS

SIZE DETERMINATION

USE GRADIATION ANALYSIS

SIZE DISTRIBUTION (PARTICLES)

USE PARTICLE SIZE DISTRIBUTION

SIZE REDUCTION

USE COMMINUTION

SIZING

USE SCREENING

SKIPS

RT CAGES  
HOISTS  
LOADING  
SKIPWAYS

SKIPWAYS

RT MATERIALS HANDLING  
OPEN PIT MINES & MINING  
SKIPS

SLABBING

RT DISCING  
FAILURE  
SCALING

SLAGS

RT AGGREGATES  
BACKFILLS

SLATES

USE METAMORPHIC ROCKS

SLIDES (ROCK)

UF LANDSLIDES  
ROCK SLIDES  
RT ANGLE OF REPOSE  
FAILURE  
ROCK MECHANICS  
SLOUGHING  
SLOPES  
SOIL MECHANICS  
STABILIZATION

SLOPES

RT ANGLE OF REPOSE  
CREEP  
LAND RECLAMATION  
OPEN PIT MINES & MINING  
SLIDES  
SLOPE STABILITY RESEARCH  
STABILITY  
STABILIZATION  
TOPOGRAPHY  
WALL FRICTION

SLOPE STABILITY RESEARCH

UF ROCK SLOPE RESEARCH  
STABILITY OF SLOPES RESEARCH  
BT MINING RESEARCH  
RT CONVEX PROFILING  
COOPERATIVE RESEARCH  
CREEP  
FAILURE  
FIELD EXPERIMENTATION  
FIELD INVESTIGATIONS  
GROUND CONTROL (UNDERGROUND)  
RESEARCH  
OPEN PIT MINES & MINING  
SAFETY FACTORS  
SLOPES  
STABILITY  
STABILIZATION  
STRIPPING RATIO  
WATER TABLES

SLOUGHING

RT COLLAPSE  
FAILURE  
SLICKS  
SOIL MECHANICS

SLURRY EXPLOSIVES

USE WATER GELS

SLUSHERS

BT MINING MACHINERY  
RT SCRAPERS

SOCIETY OF MINING ENGINEERS OF AIME  
TRANSACTIONS

BT ENGLISH LANGUAGE PERIODICALS

SOFTWARE

USE COMPUTER PROGRAMS

SOIL CEMENT

RT CEMENTS  
DIKES & DAMS  
PORTLAND CEMENT  
SOILS  
STABILIZATION

SOIL CONSERVATION

USE LAND RECLAMATION

SOIL MECHANICS

BT MECHANICS  
RT CREEP  
EXCAVATION  
FAILURE  
GEOLOGY  
PERMAFROST  
ROCK MECHANICS  
SLIDES  
SLOUGHING  
SOILS  
SWELLING  
THEORIES

SOILS

NT CLAYS  
RT CREEP  
GEOLOGY  
GRAVELS

OVERBURDEN  
PERMAFROST  
ROCKS  
SANDS  
SEEPAGE  
SOIL CEMENT  
SOIL MECHANICS  
SURFACE STRIPPING

SOLIDS PIPELINING  
UF PIPELINE TRANSPORT  
RT BULK TRANSPORTERS  
FLOW  
HYDRAULIC BACKFILLING  
HYDRAULIC HOISTING  
MATERIALS HANDLING  
PACKAGED CONTAINERS  
PIPES & PIPELINES  
PUMPING  
TRANSPORTATION  
WASTE DISPOSAL

SOLUTION MINING  
BT MINING METHODS  
RT EVAPORITES  
HYDRAULIC MINING  
LEACHING  
UNDERGROUND MINES & MINING  
WATER

SONIC PROBING  
RT NONDESTRUCTIVE TESTING  
SONICS  
SONIC VELOCITY  
SONISCOPE  
TRANSIT TIME  
ULTRASONICS

SONICS  
UF ACOUSTICS  
SOUND WAVES  
BT WAVES  
NT ULTRASONICS  
RT FREQUENCIES  
NOISE CONTROL  
NONDESTRUCTIVE TESTING  
SHOCK WAVES  
SONIC PROBING  
SONIC VELOCITY

SONIC VELOCITY  
UF ACOUSTIC VELOCITY  
BT VELOCITY

RT SONIC PROBING  
SONICS  
TRANSIT TIME

SONISCOPES  
BT MEASURING INSTRUMENTS  
RT SONIC PROBING

SORTING  
USE CLASSIFICATION

SOUND WAVES  
USE SONICS

SOUTH ASIA  
NT INDIA  
RT AFRICA  
EUROPE  
FAR EAST  
LATIN AMERICA & CARIBBEAN  
NEAR EAST  
SOUTH PACIFIC

SOUTH PACIFIC  
NT AUSTRALIA  
RT AFRICA  
EUROPE  
FAR EAST  
LATIN AMERICA & CARIBBEAN  
NEAR EAST  
SOUTH ASIA

SOUTH AFRICA  
BT AFRICA

SOVIET UNION  
UF RUSSIA  
BT EUROPE

SPALLING  
RT BREAKING  
CRUSHING  
FAILURE  
FRACTURE  
JET PIERCING DRILLS & DRILLING  
THERMAL STRESSES

SPECIFICATIONS  
UF REQUIREMENTS  
RT CONSTRUCTION  
DESIGN  
MATERIALS  
QUALITY CONTROL  
TESTING



SPECIFIC GRAVITY  
USE DENSITY

SPEED  
USE VELOCITY

SPLIT DRUM HOISTS  
USE DRUM HOISTS

SPOIL HEAPS  
USE DUMPS

SPONTANEOUS COMBUSTION  
BT COMBUSTION  
RT EXPLOSIONS  
FIRE PROTECTION  
HEATING  
GAS DETECTORS  
MINE FIRES  
MINE GASES  
TEMPERATURES

SPRAYERS  
RT ATOMIZERS  
MINE FIRES  
MINE VENTILATION  
VALVES

SQUARE SET MINING  
BT MINING METHODS  
RT UNDERGROUND MINES & MINING

STABILITY  
UF INSTABILITY  
RT ANGLE OF REPOSE  
FAILURE  
SAFETY FACTORS  
SLOPES  
SLOPE STABILITY RESEARCH  
STABILIZATION

STABILITY OF SLOPES RESEARCH  
USE SLOPE STABILITY RESEARCH

STABILIZATION  
RT COMPACTING  
CONSOLIDATION  
DIRECTIONAL DRILLING  
HOLE DEVIATION  
SLIDES  
SLOPES  
SLOPE STABILITY RESEARCH

SOIL CEMENT  
STABILITY

STACKING  
RT BULK HANDLING  
CONVEYING  
LOADING  
MATERIALS HANDLING  
STORAGE  
TRANSPORTATION

STAFF  
USE PERSONNEL

STATIC ELECTRICITY  
RT EXPLOSIONS  
MINE SAFETY

STATIC LOADS  
BT LOADS (FORCES)  
RT DYNAMIC LOADS

STATISTICAL ANALYSIS  
UF REGRESSION ANALYSIS  
BT ANALYSIS  
MATHEMATICAL ANALYSIS  
RT FORECASTING  
QUALITY CONTROL  
SAMPLING  
STATISTICS

STATISTICS  
RT DATA  
ECONOMICS  
MINE PRODUCTION  
OPERATIONS RESEARCH  
STATISTICAL ANALYSIS  
TABULATIONS

STATUTES  
USE LEGISLATION & REGULATIONS

STEADY STATE FLOW  
USE FLOW

STEAM HEATING  
BT HEATING  
RT COLD WEATHER OPERATIONS  
ELECTRIC HEATING  
HEATING PLANTS  
OIL & GAS HEATING  
THAWING

STEEL PROPS  
UF FRICTION PROPS  
BT PROPS  
RT ARCH SUPPORTS  
ECCENTRIC LOADING  
HYDRAULIC ROOF SUPPORTS  
ROOF CONTROL & GROUND SUPPORT  
TIMBER SUPPORTS

STEPS  
USE PROCEDURES

STIFFNESS  
USE RIGIDITY

STOCKPILING  
RT BACKFILLING  
GRADE CONTROL (ORE)  
MATERIALS HANDLING  
OPEN PIT MINES & MINING  
QUARRIES & QUARRYING  
RESERVES (ORE)  
STORAGE  
WASTE DISPOSAL

STOPE PREPARATION  
USE MINE DEVELOPMENT

STOPE  
USE EXCAVATION

STOPING  
USE MINING METHODS

STORAGE  
RT BINS  
BULK HANDLING  
CONTAINERS  
DIKES & DAMS  
LOADING POCKETS  
MATERIALS HANDLING  
RESERVES (ORE)  
RETAINING WALLS  
STACKING  
STOCKPILING  
TAILINGS PONDS  
WASTE DISPOSAL

STOWING  
USE BACKFILLING

STRAIGHT (N G) DYNAMITES  
BT DYNAMITES (STICK EXPLOSIVES)  
RT AMMONIUM DYNAMITES

STRAIN CELLS  
USE STRAIN GAUGES

STRAIN GAUGES  
UF STRAIN CELLS  
BT MEASURING INSTRUMENTS  
RT COMPRESSOMETERS  
DEFORMATION METERS  
EXTENSOMETERS  
STRAINS  
STRESSMETERS

STRAINS  
RT DEFORMATION  
DISPLACEMENTS  
FOLDS  
SAG  
STRAIN GAUGES  
STRESSES  
STRESS STRAIN CURVES  
TENSION

STRATA SEPARATION  
USE BED SEPARATION

STRATIGRAPHY  
RT GEOLOGY  
MINE GEOLOGY  
PETROLOGY  
STRUCTURAL GEOLOGY

STRENGTH OF MATERIALS  
NT ANCHORAGE CAPACITIES  
RT COMPRESSIVE STRENGTH  
CREEP  
FAILURE  
FATIGUE (MATERIALS)  
HARDNESS  
MECHANICAL PROPERTIES  
MOHR DIAGRAMS  
PHYSICAL PROPERTIES  
PRESTRESSING  
RIGIDITY  
SHEAR STRENGTH  
TENSILE STRENGTH

STRESS  
USE STRESSES

STRESS ANALYSIS  
BT ANALYSIS  
RT ELASTIC THEORY  
LOADS  
NORMAL STRESS  
OVERCORING  
PHOTOELASTICITY  
POLARIZED LIGHT  
STRESS CONCENTRATION  
STRESS DISTRIBUTION  
STRESSES  
TESTING

STRESS CONCENTRATION  
RT BED SEPARATION  
FATIGUE (MATERIALS)  
IMPACT  
PHOTOELASTICITY  
ROCK BURSTS  
STRESS ANALYSIS  
STRESS DISTRIBUTION  
STRESSES

STRESS DISTRIBUTION  
RT NORMAL STRESS  
PHOTOELASTICITY  
STRESS ANALYSIS  
STRESS CONCENTRATION  
STRESSES

STRESSES  
UF STRESS  
NT BENDING STRESSES  
BIAXIAL STRESSES  
COMPRESSIVE STRESS  
EFFECTIVE STRESS  
MECHANICAL STRESSES  
NORMAL STRESS  
PRINCIPAL STRESS  
RESIDUAL STRESSES  
SHEAR STRESS  
TENSILE STRESS  
THERMAL STRESSES  
TOTAL STRESS  
RT CREEP  
IMPACT  
LOADING  
LOADS (FORCES)  
PRESSURES  
PRESTRESSING  
STRAINS  
STRESS ANALYSIS

STRESS CONCENTRATION  
STRESS DISTRIBUTION  
STRESS STRAIN CURVES  
STRESS WAVES  
TENSION

STRESSMETERS  
BT MEASURING INSTRUMENTS  
RT EXTENSOMETERS  
STRAIN GAUGES

STRESS RING  
RT ABUTMENT ZONE

STRESS STRAIN CURVES  
RT DEFORMATION  
ELASTICITY MODULUS  
PHYSICAL PROPERTIES  
POISSON RATIO  
STRAINS  
STRESSES

STRESS WAVES  
RT BLASTING RESEARCH  
EXPLOSIVE ENERGY TRANSMISSION  
PARTICLE VELOCITY  
PROPAGATION VELOCITY  
SHOCK WAVES  
STRESSES

STRIP MINING  
USE OPEN PIT MINES & MINING

STRIPPING  
USE SURFACE STRIPPING

STRIPPING RATIO  
RT OPEN PIT MINES & MINING  
SLOPE STABILITY RESEARCH  
SURFACE STRIPPING  
WASTE (ROCK)

STRONG ROCKS  
UF COMPETENT ROCKS  
BT ROCKS  
RT BRITTLE MATERIALS

STRUCTURAL GEOLOGY  
BT GEOLOGY  
RT BEDDING  
FAULTS (GEOLOGICAL)  
FOLDS

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM

JOINTS  
REGIONAL GEOLOGY  
ROCK MASS  
ROCKS  
STRATIGRAPHY  
TECTONICS

SUBARCTIC REGIONS  
USE ARCTIC & SUBARCTIC REGIONS

SUBGRADE DRILLING  
BT DRILLING  
RT OPEN PIT MINES & MINING

SUBLEVEL CAVING MINING  
USE CAVING MINING

SUBSIDENCE  
BT DEFORMATION  
RT BACKFILLING  
CAVING MINING  
DAMAGES  
DEPTH  
GROUND WATER  
MINES & MINING  
MINING METHODS  
ROCK MECHANICS  
ROOF CONTROL & GROUND SUPPORT

SUFFOCATING GASES  
BT MINE GASES  
RT EXPLOSIVE GASES  
TOXIC GASES

SUMPS  
RT DEWATERING  
DIKES & DAMS  
DRAINAGE  
PUMPING  
PUMPS  
RETAINING WALLS  
WATER CONTROL  
WELLS

SUPPORT  
USE ROOF CONTROL & GROUND SUPPORT

SURFACE STRIPPING  
UF STRIPPING  
RT CLAYS  
DUMPS  
EXCAVATION  
GRADERS

LAND RECLAMATION  
NUCLEAR EXPLOSION  
OPEN PIT MINES & MINING  
OVERBURDEN  
SCRAPERS  
SOILS  
STRIPPING RATIO  
TRACTORS  
WASTE (ROCK)

SURVEYING  
USE MINE SURVEYING

SURVEYING INSTRUMENTS  
UF GEODIMETERS  
TELLUROMETERS  
RT MEASURING INSTRUMENTS  
OPTICAL INSTRUMENTS

SWEDEN  
BT EUROPE

SWELLING  
RT BENTONITE  
CLAYS  
FAILURE  
SOIL MECHANICS

SYENITES  
USE IGNEOUS ROCKS

SYMPOSIA  
UF CONFERENCES  
FORUMS  
INTERNATIONAL MINING CONGRESSES  
SEMINARS

TABLES  
USE TABULATIONS

TABULATIONS  
UF LISTINGS  
TABLES  
RT BIBLIOGRAPHIES  
DATA  
DATA PROCESSING  
STATISTICS

TAILINGS  
RT BACKFILLS  
DIKES & DAMS  
FINES  
MILLING

TAILINGS PONDS  
WASTE (ROCK)  
WASTE DISPOSAL

TAILINGS PONDS  
RT DIKES & DAMS  
DRAINAGE  
DUMPS  
LAND RECLAMATION  
RETAINING WALLS  
STORAGE  
TAILINGS  
WASTE DISPOSAL  
WATER POLLUTION  
WATER SUPPLY

TAXES  
RT ECONOMICS  
LEGISLATION & REGULATIONS

TECHNIQUES  
USE PROCEDURES

TECTONIC FORCE  
USE TECTONICS

TECTONIC HISTORY  
USE TECTONICS

TECTONICS  
UF TECTONIC FORCE  
TECTONIC HISTORY  
RT FORCE  
GEOLOGY  
REGIONAL GEOLOGY  
RESIDUAL STRESSES  
ROCK MASS  
STRUCTURAL GEOLOGY

TELEPHONES  
RT COMMUNICATION SYSTEMS

TELEVISION  
RT COMMUNICATION SYSTEMS  
RADIO  
REMOTE CONTROL

TELLUROMETERS  
USE SURVEYING INSTRUMENTS

TEMPERATURE  
RT COLD WEATHER OPERATIONS  
FATIGUE (HUMAN)  
FREEZING  
FROST ACTION  
GEOHERMAL GRADIENTS  
HEAT  
SPONTANEOUS COMBUSTION  
TEMPERATURE CONTROL  
THAWING  
THERMAL CONDUCTIVITY  
THERMAL STRESSES

TEMPERATURE CONTROL  
BT CONTROL  
RT FREEZING  
MINE VENTILATION  
REFRIGERATION  
TEMPERATURE  
THAWING

TENSILE STRENGTH  
NT DYNAMIC TENSILE STRENGTH  
BT MECHANICAL PROPERTIES  
RT BRAZILIAN TESTS  
COMPRESSIVE STRENGTH  
ELASTICITY  
SHEAR STRENGTH  
STRENGTH OF MATERIALS  
TENSILE STRESS  
TENSION

TENSILE STRESS  
BT STRESSES  
RT COMPRESSIVE STRESS  
CRACKS  
NORMAL STRESS  
PRINCIPAL STRESS  
SHEAR STRESS  
TENSILE STRENGTH  
TENSION  
TOTAL STRESS

TENSION  
RT COMPRESSION  
DEFORMATION  
LOADS  
STRAINS  
STRESSES  
TENSILE STRENGTH  
TENSILE STRESS

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM

TENSION CRACKS  
USE CRACKS

TENSION FAILURE  
USE FAILURE

TERMINOLOGY  
USE GLOSSARIES DICTIONARIES  
& THESAURI

TESTING  
NT NONDESTRUCTIVE TESTING  
RT ANALYSIS  
ASSEMBLING  
DESIGN  
DEVELOPMENT (EQUIPMENT)  
ERRORS  
FIELD EXPERIMENTATION  
LABORATORY EXPERIMENTATION  
MAINTENANCE (EQUIPMENT)  
MEASUREMENT  
MODELS  
OBSERVATION  
OPERATION (EQUIPMENT)  
PULL TESTS  
QUALITY CONTROL  
RESEARCH PROGRAMS  
SAMPLING  
SPECIFICATIONS  
STRESS ANALYSIS

THAWING  
RT COLD WEATHER OPERATIONS  
ELECTRIC HEATING  
FREEZING  
FROST ACTION  
HEATING  
OIL & GAS HEATING  
STEAM HEATING  
TEMPERATURE  
TEMPERATURE CONTROL

THEORIES  
NT BEAM THEORY  
ELASTIC THEORY  
PHOTOELASTIC THEORY  
TRIBUTARY AREA THEORY  
RT HYPOTHESES  
ROCK MECHANICS  
SOIL MECHANICS

THERMAL CONDUCTIVITY  
RT HEAT TRANSFER  
TEMPERATURE  
THERMAL STRESSES

THERMAL POWER GENERATING PLANTS  
UF CALGARY POWER LTD CALGARY ALTA  
HYDRO ELECTRIC POWER COMMISSION  
OF ONTARIO TORONTO ONTARIO  
RT FLY ASH

THERMAL PRECIPITATORS  
BT MEASURING INSTRUMENTS  
RT DUST SAMPLERS  
NUMBER ASSESSMENT

THERMAL STRESSES  
BT STRESSES  
RT COOLING  
FATIGUE (MATERIALS)  
HEATING  
JET PIERCING DRILLS & DRILLING  
MECHANICAL STRESSES  
SPALLING  
TEMPERATURE  
THERMAL CONDUCTIVITY

TIMBER SUPPORTS  
UF MINE TIMBERS  
BT PROPS  
RT HYDRAULIC ROOF SUPPORTS  
ROOF CONTROL & GROUND SUPPORT  
STEEL PROPS

TIME DEPENDENCE  
RT CREEP  
DEFORMATION  
TRANSIT TIME

TIME DEPENDENT DEFORMATION  
USE CREEP

TIN MINES & MINING  
BT MINES & MINING

T N T  
USE MILITARY EXPLOSIVES

TONNAGE FACTOR  
RT GRADE CONTROL (ORE)  
MINE GEOLOGY

TOOLS  
RT MEASURING INSTRUMENTS

TOPOGRAPHY  
RT DIKES & DAMS  
GEOLOGY  
SLOPES

TOP SLICE MINING

- BT MINING METHODS
- RT CUTTING
  - LONGWALL MINING
  - UNDERGROUND MINES & MINING

TORQUE

- RT FORCE
- HOISTING
- ROCK BOLTS
- WIRE ROPES

TOTAL DUST

- BT DUST
- RT RESPIRABLE DUST

TOTAL STRESS

- BT STRESSES
- RT COMPRESSIVE STRESS
- EFFECTIVE STRESS
- NORMAL STRESS
- PORE PRESSURES
- SHEAR STRESS
- TENSILE STRESS

TOWN SITES

- RT CONSTRUCTION
- MINE BUILDINGS
- MINE DEVELOPMENT

TOXIC GASES

- BT MINE GASES
- NT RADON GASES
- RT EXPLOSIVE GASES
- SUFFOCATING GASES

TRACKLESS MINING

- BT MINING METHODS
- RT MECHANIZATION
- ROADS
- TRANSLOADERS
- UNDERGROUND MINES & MINING

TRACTORS

- UF BULLDOZERS
- BT MINING MACHINERY
- RT GRADERS
- SCRAPERS
- SURFACE STRIPPING

TRAINING

- USE EDUCATION

TRAMMING

- RT CONVEYING
- MATERIALS HANDLING
- MINE CARS
- MINE LOCOMOTIVES
- MINE HAULAGE
- TRANSPORTATION

TRANSIT TIME

- RT EXPLOSIVE ENERGY TRANSMISSION
- SHOCK WAVES
- SONIC PROBING
- SONIC VELOCITY
- TIME DEPENDENCE

TRANSLATIONS

- RT FRENCH LANGUAGE PERIODICALS
- GERMAN LANGUAGE PERIODICALS
- POLISH LANGUAGE PERIODICALS
- RUSSIAN LANGUAGE PERIODICALS

TRANSLOADERS

- BT MINING MACHINERY
- RT MATERIALS HANDLING
- MINE HAULAGE
- TRACKLESS MINING

TRANSPORTATION

- UF TRAVEL
- NT MINERS TRANSPORTATION
- RT BULK HANDLING
- CONVEYING
- HAULING
- HOISTING
- MATERIALS HANDLING
- MINE HAULAGE
- PIPES & PIPELINES
- PUMPING
- PACKAGED CONTAINERS
- RAILROADS
- ROADS
- SOLIDS PIPELINING
- STACKING
- TRAMMING
- WASTE DISPOSAL

TRAVEL

USE TRANSPORTATION

TREPANNING

BT DRILLING

RT CORING

DIAMOND DRILLS & DRILLING

OVERCORING

TRIAxIAL COMPRESSIVE STRENGTH

BT COMPRESSIVE STRENGTH

RT TRIAXIAL LOADS

UNIAXIAL COMPRESSIVE STRENGTH

TRIAxIAL LOADS

BT LOADS (FORCES)

RT BIAXIAL LOADS

TRIAxIAL COMPRESSIVE STRENGTH

UNIAXIAL LOADS

TRIBUTARY AREA THEORY

BT THEORIES

RT BEAM THEORY

EXTRACTION RATIO

LOADING

LOADS (FORCES)

PILLARS

TROLLEY LOCOMOTIVES

USE MINE LOCOMOTIVES

TRUCKS

USE HAULAGE TRUCKS

TUNNELLING

UF DRIFTING

RT DRILLING

EXCAVATION

MINE DEVELOPMENT

MINES & MINING

RAISING

REAMING

ROCK BOLTS

SHAFT SINKING

TUNNELLING MACHINES

TUNNELS

TUNNELLING MACHINES

UF BORING MACHINES

RAPID EXCAVATORS

BT MINING MACHINERY

RT DRILLS

ROTARY DRILLS & DRILLING

TUNNEL CONSTRUCTION

TUNNELS

UF ADITS

RT MINE VENTILATION

RAILROADS

ROADS

TUNNELLING

TURBO DRILLS & DRILLING

BT DRILLING

DRILLS

RT ROTARY DRILLS & DRILLING

TURBULENT FLOW

USE FLOW

TYNDALLOSOPES

BT MEASURING INSTRUMENTS

RT DUST SAMPLER

KONIMETERS

LIGHT SCATTERING ASSESSMENT

ULTRASONICS

BT SONICS

RT FREQUENCIES

NONDESTRUCTIVE TESTING

SONIC PROBING

UNCONSOLIDATED BACKFILLS

BT BACKFILLS

RT CONSOLIDATED BACKFILLS

UNDERCUT & FILL MINING

BT MINING METHODS

RT BACKFILLING

CONSOLIDATED BACKFILLS

CUT & FILL MINING

CUTTING

MATS

UNDERGROUND MINES & MINING

UNDERCUTTING

USE CUTTING

UNDERGROUND CRUSHING

BT CRUSHING

UNDERGROUND MINES & MINING

BT MINES & MINING

RT ADVANCE MINING

BLASTHOLE MINING

CAVES

CAVING MINING

CUT & FILL MINING

FIELD EXPERIMENTATION



HYDRAULIC MINING  
LONGWALL MINING  
MARINE MINING  
MINING METHODS  
OPEN PIT MINES & MINING  
OPEN STOPE MINING  
PILLAR RECOVERY  
RESUING MINING  
RETREAT MINING  
ROCK BOLTS  
ROOM & PILLAR MINING  
SHORTWALL MINING  
SOLUTION MINING  
SQUARE SET MINING  
SHRINKAGE STOPE MINING  
TOP SLICE MINING  
TRACKLESS MINING  
UNDERCUT & FILL MINING

UNDERGROUND SURVEYING  
USE MINE SURVEYING

UNDERWATER DRILLING  
USE OFFSHORE DRILLING

UNDERSEA MINES & MINING  
USE MARINE MINING

UNIAXIAL COMPRESSIVE STRENGTH  
BT COMPRESSIVE STRENGTH  
RT TRIAXIAL COMPRESSIVE STRENGTH

UNIAXIAL LOADS  
BT LOADS (FORCES)  
RT BIAXIAL LOADS  
TRIAXIAL LOADS  
UNIAXIAL LOADS

UNITED KINGDOM  
UF ENGLAND  
BT EUROPE

UNITED STATES  
RT CANADA

UNITED STATES BUREAU OF MINES  
WASHINGTON D C (WITH OFFICES AT  
COLLEGE PARK MD DENVER COLO  
PITTSBURGH PENN SEATTLE WASH)  
RT COUNCIL OF SCIENTIFIC &  
INDUSTRIAL RESEARCH  
PRETORIA S A

MINES BRANCH DEPT ENERGY MINES  
& RESOURCES OTTAWA

UNIVERSITIES  
NT DALHOUSIE UNIVERSITY HALIFAX N S  
ECOLE POLYTECHNIQUE MONTREAL P Q  
LAVAL UNIVERSITY QUEBEC P Q  
MCGILL UNIVERSITY MONTREAL P Q  
NOVA SCOTIA TECHNICAL COLLEGE  
HALIFAX N S  
QUEEN'S UNIVERSITY KINGSTON ONT  
UNIVERSITY OF ALBERTA EDMONTON  
ALBERTA  
UNIVERSITY OF BRITISH COLUMBIA  
VANCOUVER B C  
UNIVERSITY OF SASKATCHEWAN  
SASKATOON SASK  
UNIVERSITY OF TORONTO TORONTO  
ONT  
UNIVERSITY OF WESTERN ONTARIO  
LONDON ONT  
RT COOPERATIVE RESEARCH  
EDUCATION  
GRANTS IN AID  
LECTURES

UNIVERSITY OF ALBERTA EDMONTON ALBERTA  
BT UNIVERSITIES

UNIVERSITY OF BRITISH COLUMBIA VANCOUVER  
B C  
BT UNIVERSITIES

UNIVERSITY OF SASKATCHEWAN SASKATOON  
SASK  
BT UNIVERSITIES

UNIVERSITY OF TORONTO TORONTO ONT  
BT UNIVERSITIES

UNIVERSITY OF WESTERN ONTARIO LONDON  
ONT  
BT UNIVERSITIES

UNLOADING  
USE LOADING

UNPUBLISHED REPORTS  
USE REPORTS

URANIUM MINES & MINING  
BT MINES & MINING  
RT BACTERIAL LEACHING

UF = USED FOR: BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM

RADIATION  
RADIOACTIVE DUST  
RADON GAS

VALVES

RT ATOMIZERS  
COMPRESSED AIR  
PIPES & PIPELINES  
PUMPING  
SPRAYERS

VARIABLES

UF FACTORS  
RT COEFFICIENTS  
HETEROGENEITY  
PARAMETERS

VEIN MINERAL DEPOSITS

BT MINERAL DEPOSITS  
RT BEDDED MINERAL DEPOSITS  
MASSIVE MINERAL DEPOSITS

VELOCITY

UF SPEED  
NT DETONATION VELOCITY  
PARTICLE VELOCITY  
PROPAGATION VELOCITY  
SONIC VELOCITY  
RT ACCELEROMETERS  
DISPLACEMENTS  
DYNAMICS  
VIBRATION

VENTILATION

USE MINE VENTILATION

VIBRATING FEEDERS

USE FEEDERS

VIBRATIONS

RT AMPLITUDES  
COMPACTING  
DAMPING  
DISPLACEMENTS  
DYNAMICS  
ELASTIC WAVES  
FREQUENCIES  
VELOCITY  
WAVES

VISCOSITY

UF VISCOUS BEHAVIOUR  
BT PHYSICAL PROPERTIES  
RT FLOW  
FRICTION  
PERMEABILITY

VISCOUS BEHAVIOUR

USE VELOCITY

VISCOUS DEFORMATION

BT DEFORMATION  
RT PLASTIC FAILURE  
PLASTIC MATERIALS

VISCOUS FAILURE

USE PLASTIC FAILURE

VISITS

USE MINE VISITS

VOID RATIO

BT PHYSICAL PROPERTIES  
RT COMPACTING  
DENSITY  
PARTICLE SHAPE  
PARTICLE SIZE DISTRIBUTION  
POROSITY  
VOIDS  
VOLUME

VOIDS

RT PERCOLATION  
PERCOLATION RATE  
PERMEABILITY  
POROSITY  
VOID RATIO

VOLUME

RT DENSITY  
VOID RATIO  
WEIGHT

WALL FRICTION

BT FRICTION  
RT BINS  
DRAW POINT LOADING  
RETAINING WALLS  
SLOPES

WASHING

RT BENEFICIATION

WASTE (ROCK)		HUMIDITY
UF	GOB	MOISTURE
RT	MINE DEVELOPMENT	SAMPLING
	ROCKS	WATER
	STRIPPING RATIO	
	SURFACE STRIPPING	WATER CONTROL
	TAILINGS	BT CONTROL
	WASTE DISPOSAL	RT DEWATERING
		DIKES & DAMS
WASTE DISPOSAL		DRAINAGE
RT	BACKFILLING	MINE FLOODS
	BENEFICIATION	MINING METHODS
	DIKES & DAMS	MOISTURE CONTROL
	DUMPS	PUMPING
	EXHAUST GASES	SUMPS
	FINES	WATER
	LEGISLATION & REGULATIONS	
	MATERIALS HANDLING	WATER FILTRATION
	MINE HAULAGE	USE FILTRATION
	MINING METHODS	
	PIPES & PIPELINES	WATER GELS (EXPLOSIVES)
	POLLUTION	UF HYDROMEX
	QUALITY CONTROL	NCN
	SOLIDS PIPELINING	SLURRY EXPLOSIVES
	STOCKPILING	BT EXPLOSIVES
	STORAGE	
	TAILINGS	WATER POLLUTION
	TAILINGS PONDS	BT POLLUTION
	TRANSPORTATION	RT AIR POLLUTION
	WASTE (ROCK)	DEWATERING
	WATER POLLUTION	DRAINAGE
		TAILINGS PONDS
WATER		WASTE DISPOSAL
NT	GROUND WATER	WATER
RT	DEWATERING	WATER SUPPLY
	DIKES & DAMS	
	HUMIDITY	WATER SUPPLY
	HYDRAULIC BACKFILLING	RT DIKES & DAMS
	HYDRAULIC HOISTING	GROUND WATER
	MINE FLOODS	PIPES & PIPELINES
	MOISTURE	TAILINGS PONDS
	SOLUTION MINING	WATER POLLUTION
	WATER ANALYSTS	WATER TABLES
	WATER CONTROL	WELLS
	WATER POLLUTION	
	WATER TABLES	WATER TABLES
	WELLS	UF GROUND WATER TABLES
WATER ANALYSIS		RT DEWATERING
BT	ANALYSIS	DRAINAGE
RT	CHEMICAL ANALYSIS	DRAWDOWN
		GROUND WATER

UF = USED FOR; BT = BROADER TERM; NT = NARROWER TERM; RT = RELATED TERM

PUMPING  
SLOPE STABILITY RESEARCH  
WATER  
WATER SUPPLY  
WELLS

WAVES  
NT POLARIZED LIGHT  
SHOCK WAVES  
SONICS  
RT AMPLITUDES  
ENERGY  
FREQUENCIES  
PROPAGATION  
RADIATION  
VIBRATIONS  
WAVE SHAPES

WAVE SHAPES  
RT ATTENUATION  
BLASTING RESEARCH  
WAVES

WEAK ROCKS  
UF INCOMPETENT ROCKS  
BT ROCKS  
RT PLASTIC MATERIALS

WEAR  
RT ABRASION  
FRICTION  
HARDNESS

WEATHERPROOFING  
UF WINTERIZATION  
RT COATINGS  
OXIDATION

WEIGHT  
RT DENSITY  
FORCE  
LOADS (FORCES)  
PRESSURES  
VOLUMES

WEIGHT MEASUREMENT  
USE MEASUREMENT

WELLS  
UF DEEP WELLS  
DRAINAGE WELLS  
OBSERVATION WELLS  
SHALLOW WELLS

RT CASINGS  
CORROSION CONTROL  
DEWATERING  
DRAINAGE  
DRAWDOWN  
DRILLING  
GROUND WATER  
PUMPS  
SUMPS  
WATER  
WATER SUPPLY  
WATER TABLES

WESTERN MINER (VANCOUVER B C)  
BT ENGLISH LANGUAGE PERIODICALS

WEST GERMANY  
UF FEDERAL REPUBLIC OF GERMANY  
GERMANY  
BT EUROPE  
RT EAST GERMANY

WET GRINDING  
BT COMMINUTION  
GRINDING  
RT DRY GRINDING

WINDING  
USE HOISTING

WINTERIZATION  
USE WEATHERPROOFING

WINTER OPERATIONS  
USE COLD WEATHER OPERATIONS

WIRE ROPES  
UF ROPES  
RT CABLES  
CAGES  
HOISTING  
HOISTS  
TORQUE

WORLD MINING (SAN FRANCISCO CALIF)  
BT ENGLISH LANGUAGE PERIODICALS

XRAY ANALYSIS  
BT PHYSICAL ANALYSIS  
NONDESTRUCTIVE TESTING  
RT CHEMICAL ANALYSIS  
INFRARED ANALYSIS  
NONDESTRUCTIVE TESTING  
RADIATION

YOUNGS MODULUS  
USE ELASTICITY MODULUS

YUKON  
BT CANADA  
RT NORTH WEST TERRITORIES

ZINC MINES & MINING  
RT MINES & MINING

PART II

ABRASION  
ABRASIVES  
ABSTRACTS  
ABUTMENT ZONE  
ACCELEROMETERS  
ACCLIMATIZATION  
ACCURACY  
ADHESIVES  
ADVANCE MINING  
AERIAL PHOTOGRAPHY  
AFRICA  
AGGREGATES  
AGING  
-AIR  
AIR BLASTS  
AIR COMPRESSORS  
AIR POLLUTION  
ALBERTA  
AMMONIUM DYNAMITES  
AMMONIUM NITRATE FUEL OIL EXPLOSIVES  
AMPLIFIERS  
AMPLITUDES  
ANALOG COMPUTERS  
-ANALYSIS  
ANCHORAGE CAPACITIES  
ANCHORAGE MECHANICS  
ANCHORAGE MODULUS  
ANCHORAGE TESTS  
ANCHORING  
ANEMOMETERS  
ANGLE OF REPOSE  
APPRAISALS  
ARCH SUPPORTS  
ARCTIC & SUBARCTIC REGIONS  
ARRAYS  
ASBESTOS DUST  
ASBESTOS MINES & MINING  
ASSEMBLING  
ASSOC MINE MANAGERS OF SA PAP & DISC  
ATOMIZERS  
ATTENUATION  
AUGER DRILLS & DRILLING  
AUSTRALASIAN INST OF MIN & MET PROC  
AUSTRALIA  
AUSTRALIAN MINING (MELBOURNE AUST)  
AUTOLOADERS  
AUTOMATION  
-BACKFILLING  
-BACKFILLS  
BACKHOES  
BACTERIAL LEACHING  
BAUXITE MINES & MINING  
BEAMS (STRUCTURAL)  
BEAM THEORY  
BEDDED MINERAL DEPOSITS  
BEDDING  
BED SEPARATION  
BELGIUM  
BELT CONVEYORS  
BENDING STRESSES  
BENEFICIATION  
BENEFIT COST RATIO  
BENTONITE  
BIAXIAL LOADS  
BIAXIAL STRESSES  
BIBLIOGRAPHIES  
BINDING  
BINS  
BLASTHOLE MINING  
BLASTHOLES  
-BLASTING  
-BLASTING ACCESSORIES  
BLASTING RESEARCH  
BLOCK FLOW  
BONDINGS  
BONDING STRENGTH  
BOOSTERS  
BOOTLEGS  
BOREHOLE EXTENSOMETERS  
-BOREHOLES  
BOUNDARIES  
BRAKES  
BRATTICE WALLS  
BRAZILIAN TESTS  
BREAKING  
BRITISH COLUMBIA  
BRITTLE FAILURE  
BRITTLE MATERIALS  
BUCKET WHEEL EXCAVATORS  
BULK HANDLING  
BULK TRANSPORTERS  
BUMPS  
BURDEN

A dash (-) preceding a term means it has narrower terms listed in Part I.

CABLE BELT CONVEYORS  
CABLES  
CAGES  
CALIBRATION  
-CANADA  
CANADIAN ADV CMTTE ON ROCK MECH  
CANADIAN MIN & MET BULL (MTL PQ)  
CANADIAN MINING JOURNAL (GARDENVALE PQ)  
CAPACITANCE GAUGES  
CASE HISTORIES  
CASINGS  
CASTING  
CAVES  
CAVING-MINING  
CEMENT GROUTS  
CEMENTING  
-CEMENTS  
CHAMBERING  
CHARACTERISTICS  
CHEMICAL ANALYSIS  
CHEMICAL GROUTS  
CHINA  
CHURN DRILLS & DRILLING  
CHUTES  
CLAMSHELLS  
CLASSIFICATION  
-CLAYS  
CLOSURE  
COAL  
COAL AGE (NEW YORK N Y)  
COAL DUST  
COAL MINES & MINING  
COATINGS  
COEFFICIENTS  
COLD WEATHER OPERATIONS  
COLLAPSE  
COLLARING  
COLLIERY ENGINEERING (LONDON ENG)  
COLLIERY GUARDIAN (LONDON ENG)  
COLORADO SCHOOL OF MINES (MIN IND BULL)  
COLUMBIUM MINES & MINING  
COLUMN CHARGES (EXPLOSIVES)  
-COMBUSTION  
-COMMINATION  
COMMINATION HISTORY  
COMMUNICATIONS  
COMMUNICATIONS SYSTEMS  
COMPACTING  
COMPONENTS  
COMPOSITIONS  
COMPRESSED AIR  
COMPRESSIBILITY  
COMPRESSION  
-COMPRESSIVE STRENGTH  
COMPRESSIVE STRESS  
COMPRESSOMETERS  
COMPUTATION  
COMPUTER PROGRAMS  
-COMPUTERS  
CONCENTRATING  
-CONCRETE  
CONCRETE BLOCKS  
CONCRETE FLOORS  
CONCRETE MIXING  
CONCRETE PLACING  
CONE CRUSHERS  
CONGLOMERATES  
CONSOLIDATED BACKFILLS  
CONSOLIDATION  
CONSTANT CURRENT POWER SUPPLIERS  
CONSTRUCTION  
CONTAINERS  
CONTINUITY  
CONTINUOUS MINERS  
CONTINUOUS MINING  
-CONTROL  
CONTROL SYSTEMS  
CONVERGENCE  
CONVERGENCE RATE  
CONVEX PROFILING  
CONVEYING  
-CONVEYORS  
COOLING  
COOPERATIVE RESEARCH  
COPPER MINES & MINING  
CORING  
CORROSION  
CORROSION CONTROL  
-COSTS  
COUNCIL FOR SCI & IND RES S AFRICA  
COUPLING  
CRACKS  
CRATERING STUDIES  
CREEP  
CREEP TESTS  
CRITICAL PATH METHOD  
CRITIQUES  
-CRUSHERS  
-CRUSHING  
CUT & FILL MINING  
CUTTING

DALHOUSIE UNIVERSITY HALIFAX N S  
DAMAGES  
DAMPING  
DATA  
DATA PROCESSING  
DEFECTS  
-DEFORMATION  
DEFORMATION METERS  
DENSITY  
DEPLETION  
DEPTH  
DESIGN (EQUIPMENT)  
DETECTION  
DETECTORS  
DETONATION  
DETONATION PRESSURE  
DETONATION VELOCITY  
DETONATORS  
DEVELOPMENT (EQUIPMENT)  
DEWATERING  
DIAMOND DRILLS & DRILLING  
DIAMONDS  
DIESEL ELECTRIC HAULAGE TRUCKS  
DIGITAL COMPUTERS  
DIKES & DAMS  
DILUTION (ORE)  
DIRECTIONAL DRILLING  
DIRECTIONAL FAILURE  
DISCING  
-DISPERSION  
DISPLACEMENTS  
DOWNHOLE DRILLS & DRILLING  
DRAGLINES  
DRAINAGE  
DRAWDOWN  
DRAW POINT LOADING  
DREDGES  
DREDGING  
DRILL BITS  
-DRILLING  
-DRILLS  
DRILL STEELS  
DRUM HOISTS  
DUMPS  
DRY GRINDING  
-DUST  
DUST CHAMBERS  
DUST COLLECTORS  
DUST CONCENTRATIONS  
DUST CONTROL  
DUST DISPERSION  
DUST FILTERS  
DUST PRODUCTION  
DUST RESEARCH  
-DUST SAMPLERS  
DYNAMIC LOADS  
-DYNAMICS  
DYNAMIC TENSILE STRENGTH  
-DYNAMITES (STICK EXPLOSIVES)  
DYNAMOMETERS  
EAST GERMANY  
ECCENTRIC LOADING  
ECOLE POLYTECHNIQUE MONTREAL P Q  
ECONOMICS  
EDUCATION  
EFFECTIVE STRESS  
EFFICIENCY  
ELASTIC DEFORMATION  
ELASTICITY  
ELASTICITY MODULUS  
ELASTIC THEORY  
ELECTRIC HEATING  
ELECTRIC POWER  
ELECTRIC POWER CONSUMPTION  
ELECTRIC POWER DISTRIBUTION  
ELECTRIC POWER GENERATION  
ELECTRIC POWER TRANSMISSION  
ELECTRONIC SCANNERS  
ELECTROSTATIC PRECIPITATION  
ELECTROSTATIC PRECIPITATORS  
ELECTROSTATIC SAMPLERS  
-ENERGY  
ENERGY STORAGE  
ENERGY TRANSFER  
ENGINEERING & MINING JOURNAL (N Y)  
-ENGLISH LANGUAGE PERIODICALS  
EQUATIONS  
EQUIPMENT  
EROSION  
ERRORS  
-EUROPE  
EVALUATIONS  
-EVAPORITES  
EXCAVATION  
EXHAUST GASES  
-EXPERIMENTATION  
EXPLOSIONS  
EXPLOSIVE ENERGY TRANSMISSION  
-EXPLOSIVE GASES

A dash (-) preceding a term means it has narrower terms listed in Part I.



-EXPLOSIVES  
-EXTENSOMETERS  
EXTRACTION  
EXTRACTION RATIO

-FAILURE  
FAN DRILLING  
FANS  
-FAR EAST  
FATIGUE (HUMAN)  
FATIGUE (MATERIALS)  
FAULTS (GEOLOGICAL)  
FEASIBILITY  
FEEDERS  
FEEDING  
-FIBROUS DUST  
FIELD EXPERIMENTATION  
FIELD INVESTIGATIONS  
-FILLS  
FILMS  
-FILTERS  
FILTRATION  
FINES  
FIRE PROTECTION  
FLEXIBILITY  
FLOCCULATION  
FLOTATION  
FLOW  
FLUORSPAR MINES & MINING  
FLY ASH  
FOLDS  
FORCE  
FORECASTING  
FORMULAS  
FORTRAN  
FRACTURES  
FRANCE  
FREE FACES  
FREEZE HOLES  
FREEZING  
FRENCH LANGUAGE PERIODICALS  
FREQUENCIES  
-FRICTION  
FRICTION HOISTS  
FRINGE PATTERNS  
FROST ACTION  
-FUELS

GAS DETECTORS  
-GASES  
-GEOLOGY

GEOPHYSICAL SURVEYS  
GEOTHERMAL GRADIENTS  
GERMAN LANGUAGE PERIODICALS  
GLOSSARIES DICTIONARIES THESAURI  
GOLD MINES & MINING  
GONIOMETERS  
GRADE CONTROL (ORE)  
GRADERS  
GRANTS IN AID  
GRAVELS  
GRAVIMETRIC ASSESSMENT  
-GRINDING  
GROUND CONTROL (UNDERGROUND) RESEARCH  
GROUND WATER  
GROUTING  
GYPSUM MINES & MINING  
-GYRATORY CRUSHERS

HAND BACKFILLING  
HARDNESS  
-HAULAGE TRUCKS  
HAULING  
HEADFRAMES  
HEAT  
-HEATING  
HEATING PLANTS  
HEAT TRANSFER  
HETEROGENEITY  
HETEROGENEOUS MATERIALS  
-HOISTING  
-HOISTS  
HOLE DEVIATION  
HOMOGENEITY  
HOMOGENEOUS MATERIALS  
HUMIDITY  
HYDRAULIC BACKFILLING  
HYDRAULIC HOISTING  
HYDRAULIC MINING  
HYDRAULIC ROOF SUPPORTS  
HYPOTHESES

ICE WALLS  
IGNEOUS ROCKS  
IMPACT  
IMPACT CRUSHERS  
IMPACT STRENGTH  
IMPINGEMENT  
IMPINGERS  
INDEXES  
INDIA  
INFORMATION RETRIEVAL

INFORMATION STORAGE  
INFORMATION SYSTEMS  
INFRARED ANALYSIS  
IN SITU  
INSTALLING  
INSTITUTION OF MIN & MET TRANS (ENG)  
INTERNAL FRICTION  
INTERNATIONAL J OF ROCK MECH & MIN SCI  
IRON ORE MINES & MINING

JAPAN  
JAW CRUSHERS  
JET PIERCING DRILLS & DRILLING  
JOINTS  
JOURNAL OF GEOPHYS RES (WASH DC)

KINETICS  
KONIMETERS

-LABORATORIES  
LABORATORY EXPERIMENTATION  
LAND RECLAMATION  
LASERS  
LATIN AMERICA & CARRIBBEAN  
LAVAL UNIVERSITY QUEBEC P Q  
LAYOUT

-LEACHING  
LEAD MINES & MINING  
LECTURES  
LEGISLATION & REGULATIONS  
LIGHT SCATTERING ASSESSMENT  
LITERATURE SEARCHES  
LOAD CELLS  
LOADERS

-LOADING  
LOADING POCKETS

-LOADS (FORCES)  
LOAD YIELD CURVES  
LOGGING (RECORDING)  
LONGHOLE DRILLS & DRILLING  
LONGWALL MINING  
LUBRICATION

MAGNETITES (ROCK OR ORE)  
MAGNITUDE  
MAINTENANCE (EQUIPMENT)  
MAINTENANCE COSTS  
MANITOBA  
MAPPING  
MARINE MINING

MASSIVE MINERAL DEPOSITS  
-MATERIALS  
MATERIALS HANDLING  
-MATHEMATICAL ANALYSIS  
MATHEMATICAL MODELS  
MATS  
MCGILL UNIVERSITY MONTREAL P Q  
MEASUREMENT  
-MEASURING INSTRUMENTS  
MECHANICAL BACKFILLING  
-MECHANICAL PROPERTIES  
MECHANICAL STRESSES  
-MECHANICS  
MECHANIZATION  
METAMORPHIC ROCKS  
METHANE GAS  
MICROSCOPES  
MICROSCOPIC ANALYSIS  
MICROSEISMIC MONITORING  
MILITARY EXPLOSIVES  
MILLING  
MILLS  
MILL TAILINGS  
-MINE BUILDINGS  
MINE CARS  
MINE DEVELOPMENT  
MINE EXPLORATION  
MINE FIRES  
MINE FLOODS  
-MINE GASES  
MINE GEOLOGY  
MINE HAULAGE  
MINE LOCOMOTIVES  
MINE PRODUCTION  
-MINERAL DEPOSITS  
MINERALS  
MINERS TRANSPORTATION  
MINE SAFETY  
MINES & MINING  
MINES BRANCH DEPT E M & R OTTAWA  
MINE SURVEYING  
MINE VENTILATION  
MINE VISITS  
MINING & MINERALS ENGRG (LONDON)  
MINING CONGRESS JOURNAL (WASH DC)  
MINING ENGINEER (LONDON ENGLAND)  
MINING ENGINEERING (NEW YORK)  
-MINING MACHINERY  
MINING MAGAZINE (LONDON ENGLAND)

A dash (-) preceding a term means it has narrower terms listed in Part I.

-MINING METHODS  
-MINING RESEARCH  
MISFIRES  
MIXING  
-MODELS  
MOHR DIAGRAMS  
MOISTURE  
MOISTURE CONTROL  
MOLYBDENUM MINES & MINING  
-MONITORING  
MONOGRAPHS  
MUFFLERS

NATIONAL ACAD SCIS CMTTE ON ROCH MECH  
NEAR EAST  
NEW BRUNSWICK  
NEWFOUNDLAND  
NICKEL MINES & MINING  
NOISE CONTROL  
-NONDESTRUCTIVE TESTING  
NORMAL STRESS  
NORTHWEST TERRITORIES  
NOVA SCOTIA  
NOVA SCOTIA TECH COLLEGE HALIFAX  
NUCLEAR ENERGY  
NUMBER ASSESSMENT  
NUMERICAL ANALYSIS

OBJECTIVES  
OBSERVATIONS  
OFFSHORE DRILLING  
OIL (FUEL & DIESEL)  
OIL & GAS HEATING  
OIL SANDS  
OIL SHALES  
ONTARIO  
OPEN PIT MINES & MINING  
OPEN STOPE MINING  
OPERATING COSTS  
OPERATION (EQUIPMENT)  
OPERATIONS RESEARCH  
-OPTICAL INSTRUMENTS  
OPTICAL SCANNERS  
OPTIMIZATION  
OSCILLOSCOPES  
OVERBURDEN  
OVERCORING  
OXIDATION

PACKAGED CONTAINERS  
PARAMETERS  
PARTICLES

PARTICLE SHAPE  
PARTICLE SIZE DISTRIBUTION  
PARTICLE VELOCITY  
PATENTS  
PEAT  
PERCOLATION  
PERCOLATION RATE  
PERCUSSION DRILLS & DRILLING  
PERIMETER BLASTING  
PERMAFROST  
PERMEABILITY  
PERSONNEL  
PETROLOGY  
PHOTOELASTICITY  
PHOTOELASTIC SCANNERS  
PHOTOELASTIC THEORY  
PHOTOGRAMMETRY  
PHOTOSTRESS GAUGES  
-PHYSICAL ANALYSIS  
-PHYSICAL PROPERTIES  
PILLAR MECHANICS  
PILLAR RECOVERY  
PILLARS  
PIPES & PIPELINES  
PLACER MINING  
PLANE SHEAR  
PLANNING  
PLASTIC FAILURE  
PLASTIC LINERS  
PLASTIC MATERIALS  
PNEUMATIC BACKFILLING  
PNEUMOCONIOSIS  
POISSON RATIO  
POLAND  
POLARIMETERS  
POLARIZED LIGHT  
POLISHING  
POLISH LANGUAGE PERIODICALS  
-POLLUTION  
PORE PRESSURES  
POROSITY  
PORTLAND CEMENT  
POTASH  
POTASH MINES & MINING  
POWER  
POWER CABLES  
PRECISION  
PREDICTIONS  
-PRESSURES  
PRESTRESSING  
PRIMARY BLASTING  
PRINCIPAL STRESS

PROCEDURES  
PROFILES  
-PROGRAMMING LANGUAGES  
-PROPERTIES  
PROPAGATION  
PROPAGATION VELOCITY  
PROPOSALS  
-PROPS  
PROTECTIVE MASKS  
PULL TESTS  
PUMPING  
PUMPS  
  
QUALITY CONTROL  
QUARRIES & QUARRYING  
QUEBEC PROVINCE  
QUEENS UNIVERSITY KINGSTON ONT  
  
RADIAL DISPLACEMENT  
RADIATION  
RADIATION HAZARDS  
RADIO  
RADIOACTIVE DUST  
RADIOACTIVE ISOTOPES  
RADON GAS  
RAILROADS  
RAISING  
REAMING  
REFRIGERATION  
REGIONAL GEOLOGY  
REMOTE CONTROL  
REPORTS  
RESEARCH PROGRAMS  
RESERVES (ORE)  
RESIDUAL STRESSES  
RESIN CEMENTS  
RESPIRABLE DUST  
RESUING MINING  
RETAINING WALLS  
RETREAT MINING  
RIGIDITY  
ROADS  
ROCK BOLT PLATES  
ROCK BOLTS  
ROCK BOLT SHELLS  
ROCK BREAKAGE RESEARCH  
ROCK BURSTS  
ROCK MASS  
ROCK MECHANICS  
-ROCKS  
ROCK SALT

ROLL CRUSHERS  
ROOF CONTROL & GROUND SUPPORT  
ROOM & PILLAR MINING  
ROTARY DRILLS & DRILLING  
ROTATIONAL SHEAR  
RUSSIAN LANGUAGE PERIODICALS  
  
SAFETY FACTORS  
SAG  
SALT CEMENTS  
SALT MINES & MINING  
SAMPLE PREPARATION  
SAMPLING  
-SANDS  
SASKATCHEWAN  
SCALING  
SCANNERS  
SCHEDULING  
SCRAPERS  
SCREENING  
SCREENING PLANTS  
SEALING  
SECONDARY BLASTING  
SECTIONS  
SEDIMENTARY ROCKS  
SEEPAGE  
SENSITIVITY  
SETTLING  
SHAFT PLUMBING  
SHAFTS  
SHAFT SINKING  
-SHAPES  
SHEARER LOADERS  
SHEAR STRENGTH  
SHEAR STRESS  
SHOCK WAVES  
SHORTWALL MINING  
SHOTCRETE  
SHOVELS  
SHRINKAGE STOPE MINING  
SIEVE ANALYSIS  
SILICA DUST  
SILVER MINES & MINING  
SIMILITUDE  
SKIPS  
SKIPWAYS  
SLABBING  
SLAGS  
SLIDES (ROCK)  
SLOPES  
SLOPE STABILITY RESEARCH

A dash (-) preceding a term means it has narrower terms listed in Part I.

SLOUGHING  
SLUSHERS  
SOCIETY OF MIN ENG OF AIME TRANS  
SOIL CEMENT  
SOIL MECHANICS  
-SOILS  
SOLIDS PIPELINING  
SOLUTION MINING  
SONIC PROBING  
-SONICS  
SONIC VELOCITY  
SONISCOPIES  
-SOUTH ASIA  
-SOUTH PACIFIC  
SOUTH AFRICA  
SOVIET UNION  
SPALLING  
SPECIFICATIONS  
SPONTANEOUS COMBUSTION  
SPRAYERS  
SQUARE SET MINING  
STABILITY  
STABILIZATION  
STACKING  
STATIC ELECTRICITY  
STATIC LOADS  
STATISTICAL ANALYSIS  
STATISTICS  
STEAM HEATING  
STEEL PROPS  
STOCKPILING  
STORAGE  
STRAIGHT (NG) DYNAMITES  
STRAIN GAUGES  
STRAINS  
STRATIGRAPHY  
-STRENGTH OF MATERIALS  
STRESS ANALYSIS  
STRESS CONCENTRATION  
STRESS DISTRIBUTION  
-STRESSES  
STRESSMETERS  
STRESS RING  
STRESS STRAIN CURVES  
STRESS WAVES  
STRIPPING RATIO  
STRONG ROCKS  
STRUCTURAL GEOLOGY  
SUBGRADE DRILLING  
SUBSIDENCE  
SUFFOCATING GASES  
SUMPS  
SURFACE STRIPPING  
SURVEYING INSTRUMENTS  
SWEDEN  
SWELLING  
SYMPOSIA  
TABULATIONS  
TAILINGS  
TAILINGS PONDS  
TAXES  
TECTONICS  
TELEPHONES  
TELEVISION  
TEMPERATURE  
TEMPERATURE CONTROL  
-TENSILE STRENGTH  
TENSILE STRESS  
TENSION  
-TESTING  
THAWING  
-THEORIES  
THERMAL CONDUCTIVITY  
THERMAL POWER GENERATING PLANTS  
THERMAL PRECIPITATORS  
THERMAL STRESSES  
TIMBER SUPPORTS  
TIME DEPENDENCE  
TIN MINES & MINING  
TONNAGE FACTOR  
TOOLS  
TOPOGRAPHY  
TOP SLICE MINING  
TORQUE  
TOTAL DUST  
TOTAL STRESS  
TOWN SITES  
-TOXIC GASES  
TRACKLESS MINING  
TRACTORS  
TRAMMING  
TRANSIT TIME  
TRANSLATIONS  
TRANSLOADERS  
-TRANSPORTATION  
TREPANNING  
TRIAXIAL COMPRESSIVE STRENGTH  
TRIAXIAL LOADS  
TRIBUTARY AREA THEORY  
TUNNELLING  
TUNNELLING MACHINES  
TUNNELS  
TURBO DRILLS & DRILLING  
TYNDALLOSCOPES

ULTRASONICS  
UNCONSOLIDATED BACKFILLS  
UNDERCUT & FILL MINING  
UNDERGROUND CRUSHING  
UNDERGROUND MINES & MINING  
UNIAXIAL COMPRESSIVE STRENGTH  
UNIAXIAL LOADS  
UNITED KINGDOM  
UNITED STATES  
UNITED STATES BUR OF MIN (WASH DC)  
-UNIVERSITIES  
UNIVERSITY OF ALBERTA (EDMONTON)  
UNIVERSITY OF BRITISH COLUMBIA (VAN)  
UNIVERSITY OF SASK (SASKATOON)  
UNIVERSITY OF TORONTO (TORONTO)  
UNIVERSITY OF WESTERN ONTARIO (LON)  
URANIUM MINES & MINING

VALVES  
VARIABLES  
VEIN MINERAL DEPOSITS  
-VELOCITY  
VIBRATIONS  
VISCOSITY  
VISCIOUS DEFORMATION  
VOID RATIO  
VOIDS  
VOLUME

WALL FRICTION  
WASHING  
WASTE (ROCK)  
WASTE DISPOSAL  
-WATER  
WATER ANALYSIS  
WATER CONTROL  
WATER GELS (EXPLOSIVES)  
WATER POLLUTION  
WATER SUPPLY  
WATER TABLES  
-WAVES  
WAVE SHAPES  
WEAK ROCKS  
WEAR  
WEATHERPROOFING  
WEIGHT  
WELLS  
WESTERN MINER (VANCOUVER BC)  
WEST GERMANY

WET GRINDING  
WIRE ROPES  
WORLD MINING (SAN FRANCISCO CAL)  
XRAY ANALYSIS  
YUKON  
ZINC MINES & MINING

A dash (-) preceding a term means it has narrower terms listed in Part I.