JÜLY 1987

8 Panorama
Associated minerals increases output of synthetic rutile; Shaft freezing at Asfordby; Further news on Northern Ireland lignite; Meeting in Budapest discusses utilization of gallium in microelectronics; U.S.S.R.-Mongolian co-operation in mining.

20 Balangero
This mechanized openpit mine in northern Italy is Europe's largest indigenous source of asbestos. Over 2.5 Mt/y of ore are handled through an in-pit crushing system.

26 Wankie Colliery
Operations at Zimbabwe's colliery, which has both openpit and underground workings, are described. Its output of coal is crucial to the economy of Central Africa.

33 Heading Machines
A comprehensive review of machines for driving headings in mines: continuous miners, face cutting machines and roadheaders.

52 Coal Preparation
Some thoughts for the future on the whole range of coal preparation from coarse coal to the treatment of fines.

61 AIMEX 87
A preview of Australia's International Mining Exhibition to be held in Sydney this month.

AUGUST 1987

106 Panorama
UN co-operates in African gold projects; Development plans for massive coalfield in the PRC; Flue dust processing at Anaconda; Pressurized fluid bed combustion for Escatron power plant, Spain; Nuclear power generation strategies and options.

122 Ashanti
This long-established gold mine in Ghana is undergoing a major programme of expansion and modernization.

133 Gold in sub-Saharan Africa
Basic geological, legal, financial and institutional information to aid would-be investors in six African countries.

139 MNCsandDCs
Multinational companies and developing countries can create mutual benefits, though conflicts of interest may seem to exist.

142 African Mining
Papers being presented at this conference taking place in Harare, Zimbabwe at the end of August are listed.

144 Roof reinforcement in longwalls
Rock reinforcing by bonding agents is widely practised in Polish longwall coal mines.

149 Coal preparation
A review of Polish coal prep methods, plans and equipment.

165 SIMMEX '87
Poland's important mining event taking place in Katowice at the end of this month is briefly previewed.

SEPTEMBER 1987

188 Panorama
Small scale underground mining, Apex, Canada; World's largest gravity-flow slurry pipeline; Progress at Lac des Iles, etc.

206 Aredor Makes the Grade
After initial teething troubles, Aredor diamond mine is making a vital contribution to the Guinean economy.

217 Diamond Deposit Evaluation
The problem of evaluating a deposit where the valuable constituent represents 20 parts per billion.
226  Point of Ayr Colliery
A decline being driven through water-logged
ground will permit increased production
from gassy seams under the sea.

238  Jet-Assisted Coal Cutting
"Epytevic" system of supplying high pressure
water to shearsers.

Mining Engineering

JULY 1987

481  Electrochemical and column flotation tech­
nologies can mean higher recovery at lower
operating costs
Garrett R. Hyde and Aleksandar Stojsic

485  What it's worth: A review of 1986 mineral
royalty information
H. Lyn Bourne

488  Economics of electric power may make co­
generation a major future power source
Early Rau

489  California's Foothill Gold Belt: Some famous
lode mines are showing signs of renewed
interest
Peter Joralemon

495  Mica—a summary of 1986 activity

AUGUST 1987

775  Island Creek's feeding-to-zero concept simpli­
fies coal prep circuit at Providence plant
Elza Burch

779  Mining industry wins one—Interior Depart­
ment ruling rejects "independent mine re­
quirement" concept
R. Rimoth McCrum

781  Scrubbers and remote control allow North
River No. 1 mine to extend cutting depth of
continuous miners
Steve O. Green

785  Inability to communicate: How technical
professionals cut short their management
careers
H. Richard Eisenbeis and Donna M. Watkins

SEPTEMBER 1987

849  Petrography studies can aid in coal mine
planning and in estimating methane yields in
coal beds
G.J. Jansen

853  Mashate gold operation is site of first com­
cmercial heap leaching plant in Philippines.
R.S. Pizarro, Victorio V. Pato,
and Libby R. Ricafort

857  The witchcraft and logic of gold pricing—po­
litics, inflation, speculation, and the value of
the dollar are all contributing factors
Thomas D. Kaufmann

859  Current use of continuous monitoring sys­
tems in coal mines discussed
Kevin G. Stricklin
864 Technology news: Techbase software system offers variety of mining applications

867 Chino mine modernization
R.D. Wunder and A.D. Trujillo

872 Recent insight into longwall strata movements deduced from subsidence analysis
K.A. Heasley and L.W. Saperstein

877 Perlite expansion and testing at the New Mexico Bureau of Mines and Mineral Resources, Soccoro, NM
J.A. Barker, J.S. Hingtgen, and M.R. Bowie

882 DISCUSSION: Lime substitutes for the treatment of acid mine drainage
G.W. Heunisch

**Industrial Minerals**

**JULY 1987**

20 Pakistan’s mineral potential. Prince orpauper?

45 World kaolins Genesis, exploitation, and application.

62 Kaolin Paper underpins current demand.

**AUGUST 1987**

19 Turkey’s Salda Lake A genetic model for magnesite

**AUGUST 1987**

19 Turkey’s Salda Lake A genetic model for magnesite

33 Glass markets Added value impetus

65 White carbonate fillers An ocean of difference

75 A weekend in Westport

**SEPTEMBER 1987**

25 Phosphate Rock Trends in processing and production

61 Minerals in fire protection Construction supports market

75 Turkish meeting Abstracts and biographies

83 Zeolitisation of perlite A prospective route

**Institution of Mining and Metallurgy**

**JULY 1987**

A95 Presidential address: The Law of the Sea: personal reflections on the deep-sea mining issues
A.G. Moncrieff

A104 Platinum-group metals: report of the eleventh

Platinum—one of the world’s most strategic metals
F.D. Collender

Platinum-group element exploration: targets and guidelines
D.L. Buchanan

Investigation and exploitation of platinum in UG2 Reef at Western Platinum mine
I.M. Hossey and A.A. Saffy

Refining of platinum-group metals
B.F. Rimmer

Developments in the market for platinum
A. Austin

Technological trends in industrial applications of the platinum-group metals
G.J.K. Acres

Processing of platinum-group metals mined from Merensky Reef
B.M. Symes

A129 Development of modelling techniques in petroleum exploration and production
Jack Birks

A136 Technical notes
Mining technique for high-level nuclear waste repository
Ivar Sagefors

A137 New railway tunnels of Deutsche Bundesbahn
P.M. Sanders
Exploration geochemistry in some low-latitude areas—problems and techniques
G.J.S. Govett

Alteration associated with volcanogenic sulphide ores at Mount Chalmers, Queensland, Australia
R.K. McLeod

Lower Proterozoic stratiform sulphide deposits in Loch Maree Group, Gairloch, north-west Scotland
E.M. Jones, CM. Rice and J.R. Tweedie

Interpretation of drilling parameters for ground characterization in exploration and development of quarries
J.Pech, M.J. Scoble and M.Carter

Lower Proterozoic stratiform sulphide deposits in Loch Maree Group, Gairloch, north-west Scotland
E.M. Jones, CM. Rice and J.R. Tweedie

Exploration and extraction of structurally and lithostratigraphically controlled fluorite deposits in Castleton-Bradwell area of Southern Pennine Orefield, England
N.J.D Butcher and J.D.Hedges

Computer-aided evaluation of cement raw materials in southern Africa—a case history
D.P. Jefferson

Technical notes
Auger drilling
W.L. Barrett

Conservation of geological features in extractive sites—legislation and case histories
L.E. Richards

Middle Dalradian Corrycharmaig serpentinite, Perthshire, Scotland: an ultramafic intrusion
CA. Hawson and A.J.Hall

Factors influencing behaviour of flotation froth
M. Szatkowski

Cobalt recovery from Kelex 100 by hydrogen stripping
N.M. Stubine and P.A. Diştin

Mathematical model of the Stokes hydrosizer
R.I. Mackie, P.Tucker and A. Wells

Thermal regeneration of activated carbons—effect of temperature, time and steam addition on carbon activity
J. Avraamides

Characterization and separation of metallurgical residues from Kidd Greek zinc processing plant
R. Lostra et al.

Current trends in smelting and refining of secondary copper materials
W.S. Nelmes

Leaching behaviour of copper converter slag obtained under different cooling conditions
R.P. Dos et al.

Technical notes
Method of automating semi-batch flotation
T. Yalcin and A.M. Reilly

Development of contact angles on hazlewoodite
J.K. Critchley and C.J. Hunter

Comparison of performance of various laboratory flotation cells
C.T. O’Connor, R.C Dunne and R.B. Duncan

Discussion
Improved gold and silver recovery from Spanish gossan ores by sulphidization prior to cyanidation
C. Nunez, A. Roca and F. Espiell

Barium ion flotation with sodium laurylsulfate, I. Mechanisms controlling the extraction process
P. Bernasconi, J.E. Poirier, G. Bouzat, P. Blazy, J. Bessiere and R. Durand
45 Barium ion flotation with sodium laurylsulfate, II. A Model for the calculation of the recovery curves
P. Bernasconi, J.E. Poirier, P. Blazy, J. Bessiere and R. Durand

57 Bacterial leaching—complex sulphides of copper, lead and zinc
G.R. Chaudhury and R.P. Das

65 Mass balance calculations around mineral processing units using composition analyses within particle-size classes
D. Hodouin and S. Vaz Coelho

83 Separation of germanium and arsenic from solutions by flotation
K.A. Matis, I.N. Papadoyannis and A.I. Zoumboulis

81 Successor corporation rules—an update;
Robert B. Parsons

93 Anionic depressant function in anionic flotation hematite
T.L. Wei and R.W. Smith

105 Evaluation of flotation collectors for copper sulfides and pyrite, I. Common sulphydryl collectors
P.K. Ackerman, G.H. Harris, R.R. Kilimpel and F.F. Apian

129 Evaluation of flotation collectors for copper sulfides and pyrite, II. Non-sulphydryl collectors
P.K. Ackerman, G.H. Harris, R.R. Kilimpel and F.F. Apian

141 Evaluation of flotation collectors for copper sulfides and pyrite, III. Effect of xanthate chain length and branching
P.K. Ackerman, G.H. Harris, R.R. Kilimpel and F.F. Apian

44 CIM Bulletin

JULY 1987

33 In situ testing in underground backfilled stopes;
Malcolm Scoble, Luciano Piclacchia and Jean-Marc Robert

39 Centrifuge model studies for backfill desing at Westmin Resources Limited H.W. Mine;
H.J. Mitchell and J.D. Smith.

45 A design philosophy for surface crown pillars of hard rock mines;
Marc C. Betounay

62 Simulation of a longwall development-extraction network;
Sukumar Bandopadhyay and Amapuram Sundararajan

71 Development of the automatic GO-80 drill;
J. Kelly and R. England

75 Changes in grade, volume and contained gold during the mining life-cycle of gold placer deposits;
J.D. Bliss, G.J. Orris and W.D. Menzie

80 Influence of hydrogen pero-ide addition on the corrosion of carbon steel by concentrated sulphuric acid;
CM. Davidson and D.J. Drexler

AUGUST 1987

37 Blast simulation, surface and underground, with the SABREX model;
G.K. Jorgenson and S.H. Chung

42 Highland Valley Copper: a strategy for increased productivity;
Poul Hansen

46 Explosives choice at East Kemptville Mine;
J.M. Houston

51 Survival strategy: every bit counts;
O.P. Garg

55 Optimization of open pit short and long-range production scheduling;
Kostas Fytas, Charles Pelley and Peter Colder

62 The use of near surface materials in gold exploration—Kirkland Lake area Ontario;
CF. Gleeson, and V.N. Rampton

71 A comparison of thermally alloyed Zn-Fe coatings produced by mechanical wiping to those produced by post-coating annealing;
J.P. Landriault and F.W. Harrison
SEPTEMBER 1987

39  Cyclone modelling: a review present technology;
    B.C. Flintoff and L.R. Plitt and A.A. Turak

51  Fuzzy Logic: a potential control technique for mineral processing:
    C.A. Harris and J.A. Meech

60  Blended ANFO-based explosives:
    W.B. Evans, and D.P. Taylor

65  Computer-aided dynamic analysis and control design for grinding circuits;
    Y. Dube, D. Hodouin

71  TransAlta’s prestripping system selection;
    M.D. Gleghorn and P.R. Clark

78  Applications of geophysical methods to resource development in northern Canada;
    P.T. Lafleche, A.S. Judge and A.E. Taylor

88  Post-graduate theses in Canadian universities on geologic research related to mineral deposits, 1983-1986

115 Corrosion of test results and application of coil-coated Galfan;
    E.F. Godwin, A.F. Skenazi and R.F. Lynch