April 1985

Panorama
Bamboo Creek—one of Western Australia's many gold projects; Clogau and Gwynfynydd mines—a Welsh gold revival; Plans for the development of Red Dog, Cominco's Alaskan lead-zinc project.

World Highlights

Lokken Gruber
This Norwegian copper-zinc mine uses modern methods and equipment underground. Its redesigned mill flowsheet gives improved concentrate grades and recoveries.

Cost Control
A costing system is described which helps management achieve better results through improved information flow.

Pumps
Many types of pumps are employed in the mining and mineral processing industries. Some of the most important are described together with design trends reported by the manufacturers.

Beryllium
The geology, production and uses of this space-age element.

May 1985

Panorama
A new nickel mine in Finland; The major Cerrejon coal project in Colombia, S. America begins shipments; A giant new granite quarry in Scotland; Flash smelting at Bulgarian Cu smelter; Outlook for S. African coal.

June 1985

World Highlights

La Commanderie
A highly mechanized underground mine in France, La Commanderie is one of Cogema's sources of uranium.

Manganese
Serious economic problems are facing the producers of this essential industrial commodity. The strategies being applied to deal with them are examined.

Self Reliance
A comprehensive scheme for overhauling and rebuilding equipment at an Indian iron ore mine saves foreign exchange and reduces costs.

XVth IMPC, France
A preview including papers to be presented and exhibitors at this important Mineral Processing Congress in Cannes.

Computer-based Mining Design
Present applications of computers to mine design are reviewed, and future trends discussed. A modular-based system is proposed.
Kingswood
Open cast coal mining is an efficient industry in U.K. A typical operation is described.

Ruhr Coal
Mining developments are moving northwards from the Ruhr Valley.

Coal in Iran
An overview of a small but essential national industry.

Eaglet Fluorspar
Geological investigations at a British Columbia CaF deposit.

Mining'85
Preview of some of the equipment on show at this important mining event taking place in Birmingham, England this month.

Tin Usage
Through the ages, new applications have helped maintain demand for this adaptable metal.

Barite in Turkey
Resources, qualities and recent production are reviewed.

**Mining Engineering**

**APRIL 1985**

Shutdown and restart at Pinto Valley - a maintenance viewpoint
*Roberts. Shank*

Lysimeters allow quicker monitoring of heap leaching and tailing sites
*William R. Bond and Jim V. Rouse*

New method allows for anchorage check on rock bolts
*Gene Mattila and Ron Boyd*

Causes and mechanisms of massive pillar failure in a southern West Virginia coal mine
*A. W. Khair and S.S. Peng*

Modeling fluid flow in selective placement of toxic mine spoil
*L.B. Phelps, J.C. Mills, and L.W. Saperstein*

**TECHNICAL NOTE:** In-seam seismic surveys using controlled-waveform source transducers
*J.J. Snodgrass*

**DISCUSSION:** Impacts of land use planning on mineral resources
*R.V. Ramani and R.J. Sweigard*

**MAY 1985**

SPECIAL ISSUE: ANNUAL REVIEW 1984

Precious metals exploration fails to make up for declines in other metals

Strong dollar and imports steal momentum from US mining recovery

Minerals processing researchers continue efforts to streamline US mining

Banner year for coal production shadowed by year-end oversupply

All in all, industrial minerals industry is alive and well

**JUNE 1985**

Proper management during prosperous times will lessen impact of tough times
*William A. Griffith*

Strong reserve bases are key to oil companies surviving over the long-term
*Wilfred P. Schmoe*
American steelmaking is becoming a market-oriented enterprise
Frank W. Luerssen

Resource companies must preserve capital while gaining operational efficiency
Adam H. Zimmerman

Engineering Fundamentals Series: Computer-aided mapping and design - their potential for mining use
Kim W. Wright

Gaudin Lecture: Sulfide and metal leaching reactions
M.E. Wadsworth

Recoverable reserves estimation — the geostatistical approach
A.G. Journel

Multigaussian and probability krigings — application to the Jerrit Canyon deposit
G. Verly and J. Sullivan

Land use and aggregate development — a Colorado experience
M.J. Hart and E.C. McDowell

Technical Note: Mobile in-pit crushing * product of evolutionary change
E.M. Frizzell

Industrial Minerals

APRIL 1985

Chromite — the non-metallurgical markets
17

Bromine — exploring the market alternatives
53

Iodine — tight supplies, price to rise
63

From mineral flotation to mineral foams
67

Advanced ceramics — a plea to know more
75

UK Mineral Statistics
83

MAY 1985

Mineral processing (4) — Magnetic separation
21

Processing minerals
43

JUNE 1985

Sodium sulphate - markets shift, as producers re-shuffle
23

Beryllium minerals - demand strong for miniaturisation
41

The bentonite industry in China
53

 Developments in lime production in Turkey
61

South African industrial mineral statistics 1984
65

Institution of Mining and Metallurgy

MARCH 1985

Studies in sulphation: 3-Kinetics and mechanism of sulphation of cupric oxides
CI
P.K. Sahoo, S.C. Sircar and S.K. Bose

Effects of tannin-fatty acid interactions on selectivity of adsorption on calcite and fluorite surfaces
C4
N.K. Khosla and A.K. Biswas

Current and energy efficiencies in silver refining with the Thum cell
CI 1
B.K. Chadwick and Y.K. Rao

47
Analysis of mineral separation systems by means of recovery functions  
A.B. Holland-Batt

Quantitative microstructural characterization of coal slag by linear X-ray image analysis  
M.P. Jones et al.

Enhancement of magnetic susceptibility of pyrite by oxidative pressure leaching  
S.T. Hall, J. A. Finch and N. Rowlands

Simultaneous grinding of two materials in a batch ball-mill  
HE. Rose and S. Matsunura

Use of density tracers for determination of the Tromp curve for gravity separation processes  
T.J. Napier - Munn

Discussion
The secondary copper blast-furnace  
W.S. Nelmes

APRIL 1985

From theory to practice in rock engineering  
E.T. Brown

Enhancing oil recovery - making the most of what we've got  
Sir Peter Baxendell

International Journal of Mineral Processing

JUNE 1985

Selective flotation of phosphatic ores having a siliceous and/or a carbonated gangue  
R. Houot, R. Joussemet, J. Tracez and R. Brouard

On the separation of fine particles by centrifugation  
K.N. Han and W.C. Say

Selective flotation of inherently hydrophobic minerals by controlling the air/solution interfacial tension  
S. Kelebek and G. W. Smith

Coal-cleaning distribution curve simulation: fitting six different models by microcomputer  
K.J. Reid, Lu Maixi and Zhang Shenggui

Computer reliability analysis of coal-cleaning distribution curves  
K.J. Reid, Lu Maixi and Zhang Shenggui

Experimental proofs: residence time distribution in cascadography  
T.E. Durney and T.P. Meloy

Policy analysis model for underground mining enterprises  
R.G. Coyle and D.H. Montaldo-Cancela

Technical note
New method for direct tensile testing of rocks  
P. Townhill-Rewston

Discussions
Report of discussion at the Third international mine ventilation congress  
A99

MAY 1985

Geology of Tunstead quarry, Derbyshire, England  
P.R. Ineson and P.F. Dagger

Investigation of phosphate (apatite) potential of Loch Borralan igneous complex, northwest Highlands, Scotland  
A. J. G. Notholt, D. E. Highley and R.R. Harding

Regional setting, geology and metal distribution patterns of Navan orebody, Ireland  
C. J. Andrew and J. H. Ashton

Reappraisal of geological setting and potential of Kilembe copper mine, Uganda  
A. J. Warden
### CİM Bulletin

#### APRIL 1985

Relation of fluid inclusion geochemistry to wallrock alteration and lidiogeochemical zonation at the Hollinger-McIntyre gold deposit, Timmins, Ontario, Canada  
*Ted J. Smith, and Stephen E. Keşler*

Case histories in die use of Pulse EM from surface and boreholes as an aid in die detection and definition of deep ore deposits  
*J. Duncan Crone*

Geology of the Gondor volcanogenic massive sulphide deposit, Slave Province, N.W.T.  
*D.S. Buhar and J.B. Heslop*

The Hishikari gold deposit: an airborne EM discovery  
*Ian M. Johnson, and Minoru Fujita.*

A feasibility study on the reclamation of coal waste dumps by bacterial leaching  
*R.G.L. McCready and Marcos Zentilli*

Cominco’s Trail zinc pressure leach operation  
*M.T. Martin and W.A. Jankola*

#### MAY 1985

Consolidation of mine fill by freezing  
*Michael L. Jeremic, and Rachel S. Prudhomme*

Mining demonstrations and longwall mining systems  
*G. Zahary, and I.R. Muirhead,*

A total system concept for the reclamation and hydraulic transportation of dense solids from tailings and settling ponds  
*Peter Van-de-Velde*

Old principle: new concept  
*Derek Harvey*

Technological innovation and Canadian coal mining  
*TS. Cochrane*

A commercial coal-oil-water mixture processing facility  
*D.C. Fuller*

Spontaneous combustion of Canadian coals  
*K.K. Feng*

Warrants and SPTCs add zest to new share issues  
*Robert B Parsons*

Pilot plant study on improved electrostatic precipitation of copper converter dust  
*C.H. Teh, and L. Lamothe*

#### JUNE 1985

An example of geological modelling and data manipulation with a microcomputer. Bulimoose Coal Mine northeastern British Columbia  
*Ward E. Kilby, and Bruce I. McClymont.*

Planning and operational cutoff grades based on computerized net present value and net cash flow.  
*Arnold R. Pasleka, and George V. Sotirow.*

On-line computer applications in mineral processing  
*Michel Garon,*

The computerization of the engineering office  
*Graham E. Brown*

Two procedures for development of exploration tactics in British Columbia  
*J.H. Shillabeer.*

Applications of fracture mechanics in failure analysis case studies  
*W. W. Tennese, and M.N. Bassim*

Impurities in the lead concentrate of Brunswick Mining and Smelting and their behaviour in the lead blast furnace  
*W. Petruck, and D.R. Morris*
Inversion from Finite Offset Data and the Simultaneous Reconstruction of the Velocity and Density Profiles
R. Eiges and S. Raz

On the Improvement in Penetration Achieved by using Extended Marine Source Arrays
M. H. Safar

Effect of Inclined Anisotropic Substratum on Magnetotelluric Response
Ramesh P. Singh

A Method to Determine the Velocities of the Seafloor and Near-Surface Sediments
A. M. Berge and B. Beskow

An Investigation of the Spectral Properties of Primary Reflection Coefficients
A. T. Waiden and J. W. J. Hoşken

DC Geoelectric Sounding to Determine Water Content in the Salt Mine ASSE (FRG)
W. Kessels, I. Flentge and H. Kolditz

Combined Sounding-Profiling Resistivity Measurements with the Three-Electrode Arrays
M. Karous and T. K. Pernu

Self Potential and Current Channelling
J. P. Cull

Comments on "Boundary Element Method for the Arbitrary Inhomogeneities Problem in Electrical Prospecting" and "Reciprocal Averaging Techniques in the Geoelectrical

Boundary Element Approach"
M. Okabe, U.C. Dos

Reply to Comment by U.C. Das.
M. Okabe

Comparison of Methods to Determine Q in Shallow Marine Sediments from Vertical Reflection Seismograms
D. Jannsen, J. Voss and F. Theilen

On direct Recovery of the Impulse Response
E. Szaraniec

Possibilities of Using Vertical Geophone Arrays (CVA) in Reflection Seismology
H. Ritter, K. Köhler and H. Arnetzl

The Influence of an Asymmetry in the Sequence Rock/Coal/Rock on the Propagation of Rayleigh Seam Waves
L. Dresen, C. Kerner and B. Kühhbach

Normal-Incidence Wavefield Computation Using Vector-Arithmetic
R.-G. Ferber

A Regional Gravity Study of the Northern North Sea (56 - 62°N)
J. Haspers, E.G. Finnstrom and J.S. Rathore

The Gravimetric Detection of Mining Subsidence
D. Lyness

A Systematic Approach for Evaluating Airborne Electromagnetic Systems
M. E. Best