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45 A theory of cutter roof failure and its application
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50 A dynamic support system for yielding ground
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60 Flotation improvements at Placer Dome's Campbell mine
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71 2001 A Mining odyssey - New equipment and technology in mining at Highland Valley Copper
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291 Suggested methods for laboratory testing of swelling rocks
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339 Fuzzy model for the prediction of unconfined compressive strength of rock samples
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351 Pre- and post-failure ground behaviour: case studies of surface crown pillar collapse
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361 Quantifying progressive pre-peak brittle fracture damage in rock during uniaxial compression
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433 Influence of stress-induced and thermal cracking on physical properties and microstructure of La Peyratte granite
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449 Tensile resistance of rock anchors
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475 FDM predictive methodology for subsidence due to flat and inclined coal seam mining
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493 A stress calculation model for the 3D borehole slotter

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509 In situ rock salt permeability measurement for long term safety assessment of storage

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543 Effect of cyclic loading and strain rate on the mechanical behaviour of sandstone

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581 Linking stress-dependent effective porosity and hydraulic conductivity fields to RMR

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613 Gas relative permeability and pore structure of sandstones

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627 Completing the hollow cylinder methodology for testing of transversely isotropic rocks: torsion testing

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673 Selection of the threshold value in RQD assessments

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687 Stability of symmetric wedge formed in the roof of a circular tunnel: nonhydrostatic natural stress field

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693 Dynamic nature of coal permeability ahead of a longwall face

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701 An application of linearised dimensional analysis to rock cutting

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711 Numerical simulation of the, cutting of inhomogeneous rocks

S. Q. Kou, P.-A. Lindqvist, C. A. Tang and X. H. Xu

INDUSTRIAL MINERALS

APRIL 1999

21 Talking Turkey

An update on the Turkish minerals industry

The Turkish minerals industry is more buoyant than ever. Turkish borates, magnesite, perlite, pumice and celestite are still leaders on the world scene. IM went to Turkey and returned with a producers round-up and a consuming market overview. The front cover shows the selimiye Mosque, built on the orders of Sultan selim II (1569-1575) in Edirne (Adrianople), Thrace, notrhwetn Turkey.
(Courtesy : Turkish Tourist Office).

49 Optimised dry ball mill grinding

59 The final frontier

Kaolin processing lipuidity

67 3rd Processing for Profit Conference abstracts 26-28 April 1999, antwerp, Belgium

77 Ceramic casting

Challenges for US ball clays

89 Sillimanite minerals

Refractory markets slump takes its toll

97 Dry cargo freight
Market forces&future outlook

MAY 1999

41 A see-thaw market

The ups and downs of European HF

The hydrofluoric acid industry is largely dependent on the markets for fluorocarbons. The phase-out of CFCs caused a slump in HF demand in the early-mid 1990s, resulting in falling acid-grade fluorspar consumption. However, over the last three years HF demand has been rebounding as refrigeration and air-conditioning consumers increasingly switch to HCFCs and HFCs. Nevertheless the long-term outlook remains uncertain with the European Community leading an accelerated phase-out of HCFCs, and HFCs, also coming under pressure. How these changes may affect future shipments of fluorspar, such as those shown on the cover are discussed.

(Cover: courtesy of Cia. Minera las Cuevas, Mexico)

25 Grinding and bearing it Zircon market insight

51 Fluorspar '99 Conference abstract
9-11 May 1999, San Luis Potosi, Mexico

57 Opportunities in New South Wales
Minerals of Australia's oldest state reviewed

70 Building cement on dimension stone waste

JULY 1999

23 The heat is on

A review of the non-ferrous refractories market
Compared to the steel industry, non-ferrous markets consume much lower volumes of refractories products. This niche market has been influenced by increased production of secondary metals and a trend towards environmentally friendlier and more cost-efficient smelting processes. As the non-ferrous industry has not been spared from increasing consolidation, refractories producers now have to build a closer rapport with larger customers to remain competitive. IM reviews the various non-ferrous consuming market of refractories products and provides a full account of the smelters, converters and other electrolytic cells. The cover picture this month shows dross removal in an aluminium furnace (courtesy of Harbison-Walker Refractories Co.).

37 New kid on the block
Can CRS make the grade?

45 A cast of thousands
A review of India's foundry industry

56 Pigment in the middle
ATiO₂ industry focus

70 Moving mountains
Mendoza making progress

AUGUST 1999

25 A view to changing horizons
Germany's minerals reviewed"

Germany is a leading industrial nation and the world's third largest trader of manufactured goods. But the country's mineral reserves are gradually disappearing, and apart from a self-sufficiency in a handful of minerals. Germany is largely dependent on imports. During June, IM visited over 20 mineral producers, processors and traders in Germany to review their operations and acquire an insight into this particular industry sector. The cover picture this month depicts Castle Montabaur in the Westerwald region - one of the world's biggest ceramics clay centres. Montabaur was built in 1217 on the order of Archbishop Dietrich II von Wied, and today hosts the German Guilds Academy for Further Education.

22 Nice to see you!

45 Absorbent pet litters
Swell times ahead

50 Improvements in the field of AIF₃ and HF technologies

57 Perlite producers
Heavy hitters in a lightweight business

MIMM, I V. IM I KIM.

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40 Options and costs for CO₂ reductions at coal-burning utilities
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45 Technology news : laser scanning aids underground mine mapping
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47 Technology news:
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61 Increase your plant recovery : more efficient spiral circuits
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57 124,000 attend ConExpo-Con/Agg '99 in Las Vegas
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- 49 Mitigation of water contamination at the historic Ferris-Haggarty Mine, Wyoming
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- 721 Effect of particle size on flotation performance of complex sulphide ores

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733 Supervisory control at Salvador flotation columns

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745 Analysis of alkylxanthate collectors on sulphide minerals and flotation products by headspace analysis gas-phase infrared spectroscopy (HAGIS)

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757 Interfering ions in the flotation of a phosphate ore in a batch column

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769 The effect of salinity on the capacity and selectivity of ion exchange resins for gold cyanide

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787 Reductive decomposition of galena (PbS) using Cr (II) ionic species in an aqueous chloride medium for silver (Ag) recovery

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799 A new magnetic separator and classifier: prototype design

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809 Fundamental batch mill model identification

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827 The application of statistical process control

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837 A study on the intergrinding of clinker and limestone

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AUGUST 99'

851 The characterisation and behaviour of carbonaceous material in a refractory gold bearing ore

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863 An acidic pressure oxidation pre-treatment of refractory gold concentrates from the Kwekwe Roasting Plant, Zimbabwe

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877 The role of metal - cynaide species in leaning gold from a copper concentrate

K. L. Rees and J. S. J. Van Deventer

893 Bioleaching of copper sulphide concentrate using extreme thermophilic bacteria

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919 Mechanism of adsorption of sodium dodecylsulfonate on celestite and calcite

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937 A statistical model for the concentrate water in flotation columns

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949 Integrated simulation of grinding and flotation application to a lead - silver ore

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969 Optimisation of the grinding circuit at Arafertil, Brazil

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985 Rate of crud formation in a copper pilot plant settler

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1001 A conceptual model for gold flotation

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1021 Pyrite consumption of xanthate in Hellyer base metal sulfide pulps

M. S. Morey, S. R. Grano and J. Ralston

1033 Effect of different collector dose rates on cobalt segregation

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1041 A new flowsheet for processing chromite fines bycolumn flotation and the collector adsorption mechanism

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1051 Application of fluidization to obtain washability date

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1059 Dense medium separation using a teetered bed separator

K. P. Gálvin, S. J. Pratten and S. K. Nicol

1083 Dephosphorisation of Western Australian iron ore by hydrometallurgical process

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1093 A modified paired t-test for the analysis of plant trials with data autocorrelated in time
T. J. Napier - Munn and D. H. Meyer

1101 The conditions for sampling of particulate materials to be unbiased-investigation using granular flow modelling
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1119 Studies on grinding media wear and its effect on flotation of ferruginous phosphate ore
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1127 Plant trials with the multi gravity separator for the reduction of graphite
D. P. Patil, B. Govindarajan, T. C. Rao, v. P. Kohad and R. K. Gaur

OCTOBER 1999

1147 Quantification of flotation activity by means of excess Gibbs Free energies
J. C. Davidtz

1163 Simultaneous determination of collection zone rate constant and froth zone recovery in a mechanical flotation environment
M. a. Vera, J. P. Franzidis and E. V. Manlapig

1177 The flotation behaviour of chromite with respect to the beneficiation of UG₂ ore.
Q.I. Wesseldijk, M. A. Reuter, D. J. Bradshaw and P. J. Harris

1185 The effect of high intensity conditioning on the flotation of a nickel ore. Part 1: size-by-size analysis
G.Chen, S. Grano, S. Sobieraj and J. Ralston

1201 Enhanced hydrochloric acid leaching of cobalt
E. Jackson and K. J. Lloyd

1213 Formation of TiB₂ from rutile by room temperature ball milling
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1225 Classification and breakage of flocs in hydrocyclones
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1245 Industrial monitoring of hydrocyclocone operation using electrical resistance tomography
R. A. Williams, X. Jia, R. M. West, M. Wang, J. C. Cullivan, J. Bond, I. Faulks, T. Dyakowski, S. J. Wang. N. Climpson, j. A. Kostuch and D. Payton

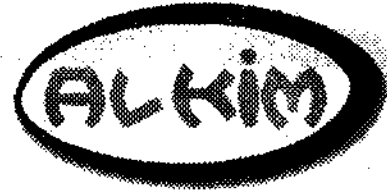
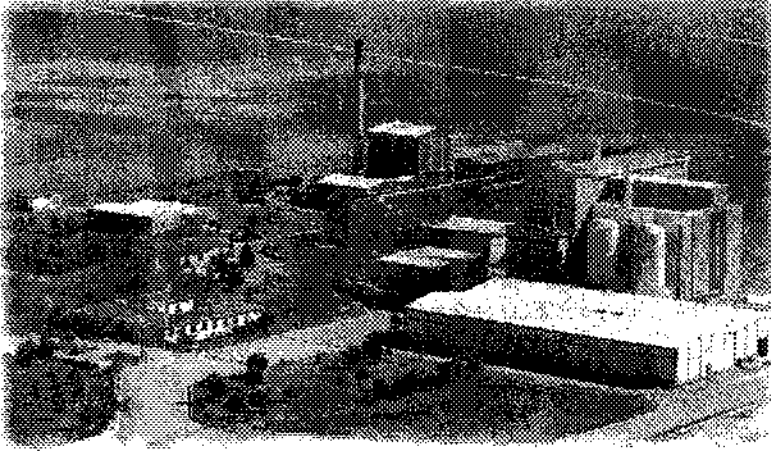
1253 Application of magnetic forces to disk vacuum filtration in the laboratory and plant
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1263 The use of electrode probes in determinations of filter cake formation and batch filter scale-up
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1275 Upgrading of the reactor waste obtained during borax production from tincal
R. Boncukoğlu, M. M. Kocakerim and H. Ersahan

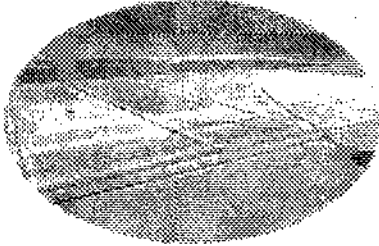
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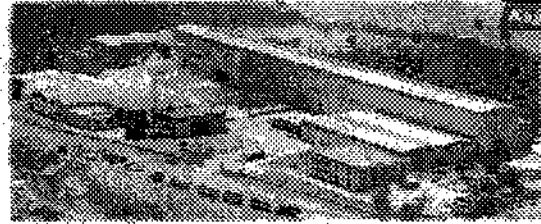
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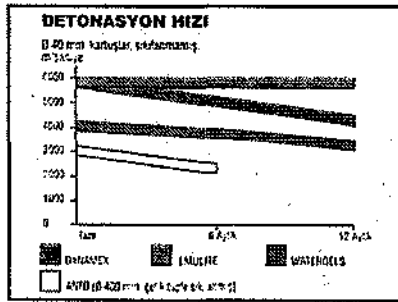
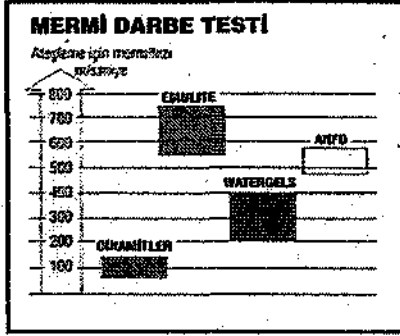
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FAALİYETLERİMİZ

Kapsülle Patlayan Emulite Üretimi

Yemlemeyle Patlayan Emulite Üretimi

KAMYON ŞARJİ (EMULİTE - ANFO)

Anfo ve Emulite-500 Üretimi

P.P.T.A. NİTRAT SATIŞI

Elektriksiz Nonel Kapsüller

MÜHENDİSLİK HİZMETLERİ

Temsilcilikler



Nitro Mak

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