

# Sürelî Yayınlar

## CİM Bulletin

### AUGUST 1991

- 38 CIM's Environmental Policy Statement
- 40 Introduction;  
*Peter Tarassoff*
- 41 Environment and science;  
*Janet E. Halliwell*
- 44 Environment and the law;  
*David H. Searle and Matthew S. Bingham*
- 52 Environment and the economy;  
*Scott Hean*
- 55 Environment and the public;  
*Desmond M. Connor*
- 57 Environmental assesment and the mining industry - the Consolidated Professor case;  
*Roger Cotton, James E. Fisher*
- 63 Environmental management for a corporate perspective;  
*Henry Brehaut*
- 67 Management systems in action - the Campbell mine story;  
*Tim Mann*
- 73 Designing and implementing effective environmental management;  
*J. Fraser Wilson and Randy Billing*
- 75 Computer Applications  
Computer modelling limitations and new directions- Part 1;  
*Simon Houlding*

### SEPTEMBER 1991

- 33 Economics of treating gold ores;  
*K.G. Thomas,*
- 38 Financing for the mineties;  
*Robert B. Wickham*
- 43 American Barrick mining operations;  
*Alan R. Hilt*

- 46 Computer modelling limitations and new directions - Part 2;  
*Simon Houlding*
- 50 How companies value properties;  
*John Smith*
- 53 Back to basics: the feasibility study;  
*J.R. Goode, M.J. Davie, L.D. Smith, and C.R. Lattanzi*
- 62 The long distance commute in the mining industry: the human dimensions;  
*M. Phyllis Bray*
- 65 Long distance commuting in the mining industry: a wife's point-of-view;  
*Joanna LaForte*
- 72 Simulation models for mineral processing plants;  
*J.M. Merks*

### OCTOBER 1991

- 31 Case study of a hoisting facility upgrading;  
*D.C. Brady*
- 34 Maintaining shaft access and services during headframe replacements;  
*R.B. Smith, D.C. Brady,*
- 39 Kiruna Electric: An all elektrik ramp haulage system for the 1990s and beyond;  
*B. Ling and B. Morrison*
- 45 The design and installation of a mine monitoring and control system;  
*H. de Ruiter and D. Lauzon*
- 49 Maintenance planning and material management systems in productivity improvement in large mining operations;  
*S. Srinivasan and R. Coté*
- 54 Digital instrumentation and control for industrial and small utility electrical systems;  
*R. Hart and D.B. Langford*
- 58 Activating anions in the cassiterite-dodecylamine hydrochloride system;  
*P.R.A. Andrews*

## Industrial Minerals

### SEPTEMBER 1991

- 27 Refractories The next decade
- 45 India's industrial minerals Completing the picture
- 57 Billion Refractories Customer commitment
- 63 Filtration High pressure, high performance
- 72 Process control In-stream analysis with IDC

75 Industrial minerals of Costa Rica A status report

97 Namibia's industrial minerals

### OCTOBER 1991

- 21 Lightweight Insulation Filling the market
- 37 Trading places Netherlands' gateways to Europe
- 49 Czechoslovakia's minerals Production, reserves and exploration

## Institution of Mining and Metalurgy

### MAY-AUGUST 1991

- B47 Canada's National Geochemical Reconnaissance programme  
*P.W.B. Friske and E.H.W. Hombrook*
- B57 A decade of regional geochemistry in China - the National Reconnaissance project  
*Xie Xuejing and Ren Tianxiang*
- B66 Potassium, uranium and thorium geochemical maps of the conterminous U.S.A.  
*Joseph S. Duval*
- B74 Geochemical mapping of carbonate terrains  
*S. Pire tayms*
- B88 Studies of regional drainage geochemistry in Jamaica  
*R.G. Garrett and A.J.S. Geddes*
- B98 Orientation studies in Jamaica for multi-purpose geochemical mapping of Caribbean region  
*P.R. Simpson et al*
- B111 Definition of large-scale zones of hydrothermal alteration by geochemical mapping using organic lake sediment  
*P.H. Davenport and L.W. Nolan*
- B122 Variations in regional geochemical patterns • effects of site - selection and data - processing algorithms  
*J. Ridgway, J.D. Appleton and K.B. Greatly*
- B130 Assesment of biogeochemical mapping at low sample density  
*Colin E. Dunn*
- B135 Regional distribution of As, Sb and Bi in the Grampian Highlands of Scotland and English Lake District: Implications for gold matellogeny  
*JA. Plant et al*
- B148 Significance of pre-or syntectonic origin for certain Iron ores hosted in banded iron formation  
*D.C. Goldring*

### MAY-AUGUST 1991

- C69 Liquid-phase mass transfer in topblown open-channel flows  
*R.K. Hanna and N.A. Warner*
- C79 Oxidation of chalcopyrite in simulated suspension smelting  
*A. T. Jokilaakso et al*
- C91 Processes for reducing zinc from slags using an iron-carbon melt  
*W.J. Rankin and S. Wright*
- C97 Catalytic effects in CaO - enhanced reduction of copper sulphide: Cu<sub>2</sub>S-CaO-C system  
*M. Moïn pourand Y.K. Rao*

**C105 Pilot • scale study of effect of mineralogy and particle size on flash smelting of nickel sulphide concentrates**  
*J. G. Dunn et al*

**C110 Thermodynamic properties of magnesium chloride ammines**  
*R. Lastra*

**C115 Shrinking - core model for diffusion through product layer for reactions involving more than one mobile species**  
*M.D. Pritzker*

**C117 Energy considerations of gibbsite calcination process**  
*O. E. Potter and W.J.N. Fernando*

## International Journal of Mineral Processing

SEPTEMBER 1991

**161 Feasible designs for separation networks: a selection technique**  
*M.C. Williams and T.P. Meloy*

**175 Simulation of magnetic flocculation behaviour of fine minerals**  
*ft A. Williams and X. Jia*

**193 Settling velocities of particulate systems, 6. Kynch sedimentation processes: batch settling**  
*F. Concha and M.C. Bustos*

**213 Redundancy analysis of complex sets of mineral processing data for mass balance computation**  
*D. Hodouin, N. AIM and F. Flament*

**233 Maximum gas and bubble surface rates in flotation columns**  
*M. Xu, J. A. Finch and A. Uribe - Salas*

**251 The effect of sonic treatment on the flotability of oxidized coal**  
*W.H. Buttermore and B.J. Slomka*

**259 Selective flocculation of kaolinite from mixtures with tribasic calcium phosphate using hydrolyzed polyacrylamides**  
*Pradip, ft A. Kulkarni, S. Gundiah and B.M. Moudgil*

**271 Selective flocculation of tribasic calcium phosphate from mixtures with quartz using polyacrylic acid flocculant**  
*Pradip and B.M. Moudgil*

**283 Shear - flocculation of quartz**  
*G.B. Raju, T. V. Subrahmanyam, Z. Sun and W. Forsling*

**295 Extraction of boric acid from brines by ion exchange**  
*U. Schilde and E. Uhlemann*

**311 Elutriation characteristics of coal particles in liquid-solid fluidization in presence of surface active agent**  
*P. Misra, S.K. Sawarkar and U.P. Ganguly*

**319 Effect of the geometry of revolving mixers on their performance**  
*A A Abdelrahman, I.H. Alyand M. Akl*

### SPECIAL ISSUE

**1 Flotation of chalcopyrite, pentlandite, pyrrhotite ores**  
*G.E. Agar*

**21 Pulp chemistry in sulphide mineral flotation**  
*G. Berglund*

**33 The electrochemical and flotation behavior of chalcocite and mixed oxide / sulfide ores**  
*J.S. Hanson and D. W. Fuerstenau*

**49 FTIR analysis of sulphide mineral surfaces before and after collection: galena**  
*J.M. Cases and P. de Donato*

**67 Reactions on sulfide mineral surfaces in connection with xanthate flotation studied by diffuse reflectance FTIR spectroscopy, atomic absorpition spectroscopy and calorimetry**  
*I. Persson, P. Persson, M. Valli, F. Gözö and B. Malmensten*

**83 Surface reactions in aqueous metal sulfide systems. 1. Fundamental surface reactions of hydrous PbS and ZnS**  
*Z.X. Sun, W. Forsling, L. Ronngren and S. Spberg*

**95 Studies of the effect of antimony impurity on the flotation behaviour of galena**  
*K. Laajalehto, E. Suoninen and S. Heimala*

- 103 **Effect of Fe-lattice ions on adsorption, electrokinetic, calorimetric and flotation properties of sphalerite**  
*B. Gigowski, A. Vogg, K. Wierer and B. Dobias*
- 121 **Electrochemistry of sulfide flotation: Growth characteristics of surface coatings and their properties, with special reference to chalcopyrite and pyrite**  
*S. Chander*
- 135 **Anodic polarization of galena in relation to flotation**  
*E. Ahlberg and A. Elfström Broo*
- 145 **Some photoelectrochemical insights into galena flotation**  
*S. Fletcher and M.D. Home*
- 165 **Dielectric study of activation and deactivation of malachite by sulfide ions**  
*J. Bessière, A. El Housni and J.J. Prédali*
- 185 **Correlation between physico-chemical parameters and results in a flotation plant of sulphides: A new approach for the control of the process**  
*J.L. Cécile and J. Villeneuve*
- 193 **Some recent developments in the measurement and control of xanthate, perxanthate, sulphide, and redox potential in flotation**  
*M.H. Jones*
- 207 **Computer-assisted calculations of chemical equilibria with relevance to the chromate depression of galena**  
*B. I. Palsson*
- 223 **Polysaccharides in flotation of sulphides. Part I. Adsorption of polysaccharides onto mineral surfaces**  
*J.S. Laskowski, Q. Liu and N.J. Bolin*
- 235 **Polysaccharides in flotation of sulphides. Part II. Copper/lead separation with dextrin and sodium hydroxide**  
*N.J. Bolin and J.S. Laskowski*
- 243 **Effect of grinding media - chalcopyrite interaction on the self-induced flotation of chalcopyrite**  
*J.H. Attn and J.E. Gebhardt*
- 263 **Possibilities of collectorless flotation in the treatment of pentlandite ores**  
*K. Heiskanen, V. Kirjavainen and H. Laapas*
- 275 **Mechanisms of pyrite flotation with xanthates**  
*X.H. Wang and K.S.E. Forrssberg*
- 291 **New reagents in sulphide mineral flotation**  
*A.M. Marabini, M. Barbaro and V. Alesse*
- 307 **The interaction of polyethylene oxide non-ionic surfactant layers adsorbed on hydrophobic minerals**  
*R.J. Pugh*
- 321 **The influence of metal hydroxides and collector on the flotation of chalcopyrite**  
*G.D. Senbr and W.J. Trahar*
- 343 **Column flotation : A selected review. Parti**  
*J.A. Finch and G.S. Dobby*
- 355 **A flotation column simulator based on hydrodynamic principles**  
*G.H. Luttrell and R.H. Yoon*
- 369 **Some industrial implications of changing frother chemical structure**  
*R.R. Klimpel and S. Isherwood*
- 383 **EMDDEE microflot flatability test**  
*A. IV. Chudacek*

## International Journal of Rock Mechanics and Mining Sciences and Geomechanics Abstracts

NOVEMBER 1991

- 459 **A model for non - linear rock deformation under compression due to sub-critical crack growth**  
*J.M. Kemeny*
- 469 **Time-dependent tunnel convergence Formulation of the model**  
*Y- W. Pan and J. - J. Dong*
- 471 **Time-dependent tunnel convergence - II. Advance rate and tunnel-support interaction**  
*Y. W. Pan and J. - J. Dong*
- 489 **Photomechanical modelling in geomechanics**  
*N.A. Filatov and V.M. Barkovskiy*
- 501 **Remarks on the equations of state of outburst rocks regarded as a solid solution**  
*J. Litwiniszyn*

509 A thermal method to fracture rocks  
*A.I. Oliva, J.H. Balancer), M.E. Navarro,  
V. Sosa, LA. Maldonado, P. Bartoto,  
R.E. Castro and J.A. Azamar - Barrios*

515 Effects of confining pressure and water  
saturation on ultrasonic compressional  
wave velocities in coals  
*G. Yu, K. Vozoff and D.W. Durney*

523 Atlas of Rock Engineering "Mechanisms:  
underground excavations  
*J.A. Hudson*

527 On the fractal character of rock surfaces  
*M. Sakellarbu, B. Nakos and C. Mitsakaki*

535 Application of neural network models to  
rock mechanics and rock engineering  
*Qing Zhang, Jiarong Song and Xiaoyan Nie*

## International Journal of Surface Mining and Reclamation

### SEPTEMBER 1991

107 The effect of anisotropy on the assesment  
of diggability for BWE  
*N. Bölükbaşı, O. Koncagül,  
A.G. Paşamehmetoğlu*

111 A study of surface mine equipment  
monitoring  
*M.J. Scoble, J. Peck, Hendricks*

117 A probabilistic model for a repairable  
mining equipment inventory system and  
procurement policy determination  
*A. Kumar, H. Bulumberg*

123 A simulation to assist a small mine: A  
case study  
*T.T.T.T. Rasche, John R. Sturgul*

129 A methodology for reliability forecasting  
and performance evaluation of a mining  
system  
*Jayanta Bhattacharya, A.S.R. Murty, S.C. Ray*

135 An investigation into rock drilling  
*A.K. Pandey, A.K. Jain, D.P. Singh*

143 Elastic to plastic impact transition in rock  
deformation  
*H.I. Inyang, J.M. Pitt*

151 New directions in RCRA ground - water  
monitoring regulations  
*James R. Brown, Vernon B. Myers,  
Ann E. Johnson, Stephen Walker*

## Mining Engineering

### OCTOBER 1991

1215 Using mobile roof supports for pillar  
extraction at Martin County Coal  
*K.F. Unrug, I.J. Tussey and R. Moore*

1219 Automation aids continuous miner  
productivity  
*S.G. McDowell*

1222 Improving productivity in thin-seam  
continuous mining at Tanoma  
*Scott G. Britton*

1226 Opportunities for continuous mining  
productivity improvements  
*R.H. King and S.C. Suboleski*

1232 Cyprus Copperstone Gold benefits from  
computerized ore control procedures  
*Rodrigo Jerez and Scott Anderson*

1249 Development of a system for analyses of  
airflow patterns in full-scale laboratory  
investigations of dust control systems  
*R. Bhaskar, K. Yang and S. Page*

1255 Legal due diligence - The skeletons In  
the closet  
*J.M. King and C.J. Boggs*

1261 Some new findings from surface  
subsidence monitoring over longwall  
panels  
*V. Luo and S.S. Peng*

### NOVEMBER 1991

1309 Environmental engineering - an evolving  
discipline of increasing importance to  
mining  
*Lane White and Tim O'Neil*

1315 Climax completing \$40 million  
modernization of Henderson Mine  
and Mill  
*William G. Doeppen*

- 1317 **Selling forward increases profits for gold producers**  
*Thomas D. Kaufmann and David R. Hammond*
- 1320 **Conceptual and geometric design of steep slope contour mining**  
*John H. Gasper and Lawrence Adler*
- 1325 **Maintenance evaluation: Guidelines to ensure improvement**  
*Paul D. Tomlison*
- 1329 **TECHNOLOGY NEWS: Surfactant chemical technology works for environmental jobs**  
*John T. Foley*
- 1351 **Case study of controlled district recirculation**  
*A.B. Cecala, R.j. Timko and C.J. Pritchard*
- 1356 **Horizontal stress and its effects on longwall ground control**  
*C.Mark*
- 1361 **Sulfuric acid leaching of a germanium gallium ore**  
*D.D. Harbuck, M.D. Odekirk and J.C. Judd*
- 1365 **DISCUSSION: Short scale spatial variability of sulfur in a coal seam**  
*R.W. Barbaro, K.V.K. Prasad, R.V. Raman! and P. T. Luckie*

## DECEMBER 1991

- 1407 **Process control at Doe Run's Fletcher Concentrator**  
*James A. Jones, Robert D. Deister II, Charles W. Hill, Derek R. Barker and Patrick B Crummie*
- 1412 **Interest shown in Nambija gold deposits in Zambora province, Ecuador**  
*G.E. McKelvey*
- 1415 **Horizontal control of shearers: A three-dimensional problem**  
*Geoff C. Knight and David J. Buchanan*
- 1418 **Materials handling in Indian lead-zinc mines - Status and outlook**  
*A.K. Basu and A.K. Mukhopadhyay*

- 1437 **Mechanized cut-and-fill mining as applied at the Homestake Mine**  
*J.D. Pfarr*
- 1440 **Automation to control silica dust during the pallet loading process**  
*A.B. Cecala and A. Covelli*
- 1444 **On-line diagnostic maintenance systems on continuous mining machines**  
*J.C. Cawley*
- 1449 **TECHNICAL NOTE: The flotation column as a froth separator**  
*C.W. Schultz, R.K. Mehta and J.B. Bates*
- 1451 **DISCUSSION: Roof-control problems and supports in a coal mine**  
*A.W. Khair and S.S. Peng*

## JANUARY 1991

- 43 **Red Dog: Cominco's arctic experience pays off again**  
*Steve Krai, Associate editor*
- 50 **Mineral Hill Mine • A case study in corporate environmentalism**  
*J. W. Danni*
- 54 **Joint mining ventures in the former Soviet republics: A slow beginning**  
*James P. Dorian*
- 58 **Mil drive selection for semiautogenous grinding mills**  
*Dan. Kivari and John Chapman*
- 79 **How smoke hinders escape from coal mine fires**  
*f.N. Kissell and CD. Litton*
- 84 **Coal handleability - Addressing the concerns of the electric utility industry**  
*B.J. Arnold, CD. Harrison and R.A. Lohnes*
- 90 **DISCOL: A long - term, large-scale, disturbance recolonization experiment in the abyssal eastern tropical South Pacific Ocean**  
*E.J. Foell, H. Thiol and G. Schriever*

# Mining Magazine

## SEPTEMBER 1991

- 125 Selective Pb/Zn Flotation  
Five plants in Yugoslavia use  $\text{FeSO}_4$  with NaCN to depress zinc in galena flotation, with cost-effective results.
- 132 Trends in Mineral Processing  
M. Dolezil and J. Reznicek, from Czechoslovakia, review developments in mineral processing which came into the news during 1990.
- 147 Dense Medium Cyclones  
Two Indian authors discuss the use of dense medium cyclones in coal prep.
- 151 Grinding Mills  
Grinding is frequently the key to successful mineral processing; some information is given on mill design and the leading mill manufactures.
- 156 Ball Mill Control  
A Bulgarian team have developed a new sensor to monitor and control balls mills.
- 160 Biohydrometallurgy  
C.C. Mwaba of Papua New Guinea briefly summarizes this alternative process.

## OCTOBER 1991

- 192 Sar Cheshmeh  
Iran's major copper mine and smelter are set to expand, increasing the mining sector's contribution to the national economy.
- 200 Queensland and NSW Coal  
These two States, dominating output in the world's largest coal exporting country, host a number of advanced new projects.
- 211 World Coal  
Growth in coal use and output must continue if the world's energy balance is not to suffer: 1990 production is summarized.
- 215 Zhaotong  
A possible mining project in China, exporting Australia know-how.
- 223 ACIRL  
Some current projects by Secoroc on drilling underground with tubes.
- 229 Long-Hole Drilling  
Comments by Secoroc on drilling underground with tubes.
- 231 Raise drilling at Hilton  
An automated raise drilling package has been operating very successfully at MIM's Zn-Pb mine
- 233 Century Zinc  
CRA's new zinc-lead deposit in northern Queensland, where there are other interesting prospects.

# Mining Science and Technology

## DECEMBER 1991

- 237 Brittleness and micro-scale rock cutting efficiency  
*R.M. Göktan*
- 243 Comparison of longitudinal and transverse cutting heads on a dynamic and kinematic basis  
*O. Z. Hekimoğlu*
- 257 Theoretical and practical aspects of circumferential pick spacing on boom tunnelling machine cutting heads  
*O.Z. Hekimoğlu and R.J. Fowell*
- 271 Material diggability studies for the assesment of bucket wheel excavator performance  
*N. Bölükbaşı, O. Koncağül and A.G. Paşamehmetoğlu*

- 279 An overview of condition monitoring and an expert system for longwall mining machinery  
*A. Basu, Y. Li and R.N. Singh*
- 291 Quality comparison of mining equipment based on their technical characteristics  
*V. Cokorilo and M. Milicic*
- 297 Solder properties for soldering solid pseudo alloy plates of monoblock bit obtained through testing for percussive drilling  
*P. Trifunovic*
- 301 Sill mat evaluation using centrifuge models  
*R.J. Mitchell*
- 315 Study of shield support characteristics and their influence on the roof behaviour in coal longwalls  
*A. Vervoort*
- 323 Two new barrier pillar design methods for longwall mining  
*A. Majidi, P.P. Hassani and P. Cain*
- 337 Measurement of sub-surface strata behaviour in bord and pillar mining a case study  
*R. Krishna*
- 351 Dynamic roof movement in intersections during pillar extraction  
*A. Vervoort and G. Prohaska*
- 359 Analysis of stepped-path sliding with three joint sets  
*A. Özgenoğlu and K. Fotoohi*
- 369 A critical review of mine subsidence prediction methods  
*P.P. Bahuguna, A.M.C. Srivastava and N.C. Saxena*
- 383 The area of influence of groundwater pumping: determination by geostatistical method in a case study  
*S. Majumder and N.S. Sundaram*
- 389 Size distribution of airborne dust produced by the drilling process  
*T. Güyagüler*
- 395 Computer simulation of transient climatic conditions in underground airways  
*T.R. Roy and B. Singh*
- 409 On the state of methane in coal seams  
*I.L. Ettin yer and V.V. Serpinsky*
- 409 Distribution of gas pressure in a radial flow field  
*P. Sun*
- 417 An adiabatic apparatus to establish the spontaneous combustion propensity of coal  
*M.J. Gouws, G.D. Gibbon*
- 423 Experimental Investigations of the flow of water and some water solutions in sandstones  
*R. Skawinski, J. Zółcin'ska and L. Dyrka*
- 433 Geothermal prediction of country rock in deep mines  
*Sun P.*
- 439 Analysis of symmetric contact charge action in breaking rock boulders  
*W. Wei*
- 445 A review of the Brazilian test for rock tensile strength determination. Part I: calculation formula  
*G.E. Andreev*
- 457 A review of the Brazilian test for rock tensile strength determination. Part II: contact conditions  
*G.E. Andreev*





**KARADENİZ  
BAKIR  
İŞLETMELERİ A.Ş.**

SERMAYESİ 200.000.000.000.-TL.  
ZİYA GÖKALP CAD. NO.17-ANKARA

**28.5.1968 tarihinde kurulan şirketin bugün  
MURGUL, SÜRMENE, SAMSUN ve KÜRE'de  
sahip olduğu işletme ve tesislerinde ;**

**Yılda Ortalama:**

---

50.000	ton	Blister Bakır
380.000	ton	Sülfürik Asit
180.000	ton	Pirit Konsantresi

üretilmektedir.



Kömür bütün Türkiye'yi ihya edecek bir servettir  
K. Atatürk

# T.T.K.

## TÜRKİYE'DE METALURJİK ÖZELLİKTE TAŞKÖMÜRÜ ÜRETEN TEK KURULUŞ TÜRKİYE TAŞKÖMÜRÜ KURUMU

**YARATTIĞI İŞ HACMI VE İSTİHDAM OLANAKLARI BAKIMINDAN  
ÜLKEMİZİN EN BÜYÜK KURULUŞLARINDANDIR**

Adres : TTK GENEL MÜDÜRLÜĞÜ-ZONGULDAK/TÜRKİYE  
Telefon : (9-381) 13521 (5 Hat)  
Telex : 48536 TTKZ TR  
Fax : (9-381) 11 900

### TÜRKİYE TAŞKÖMÜRÜ KURUMU ANKARA İTİBAT BÜROSU

Adres : GENÇLİK CAD. DÖNGEL SOK. NO: 119  
ANITTEPE/MALTEPE  
Telefon : (9-4) 231 93 82  
Fax : (9-4) 231 93 82

### DEĞİŞİK KARAKTERDEKİ KÖMÜRLERİN ÜRETİLDİĞİ MÜESSESELER

#### ARMUTÇUK TAŞKÖMÜRÜ İŞLETME MÜESSESESİ (ARMUTÇUK LAVUARI)

KRİBLE  
18-50  
10-18  
0-10  
ŞLAM

#### KOZLU VE ÜZÜLMEZ TAŞKÖMÜRÜ İŞLETME MÜESSESESİ (ZONGULDAK LAVUARI)

KRİBLE  
18-50  
10-18  
0-10  
6-10  
MİKST  
ŞLAM

#### KARADON TAŞKÖMÜRÜ İŞLETME MÜESSESESİ (ÇATALAĞZI LAVUARI)

KRİBLE  
18-50  
10-18  
0-10  
MİKST  
ŞLAM

#### AMASRA TAŞKÖMÜRÜ İŞLETME MÜESSESESİ (AMASRA LAVUARI)

KRİBLE  
18-50  
10-18  
0-10  
TUVONAN



**TÜRKİYE  
KÖMÜR İŞLETMELERİ KURUMU  
GENEL MÜDÜRLÜĞÜ**

1992 YILINDA 42 MİLYON TON  
LİNYİT - ASFALTİT ÜRETİM VE  
281 MİLYAR TÜRK LİRASI YATIRIM  
HEDEFLERİ İLE YURT HİZMETİNDE.

TEŞİNDE SANAYİDE VE TERMİK  
SANTRALLARDA KÖMÜR İHTİYACINI  
KARŞILAYAN EN BÜYÜK KURULUŞ

HİPODRUM CAD. NO:12 06330 ANKARA,  
TEL: (4) 341 31 00, TELEFAX: (4) 341 98 06

# MİKRONİZE MİNERAL ÜRETİMİNDE ÖNCÜ KURULUŞ

Mikronize mineraller konusunda 30 yıllık bir teknoloji birikimi ve 7 ayrı kırma, eleme, öğütme ve mikronize boyutlarda, dünya standartlarına uygun üretim tesislerine sahip Akmaden, 100.000 ton/yıl kapasite ile Türkiye'deki en büyük kuruluştur.

Akmaden'in Ege Bölgesi'ndeki tesislerinde üretilen **KALSİT**, **TALK**, **BARİT**, **KAOLEN**, ve **DOLOMİTİ** boya, kağıt, plastik kablo, hazır sıva, kauçuk vb. gibi sanayi dallarına pazarlamaktadır.

Akmaden üretimde uyguladığı en son teknoloji ve laboratuvar imkanları ile maden ocaklarından, tüketicinin son kullanım yerine kadar yoğun bir kalite kontrol sistemi uygulamakta, müşterilerine teknik-servis-olanakları sunmaktadır.

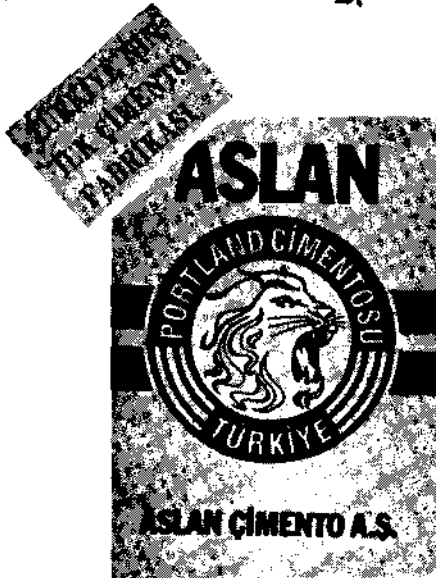


**AKMADEN**

MADENCİLİK SANAYİ VE TİCARET A.Ş.

- **FABRİKA** İzmir-Kemalpaşa Yolu üzeri 22. Km. Kemalpaşa - İZMİR Tel. (548) 117 17 - 115 91 Fax. (548) 115 90 Tlx. 51 830 okımdır.
- **ŞİRKET MERKEZİ** Sıhhi Fethiye Caddesi 120 İZMİR Tel. (51) 12 22 00 - 25 69 69
- **ANKARA BÜRO** Atatürk Bulvarı 107 Engürü İşhanı K 6 Kızılay - ANKARA Tel. (4) 134 02 30 Fax. (4) 118 42 15
- **İSTANBUL BÜRO** Seviye 23, Kabatas Karaköy - İSTANBUL Tel. (1) 151 46 40 Fax. (1) 144 42 00 Tlx. 24 104 dıyd tr.-25 303 expo tr.

*çimento sanayiinde üç çeyrek asırlık bir ömür...*



## çimento tiplerimiz

- PÇ 325 (Portland Çimentosu)... Her tür inşaatla kullanılabilir
- KPÇ 325 (Katkılı Portland Çimentosu)... Her tür inşaatla kullanılabilen ekonomik çimento
- PÇ 400... Normal çimentoya oranla dayanımı yüksek çimento
- PÇ 500... Dayanımı yüksek çimento
- BS 12-1978... İngiliz standartlarına uygun dayanımı yüksek çimento
- ASTM Tip 2... Amerikan standartlarına uygun orta dereceli sülfatlı sulara dayanımı yüksek çimento
- ASTM Tip 5... Yüksek sülfatlı sulara dayanımlı çimento



### MERKEZ BÜRO

Büyükdere Cad.  
Gümülcüneli İşhanı  
No.20 D. 5 K. 3 Şişli-İST.  
Tel : (1) 147 99 63- 147 31 33  
141 51 40 - 140 34 59  
Fax : (1) 146 21 63  
Tlx : 27412 asda tr.

### FABRİKA

Danca, Taşlıman Mevkii  
Gebze- KOCAELİ  
Tel : (199) 52990 (4 Hat)  
Fax : (199)53188  
Tlx : 34143 asfa tr.  
Posta Kod :41700

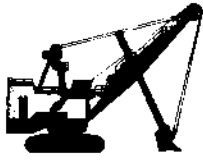
### SATIŞ BÜROSU

Ziverbey Kayışdağı Cad.  
Sarıoğlu Apt. No: 189 D. 3  
Beşevler -Göztepe- İST.  
Tel : (1) 357 09 92- 350 20 94  
Fax : (1) 350 20 94

ASLAN ÇİMENTO A.Ş.



Lafarge  
Coppes İŞTİRAKİDİR



5700LR



5700



2800XP/A



2800XP/LR



2800XP



2300XP/A

**P&H VE P&H/PAGE ELEKTRİKLİ EKSKAVATÖR  
VE DRAGLINE'LERİNİZDE YÜKSEK PERFORMANS  
VE VERİM İÇİN ORJİNAL VE GARANTİLİ P&H  
HARNISCHFEGER YEDEK PARÇALARI KULLANIN**

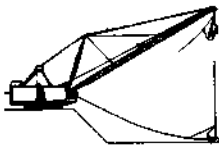
### P&H Ekskavatörlerin Saatlik Durma Bedelleri;

Model	Kapasite, Yd. <sup>3</sup>	Yerinde İş, m <sup>3</sup> / Saat	Bedeli, TL/Saat
1900AL	10	600	3.000.000.-
2100BL	15	900	4.500.000.-
2100BLE	17	1000	5.000.000.-
2300 XP	20	1200	6.000.000.-

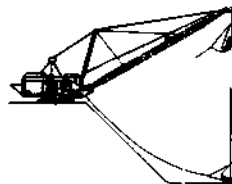
- Makinalarınızda taklit parça kullanarak iş ve para kayıplarına uğramayın.
- Yedek parçaların ne kadar ucuz olduğu değil, ne kadar süre kullanılabilirlikleri önemlidir.
- Lütfen, her türlü P&H ve P&H/ PAGE yedekleri ihtiyacınız için bize başvurun.

**YURTÖREN LTD. ŞTİ.**

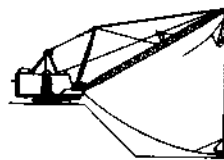
Bağlayan Sokak 4/1, 06660 ANKARA  
Tel : 136 13 60-3 Hat, Faks : 136 97 41, Tlx : 46267 DOYU TR.



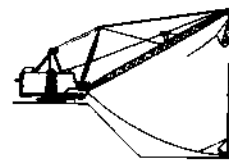
852



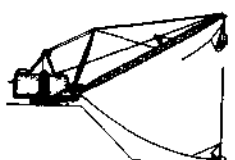
752



740



736



732

# MADENCİLİK, HARFIYAT VE İNŞAATTA GÜÇLÜ KURULUŞLAR

**mt mil-ten**  
ŞİRKETLER TOPLULUĞU



SEDA MADENCİLİK ve TİC. LTD. ŞTİ.

**Selin**

AKARYAKIT TİCARETİ LTD. ŞTİ.



**BİR İNŞAAT**  
ve TİC. LTD. ŞTİ.

**SERTEN**

MADENCİLİK TİC. LTD. ŞTİ.

**İştiraklerimiz:**

**YENİKÖY**

MADEN İŞLETMECİLİĞİ TİC. LTD. ŞTİ.

**DENİZ**

KÖMÜR İŞLETMESİ TİC. LTD. ŞTİ.

---

Ferahevler Yeniyol Sok. No.18 MİL-TEN Binası Tarabya - İstanbul  
Tel: 223 05 02 - 7 Hat, Telex: 26 745 Okte Tr., Fax: 262 50 52

İrtibat Bürosu: Mazhar Öktem Sok. No. 13/1 Şişli - İstanbul  
Tel: 246 33 22, Fax: 231 12 99

# **Bankanız ETİBANK,**

**Yeraltı zenginliklerimizi gün ışığına  
çıkarak değerlendiren,  
gücünü köklü geçmişinden,  
zengin deneyiminden alan ETİBANK,  
güvenerek çalışacağınız, tasarruflarınıza  
yüksek kazanç sağlayacağınız,  
güçlü bankadır.**



**ETİBANK**

“güçlü kuruluş, güçlü bankacılık”