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Open-cast
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Key words: loose fields, classification, technological losses, clay material.

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Key words: Temporarily non-working board, strippings

Kozyrev A.A., Semenova I.E., Avetisyan I.M. THE FEATURES OF EXTENDED IN PLANE OPEN PIT SLOPES STRESS STRAIN STATE IN THE TECTONICALLY STRESSED ROCK MASS

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Key words: geomechanics, stress state, slope stability, mathematical modeling, surface mining


The article proposes a hydraulic borehole mining method including subsequent, inextricably connected in time operations, including hydraulic fragmentation of productive stratum by power liquid, gravity or forced hydrotransport on stope floor toward suction of a hoisting unit (air lift or hydraulic elevator), slurry preparation, suction and further hydraulic hoist of broken rock to the surface by special geotechnological holes.

Key words: mineral amber deposit, hydraulic borehole mining, slurry preparation, hydraulic hoist.

Soltabaeva S.T., Baigurin Zh.D., Rysbekov K.B. DEFINITION OF FACTOR OF OPERATION ON THE BASIS OF LAWS OF CHANGE STOCKS READY TO DREDGING

In article definition of factor of the operation, considering complexity of deposits is offered at an estimation of stocks ready to dredging on career.

Key words: degree of preparedness, ready-to-use reserves, planning, reliability, mining extraction.

Enrichment of minerals
Azbel Yu.I., Vasilkov V.B., Dmitriev S.V., Mezenin A.O. FEATURES OF DRY MAGNETIC SEPARATION OF FINE-GRAIN OXYGENIZED HEMATITE ORE
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Key words: magnetic separation, dry separation, hematite ore, "Huidized bed".

Alushkin I.V., Yushina T.I., Rassulov V.A., Voronkin A.V. INVESTIGATION POSSIBILITY USE RADIOMETRIC METHODS OF TECHNOGENIC DUMPS QUARTZ-FELDSPAR MINE HETOLAMBINA

The paper describes working principle of radiometric methods for enrichment, hear the results of earlier studies enrichment of quartz-feldspar preparation using radiometric methods not obtaining the application in production. Found and tested, at the factory, an effective method and equipment Division, provides technological and mineralogical characteristics.

Key words: Hetolambina, radiometric separation, photometric, photoluminescence, X-ray luminescent, X-ray radiometric methods.

Karmazin V.V., Izmailov V.A., Radzhabov M.M. ANALYSIS OF SPLITTING DIFFERENT DENSITY MINERAL PARTICLES IN GRAVITY–SEGREGATION CONCENTRATE

The article discusses a new gravitational process of vibration–segregation splitting in a thin layer of different density particles. The tests data obtained using artificial mixtures in stable conditions are analyzed.

Key words: heavy concentrate reprocessing, segregation, vibrations, thin-layer segregation concentrator, artificial mixture, vibrational amplitude.

Kozlov V.A. SVOYSTVA'S GOATS OF MAGNETITOVY SUSPENSION, AS DIVIDING ENVIRONMENT FOR COAL ENRICHMENT

The properties of magnetitovy suspension influencing technology of enrichment of coal are considered. Ways of improvement of its properties in the course of preparation and dispensing in technological process are described.

Key words: magnetitovy suspension, suspension density, viscosity of suspension.

Koshel E.A. MAGNETIC–IMPULSE TREATMENT IN GOLD–SULFIDE CONCENTRATE PROCESSING

This paper presents the results of using magnetic impulse pre-treatment for the sulphide gold-bearing concentrate processing.

Key words: magnetic impulse treatment, gold, magnitostriksiya, dislocations, extraction.

Measurement, control, diagnostics

Afanasyev A.E., Efremov A.S. RELATIONSHIP BETWEEN DENSITY OFPEAT BOUND WATER AND ITS ANOMALOUS PROPERTIES

Based on the developed method of measuring density of peat bound water on drying colloidal and capillary-cellular bodies, the authors of the paper made an effort to explain its relation with anomalous properties of free and bound water by the proposed engineering model. The model reflects the change in concentration of clusters and non-associated molecules in free and bound water depending on ambient temperature. The paper considers a proposal on controlling the liquid properties through the concentration change of its structural elements. It is found that equal density of free and bound water can occur in different compositions (under different temperature), that is not identical concentration of clusters and non-associated molecules. In this context water density may be rather referred to processing than physicochemistry.

Key words: peat, bound water, anomaly, structure, technology.
Vasilev S.B., Demtchenko I.I.  
OBJECTIVE MARK OF MINING PRODUCTION QUALITY FLUCTUATION

There is a consideration of mining production mass lots, which give representative tests from quality function and its fluctuations; the optimal mass lot was founded.

Key words: Quality function, representative test.

Demin V.F., Demina T.V.  
ADAPTATION OF MATHEMATICAL APPARATUS TO PREDICTING EXPECTED STRESSES NEAR AN UNDERGROUND OPENING

Analysis of stress–strain state of enclosing rocks depending on thickness of readily falling rock layer at different rock anchor length determined behavior of sidewall rocks in weak rock location zones.

Key words: rock mass, rock anchor, reinforcement, enclosing rocks.

Demin V.F., Smagulova A.S., Demin V.V.  
MECHANISMS OF PRINCIPAL STRESS EFFECT ON MINE ROADWAY STABILITY DEPENDING ON MINING TECHNOLOGY PARAMETERS

With metal frame support, drives in the north–south line are in more favorable conditions than drives perpendicular to this direction (roof–floor convergence is 33% lower, sidewall closure is 36% lower, design section is 30% smaller). With combined support, convergence is almost the same in parallel and perpendicular drives, with 6–7% difference, but decrease in section of parallel workings is higher by 16%. With anchoring, convergence of sidewalls is 33% lower and roof–floor convergence is 17% higher in parallel drives versus perpendicular drives.

Key words: rock mass, stresses, strains, geomechanical mechanisms, stress–strain state, geological and geotechnical conditions, drivage, types of support.

GEODYNAMIC ESTIMATION OF ROCKS IN THE COURSE OF PROTECTIVE PILLAR RECOVERY

The geodynamic estimate of rocks enclosing a protective pillar under mining showed the possibility to improve safety of stoping with using backfill.

Key words: rocks, strains, stresses, geodynamic events, technology.

GEOMECHANICAL STATE OF ROCKS DURING COMPLEX ORE EXCAVATION WITH FILLING

The research presents the geomechanical assessment of rock mass during pillar mining with and without filling. It is found that size of a goaf affects stress values and inelastic strain distribution in rocks.

Key words: stresses, strain zones, mining system, ore.

Kozlov V.V.  
DESIGN OF THE FLEXIBLE TECHNOLOGICAL SYSTEMS OF UNDERGROUND MINING

There have been grounded the necessity the process of formalization for taking decision of technological tasks during modeling of adaptable technological systems for coal excavation.

Key words: flexible, systems, технологические.Flexible, systems, technological.

Hachay O.A.  
RESEARCH AND CONTROL OF ROCK MASSIVE STATE USING THEORY OF OPEN DYNAMICAL SYSTEMS

It had been provided a comparison between the theoretical results of chaotization sources in nonlinear dissipative dynamical systems and results of processing by phase diagrams of detailed mine seismic catalogue data-seismic response on the explosion influence of rock burst massive. The theoretical and experimental results are identical. For further use of the mathematical results for analyze of practical data we must add our data base by detailed
deformation monitoring data and induction electromagnetic data. Then we can try to solve the problem of burst prediction using the results of mathematical theory of chaos occurring.

Key words: mine seismicity catalog, open dynamic systems, phase trajectories, rock mass.

The construction of underground constructions and mines

Kulikova E.Yu. THE PURPOSES, PROBLEMS AND GEOECOLOGICAL MONITORING STRUCTURE DURING THE DEVELOPMENT OF UNDERGROUND SPACE .................................................................

The article provides definitions, goals, objectives and structure of geo-environmental monitoring during the development of underground space.

Key words: geoecological monitoring, underground space, forecast, simulation.

Selin K.V., Shmonin A.B. MONITORING LINING SURFACE SHIFTS OF THE TCHELYABINSK UNDERGROUND RAILWAY STATION “TRADING CENTRE”, BEING CONSTRUCTED BY TRIGONOMETRIC LEVELLING METHOD ..............................................................................................................

The abstract: The methods providing security of civil engineering works at the underground railway station being constructed by underground works and disposed in broken rock mass are introduced. The basis of the presented methods is operative mining – survey monitoring of roof deformations by trigonometric levelling method with up – to – date tacheometers application.

Key words: deformation monitoring, trigonometric leveling, tacheometer, controlled section, relative high – altitude position, deformational mark.

Geology

Golynskaya F.A. METAMORPHISM INTENSITY AS THE MAIN GENETIC TRAIT OF SELF-COMBUSTION COAL .................................................................

Article is devoted to spontaneous combustion of coals of varying degrees of metamorphism in the case of known pools. Found that the most prone to spontaneous combustion brown coal, to a lesser extent - the stone, and anthracite is almost no spontaneous combustion, which is associated with changes in the structure of the macromolecule of coal, leading to a decrease in the rate of sorption of oxygen and therefore self-heating and spontaneous combustion of coal.

Key words: metamorphism, self-combustion of coal, critical temperature, air absorption rate, spontaneous fires, coal basins.

The automated and information systems

Valuev A.M., Pankratov A.S. CURRENT TECHNOLOGIES OF DATA INTEGRATION FROM INDEPENDENT DATABASES AND THE POTENTIAL OF THEIR APPLICATION IN PLANNING AND CONTROL PROBLEMS. ..........

The problem in question is the simultaneous use of independent databases for planning and control problem solution. Two forms of informational interaction are presented, the first for databases serving for departments of the same organization, the second for business partners’ activities coordination under strict conditions of irrelevant information confidentiality.

Key words: control, planning, database, information system, enquiry message, confidentiality.

Markaryan L.V. EVOLUTIONARY SOLUTION CONCORDANCE METHOD APPLICATION IN THE INDUSTRIAL FORESIGHT PROJECTS .........................

In this article, we propose a new method for predicting expert-MES (method of evolutionary coordination of decisions). MES is presented as a way of organizing the collective work of the people to make a single coherent solutions. Showing the
rules of interaction and networking computer program to implement the expert method. A model of the application of this method for the Foresight project in the industry.

Key words: industry, Foresight project, the expert method, MES (method of evolutionary coordination of decisions), iteration, expert evaluation, weakly-structured tasks, prediction. expert method, MES (the method of evolutionary agreed solutions), iteration, expert evaluation, and poorly-structured tasks, prediction.

**Nagovitsyn O.V., Lukichev S.V., Alisov A.Y.** DATA OBJECT STRUCTURE OF MINEFRAME SOFTWARE

The description of object structure of computer aided design and mine planning is given. The examples of the main objects of mining technology, their properties and components are presented.

Key words: modeling, mining, database, software engineering.

**Nagovitsyn O.V., Lukichev S.V.** AUTOMATED ENGINEERING TOOLS OF MINEFRAME SOFTWARE

The article deals with the automated tools of MINEFRAME software for solving problems of the mine design and planning. Tools of the wireframe and block modeling, blast design, determining of open-pit limits, planning of open pit and underground mining, driving of underground workings are described.

Key words: mining, CAD, computer-aided planning, database.

**Nazarenko M.V., Khomenko S.A.** EXPERIENCE OF K-MINE GEOINFORMATION SYSTEM USE IN INTEGRATED MINE PLANNING

The article considers aspects of using geoinformation systems in integrated mine planning and adduces examples of K-Mine GIS application at various stages of open pit mine planning.

Key words: minerals, computer hardware, topographical map, geoinformation system.

**Mining machinery, equipment and transport**

**SVENTA AG** THE BEST DRIVE – PROGRESS STEPS

**Boguslavsky E.I., Smirnova N.N., Egorov S.V.** CALCULATION OF THERMAL AND PHYSICAL PARAMETERS FOR A SURFACE GEOTHERMAL UNIT OPERATION IN THE CONDITIONS OF ACTIVE HEAT EXCHANGE WITH SURROUNDING ROCKS

Mathematical model of the nearsurface geothermal facility is discussed. The character of a heat transfer is supposed to be conductive one. The total heat accumulated by the heatcarrier during the finite time interval is calculated. On the basis of this calculation some thermophysical parameters of the facility are discussed.

Key words: nearsurface geothermal systems, conductive heat transfer, heatcarrier waste, heat transfer power, heat transfer power per depth unit.

**Kharionovsky A.A., Gusev N.N.** TECHNICAL AND TECHNOLOGICAL EFFECTIVIZATION OF COAL MINE WATER PURIFICATION BY ANTICORROSION PROTECTION OF STRUCTURES AND EQUIPMENT OF SEWAGE DISPOSAL PLANTS

The article reviews domestic and foreign practice of making structures and equipment of waterworks resistant to corrosion.

Key words: water resources, mining impact, underground water, sewage disposal plants, corrosion.

**Gvozdev A.A., Filkov M.N., Dunaev A.V., Fedotov A.V.** RESEARCHES OF SOME NEW TRIBO PREPARATIONS

Researches of 12 tribo preparations by the car of friction SMT-1 are resulted.

Key words: tribo, preparations, friction factor, mineral.
Tret’ yak A.Ya., Onafrienko S.A., Burda M.L. ENERGYTECHNOLOGICAL COMPLEX FOR PRODUCTION OF ELECTRIC, THERMAL ENERGY, MOTOR FUELS AND COMPOUNDS FROM COAL

Technology of underground gasification of coals, allowing to get the different types of energy, is offered, namely electric, thermal, motor fuels and compounds from coal. This energytechnological complex allows to realize higher expounded - by building in the field terms experimentally experimental ground.

Key words: coal, energytechnological complex, fuel, energy, oxidant, underground gasification, compound, steam-turbine, compressor, heat-pump, synthesis-gas.

Shishkarev M.P. WORKING CAPACITY RESTORATION SAFETY FRICTIONAL CLUTCHES AFTER OPERATION

Results of research of influence of various types of safety frictional clutches on restoration of their functional capacities after the termination of operation of overloads are reduced. It is displayed that a condition of automatic restoration of working capacity of safety frictional clutches is equality each other magnitudes of a friction torque of sliding of a clutch and the nominal rotating moment of the car.

Key words. A safety frictional clutch, working capacity, a coefficient of friction, an overload, the rotating moment, factor of a store of ganging.

Blasting operations

Volchenko G.N. EXPERIMENTAL–ANALYTICAL RESEARCH OF HIGH-STRESS ROCK BLASTING METHODS USING RESOURCE-SAVING EXOGENETIC PROCESSES IN THE BROKEN ROCK MASS

The author modeled short-delay blasting pattern with formation of curved free surfaces. It was found that at all stages of blasting, fields of tension originate in rock mass and contribute to reduction of energy consumption by failure process.

Key words: failure modeling, short-delay blasting pattern, stress redistribution.

Koltishev V.N. STUDY ON SOURCES OF EXPLOSIONS IN THE LOCATION OF FORMATION OF ZONES WITH DIFFERENT DYNAMIC EFFECTS SEISMIC ENERGY

The process of distribution of aftershocks after a massive explosion and the formation of zones of concentration of dynamic phenomena in rock mass with various power class.

Key words: explosion, shock, seismic energy, mass, dynamic phenomenon.

Economy, management and planning

Basilaya A.G. WORKING OUT OF ECONOMIC-MATHEMATICAL MODEL OF THE ESTIMATION OF VARIANTS OF CREATION OF METRO STATION BY OPEN WAY

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Key words: economic-mathematical model, creation of metro stations by open way.

Kochura I.V. ASSESSMENT OF INFLUENCE OF ECONOMIC RISKS ON PRIME PERFORMANCE INDEXES OF COAL MINES IN DONBASS

Stages of management of economic risk have been adapted to the coal mines. As a result of the qualitative analysis of economic risks, the risky situations have been identified. The neural networks model of estimation and forecasting of factors of economic risk on the basic results of the coal mines operation has been developed. The model will allow to reduce uncertainty of influence of internal and external factors.
Latypov D.V. INTRODUCTION IN MANAGEMENT PRACTICE BY ENTERPRISES OF STONEPROCESSING PRODUCTION OF BUSINESS CASES AND METHODS

Operating efficiency of stone working plants pretty much depends on economic management methods, models and technologies, as well as on the associated economic management system organization. Implementation of the economic management principles dictates updating management technologies (data acquisition and processing procedure, decision-making, account and analysis of execution of the decisions), using innovative techniques (advanced computer technologies, databases etc.) and, foremost, changing mentality and qualifications of management personnel.

Key words: updating of management technologies, prime constituents (factors) of economic mechanism, short cycle problems, long cycle problems.

Maslov M.V., Sekistova N.A. TO A QUESTION OF PERFECTION OF PAYMENTS FOR BOWELS FOR THE COAL-MINING ENTERPRISES

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Key words: coal industry, subsoil use, ecological factors, mineral exploitation.

Trushnikov V.E. FEASIBILITY STUDY OF ECONOMIC INDICATORS RECYCLING INDUSTRIAL WASTEMAGNESIUM-PHOSPHATE RAW IN LAND MANAGEMENT

Proposed environmental and economic assessment of the use of industrial waste magnesium and phosphate raw materials with the stability of prices and production in market conditions and the nature of development when the economic environment for savings and investment.

Key words: man-made resources, phosphates, fertilizers, environment, economic background.

Chaadaev A.S., Zyryanov I.V., Pitenko E.V. INTRODUCTION EXPERIENCE AND DEVELOPMENT PROSPECTS OF QUALITY MANAGEMENT SYSTEM IN THE YARUTNIPROALMAZ INSTITUTE

On the basis of the studied experience of the domestic enterprises various ways of realisation of the process approach, the reason of low efficiency from introduction QMS are presented and ways of the decision of a problem at the expense of correct distribution responsibility and powers are offered. The basic development cycles, activity on documenting and structure of management of quality management system at institute are described.

Key words: quality management system, measures of efficiency, efficiency criteria, quality policy, process-based approach, monitoring, quality day, audit, certification.

Ecology

Batugina I.M., Yu Lijiang, Batugin A.S. IMPACT OF MINING ON GEOECOLOGICAL SITUATION AND INTEGRATED CONTROL IN CASE MINE HUA FENG IN CHINA

In this article is viewed a geoecological situation which takes place in the mine Hua Feng, one of the deepest and the most dangerous mines in China in terms of rock bursts. It is shown, that settling of the earth’s surface, the formation of deep cracks, mining and mining-technical attacks, geological structure and geodynamic condition are closely related, which opens the way to the integrated management of the protection of the environment.

Key words: geoecology, crack, subsidence, environment, geodynamic zoning.
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The crisis effects have intensified the competition between the russian enterprises
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However, EUROCEMENT Group has managed to act more effectively and, de-
spite the negative influences, the Holding's plants have been able to pre-
serve their production capacity, hard-working staff and stable quality of released
products.

Key words: EUROCEMENT group, cement, cement industry, cement production
branch, quality, concrete, plant, technical upgrading.

Konorev M.M., Laptev Yu.V., Titov R.S., Shemenev V.G.  HANDLING
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richment is presented, and also the technological scheme of processing not the
balance magnesites ores is considered.

Key words: magnesite, hrizotil-asbestos, manufacture without waste, enrichment,
losses, chemical reaction, dolomite, not balance ores.

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Complex geomechanic investigations, that is, measuring rock mass natural stress;
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ture; revealing the regularities of changing secondary stress field, mining blind
ore deposits, make it possible to tackle problems of overlying rocks natural con-
trolled self-caving on a well-founded basis. The given method's application al-
lowed conducting successful deposit stripping with the chamber having 110x100
clearance dimensions.

Key words: self-caving of overlying rocks, rock mass structure, seismic methods,
stressed state.

Lukyanova N.V., Myaskov A.V.  EXPLANATION OF NECESSITY OF TAK-
ING INTO ACCOUNT LANDSCAPE CHARACTERISTICS BY NATURAL
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of natural ecosystem restoration. There is suggested to carry out measures for
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Key words: biodiversity, natural ecosystems, rehabilitation, ecological restoration,
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Pashkevich M.A., Gvozdetskaya M.V.  ECOLOGICAL HAZARD MONI-
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analysis, powder x-ray diffractometry, optical and electronic microscopy.
Key words: the waste products of drilling, the ecological danger, the modern analytical methods.

Shibunya V.S., Sarukhanova L.E. USE OF ACOUSTIC OSCILLATIONS IN THE WATER DISINFECTION BY CHLORINATION
A study conducted for the disinfection of water during its processing of chlorination and acoustic vibra.
Key words: escherichia coli, total microbe number, acoustic fluctuations, chlorine gastions.

Mathematical modelling

Sansiev V.G. MODELING OF THE PROCESS TO CLASSIFICATIONS AND DEHYDRATIONS COAL SLIME ON SCREEN
It is offered mathematical model of the process to classifications coal slime on screen, as process of the current slime on permeable surfaces. Solution of the equations Navier-Stokes with obtained in view of change of viscosity of suspension along a direction of driving.
Key words: slurry coal, classification, dewatering, slotted screen, velocity, pressure, Navier–Stokes equation, boundary conditions, free surface, extraction, adversity, bubble regime.

Tsvetkov A.B., Frjanov V.N. NUMERICAL MODELLING OF INTERGROWTH ORIGINATED ON CONTACT OF STRATUMS OF FRACTURE BY MEANS OF THE VARIATION OF FUNCTION PARAMETERS OF MATING
In paper in a seam roof outcomes of research of process of intergrowth of the originated fracture are presented to neighborhoods of a development by means of the complex of job oriented programs built on the concept of synthesis of a mathematical model of a piecewise-homogeneous rock massif from units.
Key words: Mathematical model, rock massif, structural block, contact, fracture, coal stratum, deads, adjacent strata, geologic fault, finite difference method, theory of elasticity salvage problem, synthesis, gravitation.

Tsvetkov A.B., Frjanov V.N. NUMERICAL MODELLING OF INFLUENCE ON THE DEVELOPMENT OF THE SITE OF THE GEOLOGIC FAULT
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Key words: Mathematical model, rock massif, structural block, coal stratum, deads, adjacent strata, geologic fault, finite difference method, theory of elasticity salvage problem, synthesis, gravitation.

Oil and gas

Antoniadi D.G., Savchenk O.V., Arutyunyan A.S. THE ANALYSIS DIFFERENT CATEGORIZATION OIL LAYER ON PRODUCTIVITY. THE SIGNS OF HARD EXTRACTION OIL STOCKS
Categorization oil layer is considered in article on average factor of productivity of the bore holes, providing eight classes, as from hyper productive before layer with ultra low productivity. Considered signs of hard extraction oil stocks.
Key words: categorization oil layer, factor to productivity, hard extraction oil stocks, lateral heterogeneity of reservoir, stratified heterogeneity of reservoir, initial oil saturation of layers, high viscous oil.
Works of young scientists

Agafonov V.V. FUZZY COGNITIVE MODEL OF A COAL MINE
The methods of generation and selection of alternatives in the problem of synthesis of the technological scheme of a coal mine, which is based on the construction of fuzzy cognitive maps and processing of the results of its static and dynamic analysis. Considered architecture and functional characteristics of a multi-user system of support of decision-making, implementing this method.

Key words: fuzzy cognitive map, system performance, alternative

Agafonov V.V. A NEW FUZZY COGNITIVE MODELING APPROACH TO SYNTHESIZING TECHNOLOGICAL SYSTEMS IN COAL MINES
The article describes the cognitive approach to the simulation and synthesis of technological circuits of the mine. As such a model is cognitive map, representing a multitude of describing its concepts (factors), which are given a set of cause-and-effect relationships, and relationships.

Key words: fuzzy cognitive map, cognitive matrix concept.

Aleksandrov A.N. DEVELOPMENT OF SPECIFIC PROCESS FLOWSHEETS TO MINE SEPARATE ORE LOCI AT THE IRON ORE DEPOSIT IN THE GORNAYA SHORIYA
The flowsheets for the long-term mining of the Tashtagol deposit are developed. The additional ore reserves are explored at new areas of the mine filed and the mineral ore grade is evaluated. A number of mining flowsheets are elaborated and proposed with the provision for 1.5-2.0 times increase in the mine performance.

Key words: deposit, ore, flowsheet, schaft.

Bazikina L.R. TRANSFORMATION OF RASTER IMAGES OF MINING GRAPHIC DOCUMENTATION
Theoretical analysis of different types of transformation of raster images is given. Distinctive characteristics of each types of raster images transformation are revealed. Analysis of accuracy of basic types of raster images transformation in specialized graphics software is given. Conclusions about application domain of basic types of raster images transformation are given.

Key words: raster images distortions, types of transformations, matrixes of distortions.

Korchevenkov S.A. FINE PLATINUM RECOVERY FROM PLACER SANDS BY GRAVITY PROCESSES
Year after year geological and mining conditions of placer exploitation worsen; mining operations involve low-grade sands containing fine gold and platinum group metals (PGM). This article discusses research data on applicability of screw separation and jigging as the basic process of PGM fines concentration from commercial size grade of the Kondyor placer.

Key words: placers, platinum group metals, screw separation, jigging, Kondyor deposit.

Nesterenko E.A. OPTIMIZATION OF LASER SCANNING SURVEY PROCESS AT THE COST OF SCAN-POSITIONS NUMBER MINIMISATION
The article analyzes optimization of laser scanning process by minimizing scanning positions. The amount of scanning stations is to be enough to seize the entire scanned subject but minimum in order to shorten the scanning time and reduce the subject measurement information. The implemented study yielded relationships between the scanned subject dimensions, the scan and subject spacing and the number of the scanning stations.

Key words: scanning positions, scanning stations, laser scanner.
Oblicov A.Yu. SOME ASPECTS OF UTILIZATION OF HIGH-CLAY ENRICHMENT WASTE

In given article problem questions, which decision allows eliminating technical complexities connected with utilization of enrichment waste containing clay minerals, are stated on an example of Lomonosov diamond deposit, Archangelsk region, Russia. At present time the work at Lomonosov deposit is complicated by a number of reasons one of which is a necessity of utilization of great volume of enrichment tailings.

Key words: utilization, clay, enrichment waste, tailings.

Osipov Yu.V., Koshelev A.E. BUILDING PASSPORTS STRENGTH OF ROCK SALT WITH A GRAPHICAL ENVIRONMENT COREL DRAW

The paper used software package Corel Draw, based on vector graphics, determined strength parameters of rock salt, built passport strength and determined grip and angle of internal friction.

Key words: rock salt, passport strength, main stresses.

Patutin A.V. DETERMINATION OF INITIAL CONDITIONS FOR ROCK MASS MODELING

The paper presents the main features of FLAC 6.0 software designed for geomechanical problems solving. Horizontal stress in each layer was calculated to determine initial conditions for rock mass modeling.

Key words: modeling, coal measure rocks, initial conditions.

Cheremhina A.P. STUDY OF CONSOLIDATION ALLUVIAL ROCKS AT THE STAGE OF CONSERVATION HYDRAULIC FILL “BEKOVSKY” IN KUZBASS

Results of natural observations, feature of change of pore pressure and deformations in the sloping side a hydraulic fill «Bekovsky», characterizing conditions of consolidation precoat rock period of preservation and stage of exploitation the installations. These changes are physical and mechanical properties of alluvial clay soil for a ten years.Key words: hydraulic fill, interstitial pressure, consolidation.

Cheremhina A.P. ENGINEERING GEOLOGICAL RESEARCH FOR THE PURPOSE OF PROOF OF SAFE CONDITIONS OF REMOVING OF OVERBURDEN HYDRAULIC FILLS FROM LONG-TERM STORAGE

Features of engineering geological conditions of hydraulic fills in Kuzbass with durable period of exploitation and mothballing, necessary to consider during the working out the program of investigations for justification of project of removing the constructions from long-term storage are observed. The results of engineering geological research of Krasnobrodskiy open pit on river Pryamoii Uskat in Kuzbass are represented.

Key words: hydraulic fill, removing from storage, engineering geological research.

Preprints

Sukhomlinov D.V., Kuskov V.B., Kuskova Y.V. MANUFACTURING TECHNOLOGIES OF FUEL BRIQUETS WITH LOW IGNITION TEMPERATURE FROM COAL

Two technologies are proposed for recycling of black coal siftings and slimes from the Pechora coal basin. Moreover, for briquetting of fine slurries the foreground technology is based on extrusion. The technology, based on the use of stamp press, utilizes coal siftings as a raw material.

Key words: briquetting, binder, briquette strength, coal slime, fuel briquette coal riddling, extrusion, pressing.
Zatulovskiy K.A., Firsov A.Yu. MODELING AND MANAGEMENT OF CONDENSATION PROCESS ................................................................. 169
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Key words: thickener, CFD modelling, hindering settling factor, compressive yields stress, control system, GE Proficy Troubleshooter.

Krivitskiy V.O. EFFECTIVENESS OF RUSSIAN ECONOMIC SUPPORT TO SOUTH OSSETIA ................................................................. 231
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Key words: Economic cooperation, foreign economic activity, economic support, development assistance.

Kuzmin I.V. TECHNOLOGICAL EVALUATION OF ROLLER-PRESS APPLICATION IN COMMINUTION FLOW SHEETS OF OXIDIZED FERRUGINOUS QUARTZITES ................................................................. 263
Crushability and grindability of oxidized iron ore sample were studied using standard crushers and roller-press LABWAL 250X100 produced by Thyssen Krupp Polysius. Noted data illustrate that during grinding of products from crushing step, roller-press shows absolute value decreasing of useful energy specific cost comprises of 3,9 kWh/t with feed dimension of ball mill -5+0 mm and 3,3 kWh/t with feed dimension of ball mill -10+0 mm (80% -6 mm, open-cycle processing of roller-press). Crushed products specific surface of oxidized ferruginous ore has been determined after treatment by crusher of standard construction and roller press of laboratory scale.
Key words: oxidized ferruginous quartzite, roller-press, specific surface.

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Key words: ecological hazard, ecological safety, negative impact on the environment, assessment of environmental hazard, integral criterion.

Savenok O.V. THE ANALYSIS BASE RESEARCH AND SCIENTIFICALLY-METHODICAL DECISIONS APPLICABLE IN COMPLICATED CONDITION OF THE PRODUCTION. SYSTEM DEVELOPMENT TO CATEGORIZATION OF THE METHODS AND TECHNOLOGY ................................................................. 361
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main – a composition and characteristic to oils, features argillaceous deposits and etc., and in creation corresponding to methods and technology with use physicochemical approach in combination with the other methods.

Key words: complicated conditions of the production, methods of the increase oil recovery, hard extraction oil stocks, oil recovery factor, categorization physicochemical methods, methods of the address influence, complex and scientifically-methodical decisions.

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