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On the basis of the research developed a method for adjusting the flow of water and the concentration of suspended solids in ruslootvodnom channel when mining of placer gold deposits in the Eastern Trans-Baikal.

Key words: ruslootvodny channel, alluvial gold.

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Showed, that clayey particles technogenic places are subjected natural destroying according to notice scenario Therefore, thin clayey slime, which is produced when washing gold places, has a possible to consider as quality technologically raw material, demand in industry of ceramic.

Key words: alluvial deposits, fine hydro raw, clay particles.

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Key words: environmental hazards, a quarry, minerals.

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Key words: float-and-sink separator, tracer control method, beneficiation.

- Konnova N.I., Kilin S.V., Elizariyev P.V.** CHERNOGORSKOE DEPOSIT COAL WASHABILITY..... 64

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Key words: float-and-sink separator, washability, coal, heavy-density medium.

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- iron-ore processing improvement using spiral separators is illustrated. The laboratory research shows that the first and second stages of the dressing flow sheet with the spiral separators produce different quality concentrates.*
- Key words: iron-bearing ore processing, spiral separators, concentrate.*
- Mantsevich M.I., Malinsky R.A., Lapshina G.A., Khersonsky M.I.** TECHNOLOGICAL ADVANCE IN BASE METAL ORE PROCESSING TOWARD HIGHER SAFETY OF MINING AND METALLURGICAL WORKS..... **74**
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- Key words: ore, mineral processing, concentrates, environmental performance, sulfides.*
- Ryabkin V.K., Cheprasov I.V., Tikhvinskiy A.V.** STUDIES TO ACCESS THE TECHNOLOGY FOR PROCESSING OF FERROUS AND ALLOY METALS USING POLYCHROMATIC PHOTOMETRIC METHOD OF SEPARATION..... **82**
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- Key words: radiometric separation, polychrome photometric separation, rhodochrosite, chromites, molybdenite, wolframite.*
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- Research into oxidizing processes using autochthonous associations of acidophil chemotrophylic mesophilic microorganisms *A. ferrooxidans* and *A. thiooxidans* in relation to ions of ferrous iron, elemental sulfur and sulfide ore revealed prevailing activity of the associated microorganisms toward ferrous iron and sulfide cobalt-copper-nickel ore. Kinetic studies of the bacterial-chemical leaching of rich sulfide cobalt-copper-nickel ore with high magnetic pyrite content showed extractability of nickel to 56%, copper to 7% and cobalt to 54%.*
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Keywords: vertical shaft, reconstruction, concrete lining, mathematical modeling.

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Key words: expert system, underground construction, development of underground space.

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Clear activity - oriented criterion basis for the qualification support of teachers can overcome the subjectivity, and the diversity of incommensurability appraisal ratings.

Key words: FGOS, internal qualification support, rating – list, qualification category.

Strashun Y.P. STANDARDS OF WIRELESS COMMUNICATIONS IN AUTOMATION SYSTEMS..... 124

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Besides it, combination of technologies Ethernet and WLAN gives a chance to provide soft real time (SRT) functioning with data exchange of order 5-10 msec [1].

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Key words: wireless communications, process control, telecommunication protocols.

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Key words: flocculation, deflocculation, digital photo technique, strong-magnetic ores.

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Key words: vertical shaft, boring and explosive operations, ventilation, presence of oil and gas.

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Key words: educational system, higher education, the real sector of economy, multi-agent simulation.

Measurement, control, diagnostics

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Key words: ground penetrating radar, interpretation, temporary cut, fracture, flow chart, lineament.

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Key words: history, a.lopatin, the tape conveyor, the canvas, the tape, the priority, the patent

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Key words: primary crusher plants, cone crushers, jaw crushers.

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Key words: mill, autogenous grinding, construction, advantages.

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Key words: vertical belt conveyor, conveyor transport, mine hoisting.

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Key words: gold deposits, gold mining, the Khabarovsk region.

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Key words: belt conveyors, combustion, mine.

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Key words: gas content of excavations, methane content, coal seams under mining, mine safety.

Technology mining

Mesyats S.P., Averina O.V. TECHNOLOGY OF OIL FUEL UTILIZATION FROM OIL REMOVERS..... **198**

The technology has been developed of oil fuel utilization out of oil removers of treatment facilities using storage pits with mixture of sand and oil-oxidizing microflora on sorbent-carrier, and following transfer to the open site with water-retaining layer and perennial grasses sowing under polymer cover.

Key words: oil fuel, oil remover, storage pits, oil-oxidizing microflora, sorbent-carrier, polymer cover.

- Jalgasuly. N., Chernii G.M., Aralbekova M.A., Imanbayeva D.M.** SORPTION METHOD OF REHABILITATION OF UNDERGROUND WATER.. **203**
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Key words: underground water, purification, sorption, natural, sorbents.
- Karpuhin A.N., Savih O.I., Surin A.D.** UNDERGROUND STORAGE OF LIQUID HYDROCARBONS IN YAMAL PENINSULA..... **207**
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Key words: dominant term: storage of liquid hydrocarbons, underground storage.
- Pleshko M.S., Nasonov A.A.** INTRODUCTION OF EFFECTIVE GEOTECHNOLOGIES BASED ON COMPREHENSIVE MONITORING OF ALL STAGES OF THE LIFE CYCLE OF A MINING ENTERPRISE..... **210**
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Key words: design of a mining facility, vertical shaft, jet grouting.
- Sorokin A.P., Rimkevich V.S., Pushkin A.A., Eranskaya T.Yu.** THE NONWASTE TECHNOLOGIES OF ALUMOSILICATE AND SILICATE RAW MATERIALS COMPLEX PROCESSING OF AMUR REGION..... **215**
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Key words: aluminosilicate and silicate raw materials, nonwaste technologies, aluminium and silicon compounds, mullite siliceous refractory materials, Amur region.
- Economy, management and planning**
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Key words: potash industry, financial report analysis, regression analysis.
- Laptev Yu.V., Titov R.S.** OPTIMISATION OF PARAMETERS OF IS MATERIAL-INDUSTRIAL STOCKS OF AN OPEN-CAST MINE IN A MODE OF A SUSTAINABLE DEVELOPMENT OF THE MOUNTAIN ENTERPRISE..... **235**
Results of researches on optimisation of reserves of capacities of the mountain-concentrating enterprise on Open Society «Uralasbest» example, and also perspective technologies рудоподготовки with application of grohotilno-reloading points are presented.
Key words: ore preparation, material stocks, auto correlation function, transport flow, grohotilno-reloading item, optimization.

- Latipov D.V.** FEATURES OF INFLUENCE OF VARIABLES AND CONSTANT EXPENSES FOR ECONOMIC EFFICIENCY CHANGE AT SELECTING TECHNOLOGY OF MANUFACTURE STONEPRODUCTION..... **244**
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- Nazarov S.G.** AUTOMATION PROBLEMS AND PROSPECTS OF BUSINESS PLANNING FOR ENTERPRISES IN MINING INDUSTRY..... **248**
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Key words: Planning problems, planning prospects, automation of planning, planning technologies.
- Okrainets T.I., Adilbekova A.N.** THE ANALYSIS OF THE CONDITION OF THE COAL INDUSTRY OF RUSSIA AND RESEARCH OF THE FACTORS INFLUENCING VALUE OF THE COAL COMPANIES..... **255**
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- Redina M.M.** ANALYSIS OF THE ENVIRONMENTAL-ECONOMIC SUSTAINABILITY OF THE OIL AND GAS ENTERPRISES..... **266**
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Key words: sustainability, indicator, factor, criteria, environmental-economic analysis.
- Reischahrit E.I., Lemescheva V.V.** ENERGY AUDIT AS A FACTOR OF ENERGY SAVING STRATEGY IMPLEMENTATION IN RUSSIAN FEDERATION.. **270**
The author briefly reviews stages of energy efficiency strategy implementation in Russian Federation and analyzes challenges of the professional energy auditing service market development.
Key words: energy efficiency, energy saving, energy management, energy audit, self-regulatory organizations.
- Savin K.S., Popov M.S.** METHODOLOGICAL BASIS OF EVALUATION OF THE ROLE OF COOPERATION AND SPECIALIZATION IN INCREASE OF EFFICIENCY OF DEVELOPMENT OF NATURAL DEPOSITS..... **275**
Provides a methodological framework based on the principles of determining the efficiency of application of cooperation and specialization of production processes of mining during the development of natural deposits.
Key words: Methodological basis of evaluation of the role of cooperation and specialization. The efficiency of development of natural deposits.
- Sedykh N.K., Chaikovskaya I.N.** CODE OF ETHICS AND CORPORATE GOVERNANCE OF THE ENTERPRISE..... **278**
Corporate governance covers various actions connected with management. It influences the economical indicators of the activity of the coal mining enterprise and its ability to attract capital required for economical growth.
The development of the corporate governance can be realized by means of implementing of some definite standards – codes. The aim of the corporate govern-

ance standards usage is to protect interests of all the members of the business activity of the enterprise. Setting up of the corporate code is one of the methods to provide enterprise with informational exposure and publicity which demonstrates commitment to the high standards of the corporate governance. This is the document that contains standards of relationships with external partners and rules of conduct inside the enterprise. Implementation of the Corporate Governance Code at the coal mining enterprise will let to eliminate weak points in the corporate culture and to gain strategic and tactical goals improving effectiveness of the enterprise.

Key words: corporate governance, corporate ethics, corporate ethics code, code of ethics.

Sekisov G.V., Cheban A.YU. TECHNICAL EQUIPMENT OF THE MINING ENTERPRISES OF THE PRIMORSKY TERRITORY, INVOLVED OF PRODUCTION OF CONSTRUCTION ROCKS..... **283**

In work the analysis of the technical equipment of the relevant enterprises of the Primorsky territory, involved of production construction rocks, and also identified a number of enterprises in the subregion, developed their wells and types of mined rock.

Key words: construction rock, excavators, bulldozers, loaders, dump trucks.

Selin V.S., Tsukerman V.A. REGIONAL INDUSTRIAL POLICY OF RESOURCE CORPORATIONS..... **288**

Annotation. Industrial policy of resource corporations as open multifunctional structures is considered. Its concept is formulated and its main features are identified including regional ones.

Key words: regional industrial policy, corporations, resources.

Solovieva Yu.V. DEVELOPMENT OF TECHNOPARK STRUCTURES: WORLD AND DOMESTIC EXPERIENCE..... **297**

In article various approaches to the content of concept "science and technology park", features of creation and development of technopark structures in Russia and abroad are considered. The author analyzes the main models of science and technology parks, and also stages in development of technopark structures. Conclusions about a current state of technopark structures, features of their functioning are drawn.

Key words: science and technology park, technopolis, technopark structure, innovative policy.

Ecology

Arefov N.V., Garmanov V.V., Osipov A.G., Trushnikov V.E. LANDSCAPE-ECOLOGICAL ZONING AND LAND MONITORING LENINGRAD REGION..... **302**

The basic principles of landscape-ecological zoning. Justified placing permanent network of polygons, fixed reference and benchmark sites to monitor the negative processes in isolated landscape and ecological areas. To assess the modalities of research subjects are encouraged to use factors, structured in terms of detail. The general sequence of work to create maps of landscape-ecological zoning.

Key words: land monitoring, evaluation functions, the quality of land, landscape and ecological zoning.

Politova N.V., Kirichenko Yu.V. SUBSTANTIATION OF POLLUTION AND DEGRADATION OF WATER OBJECTS OF BIG CITIES OF THE RUSSIAN FEDERATION AND USE OF TOOLS OF ENGINEERING-GEOLOGICAL DIVISION INTO DISTRICTS BY WORKING OUT METHODS OF RESTORATION OF A NATURAL HYDROGRAPHIC SYSTEMS OF LARGE CITIES..... **312**

The main problems of hydrographic system of large cities and methods of restoration spoiled water (like rivers, lakes, ponds), especially rising of oxygen content in water are presented in this article.

Key words: river, metropolis, restoration of drainage, geotechnical zoning, pneumatic chamber pumps, a device for forced aeration of rivers.

Melnikova. N.D. THE ENVIRONMENT MONITORING OF THE MINING ENTERPRISE AREA..... **317**

The candidate of geological-mineralogy science, associate professor. Mining and minerals concentration department of South-West State University.

There is shown in the article that there are no excess of harmful components in the area of mining enterprise activity.

Key words: mining, environment.

Mathematical and computer modeling

Aristov A.O. ABOUT STRUCTURAL ELEMENTS OF QUASI CELLULAR NETS..... **322**

There are structural elements of Quasi cellular nets, such as inflow, outflow, elements of cellular automations, turnstiles. These elements should be created with rules of creation quasi cellular nets. It may be used as addition for Quasi cellular nets in different system simulation.

Key words: Quasi cellular net, discrete structure, inflow, outflow, cellular automation, turnstile, simulation.

Miloserdov E.E., Mineev A.V. MATHEMATICAL MODEL OF EVALUATION OF TECHNICAL CONDITION OF BUCKET DIGGER LARGE UNIT CAPACITY THAT IS OUTSIDE THE LIFE..... **332**

The mathematical model allowing estimating a technical condition of the rotor excavator without stopping production is considered.

Key words: excavator, mechanism, modeling, assessment.

Tsvetkov A.B. IDENTIFICATION ALGORITHM PARAMETERS OF THE MATHEMATICAL MODEL OF INFLUENCE OF THE GAS PRESSURE IN ANISOTROPIC ROCK MASSIF..... **334**

A mathematical model of the influence of the gas pressure in the rock mass, which was synthesized from the boundary value problems of gas dynamics and geomechanics. Developed a method for identifying the values of its parameters on the basis of predetermined criteria. To study the proposed model developed a package of problem-oriented programs.

Key words: Mathematical model, rock massif, structural block, coal stratum, adjacent strata, geologic fault, elastic boundary value problem, synthesis, gravitation, anisotropy, identification, gas.

Tsvetkov A.B., Frjanov V.N. NUMERICAL MODELING OF GRAVITATIONAL AND GEOTECTONIC STRESS FIELDS IN COAL MASS ROCK..... **339**

The paper presents a mathematical model of the stress state of the rock mass with the combined effects of gravitational and tectonic forces. To study the proposed model developed a package of problem-oriented programs. A mathematical model was studied in different variants of lateral compression. For mass rock with underground digging to dig presents the results of simulation of the stress field.

Key words: Mathematical model, rock massif, structural block, coal vein, adjacent strata, boundary value problem, theory of elasticity, numerical simulation, computer experiment, synthesis, geotectonic, gravitation.

Oil and gas

Zhadan G.U., Toiba R.R., Miloserdov E.E., Smolentsev D.S. CONSIDERATION OF THE PRINCIPLE OF TURBODRILLS..... **345**

Main types of drilling of oil and gas wells, structure and the principle of operation of the hydraulic zaboyny engine are considered.

Key words: turbo-drill, turbine, column, moment.

- Zhadan G.U., Toiba R.R., Miloserdov E.E., Mamishev A.S.** THE HISTORY OF HYDRAULIC DOWNHOLE MOTORS..... **347**
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Key words: drilling, well, oil, turbo-drill.
- Metallurgy**
- Vidmanov I.M., Bordyuzhin I.G., Savchenko A.G., Menushenkov V.P.** MAGNETIC PROPERTIES AND PHASE COMPOSITION OF THE ALLOY $\text{Nd}_{9,5}\text{Fe}_{84}\text{B}_6\text{V}_{0,5}$, OBTAINED BY HIGH ENERGY MILLING AND SUBSEQUENT ANNEALING..... **349**
The regularities of changes in the structure and magnetic properties of the cast alloy $\text{Nd}_{9,5}\text{Fe}_{84}\text{B}_6\text{V}_{0,5}$, after grinding in a high energy mill and subsequent annealing at temperatures of 600 and 700°C. Found that the structure of the cast alloy contains two microcrystalline phases: $\text{Nd}_2\text{Fe}_{14}\text{B}$ and $\alpha\text{-Fe}$. During mechanical activation is blocked grinding grains and the formation of an amorphous phase. Annealing of the ground powder initiates the collapse of the amorphous phase and the formation of nanocrystalline phases. In particular, after annealing at 600 °C $\text{Nd}_2\text{Fe}_{14}\text{B}$ nanocrystals size is 28 ± 3 nm, and $\alpha\text{-Fe}$ - 22 ± 2 nm. The aforementioned powders structure corresponds to an increase of coercive force H_{CI} and 1.3 to 2.0 kOe (after annealing at 600 and 700C, respectively) in comparison with $H_{CI} = 0.4$ kOe cast alloy.
Key words: flocculation, extended DLVO theory, paired interaction energy, wettability of minerals, hydrophobic interaction.
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- Bykova M.Yu.** ECOLOGICAL EVALUATION PROCEDURE FOR A LOCAL COAL-GAS-ELECTRIC PLANT..... **357**
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- Key words: ecological monitoring, sea ground damping site, sampling scheme, analysis of geochemical parameters, sea-floor microtopography survey, multi-beam echo sounder.*
- Koshel D.Ya.** TECHNOLOGY OF NONFERROUS METAL CONCENTRATE PRODUCTION FROM FERRO-MANGANESE NODULES TAKEN OUT FROM OCEAN..... **375**
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- Key words: ferromanganese nodule, metal, manganese, sulphur dioxide, extraction.*
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- Petukhov V.I.** OUTFIT FOR INVESTIGATION OF SEA GROUND DAMPING SITES..... **395**
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- Savin K.S.** FORMATION OF ECOLOGICAL-AND-ECONOMICAL ASSESSMENT AND CHOICE MECHANISM FOR PEAT-BOG UTILIZATION TRENDS TOWARDS ABATEMENT OF FOREST AND PEAT-BOG FIRE AFTEREFFECTS..... **401**
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- Tereshchenko E.I.** QUANTITATIVE ESTIMATION OF STRUCTURAL CONDITION PARAMETERS OF FERRUGINOUS QUARTZITES USING X-RAY DIFFRACTOMETRY..... **404**
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Key words: evaluation of the reliability of CRS, internal control, audit settlements with employees on payroll, internal audit program.

