

Summaries

UDC 56:551.73

**Peregoedov I.G., Gumerova N.V.,
Melnik K.S., Khromykh V.G.
FINDING RUGOSES AND STROMATOPOROIDS
IN LUGINEZK FORMATION OF UPPER DEVONIAN
OF WEST-SIBERIAN GEOSYNECLISE**

The core of the wells № 23, 26 of Kotyg-Egan area of Khanty-Mansi Autonomous Area have been studied for defining the volume, boundary position and propagation of luginezk formation. The residues of rugoses, stromatoporoids and other fauna were found in the core. The age of luginezk formation was defined as the early-Frasnian due to the thorough investigation of organic residues.

UDC 612.466.1

**Polienko A.K., Sevostyanova O.A., Orlov A.A.
SYMBIOSIS OF LIVING AND STAGNANT SUBSTANCES
IN UROLITHS**

Symbiosis of living and stagnant substances in uroliths has been studied. The substantiation of the complex bindings of organic and inorganic components in uroliths is introduced. The features of their formation and inner structure were determined. Rhythmic alternation of organic and mineral substance layers in uroliths was considered. It was shown that uroliths are classical example of co-relation of stagnant and living substances formed in human urinoexcretory system.

UDC 548.231+549.12

**Sevostyanova O.A., Polienko A.K., Orlov A.A.
STRUCTURAL FEATURES OF UROLITHES
RHYTHMIC ZONATION**

Urolithes zonation of patients of Tomsk region medical areas has been studied. The dependence of their composition on a certain body physiological state, sickness in separate systems and parts as well as dependence of various minerals crystallization on pH urine were determined.

UDC 552.321.5; 552.321.6

**Cherkasova T.Yu., Mazurov A.K., Chernyshov A.I.
POTENTIAL ORE CONTENT OF MAFIC-ULTRAMAFIC
STRATIFIED MASSIFS OF NIZHNEDEBRINSKIY COMPLEX
(NW OF EAST SAYAN)**

Ore minerals of mafic-ultramafic Burlakskiy and Nizhnedebninskiy stratified massifs (NW of East Sayan) have been studied. Two main paragenetic assemblages of ore minerals: early yellow copper-pentlandite-pyrrhotite and later (epigenetic) millerite-pentlandite-natural magnet were selected. The chromospinelides from ultramafites of the studied massifs were compared with chromospinelides from ore field of Nizhnetagilskiy massif (South Urals). Close compositions of chromospinelides from the rocks of Nizhnedebninskiy massif and ore field of Nizhnetagilskiy massif were determined that increases the perspectives of the first to define ferro-platinum mineralization.

UDC 553.411.071:550.42(546.1+546.8)

**Kucherenko I.V., Gavrilov R.Yu.
THE PHENOMENON OF AGGREGATING FEMIC ELEMENTS
IN AURIGEROUS BERESITES AND BASALTOGENETIC
CONCEPT OF MESOTHERMAL ORE FORMATION**

The data on contrast anomalies of chemical elements of femic specialization Обобщены (P, Ti, Mg, Fe, Ca, Mn) in beresites of inner zones of wallrock metasomatic halos of three mesothermal gold deposits: Irokindinskiy, Kedrovskiy (North Transbaikalia), Chertovo Ko-

ryto (Patomskoe nagorie) have been integrated. The concepts of high migration ability of titanium and phosphorous at the initial stages of mesothermal ore forming processes, geology-genetic homogeneity of gold deposits formed in crystal and black shale substances, generation of alkaline reclaimed metal-bearing solutions in magma pockets of anomalous mantle are discussed and substantiated. The conclusion according to which the mesothermal gold deposits are formed as a result of functioning of fluid-magmatic gold-producing systems at late basalt stage of establishing antidromic granite-diorite-doleritic igneous complexes is confirmed.

UDC 553.411(574.4)

**Ananiev Yu.S., Potseluev A.A., Zhitkov V.G.
COSMOSTRUCTURAL MODELS OF GOLD
ORE OBJECTS OF WESTERN KALBA**

Cosmostructures of West-Kalba metallogenic zone have been studied by the materials of different-scale multi-spectral cosmic systems Modis, Landsat and radar survey SRTM. The relation of known gold ore fields with focal structures is shown. It is determined that in the range of ore fields, deposits and ore occurrences are naturally arranged relative to linear and circle structures that allows considering them as forecast-searching criteria of the areas perspective for discovering gold mineralization of the rank ore field-deposit.

UDC 553.493(575)

**Mirkhodzhaev B.I.
GEOLOGY-INDUSTRIAL TYPES OF URANIUM DEPOSITS
OF PRE-MESOZOIC FOUNDATION OF SOUTH
AND MIDDLE TIEN SHAN**

All uranium deposits are located either in Pre-Cambrian-Low-Paleozoic foundation or in Mesozoic and Cenozoic sea basin. They are genetically subdivided into three classes: endogenous, exogenous and polygenous. Taking into consideration the fact that exogenous industrial type is the main and the most studied, the inquiry was devoted to the deposits of two rest classes – endogenous and polygenous. Some ore types of these classes are often examined as «alternative» types of uranium mineralization.

UDC 551.1/.4:551.583.13

**Krutikov V.A., Preis Yu.I., Kuskov A.I., Cheredko N.N.
CYCLICITY OF PEAT-FORMATION PROCESS
IN THE SOUTH OF WEST SIBERIA FOREST AREA**

Quantitative characteristics of peat-formation process cyclicality of thoroughly studied peat reserves in the south of West Siberia forest area have been determined. It was determined that at time series of the rates of peat emergence and accumulation as well as index of moisture the key harmonic refers to low-frequency range and cycles of the order 500, 1000, 1500...1800, 2400 years, similar to the cycles determined for water regimes of West-European and North-American swamps, are produced.

UDC 550.8.01

**Bernatonis P.V.
THE PROJECT OF A NEW STADIALITY
OF PEAT GEOLOGICAL EXPLORATION**

The current peat geological exploration stadiality was adopted in 1987 and it has not been changed since that time. A new sequence of peat geological exploration operations in stage and steps is suggested. It meets modern legislation requirements for subsurface management and takes into account the conditions of peat industry.

UDC 525.21-54-172.552:16:550.93:548.0:53:096

Salnikov V.N., Silaev V.I.**ELECTROCONDUCTIVITY AND ELECTROMAGNETIC EMISSION OF CARBONACEOUS ROCKS OF NORTHERN VAIGACH STRATIFORM MINEFIELDS**

It has been stated, on the bases of complex studying of electrophysical properties of carbonaceous rocks of Yangoyakhinskiy ore field, that the presence of ore elements determines a more complex relation of natural thermoluminescence and gamma-thermoluminescence with electroconductivity. It is one of criteria of dolomite ore content of stratiform polymetallic minefield. One of the perspective electrophysical methods for determining the degree of precipitation transformation and stratiform minefield genesis is the electroconductivity temperature dependence method. It is based on the analysis of conductivity anomalies occurring as a result of changing rock defect structure in various geological processes at phase transformations and polymorphous transitions of the first and the second type.

UDC 553.411:548.55:537.32(571.53)

Vagina E.A., Rudmin M.A.**MORPHOLOGY OF CRYSTAL AND THERMOELECTRIC PROPERTIES OF PYRITE AND ARSENOPYRITE IN GOLD ORE DEPOSIT CHERTOVO KORYTO (PATOMSKOE NAGORIE)**

The composition and spatial location of sulphide mineralization of a new black-shale type deposit Chertovo Koryto (Patomskoe nagorie) have been considered. Morphology of crystal and thermoelectric properties of pyrite and arsenopyrite were studied. It was determined that various combinations of crystal faces and various types of thermo-emf are typical for pyrite of metasomatic rocks and quartz veins in comparison with arsenopyrite. The comparative analysis of crystallomorphological forms of minerals and their thermo-emf in deposits formed in black-shale and non-shale (crystal) substrate was carried out. The additional results confirming geology-genetic homogeneity of deposits of two systems were obtained.

UDC 550.834.05(571.56)

Abrosimova O.O., Kulagin S.I., Kos I.M.**APPLICATION OF SEISMIC INVERSION WHEN STUDYING THE PRODUCTIVE SEDIMENTS OF TERRIGENOUS VENDIAN WITHIN THE EASTERN PART OF MIRNINSKIY BROW (NEPSKO-BOTUOB ANTECLISE)**

Sediments of terrigenous complex referring to Kursovsky Formation (lower vendian) and Nizhebyuyskaya sub-suite (upper vendian) have been considered. Botuoba Horizon (B_3 bed) which is one of the main objects of petroleum exploration at Mirninskiy brow of Nepsko-Botuob antecline is singled out in composition of Nizhebyuyskaya sub-suite. The use of the results of seismic inversion allowed mapping the areas of pinching sediments of the productive bed B_3 . The hydrocarbon traps could be separated owing to definition of study area geology structure.

UDC 550.834

Kuvshinov K.A., Moizes B.B., Krauinsh P.Ya.
PULSE-VIBRATION SEISMIC SOURCE

The possibility of developing a surface mobile seismic source for geophysical surveying of geological media with a smooth envelope of action amplitude has been shown. The proposed device differs from the known vibration sources by the system of back plate pressing to the ground at signal excitation. The exchange of stationary dead weight by the impact pressing allows increasing the dynamic force on the ground at similar mass and dimensions parameters.

UDC 681.883.9:621.317.342

Sikora E.A.**EXPERIMENTAL CHARACTERISTICS OF POWDER GENERATOR OF ACOUSTIC SIGNALS FOR OIL WELL ECHOLLOCATION**

A new alternative source of energy for exciting probing signal – wiring holder has been studied. The field of application of such sources is determined. The main one is a well with a low annular pressure. It was confirmed that the accuracy of measurements depends, first of all, on informative content of the received return signal, completeness of its recording and level of filtration.

UDC 553.411:550.83.02

Kolmakov Yu.V., Sazonov A.M., Vrublevskiy V.V., Potekhina E.V., Boyarko G.Yu.
SULFUR FUGACITY VARIATIONS IN ORE-FORMING SOLUTION: A FACTOR OF MAGNETIC ZONALITY OF GOLD-SULFIDE DEPOSITS

Zonality of magnetic field of a gold-ore deposit Blagodatnoe in Yenisei range, occurred in consistent decrease of amplitudes of its anomalies from 500 to 80 nT, is conditioned by distribution of monocline pyrrhotite – one of the main ore materials. Stoichiometric ratio S/Fe radiated in associating pyrite. It is shown that gold accumulation essentially in slightly magnetic formations is caused by sulfur fugacity increase in a mineral-forming system. The increase of its activity controls the growth of ratio S/Fe in pyrite and its dominance over pyrrhotite in ore paragenesis.

UDC 552.2+550.4(571.513)

Vorontsov A.A., Fedoseev G.S.**GEOCHEMICAL AND Sr-Nd ISOTOPE CHARACTERISTICS OF DEVONIAN MAFIC ROCKS OF KOPIEVSKOE AND NOVOSELOVSKOE ELEVATIONS IN THE NORTHERN PART OF MINUSINSKIY DOWNFOLD**

The data on the structure of Kopievskoe and Novoselovskoe elevations of Chebakovo-Balakhtinskaya deep in Minusinskiy downfold have been introduced; geochemical and isotope features of mafic rocks of these elevations have been considered and the model of forming the source of the source melts has been proposed. The mafic rocks are congruent in the content of major elements and rare lithophylic elements differing in enrichment with heavy rare earths, Rb, Nb and Ta. It is shown that in comparison with intra-plate subalkalic touchstones of OIB type the studied mafic rocks are depleted by highly charged non-coherent elements Nb, Ta, Zr, Hf, Ti and enriched with heavy rare earths Ba and Sr. Carbonate material assimilation by the melt of PREMA type, resulted in divergency of mafic rock composition from magnetic correlation field to enrichment with radiogenic strontium, is supposed.

UDC 550.831

Isaev V.I., Lobova G.A.**ZONES OF OIL-GAS ACCUMULATION OF PRED'ENISEYSKAYA PART OF THE WESTERN-SIBERIAN OGBP (BY THE RESULTS OF DENSITY MODELING ALONG THE REGIONAL SEISMIC PROFILE XIII)**

Density model constructed along the eastern part of the regional seismic profile XIII in Pred'eniseyskaya part of Khanty-Mansi AA allowed carrying out the comparative analysis of dense structure of deposits and known oil accumulation areas. At the traverse Pyakupurskiy mega-depression – Kulyngolskaya mega-anticline the oil-and-gas accumulation areas in pre-Jurassic section and plate cover, phase state and possible source of hydrocarbon were predicted.

UDC 552.578.2.4

Osipova E.N., Ezhova A.V.**THE INFLUENCE OF CATAGENETIC CONVERSIONS ON RESERVOIR CHARACTERISTICS OF THE Yu' BED OF HVOINOE PETROLEUM DEPOSIT**

The composition of rock-forming part and cement material in reservoirs of the Yu' bed of Hvoinoe petroleum deposit (Tomsk region) has been introduced. The dependence of rock reservoir characteristics on the secondary conversions, among which cracks formation, resorption, intensive micatization, feldspar pelitization and quartz regeneration occur, was determined.

UDC 553.98

Belozarov B.V.**THE ROLE OF PETROPHYSICAL INVESTIGATIONS WHEN ESTIMATING COMPLEX RESERVOIR SATURATION**

The algorithm of analyzing the data of petrophysical investigations of the complex deposits from the pore structure point of view has been described. As a result, the distribution of different fluids within formation is described by means of petrophysical and flow cha-

characteristics of the reservoir and capillary-gravitation system of the investigated formation.

UDC 553.551.862(571.16)

Chernova O.S.

THE SYSTEMATIC AND HIERARCHY OF TERRIGENOUS RESERVOIRS AS FOUNDATION OF PALAEOSEDIMENTOLOGICAL MODELING

The problem of identification and ranging of sedimentary environments, facial associations and their components – lithogenetic types of sedimentary rocks has been considered. The systematic of terrigenous reservoirs developed by the author as the foundation of palaeosedimentological modeling is offered. For the first time non-uniformly scaled sedimentological units were joined into uniform hierarchical system. Ranging levels of hierarchy are composed as a result of theoretical generalization of world sedimentary geological knowledge and experience and sedimentological core-studying and systematization data of deep wells representing deposits of subcarboniferous Jurassic formation, of the marginal southeast part of the Western-Siberian sedimentary basin.

UDC 553.551.762(470)

Chernova O.S., Zhukovskaya E.A.

THE BIOSTRATIGRAPHIC CHARACTERISTIC OF THE HORIZON IO-I DEPOSITS OF THE KRAPIVINSKOE OILFIELD

The biostratigraphic characteristic of Jurassic deposits of horizon IO-I of the Krapivinskoe oilfield has been given on the basis of the detailed core study, integrating structural, micropaleontologic and litho-facial analyses. Stratigraphic ranges are specified for each of productive layers. Summary biostratigraphical section of the Krapivinskoe oilfield was constructed. Biostratigraphy is based on the observed distributions of complex foraminifers, palynological spectrums and ichnofossils. The conclusion on shallow marine genesis of the described deposits was made.

UDC 553.98

Glavnova E.N., Merkulov V.P., Glavnov N.G.

THE COMPARATIVE ANALYSIS OF HORIZONTAL PERMEABILITY ANISOTROPY ESTIMATION METHODS

The phenomenon of horizontal permeability anisotropy was explored by modernistic methods of formation properties investigation on different scales such as micro-, medium- and macrolevels. The comparative analysis of the results of different techniques directed to quantitative anisotropy estimation was carried out. Moreover, it was demonstrated that the tracer average velocity can be used for estimation of azimuth of maximum permeability axis and anisotropy ratio. The developed procedure was tested in real oilfield located in West Siberia.

UDC 532.5.01

Zyablitskaya Yu.A.

THE ANALYSIS AND INTERPRETATION OF HYDRODYNAMIC RESEARCHES FOR TWO-PHASE FLOW (WATER-OIL)

The problems occurring at interpretation and analysis of the data of well test carried out on the wells with no zero water cut have been described. The advantages and disadvantages of existing interpretation and analysis methods are developed. The new well test interpretation technique «mobility normalization» is introduced.

UDC 540.42:57.4(571.1)

Savichev O.G., Kamneva O.A.

THE SPATIAL CHANGES REGULARITIES OF UNDERWATER CHEMISTRY IN THE UPPER HYDRODYNAMIC ZONE OF TOMSK REGION (WESTERN SIBERIA)

The results of the ecology-geochemical conditions evaluation in the upper hydrodynamic zone of Tomsk region territory have been introduced. The data of the operating observations on 12 wells of the state observation system were used. The nature genesis of the increased values of permanganate oxidation and also concentrations of iron

compounds and ammonium ion in the region underwater is substantiated. The spatial changes of the underwater chemistry in the Neogene-Quaternary and Palaeogene water-bearing complexes are analyzed. It is shown these changes possess the pronounced zonal character, and they correlate with the spatial changes of the water rotation intensity.

UDC 550.42:574.58

Trifonova N.A., Zdvizhkov M.A., Preis Yu.I.

CHEMICAL AND MICROBIOLOGICAL COMPOSITION OF SECONDARY LAKE WATER OF IKSINSKOE MARSH (SOUTH TAIGA, WESTERN SIBERIA)

The results of field and laboratory chemical and microbiological researches of secondary lake water of Iksinskoe marsh in Tomsk region within the oligotrophic complexes of different stratigraphy at the end of the period of winter low-water season have been introduced. It was determined that microbic vertical stratification of lake water appears, as a rule, in decreasing a number of microorganisms in natural waters and changing the intergroup bacteria correlation.

UDC 550.845

Guseva N.V., Kopylova Yu.G.

THE STRUCTURE OF ANOMALOUS HYDROGEOCHEMICAL FIELD AS HYDROGEOCHEMICAL CRITERIA OF MINERALIZATION (BY THE EXAMPLE OF THE REGION OF NOVOGODNEYE-MONTO GOLD ORE DEPOSIT)

The results of hydrogeochemical experimental and methodological prospecting at Toupugol-Khanmeishorskaya area in the region of Novogodneye-Monto gold ore deposit have been introduced. Water chemical composition, features of forming geochemical water types as homogeneous geochemical complexes were considered. The structure of anomalous hydrogeochemical field was analyzed and the perspective regions for detecting mineralization were selected.

UDC 624.131

Strokov A.L., Shigorina E.G.

CORRELATION OF STRUCTURALLY-TEXTURAL FEATURES OF ROCKS ON THEIR STRENGTH

The effects of bedding plane orientation on the elastic constants and the yield strengths of two laminated rocks and one isotropic rock from a place of Kuhtai (North Tirol, Austria) have been studied. The directional dependence of the strength and elastic properties (shear strength at different confining pressures, angle of shearing resistance and cohesion, modulus of elasticity and Poisson's ratio) of these rocks was experimentally evaluated using uniaxial and triaxial compression measuring equipment. Measurements of water content, density and microtextural investigations under the polarization microscope accompanied the compression experiments. For the two laminated rocks studied, Young's modulus was lower normal to bedding than along bedding. Yield strengths were determined at confining pressures from 3 to 12 MN/m² in a triaxial compression cell. The mechanical behavior of these rocks suggested that the rock properties of shear strength and cohesion can vary with direction, depending on the particular rock tested. This work shows that bedded formations exhibit sizable directional variations in both their elastic constants and yield strengths.

UDC 622.24

Borisov K.I.

DYNAMICS OF CUTTER OPERATION AT EARTH MATERIAL BREAKING WITH THE CUTTING-CHIPPING INSTRUMENTS OF PDC TYPE

Questions kinematic aspects of work of cutting elements modern cutting tools of type PDC in the process of their dynamic interaction with cutting rock formation are considered. On the basis of experimental researches and the analysis significant distinction of working conditions of cutters of PDC drill bits on different segments of the body of the tool, negatively influencing results of well drilling is established. A number of offers for optimization, as placing of cutting elements in body of drill bits, and their dimensional characteristics is formulated.

UDC 544.723.237

Evseev V.D.
ON POSSIBILITY OF USING THE REHBINDER EFFECT
AT WELL DRILLING

The Reh binder effect at breaking rocks, minerals at liquids of different nature, subject to growing crack new surface electrization occurring at breaking, has been explained. The reason of impossibility of using the Reh binder effect at well drilling was denoted.

UDC 622.243

Ryabchikov S.Ya., Vazhanin R.E.
ADVANCEMENT OF WELL DRILLING TECHNOLOGY
AT KUZBASS COAL DEPOSIT PROSPECTING

The influence of different types of drilling mud on well drilling penetration speed at Kuzbass coal deposit prospecting has been studied. The relation of drilling mud chemical composition with drilling efficiency is shown. Optimal field of application of different types of diamond rock-breaking tool at well drilling in various geologic and technical conditions was determined.

UDC 550.462+502.64

Robertus Yu.V., Rikhvanov L.P., Lyubimov R.V.
DENDROGEOCHEMICAL INDICATION OF TRANSBOUNDARY
ECOTOXICANT TRANSFERS TO ALTAY

The possibility of estimating transboundary transfers using annual tree rings has been shown. The influence of at least three sources: Eastern Kazakhstan processors, atomic proving grounds, exploration of Kulunda steppe lakes and primitive soils on Western Altay ecosystem was determined.

UDC 550.47

Ignatova T.N., Baranovskaya N.V., Rikhvanov L.P., Sudyko A.F.
REGIONAL BIOGEOCHEMICAL FEATURES OF ACCUMULATING
CHEMICAL ELEMENTS IN HUMAN BODY ASH MATERIAL

A complex quantitative estimation of composition of 39 chemical elements in human body ash material has been carried out. Analytic survey of independent laboratories of modern high-sensitive methods is introduced. Regional features of accumulating elements in human body ash material are determined. It is found out that in this material there are its own laws of accumulation and distribution and they are obeyed the universal laws of geochemistry (Clark law, Oddo-Harkins rule).

UDC 616.155.1-02:546.48;576.314.7

Ilyinskikh N.N., Kozlova S.A., Ilyinskikh E.N.,
Ilyinskikh I.N., Yurkin A.Yu.
ROLE OF CADMIUM HIGH-CONTENT IN THE ENVIRONMENT
IN INDUCTION OF PATHOLOGICALLY ABERRANT BLOOD
ERYTHROCYTES OF RESIDENTS OF ALTAY REPUBLIC

The levels of pathologically aberrant erythrocyte forms content and cadmium concentration in peripheral blood of Chagan-Uzun residents, Altay Republic, subject to their length of residence in the region with anomalous high natural cadmium content in the environment have been studied. The positive correlation between the cadmium blood content and the level of morphological aberrant erythrocytes in the peripheral blood of the residents with morphological surface changes is shown. The highest frequency of pathologically aberrant erythrocyte forms were determined among recently moved-in and settled residents of Chagan-Uzun. The conclusion was drawn that the obtained results may be connected with insufficient migrant accommodation to local conditions in comparison with native population.

UDC 621.039.75.16

Zavediy T.Yu.
TEMPERATURE FIELD MODELING AT INJECTION OF
ENGINEERING LIQUID RADIOACTIVE WASTE TO AQUIFER

The model analysis of temperature field has been introduced and the example of determining the interfacial distribution coefficient for

isotope ^{137}Cs by the results of solving the inverse problem of thermal physics has been shown. The peculiarity of the analysis is in the fact that no information on initial activity of liquid radioactive waste solutions removed to the aquifer is needed for solution. The input parameters for solving the inverse problem are only the aquifer effective power, the time of maximum of geological environment temperature heating in a key well and the distance from a service well.

UDC 628.193:665.61;553.98

Kulkov M.G., Artamonov V.Yu., Korzhov Yu.V., Uglev V.V.
INDIVIDUAL ORGANIC OIL COMPOUNDS AS DETECTORS OF
TECHNOGENIC OIL POLLUTION OF WATER ENVIRONMENT

The organic substances which are proposed to be used as detectors for natural water oil pollution have been determined on the basis of the laboratory model experiment on raw oil and water contacting.

UDC 502.5(571.122-25)

Gurtyak A.A., Uglev V.V.
ESTIMATING THE URBAN AREA ENVIRONMENT
STATE USING BETULA PENDULA AS A DETECTOR

The questions of estimating the urban environment state on the basis of fluctuating asymmetry index of *Betula pendula* lamina (*Betula pendula* Roth) have been considered. Space-time dynamics of fluctuating asymmetry coefficient was studied. Fluctuating asymmetry map on the territory of Khanty-Mansisk was made. Recently the growth of fluctuating asymmetry indices is noted in the most part of city districts. It indicates the environment destruction. The influence of meteorological characteristics of climate and air chemical pollution on fluctuating asymmetry is estimated in the work.

UDC 622(09)

Lukyanov V.G.
REVIEW OF THE BOOK «THE HISTORY
OF MINING DEVELOPMENT»

The history of development of the earliest sector of national economy – mining is examined in the monography. The importance of mining in human history, the prerequisites of its beginning in Russia, including Siberia, as well as the most developed countries of the world are shown. The information on conditions of forming the largest mining basins of our country is given.

UDC 378.662:622(571.16)(092)

Lukyanov V.G.
M.I. SCHADOV – THE OUTSTANDING GRADUATE
OF TOMSK MINING SCHOOL, PROFESSOR EMERITUS
OF THE TOMSK POLYTECHNIC UNIVERSITY

The life of mining engineer M.I. Schadov, professor emeritus of the Tomsk polytechnic university, the president of the International mining congress, minister of the USSR coal industry from 1977 to 1991 has been described.

UDC 55(092)

Polienko A.K.
FROM THE ASSISTANT TO PROFESSOR – THE LIFE
OF THE GEOLOGIST A.G. BAKIROV

One of the oldest professors of the Tomsk polytechnic university Alexandr Grigorievich Bakirov rose in TPU from the assistant to professor, doctor of geology-mineralogical sciences, the head of the department. The research interests of the professor A.G. Bakirov: from fundamental methodological problems of mineralogy, crystallography, petrography and geochemistry to the concrete developments of the problems of metallogeny, morphology, mineral physics. He was also interested in relation of living (organic) and nonliving (stagnant) substances.