

Summaries

UDC 551.73

Mezentseva O.P., Udodov Yu.V., Gumerova N.V.
OSMANSKIY SECTION OF VASSINSKIY HORIZON
OF FRANSIYAN OF THE SOUTHERN MARGIN OF KUZBASS

Osmanskiy section of Vassinskiy horizon of Frasnian of the southern margin of Kuzbass is described layer by layer. Material structure and fossils of terrigenous and calcareous batches of this horizon are characterized.

UDC 56:551.73 (571.55+235.222)

Gumerova N.V.
UNPUBLISHED SPECIES OF V.A. ZHELTONOGOVA'S
RUGOSES FROM DEVONIAN DEPOSITS OF SALAIR

Monographic descriptions of species of Devonian rugoses of Salair from V.A. Zheltonogova's collection are given. Generic revision has been made by the author alongside with species description. The presented species of rugoses are being published for the first time.

UDC 553.411.071:553.078.2

Kucherenko I.V., Gavrilov R.Yu.,
Martynenko V.G., Verkhozin A.V.
STRUCTURAL-DYNAMIC MODEL OF GOLDEN-ORE DEPOSITS
FORMED IN NON-SHALE AND BLACK-SHALE SUBSTRATUM.
P. 1. BERIKULSKOYE DEPOSIT (KUZNETSK ALATAU)

The purpose of comparative research consists in searches for probable causes of essentially various industrial parameters of mesothermal gold deposits formed in strata of carbonaceous terrigenous slates with its large and unique stocks but low content of metal, on one hand, and in various other substratum with rather small stocks but high content of gold, on another. As it has been shown earlier, deposits of complexes are homogeneous in geologic-genetic parameters.

A stage-by-stage sequence of formation, morphology, intersubordination, fracture kinematics, their role in location of the ore are considered on the example of the deeply developed (700 m) Berikulskoye deposit and the new proven (Chertovo Koryto) deposit. Plans of tectonic deformations are analyzed; dynamic modes of fracture formation are discussed.

The conclusion is drawn, according to which the specified differences of mineralization parameters at similar plans of power fields are defined at other equal conditions by the structure of the ore-formation environment.

Materials on Berikulskoye deposit are presented in the first part of the article, materials on Chertovo Koryto deposit in the second. Structural-dynamic models of the corresponding deposits are described in both parts. In the second part the results are discussed and general conclusions are formulated.

UDC 550 382.4: 550.065

Erofeev L.Ya.
OPPORTUNITIES OF MAGNETOMETRY AT STUDYING
QUARTZ-GOLDEN-ORE DEPOSITS LOCALIZED
IN INTRUSIVE ROCKS

The structure of increments of magnetic field induction of quartz-golden-ore area is considered; characteristic features of induction change, its connection to geological structure and the circle of geological problems which can be solved by means of magnetometry at studying golden-ore deposits are defined.

UDC 553.078

Ershov V.V., Arbuzov S.I., Dubovik N.E.,
Yermolova E.P., Ilinok S.S.
LITHOCHEMISTRY OF COAL ASHES OF MINUSINSKIY BASIN

Macrocomponental composition of coal ashes of Minusinskiy basin is studied and discussed. Stratigraphic and lateral heterogeneity in chemical composition of coal ashes from separate layers and deposits is shown. Major factors defining lithochemical features of coal ashes of the basin are allocated.

UDC 550.36

Isaev V.I., Lobova G.A., Popov S.A., Hashitova A.B.
THERMAL HISTORY AND FOCUSES OF OIL GENERATION
OF BAZHENOV FORMATION OF THE CENTRAL PART
OF YUGORSKIY ARCH

Paleotemperature modeling of the sedimentary section of Panlorskaya, Zapadno-Unlorskaya Verkhnenazymskaya areas of Verkhneaminskiy swell, located in the central part of Yugorskiy arch, has been carried out. Paleofoci of oil generation in Bazhenov formation are allocated based on geotemperature criterion. Foci are differentiated based on intensity and time interval of the action, localizing forecast resources of hydrocarbons in northwest part of the swell. Quantitative estimation of the essential influence of a century course of temperatures of the earth's surface for the last 142 million years on thermal history of Bazhenov formation is carried out.

UDC (550.83+550.84 :553.98 (571)

Isaev V.I., Korzhov Yu.V., Lobova G.A., Yarkov D.M.
GEOCHEMICAL FORECASTING OF DEPOSITS
IN SURGUT AREA OF OIL EXTRACTING

Forecasting of oil deposits on anomalies of concentrations migrating in superficial deposits of liquid hydrocarbons is carried in Surgut area of oil extracting. Three perspective sites are revealed, two of them are confirmed by drilling. Section of a possible deposit is offered for the third forecast site. Concentrations of aromatic hydrocarbons were defined by methods of organic geochemistry in soil samples, taken from the face of shotholes of prospecting seismology.

UDC 553.982.28 (571.16)

Abrosimova O.O., Kulagin S.I.
REVEALING OF TRAPS OF THE NON-ANTICLINAL TYPE OF
HYDROCARBONS IN UPPER-, MIDDLE-JURASSIC DEPOSITS
(SOUTHEAST PART OF TOMSK OBLAST)

The problem of forecasting hydrocarbon deposits of the lithologic type is considered. It is shown, that similar traps are allocated on various stratigraphic levels of deposits of a sedimentary cover of southeast part of Tomsk oblast. Results of complexation of structural constructions, attributes of seismic record, and results of geoseismic modeling are used for reservoir mapping.

UDC 550:361:553.982

Yaschenko I.G., Polischuk Yu.M.
LOW PARAFFIN OILS: PATTERNS OF SPATIAL AND TEMPORAL
VARIATIONS OF PHYSICAL AND CHEMICAL PROPERTIES

The analysis of spatial and temporal variations of physical and chemical properties of oils with the low content of paraffin has been carried out. Patterns of regional location of such oils are considered. The

total amount of oil-and-gas bearing basins with low paraffin oils is almost half less than the number of basins with paraffinic oils and they are located mainly territory of Eurasia. Based on physical and chemical properties, low paraffin oils are high-viscous, average density, average-sulfurous, resinous, low-asphalteneous and with average content of fraction of the initial boiling point 300 °C. Peculiarities of variation of oil properties depending on the depth of deposition and the age of rocks are studied. The greatest stocks of low paraffin oils, as well as paraffinic, are located in Mesozoic deposits, mainly at the depth of 1000 m.

UDC 550.361:553.982

Yaschenko I.G., Polischuk Yu.M.
RELATIONSHIP BETWEEN PROPERTIES OF HEAVY OILS AND THE LEVEL OF A THERMAL FLUX IN TERRITORIES OF VOLGA-URAL, WEST-SIBERIAN AND TIMAN-PECHORA BASINS

The analysis of changes of basic properties of heavy oils of Volga-Ural, West-Siberian Timan-Pechora oil-and-gas bearing basins depending on the level of a thermal flux is carried out. The dependence between the level of a thermal flux and viscosity of oils is investigated. It is shown that with increase of the level of a thermal flux the viscosity of heavy oils decreases. Relationship between the chemical compound of oils and change of the thermal flux level is studied. It is established that in the investigated territories with increase of the level of a thermal flux the content of sulfur, pitches and asphaltene in heavy oils decreases, and the content of paraffin remains practically constant. It is established that with increase of the level of a thermal stream the depth of deposition of heavy oils increases, the relative number of their depositions in Paleozoic deposits reduces, and in Mesozoic – increases. It is shown that in zones with a high level of a thermal flux, heavy oils are located in layers with increased layer temperature and pressure.

UDC 624.131

Strokova L.A.
PARAMETER SENSITIVITY ANALYSIS AT NUMERICAL MODELING OF SOIL BEHAVIOR

Results of soil behavior modeling at construction of a foundation ditch with a protecting wall are cited. The model Hardening Soil, implemented in the program complex PLAXIS, is used at modeling. The criterion of sensitivity evaluation is formulated; parameter sensitivity analysis of the intense-deformed condition of the system «soil massif – retaining wall» is carried out.

UDC 624.131

Strokova L.A.
DEFINITION OF PARAMETERS FOR NUMERICAL MODELING OF SOIL BEHAVIOR

Theoretical data about two models Mohr-Coulomb and Hardening Soil implemented in the program complex PLAXIS are cited; the process of definition of soil parameters for the subsequent numerical modeling is shown.

UDC 622.233.63

Saruev L.A., Kazantsev A.A.
DEVELOPMENT AND RESEARCH OF THE HYDROMECHANICAL SYSTEM OF POWER PULSE FORMATION IN THE COLUMN OF DRILL-RODS FOR INTENSIFICATION OF ROTARY DRILLING

The model of the hydropulse mechanism which can be used for rotary drilling rigs as a source (generator) of power pulses directed on the face of the well is presented.

UDC 550.42:577.4 (571.1)

Savichev O.G., Haranzhevskaya Yu.A.
LONG-TERM CHANGES OF HYDROCLIMATIC CONDITIONS IN THE BASIN OF THE RIVER CHAYA (WESTERN SIBERIA)

The results of statistical analysis of changes in annual average values of discharges of river waters and their underground component, levels of river, marsh and underground waters, temperature of surface air and annual atmospheric humidification in the basin of the large

left inflow of the river Ob – river Chaya (Western Siberia) are resulted. It is established, that starting from 1950th–1960th there is an increase in the norm of the underground component of an annual flow of the river Chaya, in the total and underground flow of rivers Iksha and Bakchar, and in the level of river and underground waters. Change of the total and underground flow exceeds 10 %.

UDC 550.42:57.4 (571.1)

Savichev O.G.
EVALUATION OF CHANNEL DEFORMATIONS IN BASINS OF RIVERS VASYUGAN AND PARABEL (WESTERN SIBERIA)

The technique of evaluation of channel deformations is developed on the basis of the data analyses on measured water discharges. Its approbation is carried out based on materials of Federal Hydrometeorology and Environmental Monitoring Service, obtained on rivers Vasyugan, Parabel and Kenga (Tomsk Oblast). It is shown that the maximal vertical deformations of the studied rivers in 1959–1974 amounted to 0,80..0,98 m, the greatest planned deformations were 4,55..13,28 m. The mechanism of interaction between marsh and channel processes is offered.

UDC 624.138.21:624.131.23

Usmanov R.A.
EXPERIMENTAL RESEARCHES ON EFFICIENCY OF WEAKLY WATER-SATURATED LOESSIAL SOIL COMPACTION BY VERTICAL SANDY DRAINS

The results of field (natural) experimental researches on studying features of compaction soils composed of weakly water-saturated loessial soils by applying vertical sandy drains in seismically active areas of the republic Tajikistan are cited.

UDC 551.482.212

Lgotin V.A., Savichev O.G., Savicheva O.G.
ECOGEOCHEMICAL CONDITION OF NATURAL MARSH SYSTEMS IN TOMSK OBLAST (WESTERN SIBERIA)

Results of studying chemical compound of soils, river deposits, river and marsh waters in natural sites of drainage basins of Vasugan and Parabel rivers (tributaries of the river Ob) are cited. The received data characterizes natural condition of marsh ecosystem components in Tomsk (Western Siberia) and can be applied at estimation of anthropogenous impact on the environment. It is shown that high concentrations of organic substances in superficial waters of the region are connected to their carrying out from marsh soils.

UDC 624.131:551.3

Rikhvanov L.P., Robertus Yu.V., Talovskaya A.V., Lyubimov R.V., Shatilov A.Yu.
FEATURES OF CHEMICAL ELEMENTS DISTRIBUTION IN THAWING WATER OF THE GLACIER BOLSHOY AKTRU (MOUNTAINOUS ALTAI)

The problem of change in geochemical composition of the Western Siberia environment over the last decades is discussed based on results of studying stratified formations of the glacier Bolshoy Aktru (Mountainous Altai). It is established in the last 50 years changes have taken place in chemical composition of the glacier atmosphere. Steady input of a significant amount of microelements is observed. It is especially characteristic for V, Be, Ta, Gr and Sb. Stages of the maximum and the minimum input of elements are allocated. Judging by the spectrum of chemical components, the main source of their input are industrial enterprises of the East Kazakhstan area, Republic Kazakhstan (Ust Kamenogorsk, etc.).

UDC 553 (09)

Pshenichkin A.Ya.
125 YEARS FROM THE DATE OF BIRTH OF B.L. STEPANOV, PROFESSOR, ORGANIZER OF THE FIRST FACULTY IN SIBERIA FOR EXPLORATION GEOLOGISTS

The main stages of becoming of geological education in the beginning of XX century in Tomsk technological institute and the results of scientific researches and pedagogical work of Professor B.L. Stepanov, the first head of the Geological Prospecting Department in Siberia, are shown.