# ПУБЛИКАЦИИ ОСНОВНЫХ РЕЗУЛЬТАТОВ НАУЧНОЙ ДЕЯТЕЛЬНОСТИ СОТРУДНИКОВ ГЕОЛОГОРАЗВЕДОЧНОГО ФАКУЛЬТЕТА В РЕЙТИНГОВЫХ ЖУРНАЛАХ, ИНДЕКСИРУЕМЫХ В БАЗАХ ДАННЫХ WEB OF SCIENCE / SCOPUS ЗА ПЕРИОД С 2017 ПО 2020 гг.

1. Timofeev N.G., Skryabin R.M., Yakovlev B.V. Enhancing Efficiency of Rock Drilling Tool in Permafrost // Journal of Mining Science. – 2017. – Vol. 53 6. – P. 1065-1072. DOI: 10.1134/S1062739117063126. Базы данных: WoS/Scopus. Квартиль: Q3.

Аннотация

The development of a large-diameter (from 500 m and more) rotary drill tool (drill bit) for exploration of placers in permafrost is discussed in the article. It is shown that at the contact of drill bits and bottomhole, permafrost thaw takes place with the further adhesion and congelation of the drill tool and hole walls, which degrades coring. The dependence of heat emission at bottomhole on cutter configuration radius on drill bit is determined. The developed design of a drill bit ensures efficient destruction of bottomhole with minimized heat emission, and a prototype drilling assembly is manufactured for large-diameter rotary drilling. The in situ test data are presented.

2. Fridovsky V.Y., Polufuntikova L.I., Goryachev N.A., Kudrin M.V. Ore-controlling thrust faults at the Bazovskoe gold-ore deposit (Eastern Yakutia) // Doklady Earth Sciences. – 2017. – Vol. 474. – Iss. 2. – P. 617 619. DOI: 10.1134/S1028334X17060034. Базы данных: WoS/Scopus. Квартиль: Q2.

Аннотация

This work presents results of structural analysis of the orogenic Bazovskoe gold-ore deposit, the structure of which is controlled by an imbricate fan with frontal succession of ore-controlling thrust faults and conjugated thrust ramps. It was established that linear and stratified stockworks and their combinations are formed by several systems of quartz veins and veinlets, regularly related to thrusting along the ore-controlling zones and interlayer shears. In addition, superimposed shear deformations are widely distributed. The features revealed of the geological structure of the Bazovskoe gold-ore deposit allow us to refine the prospecting and searching pattern developed for gold-ore deposits of the Verkhoyansk–Kolyma fold belt.

3. Fridovsky V.Y., Kudrin M.V., Polufuntikova L.I. Multi-stage deformation of the khangalas ore cluster (Verkhoyansk-Kolyma folded region, Northeast Russia): Ore-controlling reverse thrust faults and post-mineral strike-slip faults // Minerals. – 2018. – Vol. 8. – Iss. 7. DOI: 10.3390/min8070270. Базы данных: WoS/Scopus. Квартиль: Q2.

Аннотация

This study reports the results of the analysis of multi-stage deformation structures of the Khangalas gold ore cluster, northeast Russia. Four Late Mesozoic-Early Eocene deformation stages were identified. The first deformation event (D1) was characterized by the development of NW-striking tight to isoclinal folds of the first generation (F1) and interstratal detachment thrusts. Major folds, extensive thrusts, boudinage, cleavage, auriferous mineralized fault zones and quartz-vein gold mineralization were formed in the reverse and thrust fault stress field during the progressive deformation stage (D1), with NE-SW-oriented σ1. Post-ore deformation is widely manifested in the region. Structures D2 and D3 are coaxial. Sinistral strike-slip motions (D2 and D3) occurred along NW-trending faults under prevailing W-E compression. They were accompanied by the formation of NS- and NE-striking F2–3 folds with steep hinges and by bending of the earlier formed structures, among them ore-controlling ones. The last deformation event (D4) was represented by normal-dextral strike-slip faulting, refolding of rocks, pre-existing structures and ore bodies and by the development of folds with steep hinges. Key structural elements of varying age are described, the chronology of deformation events and mineralization reconstructed and their relation to geodynamic events in northeast Asia established. View Full-Text

4. Marsanova M.R., Berzin A.G. The deep structure of the Nepa-Peleduy arch of the Nepa-Botuoba anteclise in the development of B.A. Sokolov's hypothesis [ГЛУБИННОЕ СТРОЕНИЕ НЕПСКО-ПЕЛЕДУЙСКОГО СВОДА НЕПСКО-БОТУОБИНСКОЙ АНТЕКЛИЗЫ В РАЗВИТИЕ ГИПОТЕЗЫ Б.А. СОКОЛОВА] // Geodynamics and Tectonophysics. – 2019. – Vol. 10. – Iss. 4. – P. 959-969. DOI: 10.5800/GT-2019-10-4-0452 . Базы данных: WoS/Scopus. Квартиль: Q3.

Аннотация

The studies were conducted in the territory of the Nepa-Peleduy arch (NPA) of the Nepa-Botuoba anteclise (NBA), which is strategically important for the Russian Federation as it contains large and unique hydrocarbon fields, including those essential for the ESPO oil pipeline and the presently under-construction Power of Siberia gas pipeline. Because the hydrocarbon potential of the sedimentary cover is largely exhausted, the aim is now to increase the regional stocks. Verifying the hypothesis of the Corresponding Member of the Russian Academy of Sciences B.A. Sokolov, stating that the allochthonous block of the crystalline basement, overlapping the aulacogen Riphean sediments, lies at the base of the NPA, would open the possibility of increasing the hydrocarbon reserves in the ‘subbasement’ formations. It would also clarify the controversial nature of the NPA deposits, which have no sediments with a high organic carbon content. In this study, we present a Hilbert transform of a time section of the common midpoint method (CDP) from a fragment of the Batholith-1 geotraverse passing through the Katanga saddle, the NPA and the Pre-Patom trough, as well as geophysical materials and well data from the same profile.

Supporting B.A. Sokolov’s hypothesis, we confirm the existence of a relict crystalline terrane crosscut by the wells at the base of the NPA and forming the roof of the underlying lower Vendian and Riphean sediment units. Our data clearly document the position of the western side of the inverted paleorift, the thickness of the terrane and the physical characteristics of the underlying sediments. These results are justifying hydrocarbon exploration of the ‘subbasement’ sediments.