

## **1. Performed scientific work**

**1.1 Problems of higher education** – The methodology of organizing the independent work of undergraduates of specialty 7M07202 - Geophysical methods of prospecting and exploration of mineral deposits, 7M07201 - Geology and exploration of mineral deposits.

**The basis for the implementation:** The plan of research of the department for the academic year 2018-2019.

**Scientific adviser:** Portnov V.S., Sadchikov A.V., Performers: Pak D.Yu., Tokusheva Zh.T., Tungyshbaeva, Zhelaeva N.V.

**The main results:** In connection with the introduction of new educational programs, updated guidelines have been developed for the implementation of SRMP in the disciplines of the department for specialty 7M07201 “Geology and exploration of mineral deposits”, 7M07202 - “Geophysical methods of prospecting and exploration of mineral deposits”. An article was published in the journal Education quality assurance Conceptualization of Quality Assurance in Higher Education in the Bologna Dimension.

### **1.2 Scientific research on business contracts**

**The name of the theme:** Study of the physical and density properties of rocks and ores of the Kentobe deposit.

**The basis for the implementation:** contract with LLP "Orda group" № 18.06.01 from 17.07.2018

**Scientific adviser:** Pak, Yu. N.

**Main results** (direct): As a result of interpretation of results of laboratory researches preparation of the geological report is conducted.

(indirect): Professor Portnov V. S., associate Professor Ponomareva M. V., senior lecturer Pak D. Yu., undergraduates gr. GFM-17 Vasilchenko D., Tebaeva A., Asubaev A., students gr. GPR 15-4 Yankovsky V., Zhanpeisov D.. Theses at Saginaw readings are published.

### **1.3 Research works on the state budget -**

#### **1.4 Initiative Scientific research work**

##### **1.4.1 The name of the theme:** Ore deposits of Kazakhstan

**The basis for the implementation:** according to the plan of the Department

**Scientific adviser:** Kryazheva T.V.

**Main results** (direct): Samples were taken from Northern Ulytau. Carried out sample preparation on the basis of too Geoanalyst. The crushed rocks were washed on the concentration table at the Ipcan research Institute. The resulting concentrate was sent to the IGN Satpayev (Almaty) to conduct laboratory research. (indirect): The work involved 3 faculty, 17 doctoral students, 16 undergraduates and 15 students. 3 SIS were received, 15 theses were published by students, 4 undergraduates, 12 doctoral students. Published 7 articles, including 3 Scopus, 4 articles. Undergraduates and doctoral students submitted 4 articles (Scopus) and 3 articles CCSON.

**1.4.2 The name of the theme:** Studies of the distribution of iron oxide in coal deposits Shubarkol and the construction of its spatial model.

**The basis for the implementation:** according to the plan of the Department

**Scientific adviser:** Portnov V. S., Mausymbayeva A. D.

**Main results** (direct): As a result of work laboratory analyses of coals of the Shubarkol Deposit are carried out, on 36 samples chemical and physical structure is received. The result of the analysis was sent to the southern Federal University (Rostov - on-don) for detailed interpretation.

(indirect): 2 teaching staff, 2 doctoral students, 24 undergraduates and 17 students of the Department were involved in the work. the obtained material is used in writing reports on the research work of undergraduates, doctoral students. Published article (Scopus) on this topic, sent 2 reports to the conference and 2 articles (TR and Scopus) filed 1 patent application, received SIS. The thesis was published at the international scientific-practical conference (Saginaw readings) 2 reports by students at the Republican student scientific conference. Submitted 7 articles for publication of them 3 CA, 1 Scopus and 3 articles CCSON.

**1.4.3 The name of the theme:** Development of methods and means of quality control of mineral raw materials

**The basis for the implementation:** according to the plan of the Department

**Scientific adviser:** Park D. Y., Park Y. N.

**Main results** (direct): 43 samples were taken. Laboratory studies of the component composition of coal. The chemical composition of coals, radioactivity of coals and their ash-and-slag wastes are determined. Spectral analysis was carried out.

(indirect): 5 faculty members, 3 doctoral students, 19 undergraduates and 18 students of the Department were involved in the work. 2 articles were submitted and published in rating journals, 2 patent applications were filed and 1 patent and 1 SIS were obtained.