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THE FORMATION, SETTLEMENT LAWS AND MATERIAL COMPOSITION OF GOLD MINING IN THE CENTRAL KYZYLKUM AUMINZA MOUNTAINS

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Annotation: As a result of the geological-research works and scientific-research works carried out in our republic in recent years, certain progress is being made in expanding the base of mineral raw materials. In particular, as a result of the work carried out, new gold mines and representatives were identified in the Central Kyzylkum region. Through these researches, gold deposits and representatives were found in the center of the Auminza mountains, and based on the study of the geological structure of this new area, determining the characteristics of the location of the ore in the fields is of great scientific importance and remains one of the main directions of exploration. The search, evaluation and search conducted in the research area is an urgent issue, as it has the attention of many researchers. It reflects the results of the study of the formation of the gold mineralization of the Auminza mountains in Central Kyzylkum, the location of their mines, and their material composition. In the research area, the ore-covering rocks consist of volcanic-sedimentary structures of the auminza, tasqazgan and besapan suites, which are mainly composed of mica, carbon-mica, feldspar-chlorite-mica shales, metaaleurolites and sandstones.

Keywords: Central Kyzylkum, Auminza mountains, mineralization, suite, mineralogical-petrographic description, structure, texture, shales, metaaleurolites, sandstones.

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Enter. We know that miner mining in Western Uzbekistan is widespread. Most of these minerals are fully investigating the composition of igneous rocks, which is one of the most important tasks of geology. Over the past years, gold manifestations and deposits of various scales have been identified on Mount Auminza mountains, and the determination of the features of the location of ore in the field based on the study of the geological structure of this area remains of important scientific importance and one of the main directions of exploration work. The process of formation of gold ore deposits is confirmed by the wide manifestation of elements of Arsenicum, antimony, zinc silver and various sulfide minerals, and the data obtained are recommended for use as Trace-search marks in this area. Systematic, geological exploration of the area began with geological imaging work on a scale of 1:200000 (Zheleznov et al, 1962) and a scale of 1:50000 (Pozdnyakov et al, 1970). 1: 50000 scale geological imaging and exploration works (1971-1974 V.V.Shkarupa), and geological – geophysical imaging work in the complex state of this scale in the Beltov and Karakhotin uplifts (1967-1971 Y.L.Spiridonov).

Geological imaging work on a scale of 1: 50000 has been performed in lithogeochemical methods by magnetic exploration, electrical exploration and porous fractions (along a grid of 250×50 m). As a result of these works, promising fields with gold and silver mining were distinguished, on which a geological map of the territory was compiled. In the eastern part of the Auminza mountain, it was recommended that exploration be carried out first in the areas of South – Auminzatau (Aqmenbet) and Uchtepa (“Angular” mining areas), and also in the second–in the areas of Kospaktau, North – Kospaktau, Kashakhin and September 1.

Gold exploration in the Auminza mountains began in the late 1950s (N.I.Borzones et al, 1965; Y.F.Baskakov, A.K.Voronkov et al, 1966, 1970, 1974).

During this research work, a large number of mining zones of the Auminza mountain, Shokhitau, “Angular” ore field, Kospak mountain and a number of other gold – sulfide and gold – quartz types were identified.

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Dives and metallometric gold cams (oreol), arsenic, large numbers of ore metals, and copper targets have also been identified when washed away. Many gold mining areas remained in an unexplored state, and only in the southwestern part of Auminzatau was the gold – bearing property of the composition of quartz folds assessed on the Shokhitau plot[1-2].

In 1975, a large-scale exploration of gold and silver began in the region, in all regions of Mount Auminzatau. From 1975 to 1977, a search was carried out on the Aqmanbet square (Shkarupa et al, 1977), which identified the areas of gold – silver mining of Aqmanbet and Davon, and silver mining of East – Auminzatau,

Between 1976 and 1979, explorations were carried out in the Uchtepa fields (Shkarupa et al, 1977). These studies have identified zones of Bijongora, Jamonkon, oblong, and Southern oblong gold mining, as well as more than 10 points of gold, silver, and turqoise mining. In the results of these studies, a number of mining zones have been identified on single-state ore cross-sections, as well as the presence of a large number of complex anomaly zones on arsenic, antimony, silver, molybdenum and other elements.

During the period 1980 – 1984, the south – western part of Mount Auminzatau was located on the Fozilbek Square and the south – on the plots of Auminzatau, Jontuar and Zakhkuduk (V.A.Averochkin et al, 1984) have been explored on individual parts, as well as a number of gold and gold – silver mining zones have been identified[3-4].

It should be noted that all the search work listed above was carried out in the surface areas of the burma fundamental, except for the geochemical search work carried out by Y.N.Shashorin , and the “closed” fields were not reached.

In the Auminzatau area, the main structural elements of gold mining form fracture zones, which are stretched in sub-intensity. The most important ore Placer is the Kospaktau mining zone. It forms zones of burrowing, quartzization and ironing, lies around 80 meters thick, 70-750 South.

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Several gold and silver ore zones have been identified in the area under study. Of these, sandstone (Песчанное) and Korabugut fields are now significant. The location of the ore bodies in the area largely corresponds to the beds of the besapan suite.

In terms of tectonic structures, it embodies a zone of complex fractures in the northwest directions and is represented by a series of close–together fractures in the same direction in harmony, with small folds characteristic of different orders. The zone is an elongated fragment of a gold-rich Kospaktau structure, covering the sandstone mine from the Northwest and the Ajibugut mine from the Southeast. The structure in which Karabugut is described is formed on a plot of flexural folds, connected by a system of cracks in the direction of the subcengity that cuts it.

The location of the ore bodies in the studied area is associated with large earth crevices, which are scattered by subcengity. Northwestern Earth crevices serve in the formation of the ore body.

The results of Metallogenic determination of the location structures of the main mining show: gold, gold-silver mining belongs to the northwestern structures, and in the north-eastern direction, silver-polymetallic ore bodies have developed.

The southern Auminzatau Earth fissure and its base-specific cracking structures in the northwest directions form deposits in quartz-gold-pyrite-arsenopyrite (long, Southern Shokhitau) and gold-silver-quartz species. Cutting cracks extending into the much younger northeast form Silver-polymetallic (Jontuar, silvery) mining bodies. Secondary cracks complicate the structural structures of blocks, but play an important role in subsequent formations of mining.

The main gold, gold-silver deposits that are manifested belong to the nuclear parts of complex built, linear plicative structures in the northwestern directions (Long, Southern Shokhitau).

While magmatic factors are not clearly reflected, it finds some expression in the laws of dispersion of gold and silver mineralizations. All exhibited prospective targets are located 2.5-3 km away from granitoid intrusions, outside the oreol of contact metamorphism.

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Silver mineralization (long, Southern Shohitau) belongs to the exocontact of the intrusive, silver-containing quartz veins detected in granitoids near contact[5-6].

From their appearance, granitoid intrusives perform an important function in the covering rocks associated with the movement of gold and its re-laying as it moves away from the intrusion contact, and the processes that occur with them displace local metamorphogenic solutions. In addition, large-scale work is being carried out in the area, including some aspects were used in this article (M.S.Karabaev).

The types of ore in the Auminzatau golden ore area are found in two ways. As a result of geochemical analysis of samples from borehole wells and samples from canvas, primary and oxidized ore species (X.E Janiev 2016). When distinguishing the natural types of mines, it is taken into account the composition of the rocks, chemical and mineralogical, textural-structural properties of the ore inclusions, and the fact that they are specific to a specific space.

In the case of gold disperses in primary mines, it is found in the composition of sulfide minerals. Based on data from borehole wells, primary minerals begin at an approximate depth of 40-45 m. The primary minerals are pyrite, chalcopyrite, arsenopyrite, galenite and sphalerite.

Sulfide-containing and recrystallized species of primary mines are common in the field propylization of the inclusionary layers during the dynamothermal metamorphism phase.

Secondary ore berezite-listvenite metasomatites and a zone of quartzization over metamorphogenic rocks

and pyrite-arsenopyrite mineralization zones containing quartz veins (primary ore) are common.

Studies show that the main ore in the field is represented by the non-articulated second and third ost suites of the besapan suite. The Besapan suite deposits are formed by alternating stratification of black and green metaaleurolite, metapelite and metasandstone in the core part of the synclinal fold and in the wedge-shaped blocks. They will be a coating on phillicymon slanes with black metasandstone and breccias.

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In the northern part of the field, this cross-section joins the taskmaster suite of carbon-silicon slanes along the northern fault system, including the overthrust.

The rocks that cover the field are mostly unconformable with carbon-Mica, chlorite-Mica, carbon-silicon slanes, sandstone and aleurolite pachca, silicon and carbonate rocks.

The main amount of pure gold in the field under study is related to the oxidation zone of sulfides and the secondary minerals that form within them. These represent the thin dispersion of gold to the microscopic state and its large-scale re-laying.

Oxidized mines are estimated to a depth of about 45 m. In the composition of oxidized mines, gold elements are found in their pure state. Oxidized rocks are hyotite and hydrogiotite.

At the surface, the mineralized plots were manifested by the rapid ironification and zone of grinding of rocks above the oxidation limit (Image 1).

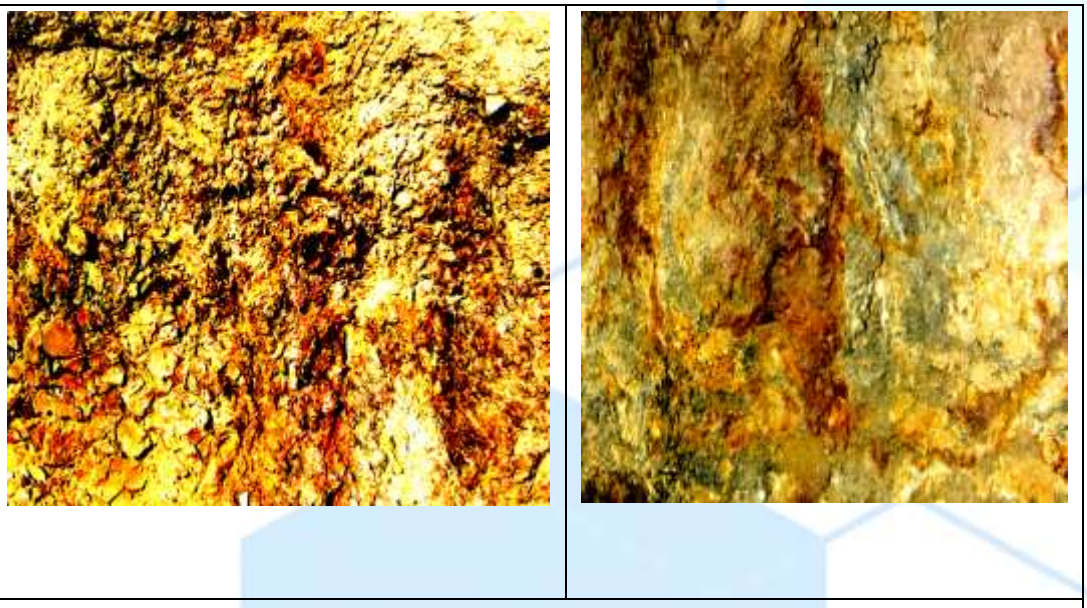

Image 1. Oxidized mineralized zones located on the surface of the Earth.

The chemical composition of carbon-silicon slanes, metasandstone and aleurolite rocks in the ore zone of the Auminzatau field is shown in Table 1 below.

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Table 1.

Com po-t.* in %	Carbon-silicon lanes			Metasandstone and leurolites		
	P -123	Pr-68-1	Pr-61	Pr-10	P-247	63 28
SiO_2, %	70,16	68,91	77,68	72,26	65,56	68,34
TiO_2	0,60	0,42	0,31	0,71	0,96	0,56
Al_2O_3	12,52	13,35	9,43	11,93	14,14	14,18
MgO	1,32	1,76	0,65	2,02	2,01	1,9
MnO	0,01	0,02	0,0	0,01	0,02	0,02
CaO	1,22	1,17	0,86	1,12	1,14	1,24
Na_2O	1,28	1,56	0,52	1,9	1,19	0,49
K_2O	1,36	2,34	1,27	2,08	3,00	1,94
P_2O_5	0,17	0,13	0,17	0,17	0,18	0,15
$SO_{3,o}$	0,63	1,73	2,03	1,41	1,83	1,23

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SO_3, ulphate	0, 32	0,4 3	0,91	0,15	0,16	0,1 2
S, ulphide	0, 10	0,1 2	0,0 5	0,48	0,67	0,4 7
Fe_2O_3 verall	5, 68	4,8 4	3,8 4	3,77	5,06	4,8 6
Fe_2O_3	4, 24	2,6 2	2,9 4	2,06	2,44	2,2 4
FeO	0, 63	0,9 6	0,7 2	1,54	2,36	2,1 7
ppp	3, 02	2,9 6	2,6 3	2,58	4,4	4,4
H_2O	0, 68	0,1 2	0,2 4	0,14	0,3	0,3 7
CO_2	0, 45	0,4 4	0,2 6	0,44	0,22	0,3 2
Amo nt	9 9,45	98, 67	99, 32	99,1 2	98,7 6	98, 68

Eleme nts g/t**	**Quantities**					
Pt	0,0 4	0,04	0,0 3	0,0 3	0,0 3	0, 02
Te	0,4 1	0,36	0,3 6	0,25	0,2 7	0, 60
Se	5,4	1,40	3,8 0	6,0	9,5 0	7,7 0

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As	15	190	21	139	13	72
Sb	10	48	27	110	7,	21
Bi	0,3	0,13	0,1	0,9	1,2	1,
Cu	89	230	20	110	63	17
Pb	17	29	19	56	20	8,7
Zn	12	200	15	890	10	15
W	1,5	1,50	1,2	0,68	8,	2,
Mo	17	160	15	27	23	81
Sn	2,	1,90	1,	2,10	4,	3,6

Table 1 continuation

* chemical* * by mass spectrometric analysis data

The main part of the Auminzatau area is formed by the alternating stratified cross section of the besapan suite of aleurolite, shale and sandstone. At the bottom of the field, this cross section alternates with the carbon-silicon slanes of the taskazgan suite.

In terms of tectonic structures, the field reflects the complex burrowing zone in the northwest directions, and in the research area, mainly huge structures from tectonic crevices-the South - Auminzatau and North Auminzatau zones – were manifested. Along these cracks, an Auminzatau rise formed. As the leading ore controller and ore formative in the area, structural factors serve. The main gold

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deposits and ore deposits converge into a north-west trending burrowing area covering the southern ore zone. In this zone will be located sandstone, Korabugut, Adjibugut, September, Kolchiktau, Dovon mines and a number of mining plots.

Mining zones are characterized by a wide distribution of pyrite, arsenopyrite, chalcopyrite and relatively high indicators of arsenic, silver, antimony and copper from the main elements (except gold). The structural and mineralogical-geochemical signs shown can be applied as search signs for gold-silver mining in the area.

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