

## **TIN-ORE OF SOUTH PAMIR: SOURCES, ISOTOPE-GEOCHEMICAL PARAMETERS OF ORE-MAGMATIC SYSTEMS**

KRASNOZHYNIA, Z. V., ZAGNITKO, V. N., DEMIHOV, YU. N. DEPARTMENT OF MARINE GEOLOGY AND INSTITUTE OF GEOCHEMISTRY, MINERALOGY AND ORE FORMATION OF THE UKRAINIAN NATIONAL ACADEMY OF SCIENCE, KIEV, UKRAINE.

THE INVESTIGATED TIN-TUNGSTEN DEPOSITS ARE ASSOCIATED WITH CRETACEOUS PER-META-ALUMINIUM GRANITOIDS WITH DIFFERENT COMPOSITION OF VOLATILES. T, P-PARAMETERS MINERALOFORMING SOLUTION IS COMPARED: P-1.5-2KBAR, T-500-300°C, BUT ISOTOPE AND GEOCHEMICAL CHARACTERISTIC ORE-MAGMATIC SYSTEMS IS VARIED. ORE DEPOSIT, ASSOCIATED WITH TWO-MICA GRANIT, WHERE ZINNWALDITE-TOPAZ DIFFERENCES PREDOMINATE IN VEIN PHASE IS DISTINGUISHED OF CONTRAST MINERAL ASSOCIATION. HOLOCRYSTALLINE CASSITERITE IS PREVAILED IN TOPAZ-MUSCOVITE, QUARTZ-MUSCOVITE, APOSKARN GREISENS; COLLOFORM CASSITERITE IS WIDESPREAD IN APOSKARN BIOTITE-HORNBLENDE-CHLORITE-FLUORITE METASOMATITES WITH PYRITE-SPHALERITE-PIRRHOTITE PARAGENESIS. THE CALCULATED ISOTOPE CHARACTERISTICS OF ORE-FORMING FLUIDS ARE VARIED IN CONFORMITY WITH EVOLUTION OF DIFFERENT LINK MAGMATIC-HYDROTHERMAL SYSTEMS. THE ESTABLISHED VARIATION  $\delta^{34}\text{S}$  OF CONTRAST MINERAL ASSOCIATION ( $-0.6\text{‰}$ - $4.3\text{‰}$ ) IS CONTROLLED BY DETERMINE GRADIENTS PH AND  $\text{fO}_2$ . THE CALCULATED  $\text{D}_{18\text{O}}^{\text{H}_2\text{O}}$  OF FLUID DON'T DEVIATE FROM ACCEPTED MAGMATIC VALUES. THE ESTABLISHED OF THE VARIATIONS  $\text{D}_{\text{D}}$  FLUID INCLUSIONS AND MINERALS ( $-40\text{‰}$ - $80\text{‰}$ ),  $\text{D}_{34}\text{S}$ , F, CL OF FLUIDS IS PREFERABLE EXPLAINED OF MECHANISM DEGASSING AND SUGGEST, THAT TOPAZ-MUSCOVITE FACIES OF GREISENS WERE FORMED BY THE FIRST PHASE SEPARATED VAPOUR IS ENRICHED FLUORINE AND TR. FOLLOWING PORTIONS OF FLUID, PRODUCED BY CRYSTALLIZING INTRUSIVE WERE DEPLETED OF DEUTERIUM ACCORDING TO RAYLEIGH FRACTIONATION. SM-ND-SR SYSTEMATIC IS SUGGESTED OF ADDITION OF DEEP-SEATED FLUID OF SUBALKALINE MAGMA ON THE FINALLY STADIES AFC SILICIC MAGMATIC CHAMBER, THAT TO PROMOTE FORMATION OF FACIES ZI-F GRANIT.