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**MS-13-P-2452 Study of the oolites Bakchar ore area by scanning electron microscopy.**

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Bakchar ore area was located in the southeastern part of the West Siberian iron-ore basin, 200 km from Tomsk to the northwest. The total area of the cluster is 1200km², estimated resources of oolitic iron ore constitute 28 billion tons, what make this object unique. Results of research of microinclusions in oolites were received by scanning electronic microscopy. Sampling material was divided in granulometric classes (more than 1 mm; 1-0.5 mm; 0.5-0.2 mm; 0.2-0.1 mm; less than 0.1 mm) by the method of "wet" bout. Samples were pressed and polished then were investigated by SEM Hitachi S-3400N with energy dispersive attachment.

Ore samples can be presented as chlorite hydrogoethite, hydrogoethite types. In all ore oolites inclusions of phosphates of rare-earth elements was observed that show the high content of phosphorus in the Bakchar ores. The size of phosphatic grains is 2-10 microns which were rather evenly distributed in structure of oolites. In rare cases, concentric zones made from entirely rare earth phosphate (monazite group) up to 5 mm (Fig. 1) was observed. Also phosphates were found in "dendrite" form of units (fig. 2) in chlorite- hydrogoethite peas. Besides rare-earth phosphates in oolites were noted calcic (apatite) and ferruterous (vivianite) phosphates. Among other mineral inclusions in ore oolites: quartz, feldspar, glauconite, leptochlorite, galenite, sphalerite, chalcopryite, ilmenite, zircon, magnetite was also found. It illustrates the high contents of the phosphorus, titan, lead, copper, sulfur and rare-earth elements in the bakcharsky ores. The received results will be used for creation of the technological scheme of oolitic ores of Bakchar ore area.

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Fig. 1: Concentric zones made from entirely rare earth phosphate (monazite group) up to 5 mm

Fig. 2: Mineral incorporating of rare earth phosphate (monazite) as "dentrite" aggregates