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In the layer of Dictionema shales (average thickness of 2.5 m) the following elements were analyzed: up to 1.29 ppm Re; up to 1130 ppm U; 1-2 kg/t V; and 40-50 mg/t platinum group elements (predominantly Pd). In the underlying Obolus sandstone (phosphorite) layer (average thickness of about 3 m) there are high concentrations of rare-earth elements (up to 800-900 ppm), platinum group elements (predominantly Pd) (100-200 mg/t), and W (up to 100 ppm). The sources of detritus for the formation of Dictionema shale and the concentration of Re and other metals in the shale was ash material and material from the source area. The unique paleogeographic environment of the Early Paleozoic, the presence of an extensive source area, an onshore-offshore depositional environment, and organic input (4 to 15 % in Dictionema shale) played important roles in the accumulation of Re, U, Mo, V, and other metals. Estimated rhenium resources in the Dictionema shale layer are more than 400 tons and platinum group element resources (predominantly Pd) are 103 tons. The resources of other elements, thousands of tons, are: 630 U; 777 rare earth elements (total); 294 Rb₂O; 12.3 Cs₂O; 4951 V₂O₅; 26.4 Sc; 17356 TiO₂, 649.6 Mo; 38.8 Ga; 297 Cu; and 3724 Zn. In the Obolus sandstone (phosphorite) layer, estimated resources are as follows: platinum group elements (predominantly Pd) - 257 tons; rare-earth elements - 2396 thousand tons; and WO₃ - 236.5 thousand tons. Experimental studies have shown that the extraction of Re from the Dictionema shale will have recoveries in excess of 70 %.

