

GLASSES FROM THE CASPIAN SEA BASIN. E. P. Gurov and L. I. Kulish, Institute of Geological Sciences, National Academy of Sciences of Ukraine, 55-b Oles Gonchar Str., Kiev, 252054 Ukraine.

Rare pebbles of black glass occur on the north-western coast of the Caspian Sea near the town of Makhach-Kala in Daghestan, Russia. Four pebbles have been found in the recent deposits of sea beach. All pebbles are good rolled. Size of the biggest pebble is $43.8 \times 33.4 \times 19.7$ mm and its weight is 36.1 g.

The pebbles consist of dark glass with bright glance on the surface. The color of glass is yellowish-brown in small fragments and thin sections while dark brown to black in big pieces. Fluidal texture is visible in thin sections of glass. Refractive index is 1.559 ± 0.002 for three samples and rises up to 1.568 ± 0.002 for the glass of one pebble.

Density of glass varies from 2.62 g/cm^3 to 2.68 g/cm^3 . The rare gas bubbles with shining inner surface occur in the glass. Diameter of bubbles ranges from about $10 \text{ }\mu\text{m}$ up to $100\text{--}150 \text{ }\mu\text{m}$. Mineral inclusion were not observed in glass.

Composition of glass was determined by X-ray fluorescence analysis. The main peculiarity of glass composition is the high content of sodium and nickel (Table 1). Similar composition was described for yellow glass from the K/T boundary in Haiti [1]. High content of sodium in the microtektite glasses from the Southern Ocean was explained with enrichment of the melt by components of sea water at impact into the ocean [2].

Table 1. Chemical composition (wt%) of Caspian Sea glass and some tektite glasses.

	1	2	3
SiO ₂	49.16	49.06	45.00
TiO ₂	0.92	0.64	0.42
Al ₂ O ₃	19.37	13.19	10.48
Fe ₂ O ₃	4.24	5.14	14.12
MnO	0.05	0.16	0.39
MgO	1.87	4.09	15.26
CaO	10.13	24.54	9.65
Na ₂ O	8.72	2.10	5.00
K ₂ O	1.22	0.63	0.06
NiO	0.81	–	–

1–Caspian Sea glass, mean of four analyses; 2–Haitian yellow glass [1]; 3–microtektites from the Southern Ocean [2].

Tektite origin of the glasses from the Caspian Sea basin is supposed. Study of the glasses age, their origin and source is in progress.

References: [1] Maurisse F. J. R. and Sen G. (1991) *Science*, 252, 1690–1693. [2] Margolis S. V., Claeys P., and KYTE F. T. (1991) *Science*, 251, 1594–1597.