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STATISTICAL ANALYSIS OF MEZHYGIRYA DEPOSITS IN VOLODYMERETS AMBER-BEARING DISTRICT

Most of amber occurrences and deposits in Ukraine belong to the Polissyan (Prypyat) basin which is the part of the largest in Europe the Baltic-Dnepr amber province. The main amber ledges are related to littoral-marine sands of Mezhygirya suite of low Oligocene (the Rupelian stage). Value of Ukrainian amber is in its originality which first of all shows itself in a variety and uniqueness of coloration.

The Volodymyrets district with the Dubivka, Volodymyrets, Vyrka and other inby units is the most prospective in the Ukraine for the discovery of new amber deposits. The deposits of productive layer in overwhelming majority are presented by sandy factions with different-grained material. Mainly within the limits of district's south margin also there are silt-sandy and clayey-sandy Mezhygirya deposits.

Mezhygirya deposits of inby unit are represented by shallow-sea and littoral-sea formations and consist of different-grained, mainly coarse-middle-grained quartz sands with the admixture of glauconite, greenish-darkly-grey, that contain layers strongly clayey sand and clayey aleurites, silty clays dark-grey with the inclusions of lignificated wood and separate amber pieces).

The thickness of productive deposits varies from the first ten centimeters on the slopes of paleo-depressions and on shoals and up to 11.5 м in depressions. The average thickness of Mezhygirya deposits within the limits of shoals makes 1-2m and in ditch–likelinear depressions — 5-7m.Martite in the deposits of sea facies of Mezhygirya time confirms the island structure of Mezhygirya basin of sedimentation. These conditions complicated the character of amber distribution.

Grain amber in a negligible quantity except for the deposits of Mezhygirya suite of Paleogene connected also with the Bereka and Obukhiv paleogene deposits, and also – with Quaternary deposits in area. Commercial amber of the class +5 mm on site is also connected exceptionally with the deposits of Mezhygirya suite of Paleogene. Coming from above-mentioned, by the basic stratigraphic level of commercial amber accumulation on "Vyrka" site are the Mezhygirya deposits.

For forming of electronic geological database the information which was collected by the specialists of the Rivne geological expedition of State geological survey of Ukraine as a result of prospecting works conducting on amber in a Volodymyrets amber-bearing district was used. The geological structure of deposit is determined on the basis of sampling of the mining holes, the spacing of which within the limits of the explored area made 100x100 m. Except for it, with the purpose of estimation of the amber mineralization in the small fields of productive deposits extension and areas of grain amber dissemination here is also bored out of network, separately placed bore pits. For the changeability study of amber's ledge within the limits of area on a profile also the bore pits of spacing are bored with distance between them 25 m on average for a driving of research trench.

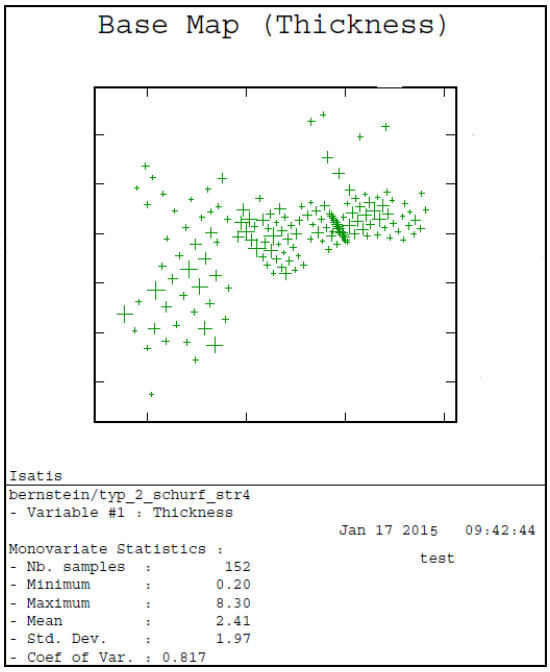

Fig. 1 (a) Base Map of holesnet

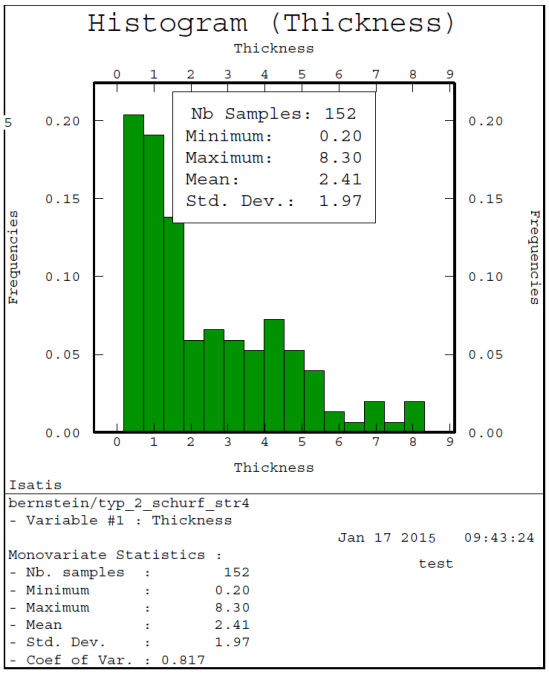

Fig. 1 (b) Histogram of the capacities of Mezhygirya deposits

The base map of holes arrangement on this site is shown in Fig. 1 (a). The capacities of a productive layer are presented in the form of the column histogram in Fig. 1 (b). The column histogram shows the frequency distribution; the height of each column indicates the frequency of the emergence of power values in the chosen range; and the quantity of the columns shows the number of the chosen ranges. Univariate statistics are presented under the histogram: nb. samples, minimum, maximum, both and &.

The important advantage of the histogram is that it allows to visualize the tendency of the measured parameters change of the object quality and to estimate visually the law of these parameters distribution. It is important to determine the law of distribution as far as it helps to use correctly some mathematical expressions and methods of calculations for data further processing.

Thus, on the basis of the obtained histogram and considering the characteristics of the geological structure of specified layers, it can be concluded that within the sediment basin there were difficult and rather different conditions of sediments accumulation. Consequently, the obtained results are corresponding. It is obvious that a special role plays the hydrodynamics of deposits accumulation. Hereafter, Mezhygirya mountain thickness should be investigated using computer simulation of currents in the basin and hydrodynamic conditions of sediments accumulation considering the types of cuts.