flecting the geological system heterogeneity. This advantage consists in the fact that the number of facial rock types, which are taken into consideration, when lateral variability of the facies evaluated by information measures theoretically unlimitedly (as distinct from the traditional method of drawing facial maps on the basis of lithological triangles).

The $K_Ф$ value allows coming to the conclusion about facial heterogeneity of the vertical geological section in every well, and also studying the heterogeneity index variability in the studied area on the parameter value, which changes from 0 to 1. When using this extremely formalized information parameter, the lithology on the direct core sample observations should be taken into account, as $K_Ф = 1$ for *any* homogeneous stratum. For example, for homogeneous porous sandstone and homogeneous dense argillite the $K_Ф$ value will be the same. Rocks are indistinguishable on this formalized characteristic.

With the appearance of special computer programs allowing representing a well log automatically in the form of a discrete series of points and composing a histogram on the basis of these data in the preset number of grouping classes the possibilities of studying vertical and lateral heterogeneity of a geological section by information measures have increased.

The source material presentation and its further computer treatment procedure described here allow solving the problems, which couldn't be solved earlier because of the labour intensity and duration of measuring and computation operations (Ozhgibesov, 1975).

However, it should be borne in mind that the beginning of the problem solution and the problem definition itself consist in the substantiation and choice of a concrete stratigraphic interval with isochronal (or relative isochronal) boundaries of its bottom and roof. The analysis and final conclusions about the multivariable lithologic-petrophysical heterogeneity of the vertical section and its lateral variability should be made only with due account for (probably, simplified) the three-dimensional lithlogic-petrophysical model of the studied territory.

Gratitude. The authors thank the Geological Department of the Perm University for the support of the participation of creative collective of students and teachers in the projects of the Russian and European Academies of natural History.

The work is submitted to the International scientific conference "Modern science technology", Tenerife, Spain, November, 20-27, 2008, came to the editorial office on 06.09.2008.

BASIC RESULTS OF WORKING OUT AND INTRODUCTION OF TECHNOLOGIES OF DESTRUCTION OF FRAGILE MATERIALS WITH APPLICATION OF PLASTIC SUBSTANCES IN MINING AND BUILDING

Tsygankov D.A.
Institute of Mining of Siberian Branch of Russian Academy of Sciences
Novosibirsk, Russia

Plastic substances for the purpose of destruction of natural or artificial brittle materials came into use comparatively not long ago. Despite of this fact there are concrete results briefly expressed in the following in this area.

The working out and realization of the brittle materials destruction technologies using plastic substances in industry should be connected with the initial definition and subsequent regard for a complex of factors reflecting the specificity of objective and subjective operative conditions.

The projecting of technologies of crushing firm formation lumps with drop-weight using plastic substances in conditions of mineral deposits exploitation open-cut mining method will be connected with: the necessity to use mining engineering able to produce high impact energies; the provision of destruction directivity elements absence by means of using smooth wading rods, the lack of the necessity to use estuarine parts and shot hole walls sealing; the use of maximally possible hole depth filled up with a plastic substance. Thereat, because of weight dropping height limitations there will be restrictions on maximum dimensions of the lump, the destruction of which takes place along the whole length of the hole drilled in it and filled up with a plastic substance practically simultaneously.

The projecting of technologies of crushing average and low strength formation lumps with a hydraulically and pneumatically operated hammer using plastic substances in conditions of mineral deposits exploitation open-cut mining method will be connected with: the possibility to use mining engineering producing lesser impact energies; the provision of destruction directivity elements absence by means of using smooth wading rods; the lack of the necessity to use estuarine parts and shot hole walls sealing; the use of maximally possible hole depth filled up with a plastic substance. Thereat, because of the tractor chassesmounted hydraulically and pneumatically operated hammer raising possibilities limitations there will be restrictions on maximum dimensions of the lump, the destruction of which will take place in the contact point of the hydraulically and pneumatically operated hammer rod (lance) and plastic substance in the shot hole at its gradual moving from the estuarine part to the face one.

The projecting of technologies of crystalline rocks mining using plastic substances in conditions of

mineral deposits underground mining methods will be connected with the preservation of natural appearance of crystals, raw material losses reduction in the interior of the earth, elimination of a range of time-consuming and labour-intensive operations in underground conditions and higher safety of mining works performance.

The projecting of technologies of building structures' masonry work will be connected with the reduction of labour-intensive working operations, greater expression of the aperture form, and the lack of linked engineering structures integrity affect because of low impact energies application.

The projecting of technologies of mass concrete basement destruction will be connected with the reduction of primary technological processes' labour intensity, the possibility of portable elements' form and size management, the lack of linked engineering structures integrity affect because of elimination of the vibration action on the part of heavy mobile impact mechanisms, and also the work execution cost reduction.

The projecting of technologies of framework prefab reinforced concrete engineering structures destruction will be connected with the reduction of danger and hazard of elevated installation and construction works, the reduction of terms and production cost of main technological operations performance.

In spite of the possibility of higher work execution safety and also the preservation of production rhythm of an enterprise for the period of carrying out crushing firm formation lumps with drop-weight, the use of the given technology won't be economically feasible compared to the drilling-and-blasting method. It is connected, first of all, with great time and value of works on the preparatory distribution of the lumps in the job site and impossibility of blast-hole drilling exclusion.

A competitive method of crushing average and low strength rock lumps with regard to the drilling-and-blasting one is their crushing using hydraulically and pneumatically operated hammer on the chasses of light mobile mining machines. It is connected, first of all, with relatively small cost of machine change of such equipment, and also the lack of the necessity of preliminary distribution of all the available lumps in the job site.

The introduction of the building structures' masonry work directed destruction technology into construction operations will be fully competitive compared to the application of manual non-mechanized instruments, as it decreases hard manual labour sharply and makes the forming of better quality apertures possible.

The work is submitted to the IV Scientific International Conference "Basic research", Italy, October, 11-18, 2008, came to the editorial office on 27.08.2008.