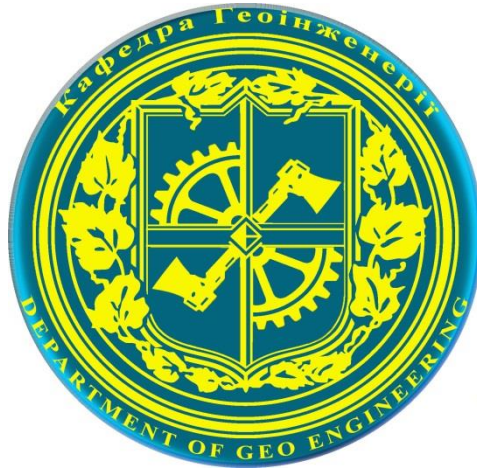


THE MINISTRY OF EDUCATION AND SCIENCE
NATIONAL TECHNICAL UNIVERSITY OF UKRAINE
“IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE”
DEPARTMENT OF GEOENGINEERING



We invite you to take part in the work
V International Scientific and Technical Conference

«PROBLEMS OF GEOENGINEERING
AND UNDERGROUND URBANISM»

which will take place on June 23-24, 2022
in IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE

The purpose of the conference:

exchange of scientific and technical information, development of cooperation of young scientists, educational relations of teachers..

Conference program:

June 23, 2022

10.00-12.00 - opening of the conference, plenary solemn meeting.

12.00-16.00 - scientific reports of young scientists, students and graduate students.

June 24, 2022

10.00-11.00 - acquaintance with the history of the department.

11.00-15.00 - summing up and awarding the conference participants

Organizational fee

Participation in the conference is free.

Requirements for speaking at the conference:

report duration up to 10 minutes Working languages of the conference - Ukrainian, English.

Publication of reports

Free publication of reports in the conference proceedings is planned. The electronic version of the collection will be posted after the conference in the university repository (a link to the page with the collection will be posted at: <https://geobud.kpi.ua/conference> or <https://geobud.kpi.ua/конференції/>)

The report must be prepared in accordance with the requirements:

1. Abstracts are submitted in the 1st copy, printed on one side of an A4 sheet, up to 5 pages (with figures, tables and bibliography) in the MS Word editor in electronic form. The last page must be at least 75% full.
2. On the first page at the top left indicates the UDC index.
3. Below - information about the authors, name of the student and supervisor, academic title, degree, position, name of the institution or organization, which are mandatory parts of theses (font Times New Roman, size 12, 1 space).
4. The title of the report is indicated below (Times New Roman, size 12 pt, bold, center alignment, capital letters, hyphens are not allowed).
5. An abstract (written in Ukrainian and English) of up to 200-250 characters is placed immediately after the title of the article. Each annotation is made in Times New Roman font, size 12 pt, italics, with a single line spacing).
6. Text of the report (font Times New Roman, size 12 pt, all margins - 25 mm, line spacing - single).
7. Bibliographic list (prepared in accordance with the requirements of the DPC).
8. Drawings are embedded in the document as objects.
9. Tables are placed directly in the text.
10. Formulas run in Microsoft Equation Editor.

Structurally, the report should consist of the following sections: **1) Introduction; 2) Analysis of literature sources; 3) Purpose of work; 4) Materials and research results; 5) Conclusions.**

Technical support of reports

You can join the event by following the link:

We invite you to the **ZOOM conference** - 10:00 - 16:30 Thu, **June 23, 2022**

<https://zoom.us/j/5374742588?pwd=UIBHdXFrZVFUQS9wekZCenM4MkFmZz09>

Joom conference connection

<https://zoom.us/j/5374742588?pwd=UIBHdXFrZVFUQS9wekZCenM4MkFmZz09>

Conference ID: 537 474 2588

Access code: WKNM7e

WARNING!

For your temporary preparation of conference programs and publication of reports, you must complete the online registration by **June 20, 2022.**

Registration and sending of reports **ONLY THROUGH ONLINE FORM:**

<https://forms.gle/FpbFvKFXfA63H9K5A>

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Example of report design

UDK 622.1.35

D. Stetsyuk, student of second year, V. Shlapak, PhD Zhytomyr state technological university

ANALYSIS OF SCHEMES OF BLASTING HOLES AND THEIR IMPACT ON THE QUALITY AND EFFICIENCY OF MINING CRUSHED STONE RAW MATERIALS

The factors which impact on efficiency and quality of drilling and blasting operations are analyzed, namely advantages and disadvantages of different schemes of wells locations during mining of crushed stone are considered as well influence of line of the least resistance on output of oversized and amount of crushed rock are analyzed.

Проаналізовано фактори, що впливають на ефективність і якість буро-вибухових робіт, а саме розглянуто переваги і недоліки різних схем розміщення свердловин при видобуванні щебеневої сировини та вплив лінії опору по підшві на вихід негабариту і кількість переподрібненої породи.

Introduction. Deposits of various rocks, which are used for the production of rubble stone and crushed stone, are known in all geostructural regions of Ukraine. Crushed stone raw materials are performed from a strong and highly abrasive magmatic rock. The extraction of this type rocks is associated with labor-intensive drilling and blasting operations. The disadvantage of drilling and blasting operations is oversized. Oversized, which is subject to secondary crushing, has large volumes because the volumes of mineral extraction increase. Oversized occupy a fairly large area of pit faces, which makes mining difficult.

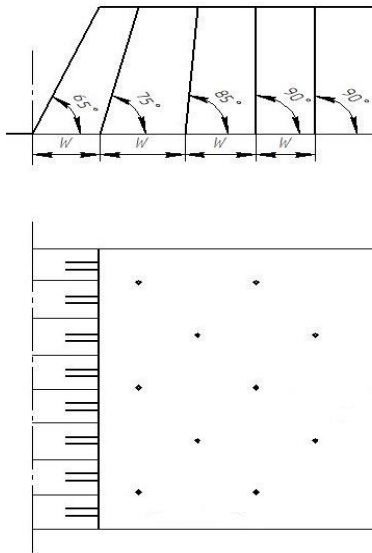


Fig.1. The scheme of holes and their angles of inclination to the horizontal plane.

The analysis of researches and publications. The method of performing explosive borehole work with deviated holes was invented by O. Shapurin and Ya.Vasylchuk [1], described by V. Kravets, V. Vorobyov and A. Kuzmenko [2]. An analysis of the influence of the layouts of explosive wells on the effectiveness of conducting explosive drilling operations in the production of buto-gravel raw materials O. Kisel and A. Kisel [3]. Undercity works were described by V. Kravets, V. Vorobyov and A. Kuzmenko [2]. The physical processes of the applied geodynamics of the explosion were studied by V. Kravets, V. Korobiychuk and V. Boyko [4].

The purpose of this work is to analyze schemes of blasting holes and their impact on the quality and efficiency of mining work, namely reduction of oversized pieces and crushed rock amount.

Materials and research results. Drilling and blasting work is the main method of destruction of rocks during their mining. Thus, with the help of drilling and blasting operations, about 70% of the volume of minerals is mined, 90% of all mining operations are produced by mining enterprises.

Line of the least resistance (W) is the horizontal distance from the axis of hole of 1st line to the bench bottom. For reducing W drilling holes should be done at a certain angle (for different rocks, the angle is different), thus, in the process of mining the output of oversized pieces decreases, the quality of crushed rock improves, due to which the unobstructed work of the extraction equipment is carried out. As a result, technical and economic indicators increase. Also, by reducing the value of line of the least resistance, costs to re-crushing of rocks reduces. The holes of the first line must be drilled at an angle that corresponds to the angle of natural slope of a certain rock. The holes of the following lines respectively approach to 90°. The deviation of well from horizon in the right direction at 1° increases the productivity of production, that is, maximize the output of rocks (Fig. 1).

Conclusions. After analyzing of different drilling explosive holes schemes and the influence of line of the least resistance, which can be reduced by the precise drilling of the deviated holes, it is possible to make the following conclusions that the application of the chess scheme of holes and the optimum evaluation of line of the least resistance reduce the output of oversized, reduce the quantitative loss of raw materials by reducing the extra crushing of rocks, improve the quality of the final product.

References.

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