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GEOLOGICAL EXPLORATION TECHNOLOGIES AND THEIR PRACTICAL APPLICATION

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Abstract: This article provides comprehensive information on the practical application of geological survey technologies. Modern engineering and geological survey technologies are carried out using various methods and equipment, and their practical application is an important factor in improving the quality of the construction process.
Keywords: Geological, technologies, engineering, seismic, geophysical, tomography, gravimetry, georadar, geochemistry.

Introduction. Geological research technologies and practical application construction in the field important importance has are, they are of buildings safety and stability in providing main role plays. This technologies land surface geological features deep to study, earth under and land above layers status to determine, as well as construction for the most comfortable and safe places to choose opportunity gives. Modern engineering - geological research technologies different methods and equipment using done increased and their practical application construction process quality in increasing important factor It will be.

First, geophysics methods wide For example, seismic tomography and gravimetry technologies land under layers structure and properties determination for These methods are used. using land under layers hardness, fluidity status and layers between dependencies about information They are obtained by using land under of the waters situation, specific in places there is was geological problems and important buildings for dangerous to be possible was environments These technologies are highly accuracy with information to give and great regions short time inside check opportunity creates.

Secondly, ground penetrating radar technology superficial and close land under layers in inspection wide Georadar is used. using the ground in inspection ultrasound waves are sent and they layer by return to be taken based on of layers depth, structures and construction location about information This technology is especially engineering facilities under construction in places, buildings for dangerous to be possible was land under structures in determining important.

Third, geochemical and geophysical methods using land under layers chemical and physical features These methods are studied. using land under waters and layers ecological condition, large resources location and important geological events This information is determined by construction of projects ecological compatibility in providing and engineering solutions in optimization important role plays.

Practical applications Among them, 3D geological modeling technology very wide widespread there is surface and ground under layers three-dimensional map create opportunity This model gives engineers and geologists certain in the area located layers, structures and ground under resources clear their views possible. Also, artificial intelligence and great information from the base use technologies using research further efficient and fast done is being increased. With the

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help of these technologies information analysis to do, problem their places identification and risks in advance measure see opportunities expands.

Also, drones and robotics technologies using the area observation and inspection processes is being automated. Drones using wide regions short time inside checked, photos and videos is taken, this and engineers for important information base to form help Such technologies are particularly difficult and dangerous. in places, for example, land shaking or natural disasters as a result changing gone in areas, use for very convenient.

Conclusion as geologically speaking research technologies modern construction in the field important tools are, they are construction process safety supply, engineering solutions optimization and environment protection in doing important role plays. With the help of these technologies land underground and ground surface about information clear and broad comprehensive mold, construction projects successful and safe done increase provides. With this together, technological achievements and innovations are always developed is going on, this and engineering-geological of research efficiency further to increase service Stability and security for geological problems and solutions.

Construction in the field engineering-geological research important importance profession will, because they construction in the process to the surface arrival possible was geological problems identify and eliminate to grow for main opportunities presented Geological problems right identify and their solutions working output, device stability and safety in providing important role plays. These problems understand and them solution to do for one row important issues and technologies exist are, they are the ground study and analysis to do in the processes wide is applied.

First of all, geological of the environment complexity and its human to the activity impact about stop Underground layers types, their hardness, fluidity transition properties and layers location construction for danger to give birth possible. Example for, land under waters or certain of layers load under balance save not being able to of buildings to the violation take arrival possible. With this together, naturally disasters, such as earthquakes, landslides tremors or water pressure of the environment stability to break This problem can be solved. in advance determination for geological and geophysical from methods wide is used.

Geological of problems the widest widespread of the types one is the earth under waters with related problems are, they are engineering and technical requires solutions. Underground waters high temperature and pressure under the circumstances located if they are of buildings to the basics pressure conducts and disruption the risk This problem with in fighting, water take throw or him/her management for various technologies, such as dehydration methods or liquids filtration to do methods is applied.

Also, important problem as solid and liquid of layers wrong location and features to the surface These layers status and characteristics determination for georadar, seismic investigations and geochemical analyses wide With the help of these technologies, the earth under layers how much stability, molecular structure and water transition features is determined. Thus together, this information based on construction for comfortable places selection and environment suitable projects working exit possible will be.

The earth checks and its safety provision for, geological security according to standards and regulations working These standards land under environment safety in the assessment, geological of the environment balance in storage and construction before certain risks in

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determining help For example, the earth under layers mobility or of liquids flow assessment for special modeling and forecasting to do technologies is applied. With the help of modern technologies, engineering-geological research in the process, 3D geological modeling, drones using land the surface photo acquisition and artificial from the intellect use wide With the help of these technologies, accuracy increases, time and costs decreases. For example, artificial intellect based on land under layers mobility and problems in advance forecast to do possible This is the construction of the safety in increasing important factor become service does.

With this together, geological of the environment complexity and naturalness disasters, water and land under resources limitedness There are also problems. They solution to do for ecological safe technologies and sustainable development principles based on research take This is just construction safety provision with not limited to, but the environment protection to do and resources effective service for use does.

Conclusion as in other words, construction in the field engineering-geological research important and always developing industry there is surface geological features deep learning, problems identify and solution through construction safety provides. In this area technological through achievements and innovations, further efficient and ecological stable solutions working is being released. Geological problems and their solutions, construction of the field main the foundation organization and man of activity safety and environment to the protection service does. Conclusion as in other words, construction in the field engineering - geologist research important and developing industry is, he is a human being of activity safety, stability and efficiency in providing main place This in research geological environment and layers main concepts, modern technologies and practical application and stability and security for to the surface coming problems and their solutions wide illuminated. Geological the environment deep study through, earth underground and ground above layers features clear by designating taken, this and construction in the processes important role Geophysical, georadar, geochemical methods such as research using modern technologies accuracy and efficiency with done is being increased, in which costs will also be reduced. Also, geological of research important importance is that they of buildings far term stability to provide service does, engineering solutions in optimization and ecological compatibility control in doing help gives. Underground waters and strata condition, natural resources and natural disasters with related problems, modern technologies and methods with solution is being done, this and construction process safety to provide service does. The present in the period, 3D geological modeling, artificial intelligence and drones research using technologies such as further more accurate and faster done This is the construction of projects quality increase and expenses to reduce opportunity is creating. With this together, ecological safety and stability development principles based on take going research, natural the environment protection to do and resources effective use provides.

Conclusion. Engineering - geology of research development, construction in the field new of technologies current and methods improvement with related are, they are human of activity safety and environment to the protection big contribution In the future, this industry further developed, ecological problems solution to do for new technologies and methods working to go out aimed at research continue This is not only construction of the field quality increase, but also, the environment protection to do and resources stable use provision for important importance profession will. With this together, engineering - geological of research development,

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society general development and environmental stability for main the foundation organization will reach.

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