

Certain issues of judicial engineering and environmental examinations regarding environmental violations in the extraction of minerals

Iryna Tararaka *

* PhD Student, National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute», Kharkiv, Ukraine, ORCID: <https://orcid.org/0000-0003-3671-1288>, e-mail: tararaka_hniise@ukr.net

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The main problems of appointing and conducting judicial engineering and environmental examinations in administrative proceedings in the event of detection of violations in the extraction of minerals are considered.

The purpose of the study is to generalize the problems appointing and conducting judicial engineering and environmental examinations (studies) in response to an administrative violation when using subsoil and providing practical guidelines for their solution.

The subjects which can be participants of public-law disputes and initiators of engaging an expert in order to undertake investigations in administrative proceedings while considering environmental violations are determined. Subject and objectives of judicial engineering and environmental examinations and types of objects provided to forensic experts to perform these studies are defined.

Conditions for the qualitative conduct of engineering and environmental examinations and solution of the tasks assigned to the expert are revealed, which depends on the accurate formulation of questions to the expert and completeness of the provision of studied objects. An indicative list of questions that can be solved by forensic experts within the framework of these examinations is proposed.

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The possibility and necessity of conducting a full-scale inspection of the scene by an expert are considered.

A review of the literature indicates an insufficient development of concepts of the subject and object of this type of examination.

Promising directions of improvement of theoretical knowledge and practical activity both forensic experts and subjects (bodies) considering this type of environmental violations are outlined.

Keywords: *judicial engineering and environmental examinations; administrative proceedings; extraction of minerals; subsoil use; executive authorities; environmental legislation.*

Research Problem Formulation

Natural and man-made changes of objects of the environment, in case of intensive and irrational use of natural resources, lead to environmental challenges caused by local destruction of natural objects.

The economic activity of subsoil users during the extraction of minerals provides facilities for ineffective and irrational use of land resources.

Disputes resolution due to the administrative coercion by authorized state executive authorities is not always substantiated, and in some cases requires detailed consideration in court to determine grounds and circumstances of violations.

When considering administrative cases judicial engineering and environmental examinations (hereinafter referred to as JEEE) are appointed in order to clarify the facts of non-compliance with the requirements of environmental legislation which are important for resolving this case.

Conducting JEEE in administrative proceedings requires answering a set of questions about circumstances that led to the environmental violation during subsoil use.

In modern scientific literature, the legislative, regulatory, and normative-technical support and conditions of JEEE conducting is practically not studied, as these examinations as a separate type were introduced only in 2011.

Currently, the issue of determining the subject, objectives, and object of JEEE of environmental violations during the extraction of minerals has not been studied yet, there are no guidelines for conducting research on such environmental violations.

Analysis of Essential Researches and Publications

Such foreign scientists as Such E. Zebek, D. Solodov, D. Magherescu ¹ paid attention to the issues of forensic examination. In

1 E.g.: Zebek E., Solodov D. Environmental Forensic Examinations in Poland: a Case Study. *Journal for european environmental & planning law*. 2021. February. P. 103–123. DOI: 10.1163/18760104-18010007 (date accessed: 23.09.2021) ; Magherescu D. Achieving Defense by Means of Forensic Science During the Criminal Proceedings in Romania. *Revista Brasileira de Direito Processual Penal*. 2020. Vol. 6. No. 1. P. 117–146. DOI: 10.22197/rbdpp.v6i1.302_ (date accessed: 23.09.2021).

addition, the issue of subsoil use dealt with A. Frelih-Larsen, M. Swartz, and others. ²

However, international studies examining forensic science in administrative proceedings in case of environmental violations during the extraction of minerals are not enough owing to lack of such a type in European register, so the basis for this article is the work of domestic experts.

Theoretical foundations of subsoil law are reflected in the scientific works of Ukrainian scientists: O. Yu. Makarenko, O. O. Surilova, N. O. Maksimentsev, R. S. Kirin ³. Unfortunately, the Ukrainian Scientific Community has paid and does

not pay enough attention to the basics and features of JEEE conducting. Instead, such scientists as O. M. Holovan, N. Yu. Honcharuk, E. I. Maiorova, A. N. Petrukhina ⁴ considered in detail in their work theoretical basis for judicial environmental examinations.

Some provisions and theoretical foundations of JEEE conducting have been studied in domestic scientists and researchers' works including I. V. Bohdaniuk, L. H. Bordiuhov, O. Ye. Vasiukov, I. P. Krainov, V. V. Sabadash, V. I. Uberman ⁵. As for today, the scientific research of JEEE issues in administrative cases concerning

- 2 E.g.: Frelih-Larsen A., Hinzmann M., Ittner S. The 'Invisible' Subsoil: An Exploratory View of Societal Acceptance of Subsoil Management in Germany. *Sustainability*. 2018. 10 (9). 3006. DOI: 10.3390/su10093006 (date accessed: 23.09.2021); Swartz M., Misstear B., Daly D., Farrell E. R. Assessing subsoil permeability for groundwater vulnerability. *Quarterly Journal of Engineering Geology and Hydrogeology*. 2003. 36 (2). P. 173–184. DOI: 10.1144/1470-9236/2001-46 (date accessed: 23.09.2021).
- 3 E.g.: Макаренко О. Ю. Адміністративно-правова охорона надр України : автореф. дис. ... д-ра юрид. наук. Харків, 2013. 32 с. ; Сурілова О. О. Адміністративно-правове регулювання у сфері використання і охорони надр : автореф. дис. ... д-ра юрид. наук. Запоріжжя, 2017. 34 с. ; Максименцева Н. О. Актуальні проблеми нормативно-правового забезпечення державного управління в галузі охорони надр. *Науковий вісник Міжнародного гуманітарного університету. Серія: Юриспруденція*. 2017. № 29 (2). С. 60–62. URL: http://nbuv.gov.ua/UJRN/Nvmgu_jur_2017_29%282%29__17 (date accessed: 23.09.2021); Кірін Р. С. Предмет надроохоронного права. *Економіка та право*. 2018. № 3 (51). С. 38–48. URL: http://nbuv.gov.ua/UJRN/escr_2018_3_5 (date accessed: 23.09.2021).
- 4 E.g.: Головань О. М. Теоретические и практические основы использования специальных знаний при расследовании экологических преступлений : дис. ... канд. юрид. наук. Волгоград, 2008. 163 с. ; Гончарук Н. Ю., Майорова Е. И. Особенности обоснования и формирования выводов при решении задач судебно-экологической экспертизы. *Теория и практика судебной экспертизы*. 2012. № 1 (25). С. 101–104 ; Петрухина А. Н. Заключение эксперта и его оценка в уголовном процессе : автореф. ... канд. юрид. наук. Москва, 2011. 32 с. URL: <https://dspace.nlu.edu.ua/handle/123456789/17885> (date accessed: 23.09.2021).
- 5 E.g.: Крайнов І. П., Богданюк І. В. Деякі проблеми судової інженерно-екологічної експертизи при дослідженні екологічних правопорушень. *Актуальні питання судової експертизи та криміналістики* : зб. мат-лів міжнар. наук.-практ. конф., присвяч. 95-річ. створ. ХНДІСЕ ім. Засл. проф. М. С. Бокаріуса (Харків, 10–11.10.2018). Харків, 2018. С. 187–188 ; Сабадаш В. В. Теоретичні основи судової екологічної експертизи. *Вісник Національного технічного університету «Харківський політехнічний інститут»*. 2010. № 46. С. 170–175. URL: <http://repository.kpi.kharkov.ua/handle/KhPI-Press/26987> (date accessed: 23.09.2021) ; Уberman В. І., Васюков А. Е. Судебная инженерно-экологическая экспертиза и арбитражный эффект экологического контроля. *Теория та практика судової експертизи і криміналістики* : зб. наук. пр. 2013. Вип. 13. С. 418 ; Бордюгов Л. Г. Судебная инженерно-экологическая экспертиза: основные понятия и перспективы развития. *Ibid*. 2011. Вип. 11. С. 569. URL: http://nbuv.gov.ua/UJRN/Tpsek_2011_11_81 (date accessed: 23.09.2021).

environmental violations during the extraction of minerals is extremely insufficiently presented in domestic science.

The Article Purpose

The article's purpose is to generalize the problems of judicial engineering and environmental examination in response to an administrative violation when using subsoil and provide practical guidelines for their solution.

Main Content Presentation

Subsoil use (especially the extraction of minerals, regardless of their type and importance) is characterized by high intensity and low rationality which provokes a significant number of environmental violations that are ultimately considered and resolved in court.

When hearing the case on administrative violations in a legally prescribed manner in court, it is necessary to appoint a forensic examination (s) to establish the truth. In the administrative process the examination was recognized as the main form of use of specific expertise and scientific and technical achievements in the consideration of public law disputes ⁶.

According to Article 102 of the Code of Administrative Procedure of Ukraine (hereinafter referred to as *CAPU*), the forensic examination is appointed by the administrative court if there are grounds at the request of the party to the case or on its own initiative. Forensic examinations during consideration of administrative cases are appointed under the following conditions:

- to clarify the circumstances relevant to the case, specific expertise in a field other than law is required, without which it is impossible to establish the relevant circumstances;
- no party has provided a forensic report on these issues or forensic reports provided by the parties that raise reasonable doubts as to their correctness ⁷.

JEEE in administrative cases on environmental violations during the extraction of minerals is appointed in case of public law disputes between government bodies (their officials), authorized to consider and make decisions on administrative offenses, and entities subject to administrative warnings or coercion.

Consideration of cases on administrative offenses is carried out by a significant number of authorized government bodies. Participants in administrative proceedings in case of non-compliance with the requirements of the legislation on subsoil may be executive authorities and officials whose competence includes consideration of administrative cases, making decisions on them and the application of administrative sanctions.

Depending on the subordination to the list of authorized government bodies that may be participants in the case, in accordance with the provisions of Art. 213 of the Code of Ukraine on Administrative Offenses, include the following executive bodies: the central executive body that implements the state policy in the field of labor protection (Art. 231); Central body of executive power that implements the state policy in the field of geological study and rational use of subsoil (Art. 239); Central body of

6 Джафарова М. В. Процесуальні питання експертизи в адміністративному судочинстві України. *Юрист України*. 2011. № 4. С. 53. URL: http://nbuv.gov.ua/UJRN/uy_2011_4%2817%29__9 (date accessed: 23.09.2021).

7 Кодекс адміністративного судочинства України від 06.07.2005 р. № 2747-IV (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/2747-15> (date accessed: 23.09.2021).

executive power that implements the state policy on state supervision (control) in the field of environmental protection, rational use, reproduction and protection of natural resources (Art. 242¹); Central body of executive power that implements the state policy in the field of land relations (Art. 242²)⁸.

Entities that are brought to administrative responsibility are persons (officials) who have committed illegal acts in relation to environmental objects which has led to negative man-made changes of local objects, and / or have not complied with the requirements of environmental legislation and regulations-technical documents, which could cause environmental or material damage.

To resolve administrative disputes in court, special attention is paid to establishing the factual circumstances of the case regarding the subject's failure to comply with environmental legislation, activities (inaction) of officials prosecuted to administrative responsibility, and by the executive authorities; the presence, consequences, and scale of impact of technogenic sources on local environmental objects, the clarification, and evaluation of which is beyond the knowledge of a judge.

It is worth agreeing with O. O. Mieshkov, who noted that forensic science by applying specific expertise introduces modern achievements of science and technology into the judiciary and is a source not only of establishing but also explaining the facts and circumstances of the case⁹.

M. H. Shcherbakovskiy and D. V. Kurylenko rightly note that in the context of increasing requirements for the process of proving in court, specific expertise is designed to ensure the receipt of reliable evidence, as well as information necessary for procedural decisions by authorized persons (authorities)¹⁰.

Environmental experts, in order to address issues related to environmental violations within the administrative proceedings, need specific expertise in the field of environmental engineering, and as well as in legislation (normative legal acts, normative and technical documents taking into account current changes including international, national, and industry standards, rules, regulations, technical conditions and technological regulations, instructions, recommendations, as well as current industry standards and guidelines).

According to O. V. Lapin, the specifics of the field of environmental crimes determines the significant importance of specific expertise for their effective investigation, as well as determines a wide range of necessary skills for the application of such knowledge¹¹.

Thus, specific expertise of the forensic expert, who has specific training and qualifications in specialty 10.19 "Study of circumstances and organizational and technical causes and consequences of technogenic sources on environmental objects" includes specific expertise in the field of environmental engineering as an ecology that

8 Кодекс України про адміністративні правопорушення (статті 213–330) від 07.12.1984 р. № 8073-Х (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/80732-10> (date accessed: 23.09.2021).

9 Мешков О. О. Об'єкт, предмет і завдання судової інженерно-технічної експертизи нещасних випадків, пов'язаних з електротравмуванням. *Теорія та практика судової експертизи і криміналістики* : зб. наук. пр. Харків. 2019. Вип. 19. С. 367. DOI: 10.32353/khrife.1.2019.028 (date accessed: 23.09.2021).

10 Щербаківський М. Г., Куриленко Д. В. Обізнані особи у судочинстві України. *Ibid.* С. 142. DOI: 10.32353/khrife.1.2019.011 (date accessed: 23.09.2021).

11 Лапин А. В. Использование специальных познаний при расследовании экологических преступлений. *Вопросы криминалистики и судебной экспертизы*. 1989. Вып. 8. С. 31.

studies systems of interaction the person with environment and influence of technological processes of the equipment, on environmental conditions, and also knowledge in the field of the environmental law and skills of its application.

For today, two types of forensic examinations have been approved in the field of environmental expert research conducted in forensic research institutions of Ukraine (hereinafter referred to as *FRI of Ukraine*): engineering and technical (in particular, engineering and environmental), and environmental examination¹².

L. H. Bordiuhov proposed the definition of JEEE — is implemented in criminal, civil, economic, or administrative cases, a scientifically substantiated research is designed to establish the circumstances and facts of man-made impact on specific (local) objects of the environment associated with violation of environmental legislation which may be recognized as evidence in the investigation and trial of these cases¹³.

We should agree with scientists' opinion that forensic science still remains unresolved number of common issues, including: the concept of forensic science, its difference from other ways of using specific expertise in administrative proceedings, determining the evidentiary nature of the expert report, etc. The decision of these issues has not only theoretical but also practical value as makes it possible to apply cor-

rectly forensic report as proof in a concrete administrative case, avoid mistakes at the appointment of examination¹⁴.

Examining case papers submitted for research, the environmental expert analyzes and compares the documentation available to the business entity with requirements of current (at the time of the event) regulations examines circumstances and organizational and technical reasons, establishes cause-and-effect relationships and dependencies the event under investigation, which allows the judge to make a correct and grounded decision. Forensic science significantly expands the cognitive capabilities of the court hearing of administrative cases, allows you to use all scientific and technical means to establish all the circumstances relevant to the case¹⁵.

Content of the engineering and environmental examination' subject in administrative cases regarding environmental violations during extraction of minerals follows from the tasks set before the expert, circumstances of the event, and issues that specify the subject of research.

Today there are lots of generally accepted concepts of the subject of forensic science. In our opinion, the most acceptable definition of the subject of forensic science was proposed by O. R. Shliakhov — as established on the basis of specific expertise factual data (facts, circumstances of the case)¹⁶.

- 12 Про затвердження Інструкції про призначення та проведення судових експертиз та експертних досліджень та Науково-методичних рекомендацій з питань підготовки та призначення судових експертиз та експертних досліджень : наказ Мініюсту України від 08.10.1998 р. № 53/5 (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/z0705-98> (date accessed: 04.08.2021).
- 13 Бордюгов Л. Г. *Op.cit.*
- 14 Качурін С. Г., Мороз В. О. Судова експертиза в адміністративному судочинстві України. *Конституційно-правові засади адміністративної реформи в Україні* : мат-ли Всеукр. наук.-практ. конф. до 100-річ. СХУ ім. В. Даля (Северодонецьк, 24–25.10.2019). Северодонецьк, 2019. С. 96–102.
- 15 Джафарова М. В. *Op.cit.* С. 53.
- 16 Шляхов А. Р. О предмете судебной экспертизы. *Некоторые вопросы теории судебной экспертизы* : тез. науч. сообщ. на 7-м теор. семинаре — криминалист. чтениях (Москва, 26.06.1975). Москва, 1975.

In general terms, the subject of forensic science is the factual data and circumstances of the case established by a forensic expert on the basis of the use of specific expertise through the application of appropriate tools (methods) in the study of tangible and materialized media to solve issues of forensic science¹⁷.

We should coincide with M. H. Shcherbakovsky's definition, who concluded that the activities of the expert are aimed at obtaining information about the event under the study through the use of specific expertise. The information that the expert receives in the course of his activity is the result of the study of certain characteristics of the objects provided for examination¹⁸.

The subject of JEEE in administrative cases on environmental violations during extraction of minerals is a set of factual data on conditions and circumstances of the event, determining the presence and circumstances of economic activities of entities (officials), compliance with environmental, land legislation, and legislation about subsoil, etc., and the presence/absence of impact of the man-made factors on the environment.

The range of JEEE tasks is defined in ch. 11 section II of Scientific Guidelines on preparation and appointment of forensic examination and expert research (hereinafter referred to as *Scientific Guidelines*)¹⁹, but the study of circumstances and organizational-technical reasons for non-compliance with environmental legislation during extraction of minerals has its own specifics.

According to the materials of administrative cases on environmental violations

during extraction of minerals, the main tasks of JEEE are:

- determination of circumstances related to non-compliance with the requirements of environmental legislation and the occurrence of the studied event (situation);
- establishment of technical and organizational reasons for non-compliance with the requirements of environmental legislation, if it contributed to the emergence of negative man-made changes in the environment;
- determination of ecological consequences caused to the environment due to non-compliance with the requirements of environmental legislation in the field of protection and subsoil use;
- on the basis of provided materials, confirmation of the amount of material damage caused to the state or subsoil user (s) as a result of non-compliance with the requirements of environmental legislation during extraction of minerals;
- finding out the compliance of actions of persons (or their inaction) involved in the studied event (situation), the requirements of current (at the time of the event) legislation and bylaws in the field of environmental safety, environmental protection, and use of natural resources;
- establishing causal relationships between the actions/inaction of authorized persons in the field of

17 Основи судової експертизи: навчальний посібник для фахівців, які мають намір отримати або підтвердити кваліфікацію судового експерта ; авт.-уклад.: Л. М. Головченко, А. І. Лозовий, Е. Б. Сімакова-Єфремян та ін. Харків, 2016. С. 25.

18 Щербаківський М. Г. Предмет судової експертизи. *Форум права*. 2016. № 5. С. 199–203.

19 Про затвердження Інструкції URL: <https://zakon.rada.gov.ua/laws/show/z0705-98> (date accessed: 04.08.2021).

- environmental protection, use of natural resources, and environmental safety and the consequences that have occurred.

Appointment and conduct of forensic examinations in administrative proceedings are determined by the legislation of Ukraine on forensic expert activity (Law of Ukraine "On Forensic Examination" ²⁰, section III of the Instruction on appointment and conduct of forensic examinations and expert research ²¹, hereinafter referred to as — *Instruction*) and regulated by provisions of CAPU.

The decision of administrative court, which is the case of an administrative offense, in compliance with the procedural form sets out the decision to appoint an examination in the event that there is a need for specific expertise.

The document of the authorized person or body on the basis of which the forensic examination is appointed (forensic expert is involved), in addition to the data required for this procedural document, must contain the grounds for the forensic examination and questions on which the forensic expert must give a conclusion ²².

To provide answers to the questions asked, forensic experts are provided with research objects (administrative case materials and documents required for the study), which contain information about the subject of the examination.

In a general sense, the object of forensic examination are material (material-

ized) sources of information that examines (studies) the forensic expert on the basis of specific expertise within the subject of expert research by certain methods and means to solve tasks (questions) posed by the authorized person (body) ²³.

Scientific Guidelines (§ 11.1 of ch. 11 section II) stipulate that "*the object of judicial engineering and environmental examination are material and materialized sources of information containing factual data on circumstances of the environmental emergency, including physical evidence, fragments venues, equipment, communications, means of production that ensure the environmentally safe operation of an enterprise, as well as any other circumstances of the event, recorded (described, reflected in diagrams, photographs, plans, etc.) in the case file*" ²⁴.

The admissibility of research objects is important for conducting examination and drawing up the forensic report. According to Yu. K. Orlov, if the forensic expert declares the objects of research inadmissible, then this property will automatically lose the forensic report itself ²⁵.

According to A. N. Petrukhnina, the forensic expert makes a conclusion on the basis of specific expertise, in connection with which there are peculiarities concerning the relationship of forensic report with other properties as evidence. Such features, according to the author, are: erroneous provision of the expert with the wrong object of study, intentional substitution of the study object, violation of formal rules for obtaining evidence; in these

20 Про судову експертизу : Закон України від 25.02.1994 р. № 4038-XII (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/4038-12> (date accessed: 23.09.2021).

21 Про затвердження Інструкції URL: <https://zakon.rada.gov.ua/laws/show/z0705-98> (date accessed: 04.08.2021).

22 Fundamentals of forensic science С. 27.

23 Ibidem.

24 Про затвердження Інструкції URL: <https://zakon.rada.gov.ua/laws/show/z0705-98> (date accessed: 04.08.2021).

25 Орлов Ю. К. Заключение эксперта как источник выводного знания в судебном доказывании (уголовно-процессуальные, криминалистические и логико-гносеологические проблемы) : автореф. дис. ... д-ра юрид. наук. Москва, 1985. 54 с.

circumstances the forensic report will be inadmissible ²⁶.

N. A. Panko ²⁷ believes that “a forensic expert should use all the materials necessary to give correct conclusion”. This statement cannot be disagreed with as the completeness of the forensic report depends on the completeness of the study of the materials provided. However, in our opinion, the statement by N. A. Panko that unreasonable refusal to use the provided materials or silence in the forensic report on the use of any materials provided to him is inaccurate indicates the incomplete expert report.

Conducting engineering and environmental examinations in the field of subsoil use, experts examine all the materials provided, but the expert assessment is subject to factual data, which are the subject of research in accordance with the tasks (questions) posed to the expert. That is, in the research, experts may take into account the specific period of the event under investigation, determined by the body (person) that appointed the examination (s), and not the entire event reflected in the provided case materials. For example, examination of economic activity for the extraction of minerals in the absence or suspension of a special permit for subsoil use. In this case, experts examine materials and documents relating only to the period of the event under investigation - the period of absence (suspension) of a special permit for subsoil use. Internal technical documents of the subject (orders, instructions, permits) relating to the investigated event, but expired before the occurrence of the investigated event or approved after the research period, experts may not consider.

During the examination period, the situation on the territory of the object

under study (local land plot) may change in principle (for example, subsoil user reclamation measures), so experts can consider the number of materials provided only specified by representatives of authorized executive bodies, determined in accordance with the questions asked by the body that appointed the forensic examination.

One of the most important conditions of quality conduct of engineering and environmental examinations and correct solution of the tasks before the expert is to provide the expert with appropriate correctly is providing expert with appropriate research objects.

Objects of engineering and environmental examination on environmental violations during extraction of minerals may be:

- case materials (protocols on administrative offenses and attachments to them, certificates, schemes, conclusions of other forensic examinations, et.), which relate to the subject of examination;
- technical documentation (technological regulations, instructions, land management documents, etc.);
- permits, specialists' conclusions, conclusions of state examinations);
- local land plot with signs of negative man-made impact (if it is necessary to conduct a field inspection by an expert);
- results of the inspection of subsoil use objects by authorized bodies of state supervision (control), protocols of research of soil, water, atmospheric air samples, etc.;
- results of survey and conduct of topographic and geodetic works;

²⁶ Петрухина А. Н. Оп. cit.

²⁷ Панько Н. А. Висновок експерта та його оцінка. *Форум права*. 2012. Вип. 1. С. 728—733. URL: http://nbuv.gov.ua/UJRN/FP_index.htm_2012_1_114 (дата звернення 04.08.2021).

- calculation of the amount of damage made by the authorized bodies of state supervision (control);
- other sources of information that contain information about the event under study.

Analysis of expert practice shows the existence of problems in the formalized questioning (tasks) to the expert. The list of issues to be resolved within the framework of engineering and ecological examinations was approved by the Order of the Ministry of Justice of Ukraine § 11.3 of ch. 11 section II of Scientific Guidelines²⁸.

After studying materials submitted for research and getting acquainted with questions, the expert can change the wording sequence of questions, or group them and consider them together (§ 4.12 Sect. IV of Instruction²⁹). However, the essence of issues raised in accordance with tasks set by the court decision cannot be changed.

It is quite often judges (with the prior consent of the representative of the executive branch or the person who initiated the request for examination) formulate questions to experts, the content of which does not comply with Scientific Guidelines.

In his work, L. O. Sydorenko analyzed and systematized the questions posed to forensic experts, the wording of which often does not correspond to current Scientific Guidelines. The questions asked to forensic experts may have the following features: legal nature; operational-investigative and reference nature; the nature of hypothetical assumptions; the solution of which does not require specific expertise; which cannot be answered because they are vague; which go beyond the expert's

specific expertise; the content of which is unclear to the expert or can be assessed ambiguously; the content of which, although clear, the expert cannot edit them on their own because this will change their essence; the content of which is clear, the expert can edit them himself, although after editing formally their essence will not partially change³⁰.

Judicial engineering and environmental examination is a subtype of engineering and technical examination, so when formulating questions, experts should take into account the specifics of the implementation of economic entities (persons) subsoil use, technological and technical processes of extraction of minerals, etc.

An approximate list of issues that can be resolved by forensic experts in the framework of environmental engineering examinations in cases of environmental violation during the extraction of minerals, we can offer the following.

- Requirements of which regulations on environmental protection are not met in the case under the study?
- What are the causes of the environmental situation (event) and what circumstances caused them?
- Which people's actions did not meet the requirements of environmental regulations?
- Actions (inaction) of which persons are (from a technical point of view) in a causal connection with occurrence of the investigated event?
- Is the arithmetic calculation of the amount of damage confirmed on the basis of the provided documents?

28 Про затвердження Інструкції URL: <https://zakon.rada.gov.ua/laws/show/z0705-98> (date accessed: 23.09.2021).

29 Ibidem.

30 Сидоренко Л. О. Щодо права експерта на редагування поставлених йому запитань. *Криміналістичний вісник*. 2015. № 2. С. 83–91.

The above list of issues is non exhaustive. Engineering and environmental examination may also raise other issues within the subject of expert research and experts' competence.

In some cases, questions to be asked by experts are closely related, they can also be complex, and their solution requires the application of specific expertise in various expert specialties and field of knowledge. For instance, the expert practice shows that pre-trial investigation or court bodies often ask the issue determining the amount of material damage for non-compliance with requirements of environmental legislation in the field of subsoil use.

The calculation of compensation for damage to the environment is not within the competence of forensic experts in specialty 10.19 "*Study of circumstances and organizational and technical causes and consequences of technogenic sources on environmental objects*" and requires special economic knowledge. Forensic environmental experts together with expert economists conduct comprehensive research to verify the calculation of the amount of damage (previously conducted by authorized bodies of state supervision (control) on the basis of documents submitted for research with case materials.

The engineering and environmental part of these researches includes establishing the compliance of the actual circumstances of the violation with the calculation of the amount of damage, regulatory application of the calculation method, verification of the initial data used in the calculation of the amount of damage.

The economic part of such research includes the verification of some initial data and calculations.

It should be noted that such a comprehensive approach of expert research to the solution of tasks (questions) to determine material damage is not used in all FRI of Ukraine. In our opinion, this is wrong: such an issue requires a unified approach.

In expert practice, there are almost no situations when deciding on only one component of the environment: most often, experts in the study analyze the complex relationships between different objects of the environment. An example is the unauthorized disposal of solid household and/or industrial waste on the territory of a closed mining quarry or the death of fish in a flooded sand quarry, which is connected by a navigable canal with a water object.

Similarly, JEEE may be intended to establish a causal link between the environmental violation and adverse effects caused by the activity/inaction of the entity or individual.

Thus, during JEEE, the objects of the examination can be both individual elements (air, soil, water, etc.), and natural objects and complexes.

Legislation of Ukraine on forensic expert activity provides for the possibility of forensic experts to inspect the objects of research.

According to O. I. Maiorova, for a full and comprehensive analysis of the negative impact on the elements of the environment is optimal to visit an environmental expert to the scene for an expert review, as provided for research materials containing the results of inspections by state environmental control, cannot replace visual, organoleptic and other types of direct perception, so do not give a complete picture of the event³¹.

Forensic environmental experts of FRI of Ukraine have different opinions about

31 Майорова Е. И. Осмотр места происшествия как важнейший этап проведения судебно-экологической экспертизы. *Вестник университета им. О. Е. Кутафина*. 2016. Вып. 8. С. 38–46.

the need for an expert field inspection of the scene.

The expert practice of JEEE shows that the need for an expert to conduct a field inspection of the scene is individual. In order to solve situational tasks, it is usually enough for the environmental expert to study the provided materials. In the absence of the necessary information and/or materials (documents), the expert has the right to request additional materials.

In our opinion, the expert should determine the need for a field inspection. This is due to the subject and objectives of a particular forensic examination, the volume and informativeness of the materials submitted for research, the actual data and content of the issues raised.

If the expert is involved in the site inspection, environmental experts in the process of field inspection of objects should take into account both sources of technological and technical impact on the environment and the effects of various factors - climatic, edaphic (soil fertility, soil moisture, reaction, salt content, physical condition, etc.), etc. During the inspection by an environmental expert, the local study area is a carrier of information about the event.

Conclusions

Despite the streaming development of JEEE, there are a number of organizational and procedural issues of appointing and conducting an examination of the materials of administrative cases on environmental violations during extraction of minerals, in particular:

- ignorance of JEEE possibilities and, as a consequence, incorrect appointment of necessary type of forensic examination;

- insufficient awareness of the bodies that make decisions on examination which is due to insufficient material and technical support of the subjects of trial;
- asking questions, that are vague, have a legal and reference nature and do not correspond to the specific expertise of environmental experts. While asking questions, in some cases the client of the examination does not take into account its capabilities which makes it necessary to change the wording of questions within the expert's competence, to combine, paraphrase or refuse to provide an answer at all;
- providing incomplete materials necessary for the examination, incorrect design of materials for the research;
- lack of guidelines for judicial engineering and environmental examinations in the field of subsoil use.

The aforementioned issues necessitate further scientific and methodological developments, in particular, the addition of Scientific Guidelines³² with broader definition of the JEEE object, a list of tasks, and issues to be addressed.

Проблеми судових інженерно-екологічних експертиз за екологічними правопорушеннями під час видобування корисних копалин Ірина Тарарака

Розглянуто основні проблеми призначення та проведення судових інженерно-екологічних експертиз в адміністративному судочинстві у разі виявлення правопорушень під час видобування корисних копалин.

32 Про затвердження Інструкції URL: <https://zakon.rada.gov.ua/laws/show/z0705-98> (date accessed: 23.09.2021).

Метою дослідження є узагальнення проблем призначення та проведення судових інженерно-екологічних експертиз (досліджень) за фактами вчинення адміністративного проступку під час користування надрами та надання практичних рекомендацій щодо їх вирішення.

Визначено суб'єктів, які можуть бути учасниками публічно-правових спорів та ініціаторами залучення експерта для виконання досліджень в адміністративних провадженнях під час розгляду екологічних правопорушень. Визначено предмет і завдання судової інженерно-екологічної експертизи та види об'єктів, які надають судовим експертам для виконання названих досліджень.

Розкрито умови якісного проведення інженерно-екологічних експертиз та вирішення поставлених перед експертом завдань, що залежить від правильного формулювання запитань експертові та повноти надання об'єктів дослідження. Запропоновано орієнтовний перелік запитань, які судові експерти мають змогу вирішити в межах проведення зазначених експертиз.

Розглянуто можливість і необхідність проведення натурного огляду експертом місця події.

Аналіз літератури свідчить про недостатню розробленість понять предмета й об'єкта цього виду експертиз.

Окреслено перспективні напрями вдосконалення теоретичних знань і практичної діяльності як судових експертів, так і суб'єктів (органів), що розглядають цей вид екологічних порушень.

Ключові слова: *судова інженерно-екологічна експертиза; адміністративне судочинство; видобування корисних копалин; користування надрами; органи виконавчої влади; природоохоронне законодавство.*

Проблемы судебных инженерно-экологических экспертиз по экологическим правонарушениям при добыче полезных ископаемых *Ирина Тарарка*

Рассмотрены основные проблемы назначения и проведения судебных инженерно-экологических экспертиз в административном судопроизводстве в случае выявления правонарушений при добыче полезных ископаемых.

Целью исследования является обобщение проблем назначения и проведения судебных инженерно-экологических экспертиз (исследований) по фактам совершения административного проступка при пользовании недрами и предоставление практических рекомендаций по их решению.

Определены субъекты, могущие быть участниками публично-правовых споров и инициаторами привлечения эксперта для выполнения исследований в административных производствах при рассмотрении экологических правонарушений. Определены предмет и задачи судебной инженерно-экологической экспертизы и виды объектов, предоставляемых судебным экспертам для выполнения названных исследований.

Раскрыты условия качественного проведения инженерно-экологических экспертиз и решения поставленных перед экспертом задач, зависящие от правильной формулировки вопросов эксперту и полноты предоставления объектов исследования.

Предложен ориентировочный перечень вопросов, которые судебные эксперты могут решить в рамках проведения указанных экспертиз.

Рассмотрена возможность и необходимость проведения натурного осмотра экспертом места происшествия.

Анализ литературы свидетельствует о недостаточной разработанности

понятий предмета и объекта этого вида экспертиз.

Обозначены перспективные направления совершенствования теоретических знаний и практической деятельности как судебных экспертов, так и субъектов (органов), рассматривающих этот вид экологических нарушений.

Ключевые слова: судебная инженерно-экологическая экспертиза; административное судопроизводство; добыча полезных ископаемых; пользование недрами; органы исполнительной власти; природоохранное законодательство.

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The author declare that she have no conflict of interest.

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