



## **PERSPECTIVES OF ENVIRONMENTAL SOIL FORENSICS IN RUSSIA**

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Environmental pollution is a global problem faced by all humanity. Legal aspects of ecological problems must be considered with respect to their economic, political, educational, and other impacts. In the field of ecology legal control in the areas of environmental protection and nature management provides evidences for criminal liability.

With regard to natural objects, it is subdivided into areas covering infractions related to the protection of soil, water, forests, atmospheric air, biota, and so on. With respect to actions the divisions cover pollution of the environment, depletion of the environment and so on, and regarding use into civil liability, criminal and managerial responsibility. Efficacy of the ecological crimes prosecution mainly depends on the jurisdiction and the quality of judicial inquiry. Increasing attention to environmental protection necessitates the use of ecological examinations not only for biological insults, but for environmental insults in general.

The development of environmental forensics in Russia is a formidable problem because of extensive environmental contamination by industrial pollutants, emissions of various harmful substances, illegal felling, and other ecological crimes. The aim of environmental forensics is to discern the effects of anthropogenic activities.

For this reason a department of forensic ecological examinations was founded in Russian Federal Center of Forensic Expertise. Currently the department realizes the following types of expertise: soil-ecological, bio-ecological, radiological, hydroecological and ecological expertise of urban objects (engineer-ecological expertise).

Environmental soil forensic specialists carry out a study of soil properties, which allows one to draw persuasive conclusions about type, mechanism and grade of environmental pollution in a localized area of land surface (Fig. 1, 2).



**Fig.1 Spoil area of industrial and construction waste**

In this regard special attention should be paid to clarifying the conditions of the infraction by conducting environmental soil forensics. Forensic examinations are done to establish the connection between the environmental soil crime and its negative consequences.



**Fig.2 Spill of oil products on soil surface**

The facilities for the environmental soil forensics as well as training of the experts specialised in this field are concentrated in the state institution of the forensic expertise, belonging to the Ministry of Justice of Russia. There the training of experts proceeds only in the form of post-graduate education.

However the complete scheme of education of experts on environmental soil forensics is recently developed within the Ecological Faculty of the Peoples' Friendship University of Russia (PFUR). Several forms of training of experts in the field of forensic ecology are offered: Master degree programme "Environmental forensics" within the frame of the branch "Ecology and Environmental Management", Ph.D. programme, second higher education, training courses for expert upgrade. The training of the forensic experts in PFUR will meet the requirements of the International standard EN ISO/IEC 17025.

The education of forensic experts in the Peoples' Friendship University of Russia has broad perspectives and is supposed to increase the number of qualified specialists, capable to carry out environmental soil forensics at a high modern level.