100,000) also, have been prepared. These works allowed to allocate sites, subject technogenic to influence and to give the recommendations to municipal agencies for acceptance of effectual remedies.

The bottom deposits which accumulated toxic compounds of heavy metals, mineral oils, organochlorine compounds and many other dangerous for the people technogenic substances, required special attention. The level of bottom deposits pollution is the highest in sites with influence of the river Moscow and other rivers and brooks, receiving drains disposed beside of the industrial enterprises. The concentration of the elements and compounds in bottom deposits depends on their lithological structure and hydro-geological regime.

Representativity of ecogeochemical studies is defined not by methodology alone, but also by quality of soil and air samples’ analysis. The following methods are most widely used for instrumental analysis of atmospheric aerosols: INAA, ICP, XRF, AAS, quantitative OESA; organic components of atmospheric air are determined using chromatographic MSA and gas chromatography. A combination of INAA and quantitative OESA has shown very good accuracy and precision when used for the same sample. A combination of chromatographic MSA and gas chromatography provides an identification of more than 200 compounds in atmospheric air pre-concentration with Carbochrom-type sorbent. Similar techniques are used for elementary analysis of soils, with semi-qualitative OESA as a leader because of low costs. Inter-laboratory control has shown that a rarefaction in contents of certain elements of several decimal orders is a real possibility when analysing the some soil sample.

**Express-method for definition of the mercury occurrence modes**

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Mercury (Hg)-containing systems in the natural and technogenic objects have been studied by fairly many specialists as geochemists, ecologists, analysts and medicine researchers for the many decades. Mercury is an important component of the mineral raw, and its microamount in the different natural formations (minerals, ores, rocks, natural waters, gases, oil, etc.) allow us to use it as an indicative element in the geochemical search of deposits, as well as revealing of ore substance genesis. Besides, a special attention is paid to the mercury as one of the most dangerous environmental element-contaminant.

However, while the problem of mercury gross definition is solved, opposite, the definition problem of small amount of mercury modes in the studied substances is a hard yet. Firstly, it is stipulated by a variety of mercury modes related to physical and chemical specifics of mercury and its combinations and, probably, not quite high resolution of the analytical methods.

Mineralogical method, method of phase chemical analysis and thermic evaporation (vozgonka) method are the base ones for revealing of mercury localisations forms. Chemical method is based on a consequent extraction of the mercury with the help of selective solvents.

Thermic method, based on mercury reduction up to elementary condition from the different mercury compounds under the linear or step-by-step sample heating, is used by the most of scientists.

Thermic method, based on the mercury reduction from its different combinations under the linear or step-by-step sample heating up to elementary condition, is used by the most of scientists.

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