



## **Geochemical-Geophysical Studies for Tecnogen Pollution in Porto Romano, Albania and Their Integration in GIS**

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**Abstract:** The area around the former chemical plant in Porto Romano is contaminated by high-risk chemical components composed by Lindan, Sodium Bichromate, accumulated in tailings. They have the ability not only to pollute the water, but also are easily absorbed by agricultural cultures. The two chemicals are pollutants at high risk for the health of nearby residents, because they cause cancer in the liver, nervous system and lung of human being. The important place in the studying of tecnogen pollution spreading around the region of Porto Romano have occupied the following methods: Applying Electrometry with resistivity method, electrical sounding array-Schlumberger, with AB up to 1000 m; Well Logging with observations of electrical resistivity and spontaneous polarization into the drilling and the Geochemical method of soil samples of the Quaternary deposits with sampling density every 250 m, in the 5 and 40 cm depth. Through the use of geochemical-geophysical methods complexity is achieved to be determined: depth, thickness and lithologic composition of Quaternary deposits, chemical elements as pollutants and is consequently judging above the risk of spreading and distribution of pollution in surface and in depths of geological environment. Geochemical-geophysical studies carried out for tecnogen pollution in Porto Romano are integrated in GIS with the help of software Arc View GIS 8.2. GIS in the above studies will serve in the future to conduct further reinterpretation and reprocessing to help solving problems of scientific research required.

**Keywords:** Tecnogen pollution, chemical elements, electrical sounding, well logging, drilling, GIS, Porto Romano.

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