



A Nuclear Services and Waste Management Company



Technical Services

NORM / TENORM Management/Consultation

For the past fifteen years Perma-Fix health physicists and radiological engineers have provided naturally occurring radioactive material (NORM) and technologically enhanced naturally occurring radioactive material (TENORM) Management and Consulting Services for a variety of clients including specialty metals operations and mining sites. Recently, utilities actively drilling the Marcellus Shale and Utica Shale formations for natural gas have benefitted from our TENORM expertise through direct consultation and waste management.

In addition, Perma-Fix designed and implemented a comprehensive study of NORM/TENORM associated with conventional and unconventional oil and gas production activities in Pennsylvania on behalf of the Pennsylvania Department of Environmental Protection. The resulting study report included data analysis, assessments of potential worker and public radiation exposure, TENORM disposal, and other possible environmental impacts. It also encompassed radiological surveys at well sites, wastewater treatment plants, landfills, gas distribution and end use, and oil and gas brine-treated roads. The media sampled included solids, liquids, natural gas, ambient air, and surface radioactivity. The Perma-Fix office located in Beaver, Pennsylvania is centrally located within the three large Marcellus Shale drilling states.

Services Include:

- Radiation protection awareness training
- Management and Consulting Services
- Equipment and tooling decontamination services
- Radiation dosimetry programs
- Exposure Assessments
- Gamma Survey and Sampling
- Site Characterization and Waste Characterization
- Waste Disposition Support
- Regulatory Support

NORM / TENORM Monitoring

The potential exposure of Naturally Occurring Radioactive Material (NORM), to worker health and safety as well as the environment should be evaluated and monitored. All earth moving, mining, and drilling activities involve NORM and the build-up of this material creates TENORM. Perma-Fix helps you protect your workers and the environment during your regular operations by providing NORM and TENORM monitoring services and safe work procedure development and controls. Our federally recognized subject matter experts can develop and/or implement a plan for you. Perma-Fix also helps utilities drilling Shale formations for natural gas, now pressed by public and state regulators to safely manage NORM by-product from drilling.



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