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North West Regional Group Online Meeting

5pm Thursday 4th June 2020

Occurrence and Management of Naturally Occurring Radioactive Materials (NORM)

By Dr Trevor Jones

All natural materials are radioactive to some degree due to the presence of naturally occurring radionuclides, but there are wide variations between different rock and soil types and in groundwater as a result of chemistry and geological processes.

Uranium deposits are the only ores exploited specifically for their radioactive properties, but high concentrations of natural radionuclides are also present in ores such as titanium, zircon, niobium/tantalum, rare earths and phosphate rock. Elevated levels of radionuclides are also associated with most metalliferous ores, as well as bulk industrial minerals such as coal, shale, china clay and bauxite.

The term Naturally Occurring Radioactive Material (NORM) is used in situations where the extraction, processing or use of minerals or fossil fuels, or development activities, increase the potential for human exposure to these natural radionuclides or their environmental release.

The lecture will discuss the history of industrial NORM production and the management of NORM wastes, which are generated in significantly greater quantities than wastes from the nuclear industry, yet are subject to different standards of regulation. The NORM issues associated with different industries will be reviewed, including oil and gas production (including shale gas), phosphate production, titanium dioxide manufacture, coal mine dewatering, china clay extraction, water treatment and geothermal energy.

The lecture will conclude by discussing the legacy of NORM contaminated land, highlighting the scale of the problem, difficulty

of identification, regulatory issues and factors affecting management.



Trevor Jones is a Chartered Geologist with over 18 years' consultancy experience in the management of environmental radioactivity and radioactive wastes. He has been responsible for development of a facility to descale NORM-contaminated oil and gas equipment, and for the permitting of radioactive waste disposal at several landfills. He was a member of the Scottish Government Project Board responsible for developing the UK NORM waste strategy from 2011-13.

Trevor is Managing Director of AdvanSci Ltd, and a Visiting Lecturer at the University of Birmingham.

Lecture starts promptly at 5.00pm

1. Download the Zoom app. <https://zoom.us/>
2. **REGISTER IN ADVANCE** for the lecture by clicking on the link in the NWRG email <https://us02web.zoom.us/join/register/tZUkcuihrjMoGdw4LEWSrFNWrw5SHS74btFA>
3. You will be sent instructions on how to join the meeting after registration
4. This is open to members and non members. Members should provide their membership number for CPD records

Organised by the North West group of the Geological Society of London For further information contact the group secretary, Catherine Kenny at: GeologicalSociety.northwest@gmail.com

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