

International Conference on the Management of Naturally Occurring Radioactive Materials (NORM) in Industry

VIRTUAL EVENT

International Conference on
**Management of Naturally
Occurring Radioactive
Material (NORM) in Industry**

19–30 October 2020

#NORM2020



Contribution ID: 116

Type: **not specified**

COMPREHENSIVE BASELINE MONITORING FOR NATURALLY OCCURRING RADIOACTIVE MATERIALS (NORM) IN AN OIL & GAS INDUSTRY, STATE OF KUWAIT.

Kuwait Oil Company (KOC) is one of the major oil and gas exploration industry in the State of Kuwait as well as in GCC. The company operational facilities spread all over Kuwait and the area for its operation is about 1,000 sq.km. KOC has taken numerous steps to sustain good HSE practices and well being of employees in the company. Though various potential Occupational Health (OH) hazards and environmental risks present in the regular operations of the company, Naturally Occurring Radioactive Materials (NORM) has been considered as one of the potential prioritized hazard and the company has initiated a comprehensive baseline monitoring to assess if any potential contamination in the operational facilities accordingly. In order to assess the airborne contamination and any potential exposure to the personnel in the company facilities, a total of 39,199 external dose rate measurements, 250 personal measurements, 516 radon gas measurements have been carried out in the selected operational and drilling facilities of the company. Additionally, 198 soil samples, 143 water & liquid samples, 56 sludge & scale samples have been collected and analyzed using High-Purity Germanium (HPGe) Detector to assess the level of Ra (Radium)-226, Ra (Radium)-228 & Pb (Lead)-210. This paper outlines the methods and outcome of the comprehensive baseline monitoring conducted through the certified personnel, the calibrated instrumentation and the sample analysis through an established quality control program. Such baseline monitoring is expected to aid the development of occupational health and environment database on NORM for use in the company as well as in local regulations and further, it assist for resource allocations for any interventions in the oil and gas sectors in the State of Kuwait.

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Session Classification: Session IV - Characterization in Industrial Facilities and in the Environment

Track Classification: NORM Characterization, Measurement, Decontamination