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# Distribution of Heavy Metals in the Seawater around North Bombay of ONGC'S Western Offshore Field, Arabian Sea, India

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**Abstract—***After discovery of oil in western offshore, Mumbai High in 1974, Oil and Natural Gas Corporation Limited (ONGC), increased its attention towards filed and deployed several rigs and commissioned more than 100 unmanned platforms and process platforms. As a socially responsible company ONGC committed to protect environment. Marine environmental pollution is a worldwide problem; heavy metals are one of the most important pollutants. They are intrinsic, natural constituents of aquatic environment in small concentrations. In oceans, they originate from both natural processes and anthropogenic activities. Natural processes like atmospheric inputs and aeolian processes set the background values whereas anthropogenic inputs, rapid industrialization and urbanization in coastal regions, are the main sources of pollution in the marine environment. Heavy metals are also increasingly introduced to the coastal environments through oceanic dumping and riverine discharge where rivers that flow via high-populated urban areas may carry these substances to the downstream. It is difficult to remove them completely from the environment once they enter into it.*

*This paper aims to measure the distribution of heavy metals in the sea water samples around North Bombay of ONGC's western offshore filed (NA, NQ, B-48, TPP-TCPP platforms). The data generated through this study to evaluate the health of marine environment with respect of heavy metal (V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Cd, As, Ba, Pb) analysis. The concentrations of selected heavy metals (V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Cd, As, Ba, Pb) were measured with Inductively Coupled Plasma-Mass Spectrometer (ICP-MS). It has been observed that the distribution of heavy metals concentrations in the sea water around the platform were on absolutely lower side and also are comparable with other ocean. The low metal concentrations are not harmful for aquatic and access E&P activities on marine environment.*

**Keywords:** *Arabian Sea, Heavy metals, Anthropogenic Activities, Marine Environment.*