

Analysis of Petroleum Hydrocarbon in Fish – A Case Study of the Western Offshore Region of ONGC

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Abstract—Exploration and production activities linked with oil and natural gas industry might lead to environmental pollution, especially in offshore regions. As a socially responsible company, ONGC recognises this and emphasises on long-term environmental monitoring of its offshore regions. Institute of Petroleum Safety, Health and Environment Management (IPSHEM), a committed arm of ONGC for promoting higher standards of health, safety and environment management in the Petroleum Sector, has been conducting environmental monitoring both around western and eastern offshore region.

This paper aims to investigate petroleum hydrocarbon (PHC) levels in the fish samples collected from the western offshore region in the period 2015-2018. PHC are highly toxic and carcinogenic, released into the marine environment mainly due to the activities of oil industries and accidents like spills/leaks. They easily get accumulated in fish tissues, and hence PHC level in fish is a good indicator of the level of marine pollution. The paper also compares the PHC level obtained in fish tissues in Western offshore region in India with those reported for the North West Gulf area, where similar activities take place. The PHC levels are almost comparable.

This study will also help in undertaking a trend analysis of PHC in fish over time which in turn will help in formulating environmental policies and sustainable E&P activities for the future.