

# OIL & GAS OFFSHORE PLATFORMS IN CAMPOS BASIN, RIO DE JANEIRO, BRAZIL: MONITORING OF PRODUCED WATER QUALITY

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## ABSTRACT

Oil and gas production activities generate effluents with significant potential to cause environmental impacts. The “production water” (wastewater generated during offshore oil exploitation) is the largest generation effluent in the petroleum production activity and presents polluting potential due to its typical composition. The present study was carried out based on production water monitoring reports received by The Brazilian Institute of Environment (IBAMA) referring to 46 oil and gas offshore platforms of the Campos Basin, Brazil, between 2012 and 2016. Descriptive statistics and multivariate statistics (PCA) with data from the production water indicated great variability in concentrations for variables monitored according to CONAMA Resolution No. 393/2007, due to the inherent characteristics of each platform. In general terms, the produced water presented concentrations for chemical variables compatible with this type of effluent monitored in other oil producing regions. However, in terms of median values, it was observed higher concentrations of Barium and Radio-226 and Radio-228, in addition to the increased toxicity, when compared to previous studies carried out in Brazilian offshore platforms.

**KEYWORDS:** Produced water; Oily wastewater; Ecotoxicity; Gas and oil industry