

Groundwater Monitoring in Philippines Spill Site: Degradation of Petroleum Hydrocarbons

FE CORAZON LORETO¹, CARLO ARCILLA¹

¹National Institute of Geological Sciences,
fcbloreto@gmail.com

²National Institute of Geological Sciences,
caloy.arcilla@gmail.com

An estimated 2 million liters of petroleum products were released to the environment via a leak in an underground pipeline that traverses a financial district in the Philippines. Since its discovery in 2010, product recovery activities and the installation of a multiphase extraction system were utilized to remediate the spill. It was discovered that benzene levels are persistently high in monitoring wells adjacent to the spill point and that some polycyclic aromatic hydrocarbons are still present in the groundwater samples taken four years after the spill. This study focuses on the VOC profiles of the groundwater samples taken from mid-2012 to 2013. Valuable information on the degradation of petroleum hydrocarbons occurring on the subsurface, during the time when multiphase extraction system was being employed, can be observed by examining the GCMS-derived chromatograms of the groundwater samples.