



Title: Assessing the Effect of a Dumpsite to Groundwater Quality in Payatas, Philippines

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Source: American J. of Environmental Sciences 4(4): 276-280 , 2008

Abstract: The study assessed and compared the groundwater quality of 14 selected wells continuously used in the with (Payatas) and without dumpsite (Holy Spirit) areas at the Payatas estate, Philippines. Water quality monitoring and analyses of the bio-physico-chemical variables (pH, Total Suspended Solids (TSS), Total Dissolved Solids (TDS), total coliform, conductivity, salinity, nitrate-nitrogen, sulfate, color, total chromium, total lead and total cadmium) were carried out for six consecutive months, from April to September 2003, covering both dry and wet seasons. Results showed most of the groundwater quality variables in both the with and without dumpsite areas of the Payatas estate were within the normal Philippine water quality standards except for the observed high levels of TDS, TSS and total coliform and low pH levels. No significant differences were observed for nitrate-nitrogen, total cadmium, total lead, total chromium and total coliform in both the with and without dumpsite areas. TDS, conductivity, salinity and sulfate concentrations in the with dumpsite groundwater sources were significantly different compared to those in the without dumpsite areas. Continuous water quality monitoring is encouraged to effectively analyze the impact of dumpsites on the environment and human health.