

**PEMODELAN PERGERAKAN PARTIKEL KONTAMINAN  
TIMBAL (Pb) DAN NIKEL (Ni)  
STUDI KASUS : TPA NGRONGGO SALATIGA**

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**ABSTRACT**

*One of environmental problems nowadays is about waste management. Waste destruction in Salatiga City is residing in TPA Ngronggo having location in Dusun Ngronggo, Randuacir Sub-District, Argomulyo District, Salatiga City, broadly 53 ha and starts operates at 1994. Waste management of TPA Ngronggo applies Open Dumping system and is not equipped with Leachate Treatment Installation and drainage system. This thing is potency generates environmental contamination. One of pollution that is related to waste management is groundwater contamination in its surrounding. The purpose of this research are to know the groundwater flow dirrection, to know the distribution pattern and groundwater Pb and Ni particles contaminant transport model, and to know the factors that influencing groundwater Pb and Ni particles contaminant transport model in region around TPA Ngronggo.*

*Research is done by doing hydrogeological survey includes groundwater level measurement, chemical analysis of groundwater samples, soil test to know soil porosity and hydraulics conductivity value.*

*From result of modeling simulation of groundwater flow dirrection ,known that groundwater moves from southwest to north-east. Particle contaminant transport follows groundwater flow direction with maximum Pb concentration 042 mg/l and minimum Pb concentration 012 mg/l, while maximum Ni concentration 0. 24 mg/l and minimum Ni concentration 0.098 mg/l. groundwater Pb and Ni particles contaminant transport model influenced by some factors like advection, dispersion, soil characteristic (soil porosity and hydraulics conductivity), residence time and unsaturated zone thickness. From calculation of residence time, assumed that contaminant will contaminate the groundwater in the year 2011.*

**Keyword :** *groundwater particle contaminant transport model, groundwater, Lead, Nikel*

