THESIS INFORMATION

Title:	
Major:	**Geology engineering**
Major code:	62.52.05.01
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The objectives of the thesis are to clarify the current state of metal pollution (Fe, Al, Mn, As, Cu, Pb, Cd) of groundwater in Pleistocene aquifers, origins, mechanism, controlling factors. The occurence of heavy metals Fe, Al, Mn and As in groundwater concentrates mainly in Northwestern area of Ho Chi Minh City; assessing risks of human health due to heavy metals Al, Mn, As, Cd; proposing remedial measures, management and use of groundwater resources efficiently and sustainably.

The mehtodology is collecting, processing, synthesizing, analyzing, evaluating and using the software to understand the formation and characteristics of geological structures, components, and properties of the geological environment. The quality of the study area as well as the origin, the process of forming chemical composition and the factors that control the occurence of heavy metals.

Unraveling the mechanism of the metal infiltration Fe, Mn, As and Al into the groundwater aquifers Pleistocene Northwest region Ho Chi Minh City.

Reviewing health risks not carcinogenic to metals through ingestion as Al, Mn, As, Cd, this is the main way of exposure to the human healt, when the majority of people at the field site research still uses untreated water or handled very poorly used for

drinking and living in groundwater in Pleistocene aquifers in Northwest region of Ho Chi Minh City.

Using models of GMS 3MTDMs spread shows the trend spread metal pollution Mn, As, Cu, Pb, Cu, Cd tend to move in the direction of flow.

The research results of the thesis evaluation, explain mechanisms and factors affecting the penetration of metal Fe, Mn, As and Al into the grounduater of Pleistocene aquifers.

Health risk assessment and health risk partition are done according to current status of metal contamination of Al, Mn, As, and Cd.

Zoning and assessing health risks based on the current situation of metal pollution contribute to serving as a basis for the management, exploitation, and use of groundwater resources in the Northwestern region of Ho Chi Minh City.

Developing a process to treat contaminated groundwater by using low-cost materials available in the market to minimize and eliminate metals content in groundwater for domestic using the household

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