GROUNDWATER QUALITY ANALYSIS REPORT

Kampong Chnang - Kampong Leaeng - Svay Rumpear (34F)

Svay Rumpear is located in the district of Kampong Leaeng. The population of this commune is approximately 4773 (2004). Groundwater sample collection occurred in May 2010 and consisted of the sampling of 20 tube wells throughout the commune. The attached figure presents the location of Svay Rumpear within Kampong Chnang as well as groundwater sample locations and exceedances of health-impacting contaminants (when applicable).

Groundwater Quality Rating

The groundwater quality rating for Svay Rumpear is 34F. Therefore, the general safety of deep aquifer groundwater is extremely poor and the aesthetic quality of the water is poor, according to the contaminants measured and samples collected. The following two sections describe all major health and aesthetic contaminants that exceeded drinking water standards in at least one sample within the commune.

Contaminants of Potential Concern – Health

Manganese - Elevated concentrations of Manganese were observed within the commune. The estimated probability of encountering unacceptable concentrations of Manganese (>0.4 mg/L) in tube wells is 71%, based on the observed data. Exposure to elevated concentrations of Manganese can cause neurological disorders. Aeration allows oxygen to enter the water and react with Manganese to form a compound which is insoluble in water. The newly formed solids will slowly settle to the bottom or can be removed more rapidly by filtration. Performing these procedures may reduce the concentration of Manganese in water but follow-up testing is recommended to ensure water quality standards are met.

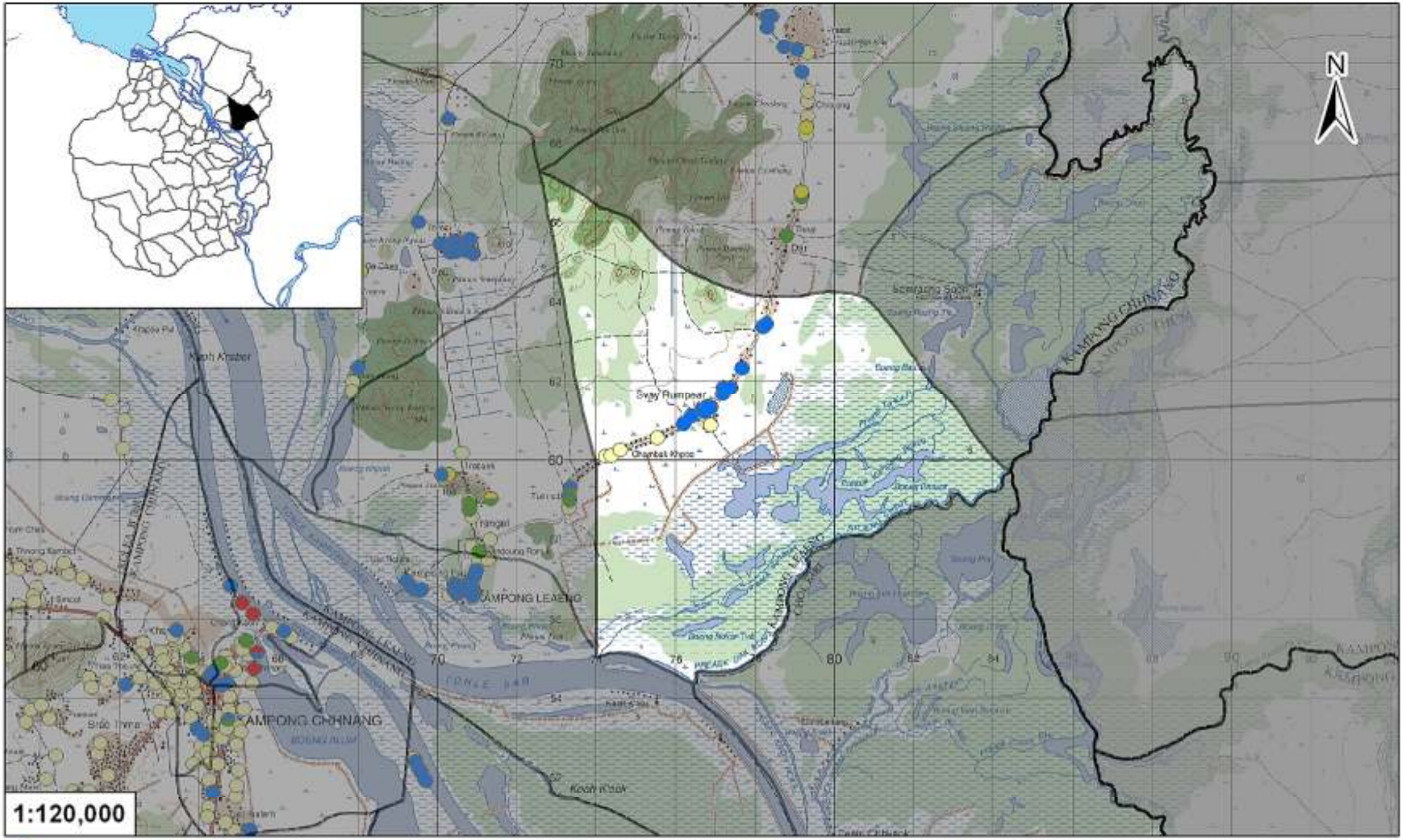
Contaminants of Potential Concern – Aesthetic

Iron - Elevated concentrations of Iron were observed within the commune. The estimated probability of encountering potentially unacceptable concentrations of Iron (>1 mg/L) in tube wells is 24%, based on the observed data. At elevated concentrations, Iron causes water to be cloudy and unpleasant to drink. An odor may also be encountered at high concentrations. Iron can also stain laundry, food (can cause discoloration of cooked rice), and leave deposits. Aeration allows oxygen to enter the water and react with Iron to form

a compound which is insoluble in water. The newly formed solids will slowly settle to the bottom or can be removed more rapidly by filtration. Performing these procedures may reduce the concentration of Iron in water but follow-up testing is recommended to ensure water quality standards are met.

Manganese - Elevated concentrations of Manganese were observed within the commune. The estimated probability of encountering unacceptable concentrations of Manganese (>0.4 mg/L) in tube wells is approximately 71%, based on the observed data. At elevated concentrations, Manganese causes water to be cloudy and unpleasant to drink. Manganese can also stain laundry, food (can cause discoloration of cooked rice), and leave deposits. Aeration allows oxygen to enter the water and react with Manganese to form a compound which is insoluble in water. The newly formed solids will slowly settle to the bottom or can be removed more rapidly by filtration. Performing these procedures may reduce the concentration of Manganese in water but follow-up testing is recommended to ensure water quality standards are met.

Turbidity - Elevated levels of Turbidity were observed within the commune. The estimated probability of encountering potentially unacceptable levels of Turbidity (>20 ntu) in tube wells is 12%, based on the observed data. Turbid or cloudy water appears unpleasant to the eye and is more likely have an unpleasant taste or odor. Turbidity can be reduced by filtration.



No Exceedance

Arsenic

Manganese

Fluoride

Nitrate

Communce Boundary

Provincial Boundary

Locations exceeding the Cambodian water quality standards for majorhealth impacting contaminants have been color-coded and arranged such that they do not overlap

Tube Well Sample Locations and Health-Based Exceedances

Svay Rumpear - Kampong Leaeng - Kampong Chhnang - Cambodia

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