



GROUNDWATER QUALITY ANALYSIS REPORT

Kampong Cham - Ponhea Kraek - Kak (94F)



Kak is located in the district of Ponhea Kraek. The population of this commune is approximately 14759 (2004). Groundwater sample collection occurred in September 2008 and consisted of the sampling of 10 tube wells throughout the commune. The attached figure presents the location of Kak within Kampong Cham as well as groundwater sample locations and exceedances of health-impacting contaminants (when applicable).

Groundwater Quality Rating

The groundwater quality rating for Kak is 94F. Therefore, the general safety of deep aquifer groundwater is excellent 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

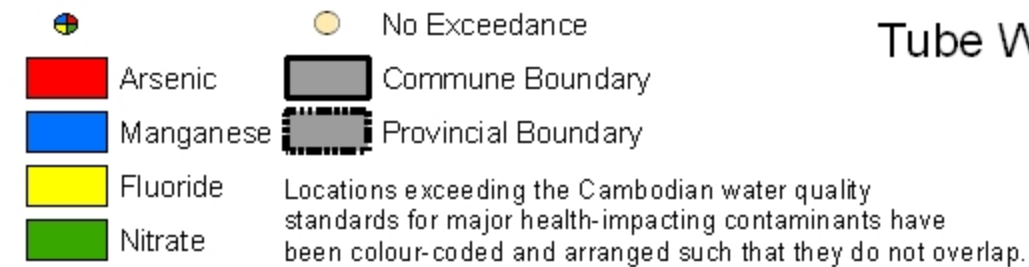
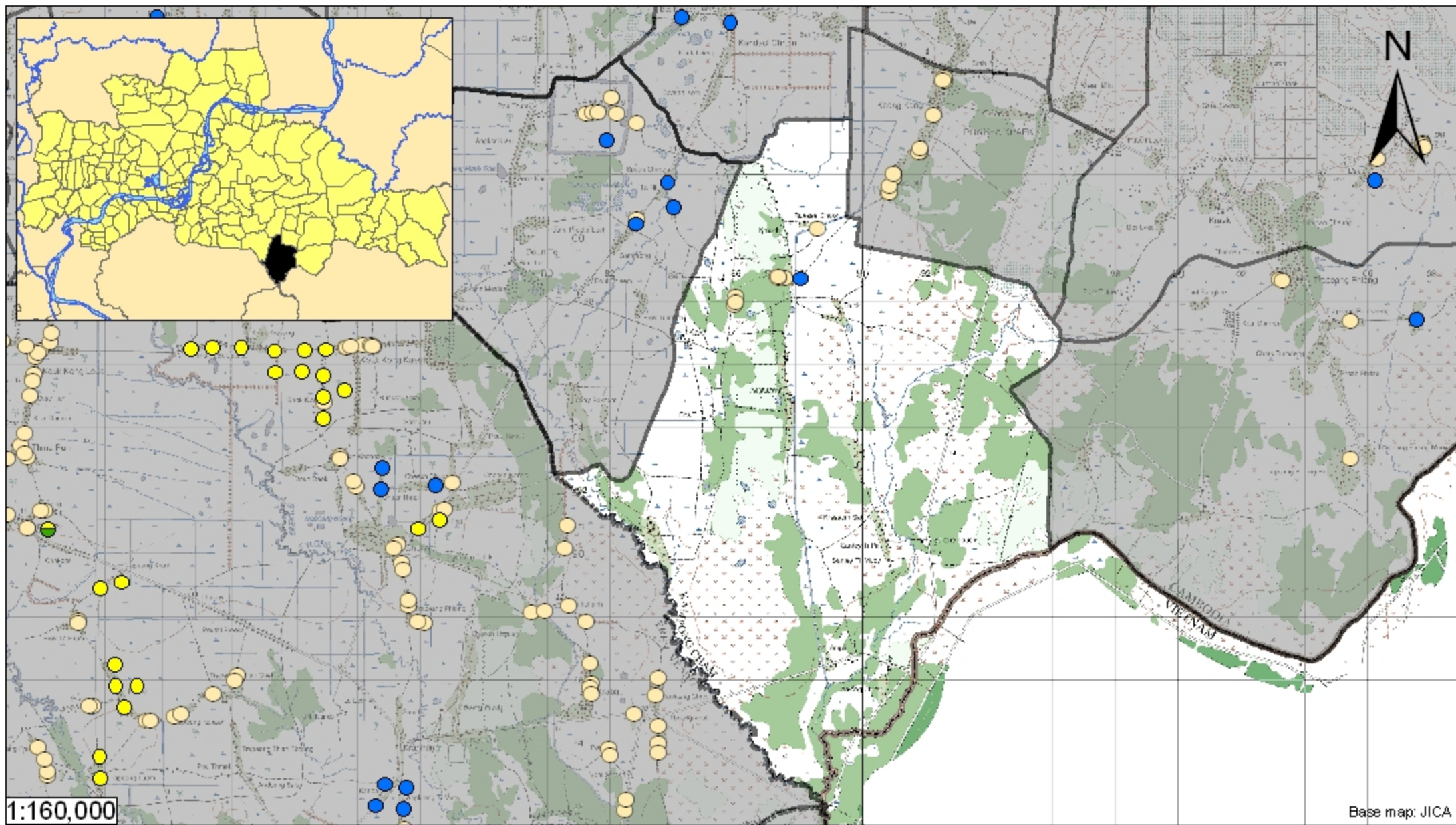
Manganese - Elevated concentrations of Manganese were observed within the commune. The estimated probability of encountering unacceptable concentrations of Manganese (>0.4 mg/L) in tube wells is 2%, based on the observed data. Exposure to elevated concentrations of Manganese can cause neurological disorders. 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 86%, 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 2%, 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.



Tube Well Sample Locations and Health-Based Exceedances

Kak - Ponhea Kraek - Kampong Cham - Cambodia

Resource Development International - Cambodia
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