# GROUNDWATER QUALITY ANALYSIS REPORT

# Kampong Cham - Cheung Prey - Pring Chrum (93F)

Pring Chrum is located in the district of Cheung Prey. The population of this commune is approximately 5726 (2004). Groundwater sample collection occurred in March 2008 and consisted of the sampling of 15 tube wells throughout the commune. The attached figure presents the location of Pring Chrum 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 Pring Chrum is 93F. Therefore, the general safety of deep aquifer groundwater is good 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

No health-impacting contaminants of concern were observed within this commune.

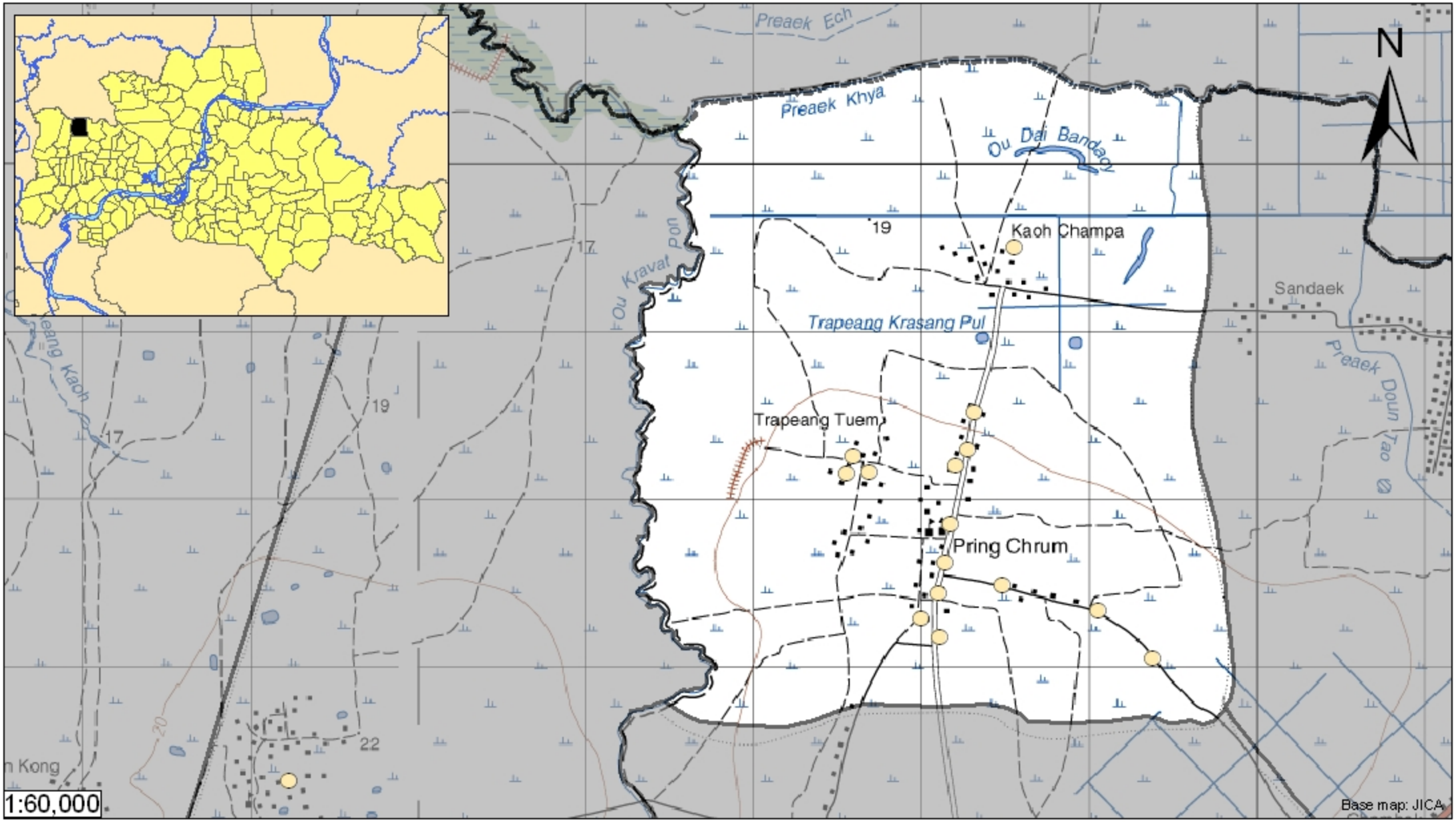
## Contaminants of Potential Concern – Aesthetic

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 36%, 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.

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 39%, 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.

Hardness - Elevated levels of Hardness were observed within the commune. The estimated probability of encountering potentially unacceptable levels of Hardness (>500 mg/L) in tube wells is 66%, based on the observed data. Elevated hardness levels impact the effectiveness of soaps and detergents and can cause scaling on pipes and pans. Contrary to common belief, there is no relationship between consumption of hard water and urinary tract problems and kidney stones.




No Exceedance

Arsenic

Manganese

Fluoride

Nitrate

Commune Boundary

Provincial Boundary

Locations exceeding the Cambodian water quality standards for major health-impacting contaminants have been colour-coded and arranged such that they do not overlap.

# Tube Well Sample Locations and Health-Based Exceedances

*Pring Chrum - Cheung Prey - Kampong Cham - Cambodia*

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