

Interactive comment on “Subsurface arsenic removal column tests: from the laboratory to the field” by D. H. Moed et al.

T. Viraraghavan (Referee)

t.viraraghavan@uregina.ca

Received and published: 20 July 2012

A. General Comments This paper provides a comparison of results between field column tests and lab. tests for subsurface arsenic removal. The main thrust of the paper was to examine how phosphate and silicate present in groundwater influence arsenic removal. Characteristics of groundwater at two locations differ with each other and also with water used in lab tests making comparisons difficult; it is also difficult to draw general inferences on the effect of phosphates and silicates. Studies were well-conducted and conclusions are supported by data. I do not think that much of the inferences are easily transferable to Bangladesh sites. The authors should comment on the role of iron bacteria in the oxidation step and whether any addition of iron bacteria would be helpful. The authors should also comment on the monitoring of arsenic in order

C120

to start the pumping cycle especially when arsenic measurement devices cannot be relied upon. Minor revisions are required. Examples of revisions required and other comments are provided below. B. Specific Comments 1. Page 193, Title: Change title to 'Field column tests for subsurface arsenic removal: comparison with laboratory results'. 2. Page 194, line 7: Omit 'pumping stations in'; line8: add 'groundwater' before 'phosphate'; omit 'concentrations' after 'phosphate'; change '0.1 to 0.15' because phosphate levels are greater than 0.1 mg/L. 3. Page 194, lines 10-12: Rewrite the sentence because phosphate is present in Subotica groundwater. 4. Page 194, line 24: Change 'are' to 'is'. 5. Page 195, line 1: Change 'nearby' to 'near'. 6. Page 195, line 19: Add 'be' after 'could'. 7. Page 198, line 23: Add 'arsenic' after 'influent'. 8. Page 198, line 26: Change 'Although phosphate was almost absent' to 'Although phosphate was low'. 9. Page 199, lines 17-18: Change 'had learned' to 'showed'. 10. Page 199, line19: Change 'executed' to 'conducted'. 11. Page 200, lines 16-18: Rewrite the sentence; Loosdrecht groundwater contains phosphate'. 12. Figures 2 and 3 : Plots for iron are too light, not easy to follow.

Interactive comment on Drink. Water Eng. Sci. Discuss., 5, 193, 2012.

C121