

## C005172 : MAJOR ENVIRONMENTAL SCIENCE

KEY WORD : IRON REMOVAL EFFICIENCY/FILTRATION/SYNTHETIC GROUNDWATER

NOPAWAN RATASUK : EFFECTIVENESS OF IRON REMOVAL FROM SYNTHETIC GROUNDWATER USING UNGRADED SAND, CHARCOAL AND BURNT RICE HUSK.

THESIS ADVISOR : ASSIS. PROF. DR. THARES SRISATIT, 140 pp.

ISBN 974-581-527-6

Study on effectiveness of iron removal from synthetic ground water using ungraded sand, charcoal, burnt rice husk which their thickness is 50 cm. and mixed media (contained of 10 cm. of charcoal, 20 cm. of burnt rice husk and 20 cm. of ungraded sand respectively). The study filtration rate are 1 and 2 GPM while iron concentration are 5, 10 and 14 mg/l. Result show that, in every experiment, burnt rice husk has the highest iron removal effectiveness while mixed media, ungraded sand and charcoal are following respectively. However, for filtration time, the longest itme produced by charcoal while mixed media, ungraded sand and burntrice husk are shorter. This can be concluded that the suitable filter media is mixed media according to its residue iron concentration in filtered water which less than 0.3 mg/l, the acceptable level of WHO's Drinking Water Standard, as well as its long filtration time.