Zahraa Z. Al-Janabi
Environmental Research Center,
University of Technology, Baghdad, Iraq.

Shahed R. Zaki
Department of Biology, College of Science for Women, Baghdad University, Baghdad, Iraq.

Jinnan S. AlHassany
Department of Biology, College of Science for Women, Baghdad University, Baghdad, Iraq.

Abdul Hameed M. J. Al-Obaidy
Environmental Research Center,
University of Technology, Baghdad, Iraq
jawaddh@yahoo.co.in

Eman. S. Awad
Environmental Research Center,
University of Technology, Baghdad, Iraq
emoo2emoo@yahoo.com

Afrah A. Maktoof
Biology Department, Science Collage,
University of Thi-Qar, Iraq.
afray_m_bio@sci.utq.edu.iq

Geochemical Evaluation of Heavy Metals (Cd, Cr, Fe, and Mn) in Sediment of Shatt Al-Basrah, Iraq

Abstract- In this study, the sediment of Shatt Al-Basrah canal, was evaluated to illustrate the distribution of 4 heavy metals Cd, Cr, Fe and Mn in sediments collected from 5 sites. The assessment of heavy metals was conducted using three indices; the geo-accumulation index (I-geo), the enrichment factor (E.F.) and Pollution Index (PI). According to I-geo, the sediments collected from all sampling locations were unpolluted by Cd, Cr and Fe, where their values are less than 0 (<0), except Mn ranged between 0.98 to 1.37, the Igeo values for Mn show that sediments of Shatt Al-Basrah are unpolluted to moderately polluted for all sampling locations. Based on The enrichment factor, the sediment of Shatt Al-Basrah canal are classified as followed; significant enrichment for Cd, moderate enrichment to significant enrichment for Cr and deficiency to minimal enrichment for Mn. PI, which is based on individual metal Concentrations, shows that all sampling sites have no pollution effect for Cd, Cr and Mn, except Fe, which cause Slightly pollution affect in all site.

Keywords- Heavy Metal, accumulation, indices, sediment.