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RESEARCH ARTICLE

Evaluation of Selenium and Iron Levels in Shatt Al-Arab Sediment and the Iraqi Marine Environment

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ABSTRACT

Sixteen Samples of sediment were collected from Shatt Al-Arab river and the Iraqi marine environment in southern of Iraq.The samples were distributed one station on Euphrates river before its confluence with Tigris river, seven stations along Shatt Al-Arab river and eight stations selected from the Iraqi Marine environment.All samples were collected from surface sediment at different waters Column in low tide time. Selenium was measured by Spectrophotometric method through using 4-Methyl-o- phenylene diamine as complex agent in acidic medium (pH= 1.5). The Iron was measured by Spectrophotometric method also by using complex formation with Potassium thiocynat.The results of the total selenium measurement and total iron showed the values at extent (1.928-13.818 µg/g) , (2298.418 -4238.702 µg/g) respectively in Shatt Al-Arab sediment , while total Selenium and total iron in the marine sediment was recorded at range (1.044-11.449 µg/g) ,(1822.789-3996.228 µg/g) respectively . Standard deviation for all the stations (n=3) of Selenium and Iron was calculated and showed at extent (0.00160- 0.03032) , (0.25225-4.69526) respectively .

Keywords : Spectrophotometric method , Total Selenium , Total Iron.

INTRODUCTION

Selenium exists in trace amounts in most crustal materials of earth , the concentration of total selenium in most soil lies within the range of 0.01 - 2 µg Se /g [Mayland et al.,1989 , EPA, 1976] , but it´s concentration rarely exceeds