



**Sudan University of Science and
Technology**



College of Science

Department of chemistry

*A thesis submitted in partial fulfillment of the requirement of B.Sc.
(honor) degree in chemistry:*

**Determination of some heavy metals,
total iron content and hardness in Dar
Elmazed village water wells**

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الآية

بسم الله الرحمن الرحيم

قال تعالى :

ذِينَ كَفَرُوا وَأَنَّ السَّمَاوَاتِ وَالْأَرْضَ كُلَّنتَنَا رِثَةً فَفَتَنَّاهُمْ ۗ ط
ذَٰمِنَ الْمَاءِ كُلِّ شَيْءٍ حَيٍّ ۖ أَفَلَا يُؤْمِنُونَ ۗ

صدق الله العظيم

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Abstract

In this study an analysis was carried for two ground water samples collected from different areas in Dar Al Amazed village. Some parameters of ground water samples were determined by using some analytical techniques.

Spectrophotometric analysis was used for determined of total Iron content. Atomic absorption spectrophotometry was used for determination of Cadmium (Cd) and Lead (Pb) in water samples. And total hardness was determined titrimetrically.

The result of these analysis show :

High concentration of Iron and Cadmium compared to WHO standard. But no Lead was detected.

الخلاصة

في هذه الدراسة تم تحليل عينات مياه جوفيه (عينتان) من موقعين مختلفين ضمن منطقة دار المزيد.

تم التحليل باستخدام عدد من التقنيات لدراسة بعض خصائص المياه مثل عسر الماء الكلي والذي حدد بالمعايير.

قدر الحديد الكلي بالمطيافيه الضوئيه. وكذلك استخدمت تقنية الامتصاص الذري لقياس تركيز الكادميوم والرصاص. وجد ان تركيز كل من الكادميوم والحديد أعلى من الحد المسموح به في مياه الشرب حسب مواصفات منظمة الصحة العالمية. ولم تحتوي العينات علي رصاص.