



جامعة الإمارات العربية المتحدة
United Arab Emirates University

The College of Graduate Studies and the College of Science Cordially Invite
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PhD Dissertation Defense

Entitled

*GEOCHEMICAL AND RADIOLOGICAL BASELINE STUDIES AND ENVIRONMENTAL IMPACT OF
THE AREA SURROUNDING BARAKAH NUCLEAR POWER PLANT, UAE.*

by

Mouza Rashed Mohamed Al Rashdi

Faculty Advisor

Dr. Sulaiman Ali Alaabed Alkaabi, Department of Geology
College of Science

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Abstract

Geochemical, mineralogical and natural radiation analysis techniques were used for establishment of geochemical and radiological baseline around Barakah Nuclear Power Plant, UAE. The natural radioactivity concentrations of ^{238}U (^{226}Ra), ^{232}Th and ^{40}K were measured for soil, shore and bottom sediment samples, using gamma spectrometry using HPGe detector. In addition, Alpha spectrometry was used to measure $^{234}\text{U}/^{238}\text{U}$ ratio for some selected samples. Furthermore, inductively coupled plasma emission spectroscopy was used to measure the concentrations of heavy metals and REE.

Keywords: radiological baseline, Barakah Nuclear Power Plant, heavy metal, gamma spectrometry.