

**ASSESSMENT OF NATURAL RADIONUCLIDE IN THE SOIL IN  
PERIMETER OF UITM PAHANG CAMPUS JENGA**

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**Final Year Project Report Submitted in  
Partial Fulfillment of the Requirements for the  
Degree of Bachelor of Science (Hons.) Physics  
in the Faculty of Applied Sciences  
Universiti Teknologi MARA**

**JULY 2017**

## ABSTRACT

### Assessment of Natural Radionuclide in the Soil in Perimeter of UiTM Pahang Campus Jengka

Radionuclides such as Uranium-238 ( $^{238}\text{U}$ ), Thorium-232 ( $^{232}\text{Th}$ ) and Potassium-40 ( $^{40}\text{K}$ ) are unstable nucleus. It can occur naturally and known as second highest cause for lung cancer if being exposed for long period of time. UiTM Pahang campus Jengka is one of the branches of UiTM in Pahang. The study was done to know the concentration of naturally occurring radioactive material (NORM) in the soil aside from to find the radiological risk by calculate the external hazard index in UiTM Pahang. The sample was collected by using hand auger and then survey meter is used to obtain the absorbed dose rate of that place. Then the soil was dried up in oven at  $70^{\circ}\text{C}$  for 24 hr. After being dried up, the soil is then sieved through 355  $\mu\text{m}$  sieve. By using EDXRF, the concentration of  $^{238}\text{U}$ ,  $^{232}\text{Th}$ ,  $^{40}\text{K}$  and external hazard index was obtained as  $45.1 \pm 2.9\text{Bq/kg}$ ,  $59.3 \pm 2.9\text{Bq/kg}$ ,  $447.8 \pm 26.7\text{Bq/kg}$  and 0.33 Hex. Then an isodose map was generated by using Surfer 14 software.

## TABLE OF CONTENTS

	<b>Page</b>
<b>ACKNOWLEDGEMENTS</b>	<b>iii</b>
<b>TABLE OF CONTENTS</b>	<b>iv</b>
<b>LIST OF TABLES</b>	<b>vi</b>
<b>LIST OF FIGURES</b>	<b>vii</b>
<b>LIST OF ABBREVIATIONS</b>	<b>viii</b>
<b>ABSTRACT</b>	<b>x</b>
<b>ABSTRAK</b>	<b>xi</b>
<b>CHAPTER 1 INTRODUCTION</b>	
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Significant of Study	3
1.4 Objective	4
<b>CHAPTER 2 LITERATURE REVIEW</b>	
2.1 Radionuclide Content	5
2.1.1 Soil	5
2.1.2 Low Grad Monazite Sand	6
2.1.3 River and Irrigation Channels Soil	8
2.1.4 River Basin Soil	9
2.1.5 Brick and Roofing Tile	9
2.2 Naturally Occurring Radioactive Material (NORM)	10
2.2.1 Uranium	11
2.2.2 Thorium	12
2.2.3 Potassium	12
2.3 Distribution	12
2.4 Jengka	13
2.5 EDXRF	13
2.6 Comparison Studies	14
2.6.1 In Situ Gamma Spectroscopy	14
2.6.2 Alpha Particle Spectroscopy	16
2.6.3 Neutron Activation Analysis	17
2.7 External Hazard Index	17

<b>CHAPTER 3 METHODOLOGY</b>		
3.1	Material, Apparatus and Instrument	19
3.2	Process Flow of the Method	20
3.3	Study Site	21
3.3	Sampling Point	22
3.4	Sample Collection	25
3.5	Sample Preparation	26
3.6	Data analysis	26
<b>CHAPTER 4 RESULT AND DISCUSSION</b>		
4.1	Validation	27
4.2	In Situ Measurement (Surface Dose Rate)	28
4.3	Concentration of Radionuclides	29
4.4	External Hazard Index	34
4.5	Isodose Map	35
<b>CHAPTER 5 CONCLUSION AND RECOMMENDATION</b>		
5.1	Conclusion	39
5.2	Recommendation	40
<b>CITED REFERENCES</b>		42
<b>APPENDICES</b>		46
<b>CURRICULUM VITAE</b>		50

## LIST OF TABLES

<b>Table</b>	<b>Caption</b>	<b>Page</b>
3.1	The Coordinate of Sampling Point	22
4.1	Surface Dose Rate Reading in UiTM Pahang	28
4.2	The Radionuclides ( $^{238}\text{U}$ , $^{232}\text{Th}$ and $^{40}\text{K}$ ) concentration in the soil	30
4.3	Comparison of Result Obtained from Different Study	33
4.5	External Hazard Index in UiTM Pahang	34
A.1	Concentration obtained from EDXRF	49