THE EFFECT OF CHANGING RADIOGRAPHY EXPOSURE TIME ON IMAGE QUALITY BY USING COMPUTED RADIOGRAPHY SYSTEM

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By

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DECLARATION

I hereby declare that this thesis entitled The Effect of Changing Radiography Exposure Time on Image Quality by using Computed Radiography System is the result of my own research except as cited in the references.

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ABSTRACT

This project covers the topic about Radiography Technique and research of image quality using new technique which is computed radiography (CR) under radiography technique (RT). The sample was selected based on the different thickness. The differences of image quality was analyse according to computed radiography (CR) systems, positioning of source and imaging plate and methods for reduction in exposure time. By exposing sample with x-ray, the image gain was analysed by using computed radiography scanner. The signal to noise ratio was calculated to check whether the image is accepted or rejected. Image quality indicator (IQI) or penetrameter used to analyse the sensitivity of image quality.

KESAN PERUBAHAN MASA DEDAHAN RADIOGRAFI TERHADAP KUALITI IMEJ MENGGUNAKAN SISTEM RADIOGRAFI BERKOMPUTER

ABSTRAK

Projek ini merangkumi topik berkaitan dengan teknik radiografi dan kajian mengenai kualiti imej menggunakan teknologi baru iaitu radiografi berkomputer (CR) di bawah teknik radiografi. Sampel yang digunakan dipilih berdasarkan perbezaan ketebalannya. Perbezaan pada kualiti imej dianalisis berdasarkan sistem radiografi berkomputer (CR), kedudukan sumber sinar-x dan penunjuk kualiti imej (IQI) dan kaedah untuk mengurangkan masa dedahan. Dengan mendedahkan sinar-x kepada sampel, imej yg diperolehi di analisis menggunakan pengimbas radiografi berkomputer. Pengiraan nisbah antara isyarat dan bunyi (SNR) dikira bagi mengetahui sama ada imej diterimapakai atau ditolak. Penunjuk kualiti imej (IQI) atau dipanggil penetrameter digunakan untuk menganalisis kualiti imej dari segi kepekaannya.