UNIVERSITI TEKNOLOGI MARA

PETROGRAPHIC ANALYSIS OF BELAIT SANDSTONE, ONSHORE SARAWAK

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ABSTRACT

Petrographic analysis of the Belait formation (Mid-Upper Miocene) in onshore Sarawak shows a dominant formation of quartz on the sample. . The sample was properly prepared for petrographic analysis that includes polarizing light microscope to make observation regarding grain texture and size, X-Ray Fluorescence (XRF) to obtain quantitative evaluation of chemical composition and Scanning Electron Microscope-Electron Dispersive X-Ray (SEM-EDX) to define quantitative compositional and elemental information. On the basis of petrology, the sample is composed mainly of quartz, feldspar, hematite, zircon and chalcedony. The following are the elements that have been determined and identified: Si, O, Zr, Al, Ba, Fe, C, Na, K, Ca and Mn. Hence the results gained from the analysis shown that sandstone sample in Belait Formation has major elemental composition by Si that has higher weight in percentage (41.6Wt.%) as compared to the other element.

Keywords—Elemental composition, grain size and texture, petrography analysis, sandstone.

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TABLE OF CONTENTS

CHAPTER ONE

INTRODUCTION

1.1 Research Background

Sarawak is located in East Malaysia in the Northwest of Borneo Island. The geology background of onshore Sarawak area has had a similar history to the Sabah region, which is involving the plate convergence and the initiation of a peripheral foreland basin above the sub ducting proto-South China Sea lithosphere (Madon & Rahman, 2007). The sample is taken in onshore Sarawak, which is the Belait Formation (Mid-Upper Miocene).

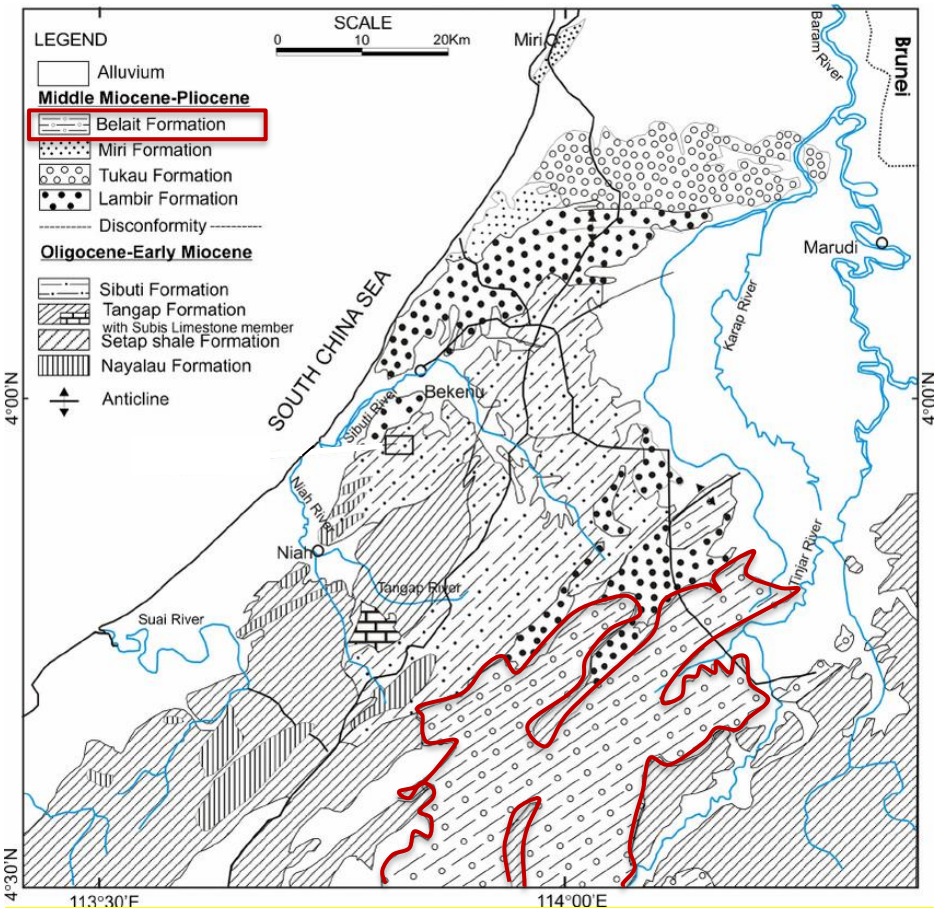

Figure 1 The map of Sarawak that includes Belait Formation. (Modified after Liechti et al. ,1960)