CHAPTER 1

INTRODUCTION

1.1 GENERAL

Malaysia is well-known for its beautiful culture, richness in biodiversity as well as its natural and earth resources. Petroleum, copper, barite, cement, iron and steel are some of the natural resources that can be found in Malaysia, not to forget bauxite. Rapid growth in aluminium industry resulting in increasing demand of bauxite which is the primary ore in aluminium metal production. In our daily life, we can see a lot of aluminium product or the combination of aluminium and alloy to produce lightweight but strong product.

Aluminium can be described as a strong, malleable metal element that has low density and high resistant to corrosion. Besides it highly reflective surface properties, aluminium is a good conductor of heat and electricity. Its corrosion resistance and easy shaping characteristic become a reason to be choose in drink cans and roofing materials industry. Most of cookware and kitchen utensils such as boilers and cookers are made of aluminium as it is a good conduction of heat.
Due to high demand as well as its function in electricity generation, founding of aluminium will attract aluminium miners and create competitiveness among them. Therefore, founding of new bauxite deposition at Kuantan, Pahang had become an economically attractive and a major issue in Malaysia. There are several aluminium mines that had been identified all around Malaysia such as Bukit Batu and Bukit Gebong at Sarawak, Bukit Mengkabau at Sabah and Bungai Rengai at Johor (Tse, 2004). Since Malaysia itself did not have its own an aluminium smelter, international investors to name few; from Bahrain, China, United States and United Arab Emirates had submitted proposal to Malaysian Government to build and established aluminium smelters in Malaysia (The International Aluminium Institute, 2012).

This study is mainly about bauxite properties; basic properties and chemical properties for the bauxite sample taken at bauxite mine in Gebeng, Kuantan, Pahang. Bauxite mining at Kuantan had become a major issues for Pahang State Government. As the end-product of bauxite only being exposed, people tend to recognize aluminum rather
than bauxite. Therefore, bauxite mining at the area contribute to anxiety of locals as the mines are located near to residential area.

The area of study is a residential area which now had turn into economically attractive to bauxite miners and company to establish their collected plant before it is transported to smelter plant. Thus, it is important to carry out the study on this area to determine whether the bauxite at this area is suitable for export and does bauxite properties may harmful to human.

1.2 PROBLEM STATEMENT

Exploration of earth resources contribute to national economic growth as it involve international market and demand. Therefore, potential mining location of earth resources is identified such for this study is at Gebeng, Kuantan. The collected area is at Port Kuantan; approximately 5.7 km from study area. Transportation of bauxite from mine to the collective area had resulting a leakage of bauxite fine fraction on the road as well as the surrounding area. It can be said that the area had been polluted by the bauxite residue due to improper method of transport. Hence, the study is done to this area to identify the properties of bauxite due to long term exposure to human and surrounding.

Besides smelter and manufacturing its own aluminium, Malaysia also exported the bauxite to China which is Malaysia’s largest export destination. Due to strong demand from this country, Malaysia had to double and tripled the production of bauxite in order to meet the demand. But, there are some standard and regulations that need to be follow for example mining companies in Kuantan are using International Maritime of Solid Bulk Cargoes (IMSBC) Code to determine the standard quality of bauxite. Thus, this study is carried out to determine does the bauxite production is achieved the IMSBC Standard or not for exporting.

Bauxite is composed of various element in which each of its element have its own effect and function. Some element in the bauxite is safe but in the other hand, some