

UNIVERSITI TEKNOLOGI MARA
KAMPUS BUKIT MERTAJAM
2003

FINAL REPORT OF DIPLOMA PROJECT

FACULTY OF MECHANICAL ENGINEERING




A STUDY OF A GRANITE
CRUSHER PLANT IN BINA
QUARRY

NIK MOHD IKRAMI ISHAK

MOHD SABRI MOHAMAD ZALI

“ We declared that this thesis is the result of our own work except the ideas and summaries which I clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree.”

Signed:



Date:

12 | 5 | 2003

Nik Mohd Ikrami Bin Ishak

Uitm No: 2000416290

Signed:



Date:

12 | 5 | 2003

Mohd Sabri Bin Mohamad Zali

Uitm No: 2000416370

ACKNOWLEDGEMENT

In the name of Allah the Most Gracious and Most Merciful.

We are grateful to god that we have finished our project. We would like to express our sincere gratitude and appreciation to my supervisor for continue support, generous guidance, help, patience and encouragement in the duration of this final year project preparation until its completion. We also would like to give the most appreciation to Syarikat Bina Dan Kuari Sdn. Bhd (BINAKUARI) for giving us the opportunity to do a study on their crusher plant. Especially to En. Haji Ismail (Plant Manager) and En. Mohd Badrulhisham (Mechanical Engineer) for their help during our study in the quarry. We would like to thank our parents who have been supported us to accomplish the project. To our friends, we appreciate for they help as they has giving us a lot of information in completing this project. Finally, we would like to thank to all people that involves in finishing our final year project paper. May Allah reciprocate you for all of your help to us.

We hope that with the existence of this report it can guide our junior to be familiar with the heavy machinery and the system of a crusher plant.

OBJECTIVES

The objective of this project is to study about the Granite Crusher Plant at BINA KUARI. The main purpose is:

- To study about the heavy machinery that has been use in the granite productions. As we can see, granite-crushing industries is a heavy industries. It involves al lot of heavy machinery like crusher, vibrating screen, conveyor set, pneumatic pump and many more.
- To learn about the modus operandi of each machine and the purpose of it. This is important that we learn about the operation of the machine because it will be useable when we are working in the industries. This is because the operation of a heavy machine is almost the same with each other.
- To make our knowledge more applicable to the industries. When we are studying, we learn from theories that have been made. We learn about torsion, shear stress, gear, pneumatic and many more, but when we at the Quarry, all this thing have been used and we can see the use of what we learn in our lectures.
- To learn about a production technology. This is involving we do a visit to the quarry to see for ourselves about the production technology that has been use in quarry.
- To learn how the work flow of the quarry.

TABLE OF CONTENTS

	CONTENTS	PAGE
	PAGE TITLES	i
	ACKNOWLEDGEMENT	ii
	OBJECTIVES	iii
	TABLE OF CONTENTS	iv - vi
	LIST OF FIGURES	vii - ix
CHAPTER I	OLD TYPE OF CRUSHER	
	1.0 Type of Old Crusher	1 – 4
CHAPTER II	GENERAL INFORMATION	
	2.0 Mechanical reduction method	5
	2.0.1 Impact	5 – 6
	2.0.2 Attrition	7
	2.0.3 Shear	8
	2.0.4 Compression	9
	2.1 Closed Circuit Crushing	10
CHAPTER III	CRUSHER PLANT	
	3.0 Drilling and blasting procedures	11
	3.0.1 Rock drilling method.	11
	3.0.2 Rock drill ability	12