



CHAPTER I

INTRODUCTION

Seismic reflection survey has been developed for more than 50 years in oil industry, but only recently that the method has been applied in the field of engineering (Moore, 1973 ; Mooney, 1974). In the decade of 80, the seismic reflection survey has been applied for shallow survey, for example, locating area for mine tailing site (Lankston, 1979 ; Lankston and Lankston, 1980), determining depth to bedrock and geologic structure at Mae Kuang Dam site (Royal Irrigation Department, personal contact), determining the hydrothermal reservoir at San Kam Phang Geothermal Project (EGAT, personal contact), determining geological structure (Lohawijarn, 1984), etc.

Hunter, et. al.(1982) introduced common offset method for collecting data in shallow seismic reflection survey. The data collected by this method was then improved by the technique called "Optimum Window". He also developed a computer program using a 8-bits microcomputer to process the data obtained by this method.

It is known that to process the data by using the software developed for a 8-bits microcomputer will encounter hardware limitation. A computer program develop for a 16-bits microcomputer will partially overcome the limitation.

Objective of the Study

The objective of the study is to develop a computer program for data processing using a 16-bits microcomputer. The program will be able to process data collected by either common offset or common depth point method. Program testing was done by applying the program on synthetic seismograms and field data. The resolution of shallow seismic reflection survey (≤ 150 meters) by both method will be compared by means of data quality displayed as seismic section.

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