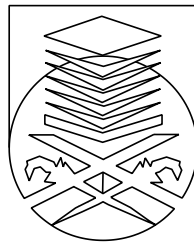


UNIVERSITI TEKNOLOGI MARA

**THERMOCLINE: DETERMINATION OF SOUND SPEED
PARAMETERS CHANGES AT SUNGAI DINDING, LUMUT,
PERAK DURING SPRING TIDE AND NEAP TIDE**

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AUTHOR'S DECLARATION

I declare that the work in this thesis/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA (UiTM). It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA (UiTM), regulating the conduct of my study and research.

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ABSTRACT

In today's world, there are several issues about thermocline. Thermocline is a layer of water between a hotter layer above and a cooler layer below which has a more quickly rate of decay of temperature than both of the encompassing layers. Thermocline research is one of great significance not only in the academic field but also the production, living and military field. For this research studies is to identify thermocline can be disturb the sound speed parameters such as sound velocity, temperature, pressure, salinity, and density during spring tide and neap tide. There are two objective in this research studies which is to analyze the different value of the sound speed parameters on low and high tide during spring tide and neap tide and also to analyze the differences of thermocline layer between spring tide and neap tide on low and high tide. The study area that has been chosen for this research studies is West Coast in Malaysia which is at Sungai Dinding, Lumut, Perak. There are main data that used for this research studies is the sound speed parameter models in differences water level that relation with tidal observation. The sound speed parameters model data can be provided by using AML Oceanographic X.Series sound velocity profiler (SVP) and tidal reading can be provided by using Veleport 740 tide gauge. Based on the result, the analysis can show the pattern of sound speed parameters on thermocline changes during spring tide and neap tide will be detected and determine by using the image of graph. As example, there are huge difference between on low tide during spring tide and on low tide during neap tide which is during spring tide, thermocline will be detected starting from 1.04 dBar - 1.38 dBar for pressure, 1542.204 m/s - 1542.613 m/s for sound velocity while during neap tide, it starting from 3.47 dBar - 4.26 dBar for pressure, 1543.370 m/s - 1543.878 m/s for sound velocity In conclusion, it can show that there are have a different range of thermocline layer at the certain water level during spring tide and neap tide.

Keywords: Thermocline, Tidal, Parameters (velocity of sound, temperature, pressure, salinity and density), Spring Tide, Neap Tide, Sound Velocity Profiler (SVP).

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