Natural science paper assignment

Natural Science Ocean Inside the Earth’s mantle The mantle takes up 84 percent of the Earth’s structure and is composed of my different layers. Knowledge of the upper mantle is that it includes tectonic plates, magnetic pull, heat flow, and gravity studies. A new discovery has been made and scientists have discovered an ocean on the Earth’s upper mantle near Asia as big as the Arctic ocean. This proof was found as a seismic wave diminishing into the Earth’s mantle during earthquakes.

Researchers estimate that up to 1 percent of the rock sinking down into the Earth’s mantle, in the part of which is water, works out to be what the Arctic Ocean is worth (Than printout1). Water in the Earth’s mantle has been known to be very important to the development of the earth due to its tectonic plates. Earthquakes are formed because of these plates shifting. When there is water in the mantle, these waves will become less stressed and thus making this a new discovery of the new “ ocean”.

Seismologist Micheal Wysession discovered this new ocean by analyzing more than 600, 000 seismograms. Wysession noticed the waves on the siesmograms began to diminish in one area beneath Asia. Traditionally, seismologists employed a sort of CAT scan by measuring the speed of seismic waves (Anitei printout 1). “ Water slows the speed of the waves a little”, Wysession explained. “ Lots of dampening and a little slowing match the predictions for water very well” (Than printout 1).

Predictions were evaluated stating that a cold slab of the ocean floor could have sank miles into the Earth’s mantle leaving the hot temperatures of the mantle to evaporate water stored in the rocks. When the water rises it

appears to be a solid formation but the composition of rock in the ocean is said to be 15 percent water. This is very accurate, but Wysession points out that it is “ A real back of the envelope type of calculation”(printout 2). Wysession has claimed the new project to be The Beijing anomaly because of the high waves formatting under the capital of

China. This is going to be the beginning of a new technology break through towards finding water beneath the surface of the earth much deeper than what submarines or other like items can find. In past years scientists have been interested in the feature called the “ Beijing anomaly”. The new discovery can make finding areas of water under the earth’s crust easier compared to the CAT scan like siesmograms used in the past. The availability of these seismograms made this discovery possible for Wysession and the rest of scientists of Washington University.

Wysession calls it the Beijing anomaly not only because of the location , but the scientist claims that “ Water inside the rock goes down with the sinking slab and it is quite cold, but it heats up the deeper it goes, and the rock eventually becomes unstable and loses its water. The water then rises up into the overlying region, which becomes saturated with water”(Anitei printout 1). The water being brought up to the surface is forming huge bodies of water under the ocean. The earth is made up of 70 percent of water.

The water is stated to be a lubricant to the Earth making it possible for tectonic plates to be mobile. The plates would collide forming mountains and the water absorbs the energy used to do this action making it very important

to the Earth’s geology. More water is going to develop and be discovered from the ocean floor thus, giving more lubrication to plates shifting. Wysession is going to further develop findings of water beneath the Earth’s upper mantle, and use the new source of technology to make it easier for many seismologists to follow.