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Countries, England

Museum Report(Natural Resources Canada library)

The Basics

There was a visit at the museum in the Natural Resources Canada library. This museum is located at 605 Robson street in Vancouver, British Columbia on the 15th floor. The main objective of the museum visit was to learn about the various rocks, the different minerals and the artifacts in the museum. One was to clearly understand on the History of the British Columbia in Canada .

The Rock, the minerals and Interesting Artifacts in the Museum.

The rock structure in the museum could be presumed to be igneous. These rocks are intrusive and are formed through the crystallization of magma from the earth’s inner cores. This magma cools slowly before reaching the earth’s surface to form crystals. The observed pictures on the rock structures showed rocks that were rich in quartz crystals with some constituents of feldspar and biotitic crystals. These are characteristics that are evident in most granitic rocks. The most distinct of the rock observations would be pegmatite. Pegmatite has interlocking crystals of quarts and mica in its structure. It also has large crystals which were observed in most of the shown pictures.

Another interesting observation would be that of basalt rock. This rock is also igneous in its mode of formation but extrusive in nature. Basalt is a rock that has ease identifying due to the air cavities trapped during its formation. The low quantities of quarts poor crystal formation and high feldspar content also

aided in identifying this rock.

The museum had an interesting fossil collection that had various specimens that ranged from recent shells to stromatolites (old blue algae fossils that are over a million years old.) The museum had weather displays that demonstrated various aspects of the monitoring the atmosphere and atmospheric modeling.

The Geologic History of British Columbia in Canada.

This history seems to be shaped by the Pacific Ocean's Eastern rim position. The basin of the Pacific Ocean that is modern is the Original Ocean’s successor. This original Ocean is the one that split the cratonic core of the continent (Laurentia) from the Rodinia which was the Precambrian supercontinent. This Ocean became wider and wider up to the late Paleozoic time where it was then named Panthalassa meaning the World Ocean. In the Continent’s Eastern side, the Atlantic’s Ocean reopening dubbed as the Wilson cycle was preceded by the continental collision but the Western North America often encountered similar active Ocean basin. The Tectonic evolution in this region always is of an active margin. The multi-episodic rifting affects this margin first. It is then followed by the subduction of the plate margin and the transcurrent faulting. These processes seemed to have occurred over a period of almost seven hundred million years. Through this period, the geology that is varied widely and the various topography of the region that is complex in nature has been created by the fluctuating regimes which were influenced by the relative plate vectors. The volcanoes, the

thrust belts, the plateaus, the cordilleras, the scarps and the granite canyons were also created as a result of this fluctuating regimes.

The British Columbia's geological history can be looked as four different plate-tectonic phases.

- The Open margin or the Rifting phase

- Oceans and Islands phase

- Orogenic phase or the Collisional phase

- Post-collisional phase

The open margin or the Rifting Phase

There was the first breakup in the late Proterozoic period of about 700 Ma until 400 Ma in the Middle Devonian. During this time, the subduction which was rather widespread started along the margins. Oceans and Islands Phase This phase started as built arcs by subduction with the continent retreating away from them. This created a scenario that is similar to the Pacific Ocean in the southeastern region. This phase took place until 180 Ma the Early Jurassic.

Orogenic phase or the Collisional phase

The Atlantic Ocean Opening caused the reversing of the initial motion of the North America. This in turn caused it to be driven strongly towards Westward side that was relative to the subduction zones that were long standing off its west coast. This created a wide compression zone in the ocean basins and the offshore arcs and its miogeocline. The Post-collisional Phase
It started during the early tertiary where there was subduction of parts of the East Pacific Rise under the continent. This changed the plate margin to a

regime that had transcurrent faulting and the progressive subduction of the remnant segments that were short.

There was the formation of mineral deposits during every tectonic phase. It was important for two or more these tectonic phases to have combined effects for the formation of some of the mineral deposits.

The Natural Hazards that Vancouver Risks Facing.

There are marine geo-hazards which are the geological conditions occurring at the floor of the sea or happening within the in the sub-bottom layer that can cause dangerous events that are catastrophic if they are unrecognized. Such hazards are like earthquakes, seabed iceberg scouring, landslides of the submarine that can intern cause tsunamis, the migration of gas or its buildup that cause the over pressurization of sediments and the potential terrain blowout.

Vancouver is at a risk of facing floods. The climate changes tend to increase the frequency and intensity of these floods (Rothery, 2008). The floods seem to be caused by factors such as: rainfall, snowmelt, combined snow melt and rain on the snow, ice jams, tsunamis, landslides, glaciers, cyclones and hurricanes. The storm-rainfall brings about reduced absorption of water that in turn brings about a run-off that swells the volume of the water in the streams and rivers. The rivers and the streams cannot withstand the immense pressure of the runoff water forcing them to flood. The mountainous area of Vancouver is at risk of experiencing such a situation. The pilling up of ice that is floating within a channel that lies behind the ice that is stable or behind islands. This later tends to bring about serious floods

since the ice cover starts to break up causing the water levels to go high as a result of the snow melt.

New Ideas

The intriguing aspect of the rocks in the display can evoke one’s thirst for further knowledge on the formation process of the rock. Though the process is well defined from the volcanic eruptions to the sedimentation and all the rock forming processes, one can further query if these rocks can undergo through further formation. Most of these rock forming processes were discovered in previous centuries, with experts like Sir James Hall taking lead. However, in this 21st century the information is still the same. One would be more intrigued if rocks that are of this generation existed and experiments that are updated to form a continuous pattern of the rock forming process.