

Discovery Centre Rocks!

It sure does – we all know that; but, what about the real rocks under and around the nearby wetlands? Any snake or turtle will tell you that rocks too are an important part of the ecosystem.

My thoughts about the rocks near the Corn Creek Marsh began while cycling along West Creston Road. One of the beauties of cycling is that you smell, hear and see things that you would never notice while zooming along in a car. Sometimes this activates thoughts that sort of float in one ear and out the other. That was the case when I noticed some unique features of the rocks near the Discovery Centre. I knew they were very old, among the oldest sedimentary rocks in BC, but that's about all.



Rocky Outcrop Near the Discovery Centre

I did some research and sure enough there is quite a story behind these rocks. The rocks in the area of the Discovery Centre are quartzite from either the Middle Aldridge Formation or, in some spots, the Creston Formation. Both of these formations fall within a very thick rock assemblage called the Purcell Supergroup. Well, that's nice geological jargon but my grandkids would ask questions like: How old are they? How were they made? How did they get here? To try and answer these very good questions here is the history of what I'll call Joe the rock as seen in the picture below:



Joe the Rock

Hi. My name is Joe. I am just under 1.5 billion years old. My birthplace was near the centre of an ancient supercontinent called Columbia or sometimes Nuna. At this time, my birthplace was where this part of the supercontinent was starting to break apart or `rift`. An example of modern-day rifting would be Africa which is spreading apart in the middle and some day it will form two separate continents. Anyway, this rift created a low spot which filled with seawater. Great rivers from the edge of modern-day North America eroded very old granite rocks, made mostly of quartz, into sand and brought massive quantities of this sediment into the sea. The beaches were fabulous! I therefore started off my journey as sand. The reason I have those funny lines on me is that every day when the tide came in it swept a bit more sand and silt on top of me.

After a while I got buried. It sure is getting hot down here! With this heat and also the pressure the water in my pores deposited out a sort of cement between the sand grains and I officially became a sedimentary rock known as sandstone. This marked my graduation from a mere blob of sand to a true rock.

Over the hundreds of millions of years of my journey I eventually got buried really, really deep. How deep? Many kilometres down. There is so much sediment on top of me the pressure is tremendous. It is so hot I am near my melting point. How hot? It was over 1000 C. The geologists would say I am now

being metamorphosed (doesn't sound very nice). Once this happened, the old sand grains totally fused together and I officially became a quartzite. Also, as you can see from the above picture, sometime in my journey some hot water with a lot of iron in it stained me partly red.

Sometime quite recently, say in the last hundred million years, many of the rocks in my home province of BC got pushed up in the process of mountain building. This is because the rocks under the Pacific Ocean are pushing towards and diving under North and South America. Near Summit Creek, for the first time in about 1.5 billion years, I can see daylight!

Uh-oh: I think that means that in a blink of my eye (not yours) I am going to be eroded by water. Pieces of me will end up in the ocean as sand. This sand will get buried and then.... Wait, I've already told that story!