

Stop 12 Wrap Up

[00:04] We're going to wrap up our field trip today by looking at the major events that led to the opening up of the Okanagan Valley and then the filling in, the deposition of sediment since the Pleistocene. The cross section that we're looking at is located just to the north of Penticton and in this area the Okanagan Valley fault is located essentially straight through the middle of the center of the valley through the center of Okanagan Lake.

[00:34] So when the fault activated the end of the Oligocene, the Okanagan Metamorphic Complex, located to the east, lifted up, lifted up to the east. In doing so, it pushed the volcanics in the sedimentary formations that were sitting on top of it off to the west. Vancouver is located behind me in this image. During this process of sliding off, some volcanic formations were left stranded on the east side of the lake, one of which you recall is Munson Mountain.

[01:11] During the Pleistocene this region was subjected to a series of glacials and interglacials. During the glacial periods, glaciers flowed from north to south, so out of the page towards you. As they moved south through the valley, they carved out the rock that was there to create the traditional U-shaped glacial valleys we see at so many different scales.

[02:02] As the glaciers receded sediments were deposited. The lowest sediments are ancient Pleistocene deposits. These sit over the bedrock the bottom of the Okanagan Valley. About 20 000 years ago during the Fraser Glaciation, tills were deposited on top of these ancient Pleistocene deposits. Here in the south Okanagan, the next major event was Glacial Lake Penticton.

[02:48] Glacial Lake Penticton deposited the silt cliffs that we visited, with different varves on each side of the lake because of the ice core in the center. Note that the water levels were much higher than they are today. With the melting of the glaciers and this water drained away the hydrology changed, and the lake level lowered towards the level that we see it today. During this process, alluvial gravels were deposited on the base of Okanagan Lake and also in some places up on top of the silt cliffs.

[04:11] So there we have it. The major events that led to the formation of the Okanagan Valley, as we see it today.

[04:20] Thanks everyone for joining us on this virtual trip through the south Okanagan we hope you've learned a lot about the fascinating landscape and how it was formed. We also hope that it's inspired you to get out and take a closer look at the landscape around you, wherever you are.