Gauge One 3D Printing Circle

BR Brake Van World Tour 10

Waimangu Volcanic Valley

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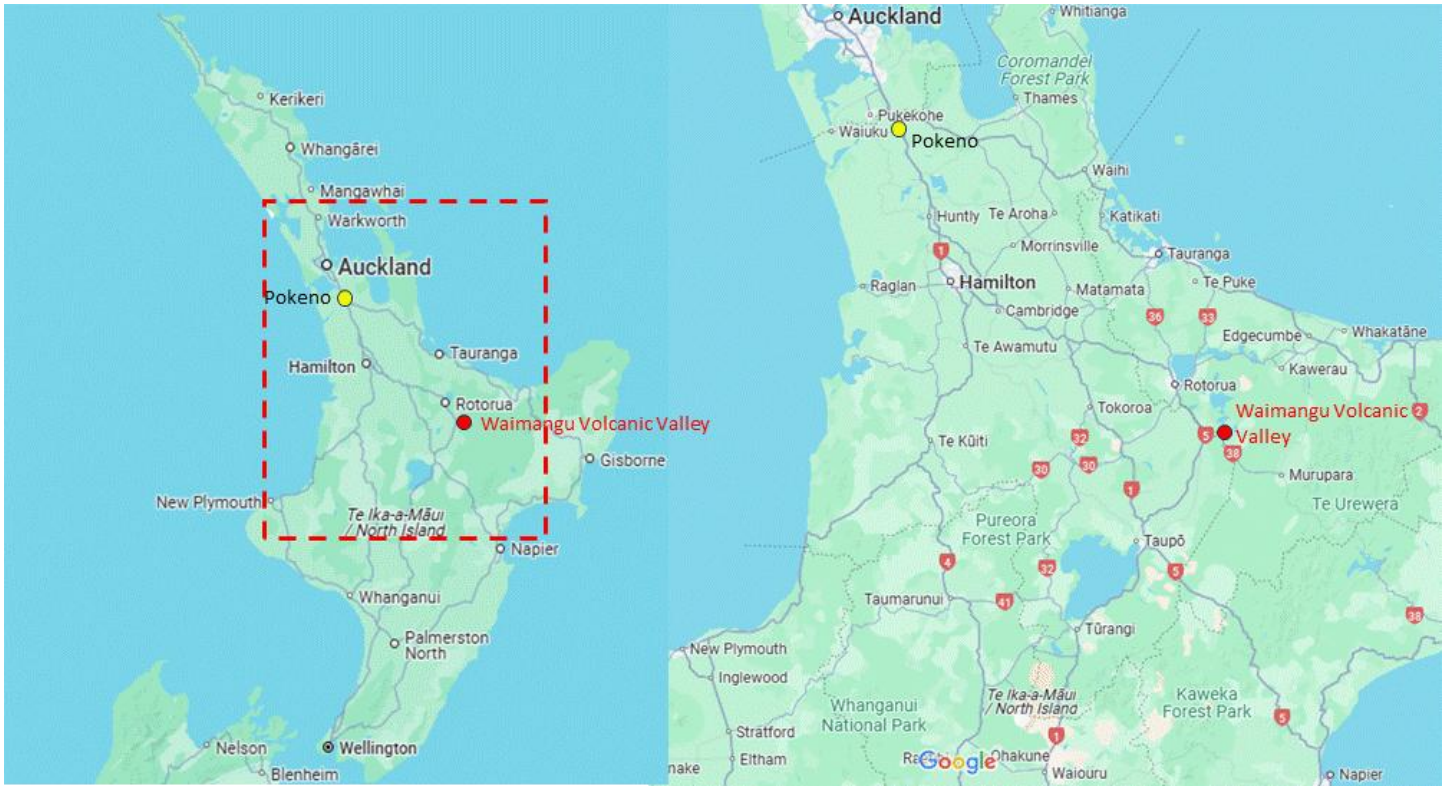
One of the many observation points along the walk down this active valley with its numerous vents giving off steam from deep below. The smell of sulphur is everywhere!

This trip took us to the centre of the North Island and the heart of its geothermal area. This runs from White Island off the East Coast of the Bay of Plenty right through to the main volcanos on top of the central plateau.

Interestingly, the area lies about 100km west of the main divide between the Pacific and Australasian tectonic plates. However, the fault line runs at an angle and is not vertical. Essentially, the Pacific plate is sliding under the Australasian plate and it is the rubbing of these two plates together deep underground at this point that is causing the geothermal activity and the various eruptions and earthquakes we experience. There are any number of these active sites to visit within the area, all different and fascinating.

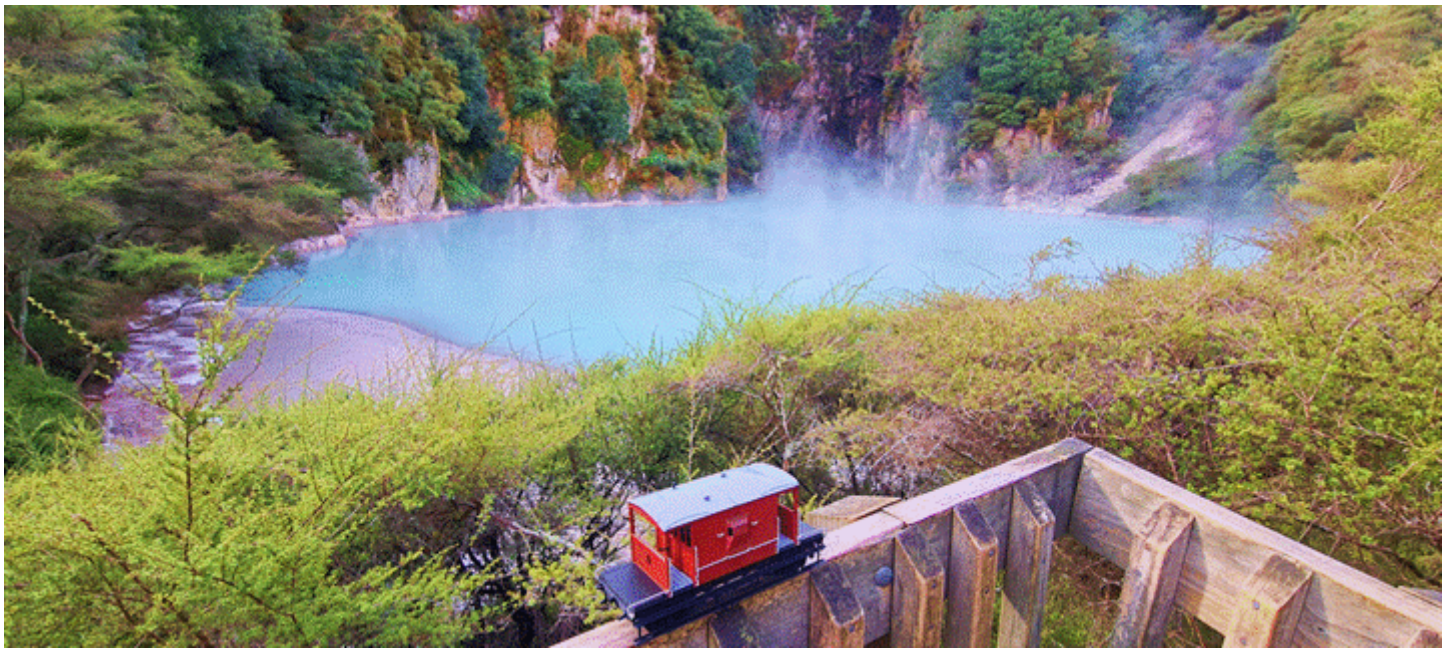


This is the start of the walk down the valley over 4km to reach the lake at its foot. In the distance, Mount Tarawera rises on the far side of the lake.

Having left the visitor centre at the start of the walk, we dropped into the crater at the head of the valley. This is still active and has an average temperature of 55 degrees C. The ground around the lake is also heated and has a temperature of about 30 degrees. This kept our feet nicely warmed! It is apparently the largest hot water spring in the southern hemisphere (presumably beating out the crater lake at the top of Mount Ruapehu). There are no streams coming into the lake, thus it is solely fed by underground springs, all hot.

One of the vents spewing hot water into the lake. The temperature of this water would be significantly higher than 55 degrees. This is at the lake outfall and the start of the walk down the valley to the main lake.

Another vent further down the valley creating its own miniature geyser. The silica terraces that are typical of such features are also present.



Another crater lake up a side valley part of the way down. The colouration of the water is due to the many chemicals also being brought to the surface. Definitely not potable and, if man made, would be classified as an environmental catastrophe! Being natural of course means it's all OK!

A small waterfall further downstream with silica stalactites formed from the cascading water.

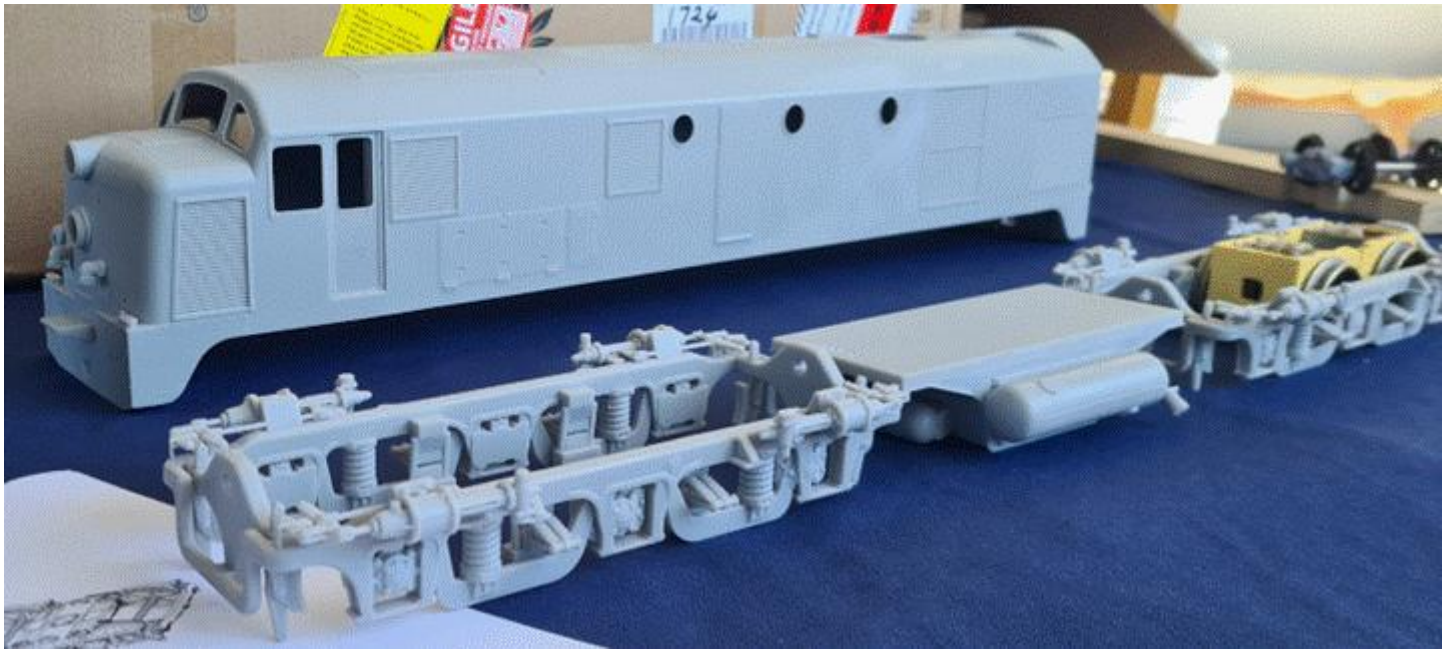
Coming to the lower reaches of the valley, there is a huge silica terrace that has formed from the steaming vent on the opposite side. This has forced the river over to this side of the valley.

Finally, at the lake and ready to take a bus back up. We did not take the boat on this occasion since there was insufficient time left. On the opposite side of the lake, were once the famed pink and white terraces of Mount Tarawera. When this erupted in 1886, they disappeared and ever since there has been much debate and conjecture as to their fate.

Finally, some views of the railway and the class 27 which has reached the painting stage.

British Railways locomotive green has been applied and the white waist line has started. The roof has received coating of dirt.

The brake van also paid a visit to a friend's railway in central Auckland. He is modelling the NZR scene at a scale of 1:24 which means for the NZ standard gauge of 3' 6", 45mm gauge is spot on. At the moment the railway is fairly embryonic hence the structures are mock ups of the more detailed and authentic structures that will follow. The builder is also involved in the 3-D printing movement here in NZ and together with his community are busy designing artwork for 3-D models. A test sample of a factory printed body, bogie frames, etc. to their design is shown below:



These are the raw prints as received from the printer in China with no fettling work done to them at this point. There is no warping and little evidence of scaffolding supports either. To confirm they have been printed in one piece for each item.