

ACKMA 2013 CONFERENCE WAITOMO NEW ZEALAND PRE CONFERENCE TOUR

Tony Culberg

The pre-conference tour started on Friday 10 May from Waitomo. The tour was led by Greg Martin and attended by Pat & Tony Culberg, Greg Middleton (all from Tasmania), Regina Roach (Yarrangobilly), Tom Summers (Texas) and Don Haider (Malaysia).

The itinerary had been sent well before and suggested we would reach some serious altitude and that warm weatherproof clothing would be needed.

The trip left on time and our first stop was at Pureora. We walked on a new forest interpretation track of about 950 m in an old logging area. This short track is beside the start of an 84km cycleway which heads south almost to Lake Taupo. This was rebuilt by the NZ Department of Conservation (DOC) and is designed to allow enthusiasts to explore some old logging areas. Private operators will be encouraged to provide services – relocation back to the start, tenting, catering, rather like the organised walks such as the Milford Track.



L-R. Pat Culberg, Tony Culberg, Regina Roach, Greg Middleton, Don Haider at the entrance to the Totara Walk

Our next stop was at the geothermal area of Orakei Korako. This is relatively little known geothermal area, fairly close to Taupo. It is administered by a Maori Trust and has a well maintained visitor area, including a toilet block, a sealed car park and the mandatory souvenir and coffee shop. Access to the geothermal stuff is across the lake, via a launch. The entry fee is \$NZ 36.00 per person. The map is comprehensive and the walking track is well maintained, being board walk for 97% of the route. There were some short sections of not yet gravelled track, and signs directing the visitor not to leave the boardwalks!

This area is well worth visiting – it has everything that Rotorua has, except a high geyser, without the crowds and the hype. You can make your own pace and take as



*Top. Orakei Korako Geothermal Valley.
Middle. Geothermal activity, Orakei Karako.
Bottom. Sinter flakes, Lake Rotokawa. L-R. Dr Harry Keys, Greg Middleton, Regina Roach, Tom Summers, Pat Culberg, Tony Culberg, Don Haider.
Photo: Greg Martin*

many photos as you want. There is no guide to keep the group moving. When you have seen enough, and at least an hour is needed, the launch is summoned and you are returned to the car park, through the souvenir shop, of course.

Our next stop was to collect Dr Harry Keys, principal volcanologist for DOC. Harry took us to a recent geothermal power station which has a new design, in that it injects the used, cooled water back into the ground. The first geothermal station at Wairekei did not do this and over 60 years the ground has sunk and the wells collecting hot water have had to be moved, at least twice. It is hoped that the re-injection of used water will extend the life of the site. Behind this power station there is another geothermal area. At one stage DOC intended to open this to the public, and some infrastructure is in place, mainly consisting of treated pine barriers to control traffic. These have all deteriorated over time.

Harry took us on a grand tour of this area showing us all kinds of geothermal features. Harry also used his handheld gas analyser to demonstrate the various levels of hydrogen sulphide gas, aka rotten egg gas, and the first thing visitors to Rotorua notice. One becomes immune to the smell after a very short time, so a gas detector is vital. The area had been a sulphur mine/quarry in an earlier life and some of the works were still visible. We were shown some magnificent sulphur crystals.



Sulphur crystals.
Photo: Greg Martin

Saturday dawned a little brighter and Harry, who lives in Taupo, rejoined us for the day. Our first stop was to view Mt Tongariro, where there had been volcanic activity last November. Harry explained the strategy DOC had adopted to manage this, as there had been damage to a hut high on the mountain. We were given a full description of the detection and warning systems in use, and shown photos of various incidents. We returned to the Desert Road and headed south, buying some lunch on the way. We headed up an unmade road, through the



Dr Harry Keys describing eruption activity.
Photo: Greg Martin

NZ Army live firing range, and up the side of Tongariro. We were given detailed descriptions of the various ash layers and of the types of erosion which occur. After an incident with the gate to higher levels – we could not open it! – we retreated to a dry creek bed for lunch. This had a magnificent cross-section of ash layers, clearly showing the various types of material emitted during an eruption, or over a series of eruptions. During lunch the significance of the various layers was explained.

During our return to the main highway, we stopped and observed some carbonised tree trunks which had been flattened by the blast from an earlier eruption. We also stopped at an elevated lookout to observe the volcanic plain. Greg Martin gave good directions to a party of Japanese tourists who were heading to the various sites where the movie, *The Lord of the Rings*, was filmed. Pat and I were pleased to see Asian tourists away from their tightly run tour groups and away from the standard tourist traps. Our experience is that many Asian tourists are afraid to stray from the highly organised resorts.



Don Haider viewing an active crater.
Photo: Greg Martin



Mt Puapehu, Tongariro National Park.

Photo: Greg Martin

We continued to Waiouru, the major town in this area, with its military museum and Army base. We also stopped at Tangiwai, the site of a rail disaster on Christmas Eve 1953. A lahar took out the railway bridge at the moment a train was on it, with 151 passengers killed. Harry explained the civil engineering response to this event, and proudly pointed out that the measures had averted a similar event in the last twelve months. Embankments were built, the road bridge was raised by 2 m and steel crumple barriers placed on the upstream side of the piers. The result was that the 2012 event did not cause any serious damage.

Then on to a small town, Ohakune, where we turned north to cross to the other major North-South highway State Highway 4, where we turned north to our second night's accommodation, in the Skotel at Whakapapa village on the side of Tongariro. This claims to be the highest hotel in NZ. En route we stopped at a quarry, which produces scoria in varying sizes and colours for garden and other landscaping use. Harry explained that this was the actual crater of a small volcano.

Sunday saw us dropped off higher up the hill for a walk back down to the Skotel, along a well-made track past the Silica Rapids. This walk took Tom and Tony the full, allotted 2 hours – Tom commented that at 78 he was unlikely to ever get back here again and he would take

every photo he could. Others completed the walk in less time. The rapids are well worth the effort, being yet another form of flowstone, this time made of aluminium silicate.

Sunday afternoon saw us at Huka Falls, a most spectacular cascade on the Waikato River, just north of Taupo. Across the road is a newly developed tourist area, called The Craters of the Moon. The entry fee here was \$8.00 and again there were excellent boardwalks, again with the imperative direction to not stray from them! A quick look at the scrub with numerous steaming fumaroles and pits confirms that the instruction is warranted. This area is a direct result of the slow collapse of the underground caused by the extraction of hot water for the 1950s' geothermal power station.

It is quite a contrast to be exploring an area which is changing as you look at it. NZ is so unlike Australia, where there are rocks, in WA, from 4 billion years ago, and where the younger stuff such as the Murray River's big bend at Morgan is older than almost all of NZ.

Our sincere thanks go to Greg Martin for his hosting and to Harry Keys for his enthusiastic, technical commentary. It was way better than Geothermal Science 101 and it was a real pleasure to have an expert available, especially as he was still packing to be on a plane to an overseas conference on the Sunday.