

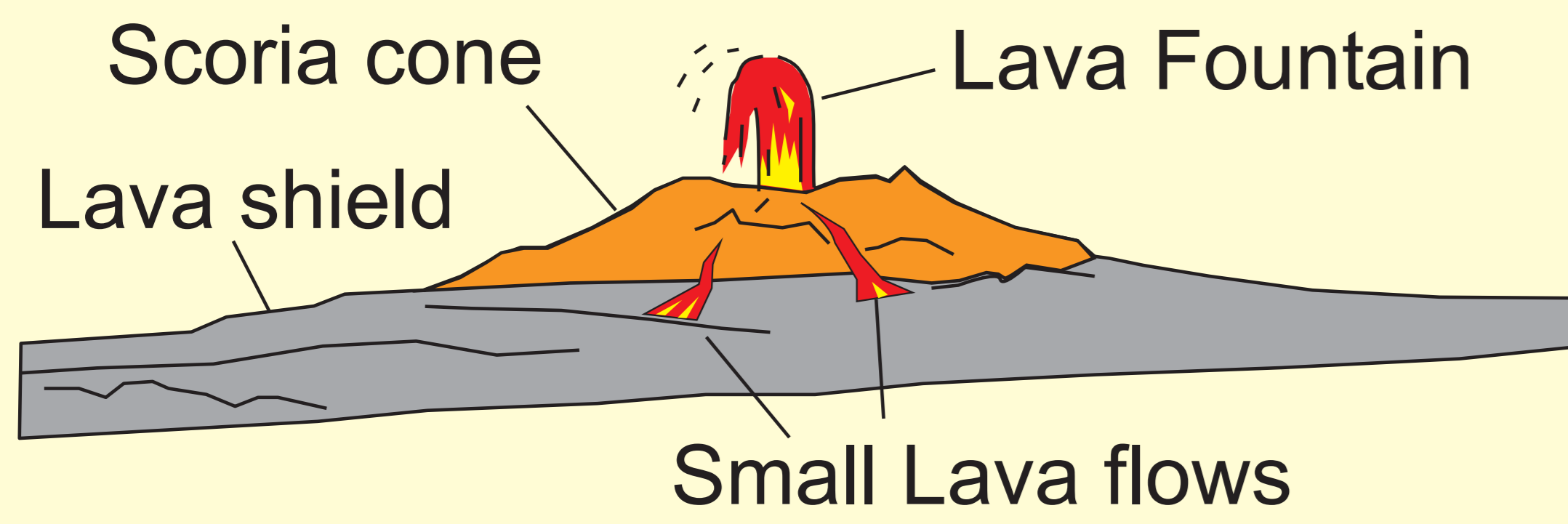
34,000 years ago a river of molten lava flowed down this valley from Mount Napier, seen in the distance.

Mount Napier is a composite volcano with two parts: a broad lava shield and a central cone of scoria.

The broad lower slopes form a "lava shield" built up from lava flows that ran outward from the central vent. One of these fed the Harman Valley flow.

The steeper central peak was formed towards the end of the eruption by explosive activity that threw out a lot of scoria (bubbly rock fragments).

There was a lava fountain several hundred metres high roaring up from the central vent and showering semi-solid material onto the scoria cone.



The Eruption

The eruption is thought to have occurred about 34,000 years ago. This age is based on "cosmogenic" isotopes that built up in the lava surface as a result of cosmic radiation over that time. The flow down the valley probably only lasted a month or so. The temperature of the basaltic lava was about 1200°C. It rose from a depth of 30 km or more.

People were watching

The Kooris may have been watching the eruption. They were in little danger as lava flows typically advance at about walking pace, although the lava stream in the channel would be faster.

The valley sides are older volcanic rocks that have weathered to thick soils.

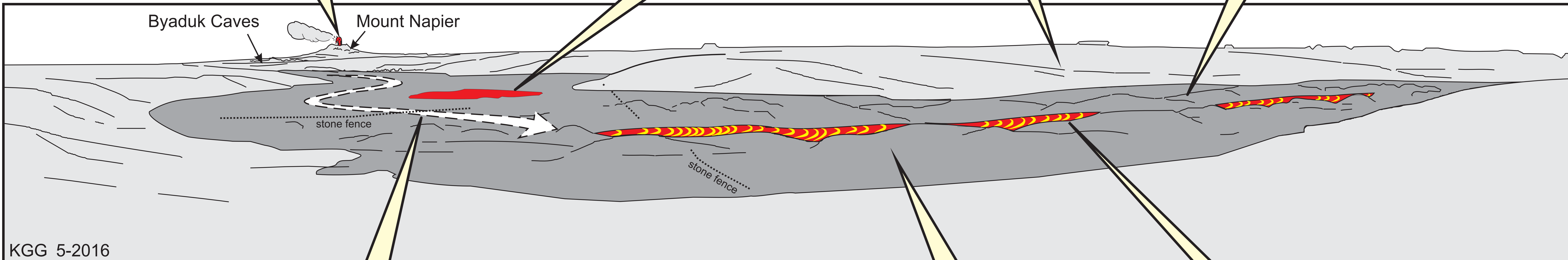
Lava Lake, fed through a break in the crust.

Lava Ridges built up beside the channel

The ridges on each side of the lava channel were built up by a succession of overflows of lava, much as levee banks build up beside a river.

Byaduk Caves

Mount Napier



Underground Tubes carried the main lava flow

The liquid lava would have been flowing through large lava tubes hidden beneath a solidified crust. The only large exposed areas of liquid lava were at the advancing front of the flow, and even there thin skins of solid lava would have formed quickly. Behind this advancing front the lava flow was quickly concentrated into narrow channels, which then roofed over to form the hidden tubes.

Occasionally the roof of the tubes burst and lava spilled out over the surface to build it up or form temporary lava lakes.

The lava tubes insulated the molten rock flowing within them so that it did not solidify. Thus the flows could run for long distances - about 27 km in this case..

A dark crust quickly formed over the lava and sealed in the molten liquid.

In places pressure from below pushed up the crust to form domed tumuli the size of a house.

A Lava Channel contained a river of molten lava.

Lava flowing in a tube appeared at the surface here in an open lava channel. This was an open stream of smoothly-flowing molten rock. Further downstream the flow went underground again into another lava tube.

At the end of the eruption the lava level dropped to leave the present channel.

View from the Harman Valley Lookout

34,000 years ago!