

Norðurorka Ltd.

The water in Vaðlaheiði tunnel

Hjalti Steinn Gunnarsson

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The Vaðlaheiðargöng

- Vaðlaheiðargöng is a toll tunnel in the north of Iceland, 7.4 km long.
- The tunnel was planned to open at the end of 2016. However, infiltrating water, both cold and hot complicated the construction. The tunnel opened in December of 2018.
- Norðurorka Ltd. - Utility Company, in Akureyri took a role in designing how to collect the water and get it out of the tunnel.



The infiltrating water

February 2014

- A fracture opened up in the western side of the tunnel, 1,9 km inside the tunnel, at station 2,580 m.
- Water, almost 50°C hot, started flowing into the tunnel

August 2014

- The drill was moved to the eastern side of the mountain.

April 2015

- Rockfall within the eastern side of the tunnel at station 6,450 m
 - The eastern side of the tunnel filled up with cold water, inflow around 500 l/s
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The hot water





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The hot water





The hot water





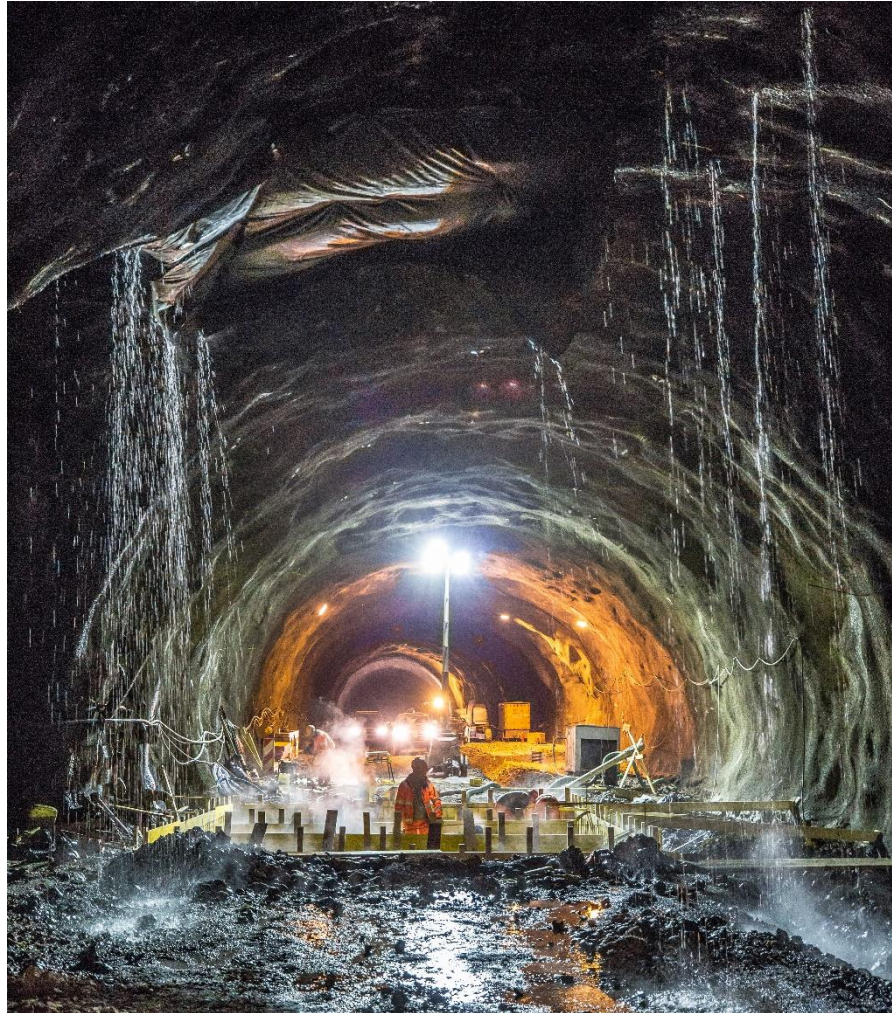
The hot water





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The hot water





The hot water





The hot water





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The hot water





The hot water





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The cold water





Kalda vatnið



April 19th, 2015, estimated discharge 480 l/s



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Kalda vatnið





Kalda vatnið





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Kalda vatnið





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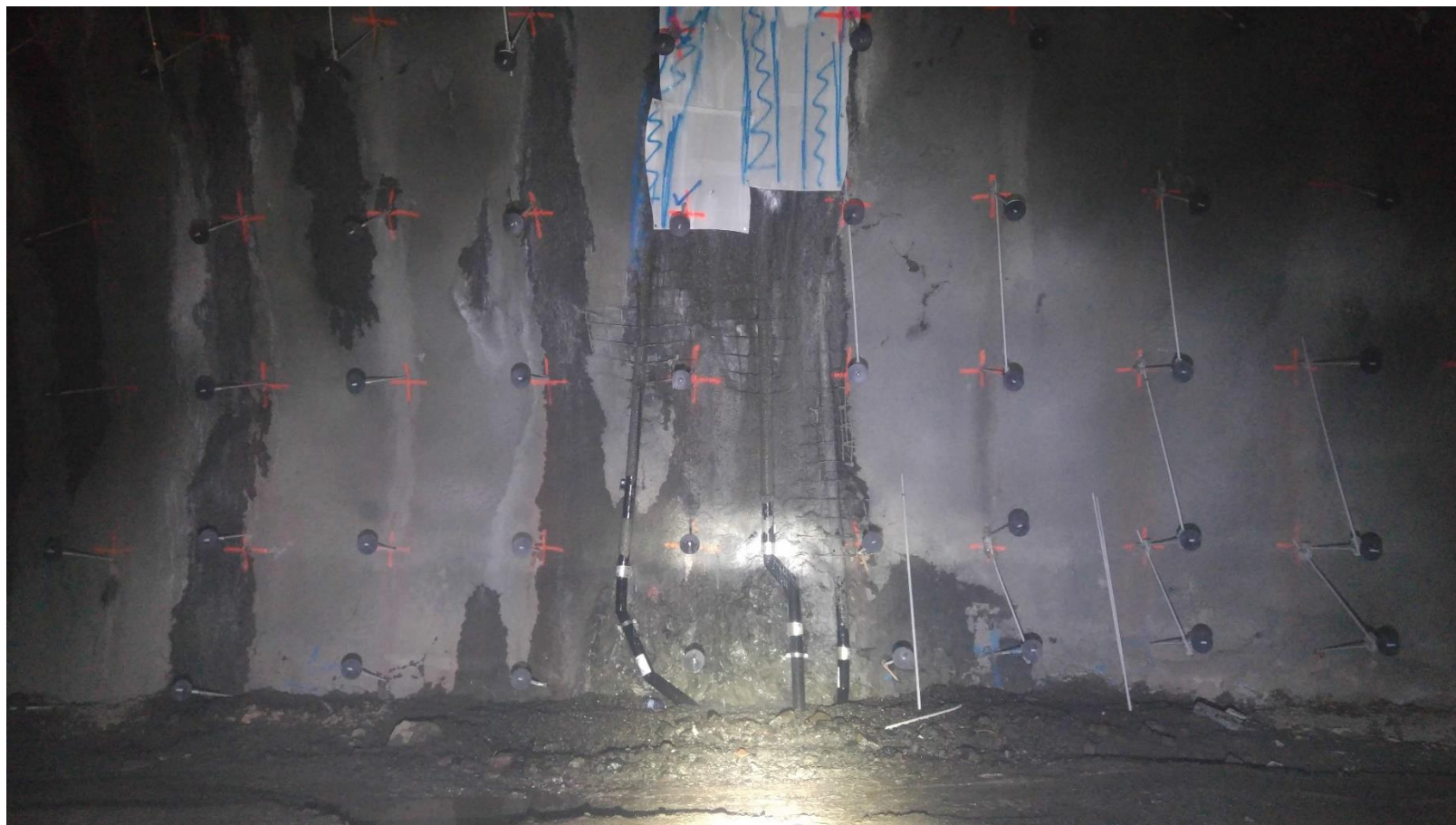
Kalda vatnið





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Kalda vatnið





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Kalda vatnið



Kalda vatnið



Today's status

The cold water:

- 280 mm pipe lies out of the tunnel on western side, at Eyjafjorður, the discharge is around 70 l/s.
- We are working on connecting it to the water supply system in Akureyri and surroundings.

The hot water:

- 225 mm pipe lies out of the tunnel on the western side, at Eyjafjorður, the discharge being around 40 l/s of almost 50°C hot water.
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Utilization of the hot water

The hot water is not suitable for the district heating system

- It's not warm enough
- It's too rich in oxygen saturation

Idea competition

- The idea of „Vaðlaböð“ was the winning idea. Geothermal baths by the ocean next to the tunnel, with a view of the beautiful town of Akureyri.
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NORÐURLORIKA

- **Virðing**
- **Fagmennska**
- **Traust**

