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Pluras underjordiske løp nedstrøms Steinugleflåget er dykket

The Plura sump downstream of Steinugleflåget has been dived

This is a project report about the Group's dives in Plurdalen, Rana, 2013. The Plura river has the deepest underwater cave in Northern Europe and has had the attention of many cave divers over the years as the end of the cave had not been reached. There are two huge sink-holes nearby.

The main source of the Plura is the Lake Kalvatn, 5 km upstream, which was dammed in the 1960's. Water flow of 20.000 m3/min dropped to approx. 1.000 m3/min which meant that the underground part of Plura became diveable.

The history of exploration is briefly described. First this was by Svein Grundstrøm og Bjørn Fagertun in 1980, then by Norsk Teknisk Dykkekrets (Ronny Arnesen) in 1987-1996 [see Norsk Grotteblad Nrs. 9, 18, 27, 29, 30, 32, 36, 38, and 47, editor note] and later by various groups. Reel Action Diving (Jon Arild Aaserud) reached a depth of 99 m from Steinugleflåget in 2012.

The joint two week project in September 2013, by AKPP and others, planned to push the Plura system further and in the second week to concentrate on one of the sink holes - Steinugleflåget.

The First sump in Plura is max. 34 m deep and 450 m long. It surfaces to an air chamber about 250 m long. The Second sump, shallow at first, and the end of the line before September was max. 135 m deep and about 1.4 km from the entrance.

In the past years the Second sump has been dived deeper and deeper and after many hours of decompression you have to dive -34 m again before being able to exit. The distance is travelled with DPVs and water temperature of 3-6 °C has been overcome by use of rebreathers, good insulation, argon suit gas, electric heating and finally with the use of a habitat.

In order to do 8 hours plus dives, habitats were built to be placed at -6 m for long decompressions. They are a true living environment which enable the diver to get out of the cold water and decompress in the dry. The foldable habitat was towed 500 m into the cave and because of the 1500-2000 kg lift secured firmly with 12 mm anchors using an underwater drill.

The cave below 100 m depth gets smaller, there is a restriction at 125 m and the deepest section has a very low bedding plane shape. Line was laid on the way in and surveying took place when exiting. The longest dives had a duration of 510 min.

During 1987-2012, 500-600 m of line had been laid in Steinugleflåget including one deep tunnel where there were two end lines at 90-100 m depths.

It starts as a very narrow 300 m dry cave and it is 95 m down to water level. This made the logistics of hauling - 8 rebreathers, 5 scooters and 30 BO tanks difficult. Rope-ways were made to get the gear in and down.

There was good progress and a connection to the downstream dive line was made at 130 m depth. There was 2036 m line distance from entrance to entrance.

The traverse was made on the last days of the expedition. It was done in four hours. The distance below 100 m depth was 400 m. Completing the traverse meant that the Plura has now the deepest sump ever dived through. Maximum depth en-route was 131 m. It also avoided hauling gear out of Steinugleflåget.

It was observed that the second sinkhole - Trollkjerka which was usually blocked with ice was blowing air through. This was descended in November with a Norwegian Television film crew. No diving gear was taken and exploration ended at water level.

The next project weeks are planned for the Fall 2014.