

Thirst quenchers!

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By Captain Christopher Daniel

“It’s fresh and tastes good,” said Lieutenant-Colonel Luc Girouard, commander of the Air Expeditionary Wing (AEW) at [Exercise Maple Resolve 1301](#).



*CWO Claude Dallaire (left), of 3 Wing Bagotville, Que., and LCol Luc Girouard (right) drink ROWPU-purified water, accompanied by Cpl Donald Wray.
Photo: Capt Christopher Daniel*

He was drinking the water from Betty Lake in Alberta that had been purified through the Reverse Osmosis Water Purification Unit (ROWPU) operated by water experts from 19 Mission Support Element (19 MSE).

19 MSE personnel participated in Exercise Maple Resolve 1301 ([JOINTEX](#)) as part of the AEW at Airfield 21 at Canadian Forces Base Wainwright, Alberta. During the exercise, which ended June 4, 19 MSE personnel validated their capability to operate the ROPWU and produce up to 5,000 litres of pure drinking water every hour.

“ROWPU operation is one of the capabilities that our unit members are exercising and validating to ensure that they are ready to provide essential support services to deployed missions whenever and wherever we’re needed,” said Major Keith McCharles, officer commanding of 19 MSE.

Warrant Officer Ron Granados of 19 MSE's construction and engineering unit said that there are three water fuel environment (WFE) technicians and three other members of their team who are trained to operate the ROWPU.

"They successfully met their training objectives," he said. "It is important that we have qualified personnel to operate the ROWPU. It is used for various missions like in Bosnia in the 90s where it was used to supply water to all the camps; it was used in the early days of the Kandahar mission in 2002 as well as in every single DART [Disaster Assistance Response Team] deployment.

Corporal Donald Wray, a WFE technician from 19 MSE, is one of the water experts who set up and operated the ROWPU at Betty Lake.

"ROWPU purified water is the cleanest water you can get aside from distilled water," he said. "Impurities, chemicals and harmful bacteria are taken out of the water through this process.

Water has a pH (hydrogen ion) balance ranging from 0 to 14. Pure water that is safe for drinking has a pH very close to 7. Less than that is acidic and greater than that is alkaline.

"Aside from purification, our goal is to make the water's pH balance close to 7 in order to ensure it is safe and healthy to drink. We add lime to the water after running through the ROWPU to meet the balance," he said.

Cpl Wray said that water can be passed through the ROWPU either once or twice depending on the quality of water source. For Betty Lake, his team did a single pass where they produced about 5,000 litres of pure water in an hour.

"We can quench thirst!" he said.

Photos



Cpl Donald Wray explains to the AEW team how water is extracted from Betty Lake.

Photo Credit: CAPT CHRISTOPHER DANIEL



Cpl Wray shows the water reservoir to LCol Luc Girouard and CWO Claude Dallaire.

Photo Credit: CAPT CHRISTOPHER DANIEL



Cpl Wray explains to the AEW team how the ROWPU works.

Photo Credit: CAPT CHRISTOPHER DANIEL



Cpl Wray checks the ROWPU.

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LCol Girouard fills his bottle with ROWPU purified water.

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