ADVENTURES WITH

ROSIE & GIBBS
the lost penguins

ADVENTURE 4: IN SEARCH OF WATER AT THE SOUTH POLE STATION

NOVEMBER 2018
So they set off to explore the South Pole station in search of a pool...

They decide to follow the pipes, hoping to find where all the station’s water ends up.

The buried well isn’t their answer, but our penguins don’t quit just yet. They head to the greenhouse. Plants need water, too.

I guess the waste water has to go somewhere. I’m glad someone found a safe way to handle it.

Hi, Carina! We want to use the water from the greenhouse for a swim!

SORRY, THAT WILL NOT WORK. OUR HYDROPONIC SYSTEM RECYCLES ALL THE WATER WE USE.

That’s so resourceful! But a swim is starting to seem impossible...

Well, all of the waste and water that is not reused flows to an outfall deep in the ice. It’s actually a giant abandoned well.

We definitely don’t want to wind up there!

Hi, Mr. Too. There has to be water somewhere...

Let’s find out!

WELL, I BET THERE IS WATER IN THERE! PROBABLY A TUB!

So they set off to explore the South Pole station in search of a pool...

What?! We have to say hi! I’ve never met a human before...

On an adventure!

We’re looking for a place to swim.

Water showers here! And for only two minutes, twice per week.

What?! But there has to be more water here somewhere right?

Where does all the water from the station go? Is it the same place where #1 and #2 go as well?

Where’s up? You’ve been fidgeting the whole day!

I know. I feel the need to swim.

Hi, Mr. Too. There has to be water somewhere...

WE RE SURROUNDED BY ICE, SO IT SHOULDN’T BE THAT DIFFICULT, RIGHT?

Well, I bet there is water in there! Probably a tub!

So they set off to explore the South Pole station in search of a pool...
Don’t worry, Rosie! We’ll figure it out. You always come up with an idea.

Thanks, but my brain feels stuck in a big pit, and since a dry one...

Speaking of pits! Didn’t someone mention a dish pit?

Correct. But one thing IceCubers know how to do well is drill holes with water.

The drill camp? I thought below ground there’s just more ice and then rock?

True! You guys drilled 66 holes 1.5 miles deep to build IceCube.

Well, is there a plan?

Ready for a swim?

Interesting. But penguins and hot water don’t quite get along...

No worries. The water will cool down quickly. In fact, you’ll have to swim fast before it starts to freeze!

Hooray for IceCube’s hot-water drill!

Thanks to the Winterovers, Rosie and Gibbs were able to go for a swim hundreds of miles away from the ocean.
Rosie's Discoveries

Sewer outfall
All of the waste water at the pole, including water from the showers, toilets, and kitchen, flows in pipes to giant, old, dry wells in the ice. There the waste is frozen.

Hydroponic farming
The garden at the South Pole has no soil; instead, they set the plant's roots into mineral-enriched water, which allows the plants to grow. Volunteers from the station help grow things like greens or tomatoes that cannot be frozen and shipped to the pole like other foods.

IceCube drill
IceCubers used a hot-water drill to make deep holes in the dark ice to build the IceCube detector. After the holes were melted, the DOMs were strung all the way down to the bottom, of the water-filled holes.

Antarctic temperatures
It turns out that Antarctica is not only the coldest place on Earth but also the driest. No wonder we had a hard time finding water. Temperatures can range anywhere from -83°C to -22°C. Wow!

Water at the South Pole Station
First, I was surprised not to find water at the station, but it makes sense now. After all, we're living in a desert, in a frozen desert! Even in summer, everything is frozen. Melting ice and keeping it liquid is not an easy thing! I've learned that they use the heat provided by the electric power generator plant to melt the ice for the water used at the station. The water is actually too pure for the people to drink so they add minerals to it! How cool is that!