

For a local man, it's mission: Siberia

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For the scientific problem of the century — climate change — this is the expedition of a lifetime: a multinational team drilling down 3.6 million years to the only undisturbed place on Earth old enough and cold enough to hold an answer.

Lake El'gygytyn is a vast, prehistoric lake identified just a decade ago in the mountains above Siberia, north of the Arctic Circle, population zero, average winter temperature minus-30 Fahrenheit.

What exactly goes through the mind of a Greensboro middle school teacher, selected from some 250 applicants for a berth on the mission, as he embarks?

Tim Martin, who was set to board a plane at Piedmont Triad International Airport this morning to begin the first leg of his six-week trip to Siberia, said that in terms of hitting the earth science teacher lottery, this could be compared to securing a seat on the space shuttle.

“Except,” the 40-year-old Greensboro Day School teacher observed, “more people have been to space than have been to Lake E.”

Lake E is the team’s shorthand nickname for the 7.5-mile wide, 558-foot deep frozen expanse that scientists say was created 3.6 million years ago. That was when a meteor blasted a crater 62 miles north of the Arctic Circle in the remote mountains of Chukotka.

Why is this God-forsaken place important enough that a team of U.S., German and Russian scientists would hire converted tanks to drag drilling platforms 225 miles across the tundra, at a



Ice on the lake in Siberia.

Credit: Special to the News & Record

GOT A QUESTION?

Greensboro Day School teacher Tim Martin, who is scheduled to arrive in Siberia next week with the Arctic drilling expedition, welcomes questions about the expedition, and what it is like to live and work in 30-below temperatures. Relay questions to lorraine.ahearn@news-record.com

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total project cost of \$10 million, to drill into its core?

The short answer: As climate change goes, this will be the proverbial bug in amber, the Rosetta stone, the longest continuous record of past climate change.

That is because, unlike the Northern Hemisphere lakes of Canada or Europe, for example, Lake E is unique: It is on a piece of land, that which became Beringia, that escaped the glaciers and is completely undisturbed.

Therefore, when scientists led by Julie Brigham-Grette of the University of Massachusetts drilled down by hand

into the sediment in 1998, in order to get funding for the current project, the result was to add 300,000 years of data onto what was previously known.

To people like Martin, a third-generation teacher, that has been the difficulty and the confusion of the global warming discussion all along: too much hot air, too little science.

“Even for educated people, it’s hard to sort through what’s really happening and what oil companies are trumping up,” said Martin, who learned of his selection in August and has spent months researching the mission and training.

“But by all means it is warming. There is no debate. The summer of 2007 had less open sea ice than ever recorded before in history. 2008 had the second-smallest ice cover. Certainly ice is going away.”

The question scientists hope to unlock in the depths of Lake E is whether a period of such rapid change as this has ever occurred before.

Scientists are fully aware that the northern tundra was warm millions of years ago, and that areas like Greenland were fertile before previous ice ages.

What the core samples in Lake E could answer, as Martin understands the mission, is how much of a hand humans play in the global change, and how quickly the crisis will accelerate.

So how does one pack for Siberia? PolarTREC, the organization that is paying his stipend of approximately \$20,000, first sent Martin to Fairbanks, Alaska, in March.

Part of the purpose was cold-weather survival training — how to improvise a snow boot out of foam car insulation, for example, or how to do triage, and tell an injured person from a “mostly dead” person, as the trainers put it.

“When we do first-aid training in Greensboro, we say, ‘Call 911,’ ” Martin said. “At Lake E, there is no 911.”

Not only that, Martin had to sign 40 medical release forms, carry EKG traces and all his blood work with him, and certify that he would not need his wisdom teeth removed over the next six weeks. In other words, not be a liability to the team.

Needless to say, when his wife, Elaine, dropped him off at PTI this morning, Martin expected to be feeling the pressure to bring tales of polar adventure and the occasional war story home to his students and his son and daughter.

Chances are good. When he catches a nine-hour flight from Moscow to Pivek, Siberia — provided there is no blizzard, no mechanical aircraft problem and the pilots are sober — Martin will be

dropped off for a 225-mile tank ride to the base camp at the lake.

There, he will stay in a converted shipping container, where the team must shovel snow to get in the door each evening. His job will be to provide “able-bodied help,” to collect and package samples, and to send data on a satellite phone.

As part of the deal — and the whole reason for having an earth science teacher along for the ride — Martin will send the News & Record dispatches from his trip, and is offering to answer questions from teachers, students and readers about what it is like to work and to live at the top of the world.

He says you can ask him anything.

“Yes, they can ask me about the latrines,” he offered. “Remember, I am a middle school teacher.”

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