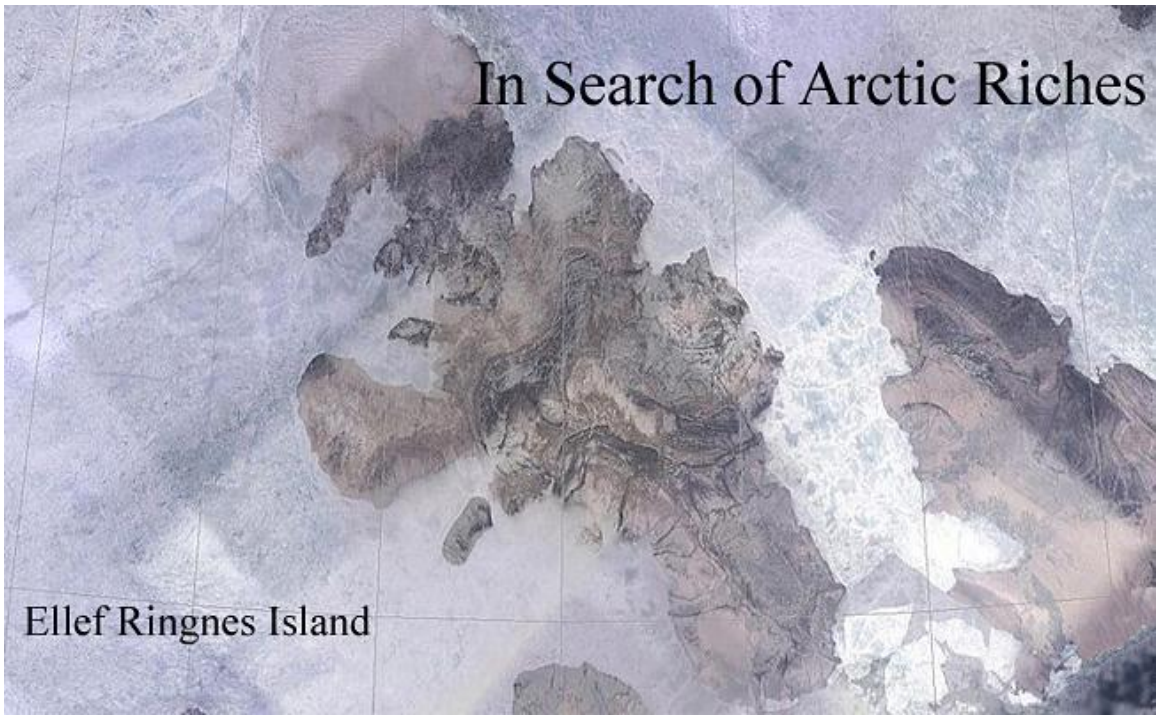
Arctic Sovereignty



Ellef Ringnes Island is one of the grimmest places on Earth - even the Inuit don't go there - yet Canadian scientists are out in force doing work that could lead to the development of huge new energy and mining resources.

Ed Struzik, Edmonton Journal: Published: Sunday, May 30 2010

We had spent the better part of the morning knocking down the tents, packing our gear and draining the last drops of the muddy drinking water we had brought in with us.

Grateful as we were to have made it to Ellef Ringnes Island a few days earlier, none of us was sorry to say goodbye to the thick fog, the cold rain and the bad water that makes this small part of the High Arctic so notoriously bleak and uninhabitable.

Geologist Benoit Beauchamp, the director of the Arctic Institute of North America, however, had a last-minute change of plan that was to affect me in a way I could not have imagined.

Steve Grasby, a geologist with the Geological Survey of Canada, examines rocks from an esker on Ellef Ringnes Island in the High Arctic. They could provide clues to the location of oil and gas reserves.

"Listen, why don't you fly back to Resolute in the helicopter with the pilot and I'll go back with the rest of the gang when the Twin Otter airplane arrives," he said. "That way, you'll get a bird's-eye view of the landscape."

Much as I was looking forward to a hot meal and shower, some clean drinking water and a soft bed in Resolute, the tiny Inuit community in northern Nunavut, there was no way I was going to turn down an opportunity to fly for four hours in the whirlybird.

The chances of seeing polar bears, beluga whales and Arctic wolves are more favourable going 175 km/h at 450 metres than they are flying above the clouds at a higher speed in a twin-engined airplane.

It was beginning to blow when we finally said our goodbyes, but the bank of fog that was hovering in the distance seemed to be sitting still.

So Bill Turner, the pilot, turned his back on the security of the shoreline and directed the helicopter over the mass of broken ice toward the invisible corner of Devon Island where a cache of 45-gallon drums lay waiting for us to refuel at the halfway point.

This first leg of the last part of our long journey, however, was not meant to be. After half an hour of flying in near-perfect weather, the wall of fog that had looked so innocuous made a ghostly move, sweeping in as spooky wisps of sea smoke before thickening into a more sinister soup of grey.

Bill didn't utter a word, but I knew we were in trouble when he slowed the helicopter to a crawl. From inside our rain-soaked Plexiglas bubble, the world outside seemed daubed by a grey brush stroke.

These are critical times for a pilot, when up and down mean nothing and safety depends on experience and training and the accuracy of the instruments. Even the most experienced pilots become disoriented flying near-blind in conditions like this. On rare occasions, they panic, distrust what their instruments are telling them and rely on their instincts instead.

Bill, a Newfoundlander who grew up in a world where fog, wind and icy rain are a familiar part of the scenery, wasn't about to make that potentially fatal mistake. Instead, he radioed the Twin Otter, which was now somewhere in the air above the clouds, to get a sense of what lay ahead.

Learning that it would be at least three-quarters of an hour before the fog thinned, he turned and headed back to the island where we had had such a short and miserable stay.

Wise a decision as it was, our troubles were far from over. The fog that had stopped us from getting to Devon Island that morning was just as thick going back to Ellef. A tailwind was also pushing the helicopter along faster than Bill wanted to go, flying so low. The last thing he wanted to do was to run into an iceberg.

With just a can of sardines, a few candy bars and no water to drink, I wasn't looking forward to another night or two on the island. Even in summer, Ellef Ringnes is one of the grimmest places in North America.

On a scale of one to 100, Environment Canada's climate severity index rates it a 99, which is a point shy of the worst it can get. The city of Victoria, by comparison, rates a 15, while Edmonton, one of the coldest cities in Canada, comes in at 37. Not even the frost-fractured, weather-beaten military base at Alert, which is the most northerly settlement on the continent, comes close. The severity of the weather there is only 84.

The trip had begun a week earlier when I hitched a three-hour ride on a Twin Otter from Resolute to Eureka at the north end of Ellesmere Island. That's where I first met up with Bill Turner. He was getting ready to fly farther north to move Beauchamp and Steve Grasby, a fellow geologist with the Geological Survey of Canada, from their camp on the north end of Ellesmere Island to Ellef Ringnes.

With two students in tow, they were one of several teams that had come north to conduct surveys that could lead to the discovery and development of new energy and mineral resources in the Arctic.

With the Canadian government betting $100 million that they will be successful, a lot is at stake. By all accounts, there is a lot of energy to be found in the circumpolar world.

The most conservative and comprehensive estimates come from the U.S. Geological Survey, whose scientists have calculated there are 90 billion barrels of undiscovered, technically recoverable oil, 1,670 trillion cubic feet of technically recoverable natural gas and 44 billion barrels of technically recoverable natural gas liquids.

That would account for about 22 per cent of the undiscovered, technically recoverable resources in the world. Put another way, the Arctic holds about 13 per cent of the undiscovered oil, 30 per cent of the undiscovered natural gas, and 20 per cent of the undiscovered natural gas liquids in the world.

Rightly or wrongly, this wealth of untapped energy is the main reason why sovereignty and security and the international race to claim new territory in the Arctic are such highly charged issues for Arctic countries like Canada, Russia

and the United States, and for non-Arctic countries like China, which is anxious to get in on the action.

In truth, I didn't know what to expect when I first met the team.

Beauchamp wasn't exactly a fan of the media since news gatherers went on a feeding frenzy over his discovery of alien-like bacteria percolating from a glacier on Ellesmere Island several years ago. The find was remarkable because it might someday serve as an analogue for how life got its start here on Earth and on other places in the galaxy.

Some of the reports, however, were so over-the-top that it sounded as if he had found proof that there are tiny extraterrestrials living in the Arctic underworld. Judging from our discussions on the telephone, Grasby also seemed to have doubts about my coming along. I got the distinct impression he had concerns about media reporting on a science project that could lead to intense development of an Arctic that many environmentalists and some Inuit leaders would like to remain pristine.

Softening them up was also going to be diffi cult. The two bottles of 12-year-old Scotch that I had brought along on the flight north never made it to Resolute.

Situated at the north end of the Arctic Archipelago, Ellef Ringnes is so remote and hostile that even the Inuit don't go there.

Otto Sverdrup, the Norwegian explorer, was the first non-native to visit the island when he and a small group made the trip on skis from Greenland between 1899 and 1902.

The few who have followed weren't impressed.

"The district struck me as the most barren I had ever seen," wrote Canadian-born American explorer Vilhjalmur Stefansson when he visited the island in the summer of 1916.

"A region of utter desolation," noted Stuart MacDonald, a scientist with the Canadian Museum of Nature who came in 1954 when the Canadian and U.S. governments were jointly operating a weather station at Isachsen on the northwest corner of the island."

All that scientist Marianne Douglas saw when she and colleague John Smol spent part of the summer there in the 1990s were some old caribou antlers and two skinny wolves desperately hunting seals on the sea ice. With 27 field seasons in the Arctic, Smol says he's never been as uncomfortable as he was on Ellef Ringnes.

Grim and uninhabited a place as it is, the island was once a key part of Canada's sovereignty strategy.

Following Sverdrup's return home, Norway claimed the islands of Ellef, Axel Heiberg and Amund Ringnes for his country.

Only after Canada agreed to pay the explorer $67,000 for the maps and records of his expedition did Norway cede the territory back to Canada in 1930.

That, however, wasn't the end of Canada's sovereignty strategy in the region. In 1956, Canadian government officials considered and then scuttled a plan to resettle Inuit at Isachsen.

The sale of the Sverdrup Islands might prove to be as sweet a deal as the United States' $7.2-million purchase of Alaska from the Russians in 1867 if the Geological Survey of Canada is successful in its search for oil and gas.

So far, the Prudhoe Bay field in Alaska, which has trillions of cubic feet of untapped natural gas in store, has produced more than 15 billion barrels of oil.

While the Sverdrup and Queen Elizabeth group of islands aren't likely to produce that amount of energy, there are reasons for the Canadian government to be hopeful that something worthwhile will be found.

From one end of the Arctic islands, there is a long band of sandstone and limestone that is similar to the oil-and-gas-rich sedimentary basin of Western Canada.

"There's also an ongoing debate that Alaska once butted up against Banks Island in the western Arctic of Canada all the way to Prince Patrick Island," says Grasby as we shared a meal that first night on Ellef.

"If you folded them over, you can see how the geological formations of the two regions are connected. It's that connection that suggests the possibility that there might be something worthwhile to be found."

The energy industry got hints of this bounty between 1969 and 1985 when Panarctic Oil Ltd., a consortium of 75 companies with interests in the Arctic, drilled nearly 200 wells in the region. During that time, the company found some oil and nearly 14 trillion cubic feet of gas.

These finds were promising enough to convince Panarctic to ship two tankers of Arctic oil to market through the Northwest Passage. At one point, the company's gravel airstrip at Rea Point on Melville Island was busier than Edmonton's International Airport.

Panarctic's foray into the Far North, however, proved to be more bust than boom when low gas prices, high transportation costs, some questionable drilling decisions and an end to generous government incentives sent everyone in the Arctic packing in the mid-1980s.

More important, at least for those who are considering what the future holds for energy development in the Arctic, the consortium's environmental record was a sorry one.

In the summer of 1969, for example, Drake Point L-67, Panarctic's well on Melville Island, blew, spewing so much water and gas that workers were up to their hips in mud before they finally capped it.

The company's fortunes worsened a year later when a well on King Christian Island blew and burst into a huge fireball that spread in every direction, its heat collapsing the ground around the camp and forcing more than 200 oilfield workers to take refuge on the sea ice. A jet carrying a load of passengers barely made it off the runway in an attempt to escape the spreading fire.

The well spewed gas and fire for more than three months before it was finally brought under control. To this day, it remains the biggest blowout in North American history.

Another low point for Panarctic came in 1983 when a Northwest Territories judge slapped the company with a $150,000 fine for dumping several tonnes of waste -- from junk steel and waste oil to a half-ton truck - into the Arctic Ocean.

Panarctic and other companies eventually got around the law by convincing the government to give it ocean dumping permits. This practice continued almost unabated until 1993 when the Inuit of the High Arctic formally objected to one permit that would have allowed the company to dump 400 tonnes of scrap metal in the Arctic Ocean.

One oil spill that was not reported in those early years may have been the biggest in Canadian Arctic history. In 1969, two huge oil barges containing half a million litres of P-50 Arctic Diesel destined for Panarctic's camp on Melville Island sank in the Northwest Passage after the tug that was pulling and pushing them got caught in thick ice.

Being lighter than water, the cargo of fuel did not sink all the way to the ocean bottom.

The accident occurred right around the time the United States was preparing to send a supertanker through the Northwest Passage to prove that Alaska oil could be safely and economically transported to the eastern seaboard. To make matters worse, the U.S. had just informed the Canadian government that it had

no intention of recognizing Canada's declaration of sovereignty over the waterway.

According to sources, some people in the Canadian government at the time contemplated the extreme possibility of using the partially sunken barges to deter the U.S. from making the passage. But when defence officials warned that such a strategy might end up sinking the tanker if it ignored the warning, cooler heads prevailed.

Instead, the government sent a Canadian Navy dive team in to winch the neutrally buoyant tankers down below the level of the supertanker Manhattan's hull. The barges, the largest ever used in Canada, were never recovered.

This laissez-affair and often secretive approach to development in the North may have gone unnoticed to most people in southern Canada, but it has not been lost on legal experts and those non-governmental organizations that are advising a more cautious approach to future developments.

Judge Michel Bourassa, the man responsible for slapping Panarctic with the $150,000 fine in 1983, did some sleuthing himself in the years that followed and came to two startling conclusions.

"In many instances, industry plays what appears to be a deliberate strategy of manipulation -- making marginal offers and increasing them incrementally," he wrote in a legal paper that got almost no public attention.

"The process of dealing with infractions becomes a negotiable matter, described to me by a senior field agent in the Environmental Protection Service as akin to buying a used car, involving bluff , posturing and pressure. In this atmosphere of constant negotiation, bickering, offer and counter-off er, we tend to lose sight of the bottom line: there has apparently been an offence -- an important law has been broken."

It would be "naive," Bourassa added, "to pretend that industries are without political influence and capable of bringing enormous pressure to bear on politicians, and through them on regulatory bodies.

"Political or bureaucratic pressure to compromise with an off ender, or not to prosecute will remain a fact of life. That regulatory agencies will, in one way or another, react to this pressure is equally self-evident."

Bill Turner and I saw the legacy of this practice of dumping on our trip from Ellesmere to Ellef Ringnes. In addition to piles of fuel drums, we saw broken-down machinery, the tracks of heavy equipment and other debris scattered across the tundra.

Ellef Ringnes, however, didn't quite live up to the image I was expecting. Instead of fog, sleet, clouds and a lunar-like landscape that I was anticipating after enjoying record warm temperatures on Ellesmere, we landed on a 50-metre-high plateau at Dumbbells Dome in sunshine radiating down on yellow Arctic poppies and a couple of caribou.

All that changed a few hours later when a wall of fog and cold rain moved in, reducing visibility to just a few hundred metres.

Huddling in the cold that first night on the island, it became clear to me that even though they had a $100-million budget, these Geological Survey scientists weren't going to abandon their reputation as a band of rugged, bean-eating rock doctors who think nothing of going a month without a shower.

Benoit Beauchamp was happily slicing green mould off a couple of blocks of cheese, while Steve Grasby poured muddy water into a kettle to make tea. As the guest of honour, I was invited to be the first to dip into a couple of $4 cans of smoked oysters that were served with soggy crackers and a thimble of scotch that was carefully rationed from a small and dwindling supply.

Low on fuel, there was no talk of warming up the tent that night with the stove, even though the temperature was only few degrees above the freezing mark. "Water is going to be the big issue next year when we bring in a big camp," Grasby observed.

"There's a lot of shale on this island. Shale tends to generate muddy water, which is very hard to filter. What little clean water there is is very high in sulphates. At the levels we find here on the island, they can act as a diuretic.

That may explain why workers in Panarctic's camps were always complaining about having the runs."

On first impression, Grasby struck me as a bit like Spock, a foil to Beauchamp's Kirk.

Tall, slim and bearded, Grasby spoke in matter-of-fact terms, much as a geologist or a mathematician might in front of a classroom of students. It wasn't long, however, before I saw another side to his personality. Mostly, it was through the stories he told about his wife, children and his great aunt.

Grasby clearly admired his wife for being so unlike him. She didn't think twice about buying a house or a dog without telling him or setting off on two-week family vacations without any firm plans in place.

Grasby also had a soft spot for a great aunt who raised Shetland ponies in Britain. She allowed the animals to eat and sleep in the kitchen, but made him and his father sleep outside in a trailer when they visited.

Gregarious as Beauchamp was in comparison, it was evident that he is very serious about the future of the Arctic and how his research will be used to shape it.

"The North American Arctic is clearly in the crosshairs of the industry, and it is only a matter of time after this recession ends before the start of a new era of energy exploration is underway," he told me. "Conventional supplies of energy are drying up just as the economies of India and China are catching fire." Beauchamp doesn't think new discoveries are so much a concern. He's convinced there is more than enough energy in the Arctic to sustain development for a long time.

The challenge, he says, is an overcomplicated regulatory review process and political concerns that are far more complicated than they used to be.
The harsh environment is another problem. It is quite possible, he says, that a warming Arctic will complicate development rather than simplify it, as many people expect.

Beauchamp is not alone in thinking this.

Colleague Rob Huebert, associate director of the Centre for Military and Strategic Studies at the University of Calgary, also believes that the situation could get ugly if a way isn't found to determine ownership of oil and gas that lies in contested areas of the Arctic.

Canada and the United States, for example, are at odds over who owns an energy-rich triangle off the coast of Alaska and the Yukon Territory. On the other side of the Arctic, Canada and Denmark have still not sorted out their differences over the boundary line in the Lincoln Sea. And because of the potential for huge energy developments in the Baltic, Russia and Norway have not agreed on a boundary north of Varange Fiord.

On the third day of our stay on Ellef, the weather cleared, allowing Beauchamp and Grasby to fly south to sample rocks and scout out a suitable campsite for next year's work. I was invited to come along for the ride.

"It's hard to imagine that the American government is going to give up badly needed oil and gas reserves to make peace with Canada on the boundary issue when Prudhoe Bay is running dry," said Beauchamp shortly after the helicopter dropped the two of us off along the way.

"The Americans need something to replace it."

Although the tools needed to find oil and gas in the Arctic have improved since the last rush when 184 of Panarctic's 200 wells proved to be dry, the science is still uncertain.

The only sure way of finding hydrocarbons is to drill for them. That can be very expensive in this part of the world.

The search, however, begins in earnest with rock samples taken from outcrops of porous shale and sandstone that were once covered by sea water. These rocks may contain evidence of hydrocarbons that were produced over hundreds of millions of years as trillions upon trillions of microscopic creatures that died and sank to the ocean floor were cooked under intense heat and pressure.

"You can taste the petroleum in some cases," Beauchamp told me as he licked a rock that he had sampled from a curious pile that had been heaved up in the middle of another dome that we landed on.

Rocks like these will be collected all across Arctic and taken back for analysis. That, however, is only one tool that the geo-mapping teams will use over the next four years. They will also be looking at old industry cores and cuttings, petroleum systems analyses, seismic data and airborne geophysical surveys to home in on the hydrocarbon reservoirs.

"It's really a big multidisciplinary science project that could make Canada an energy-producing giant," says Beauchamp. "It's especially exciting for me because it gives my students an opportunity to do relevant field work that might not have been available a few years ago."

Later that day, we flew to the north end of the island, hoping to get to the abandoned weather station at Isachsen. The names on the map hinted at stories that are probably lost or forgotten. Nothing we saw in the landscape could explain the naming of Cape Cairo or Cape Baghdad.

Three-quarters of the way to Isachsen, it was clear we had seen the best views the island had to offer. In some places it looked as if the devil himself had bulldozed mine tailings through the valleys. Piles of churned-up rocks lined the valley floors of muddy rivers. Nowhere did we see a speck of colour or a hint of life, just nature in despair.

I was reminded of that image as Bill and I slowly made our way back to Ellef that morning. It was, however, not my biggest concern. The helicopter was so low to the ground by the time we reached the south end of the island that we could see the feathers of nesting ducks being swept up by the downdraft of the rotor.

Bill didn't say as much, but I could see that he was spent by the time we landed at Dumbbells Dome. It couldn't have been easy dealing with the fog, the tailwind and the icy rain for that long at the controls.

That, however, didn't stop him from soundly beating me in "99" Chase the Ace and other card games we played for eight hours in between naps inside the helicopter. Outside, it was blowing so hard that the whirlybird rocked back and forth with some especially strong gusts. Neither one of us even hinted at the possibility of setting up a tent outside
.
Instead, Bill fired up the helicopter every two hours or so to keep us warm and dry. Like most everyone else I knew who had visited Ellef Ringnes, I vowed I would never go back.

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