

In these posts, I won't tell you exploits but only anecdotes and experiences that have happened to me during these missions (24 countries) that I carried out on behalf of Elf and Total. I joined Elf in April 1976 after 6 years with a contractor (Neptune/Forex) including 4.5 years in semi-sub in the North Sea.

With the subsidiary Aquitaine Canada, we had onshore search blocks in the state of Alberta and off-shore on the east coast in the Davis Strait (between Greenland and Baffin Lands). The drilling campaign began in 1979 with "Ben Ocean Lancer" a dynamically positioned boat from ODECO. On that first campaign, I only participated in the choice of the drill rig. In fact, I had visited it with a colleague in the port of Edinburgh in England: three days on the spot to define some modifications and finalize the operating procedures.

I was only involved at the end of the drilling in 1980 because the well could not be completed in the first summer.

Why the first summer?: because you could only drill in this area during periods when the sea was clear of winter ice.

It is true that the elements were not really favorable for this campaign. In fact, for the first delay, the sea was still under the "pack-ice" on the drilling point which was north of the 62nd parallel, that is just before the polar circle. It was on the 11th of July. Operations could not start until 3 days later. Then, many issues for the start of wells were caused by the "boulders" which are very large rocks that are on the first 20 to 30 meters under the seabed. They have been lost since time immemorial by the icebergs that cross the strait.

The achievement of 11 well starts was required to go on with operations. It takes time and severely penalizes the completion of a well during the short summer of the region as the ice begins to resume its territories in half of October.

Exxon drilled a well slightly to the north and was able to just finish their well with a semi-submersible DP (SEDCO 711, one of the first).

For surveys, we passed through an island in the strait (Brevort island) where a transit base was installed. During the first season, we shared this base with Exxon while on the second campaign we were the only operator of the base.

So I left one day of July for Montreal where we spent the night and then we went to Frobisher (later renamed Inuit: Iqaluit) via Fort Chimo (later renamed Inuit: Quaqtuaq) on the north coast of the Labrador Peninsula in Ungava Bay. If all went well, we boarded a small plane that took us to the Brevort base (an island with an American military radar that automatically monitored the airspace of the area, because of the Cold War) then the chopper on rig. But it rarely happened that way because it all depended on the fog conditions in the area.

On my first departure, I had to spend a night in transit in Frobisher in a guest house that housed quite a lot of temporary summer work staff in the area.

On 'Brévort island', the base was installed along the runway and had a capacity for autonomy for about 30 people for a month. As soon as we went inside, everything was accessible without having to set foot outside.

On the return journey, we spent a night in Frobisher with a departure at dawn, if we can say so because in the summer, there is virtually no night in these regions. Breakfast was served on the plane and there, I was stunned to find out that on the wagon, there was no coffee pot but bottles with flared neck with white or red wine.

The rigs are dry (without alcohol) and on their way back, the Anglo-Saxons and Americans try to catch up wine rather than coffee. I waited until the end of the service to get my coffee because for me, wine when I wake up, I can't stand it.

My second trip was more eventful. The Frobisher flight could not take place because of the fog on the island so I spent the day in Fort Chimo waiting for a hypothetical lift of the fog.

I went for a walk on the track that goes to the village, it was not a paved road at the time, crisscrossed by "quads" (the first) and the minibuses of the organizers of hunting caribou. This harbor in Upper Labrador was specialized in hunting caribou (Canadian reindeer) during the summer. Everything was organized for the hunt from A to Z. The price of a week of hunt often included taking charge of the hunter of "departure and return Montreal". This included the "round trip" transport, the week in full board, the transport to the place of hunt, the presence of a gamekeeper, the right to the trophy (embase and horn of the animal) and 25 kilos of packaged meat.

Of course, the price could change depending on whether you wanted to kill one or more animals. There were especially many US nationals who came for these hunting parties which cost, at the time, about 1000 US dollars for one single animal.

As this plane was usually carrying hunters on this first stop, I came back in Montreal in the evening: hunting party postponed to the next day.

I arrived in 'Brevort' at about 8:00 p.m., so I slept a little on the base before leaving around 3:00 a.m., on the rig to take over. Their return trip was better because my colleague was able to take a fly to Paris by the evening in Montreal.

I was working at that job site at night, from 6 p.m to 6 in the morning. Because the operational base was in Calgary, in Alberta, on western Canada, there was a three-hour time difference with us, so we waited 11 hours to talk to the base. I never went to bed before noon. My night's rests were quite short but it only lasted 3 weeks because we were doing rotations 3 weeks / 3 weeks.

There were 2 iceberg hunting assistance boats on site, which began on the rig with a 24-hour radar track.

Both boats were responsible for taking the icebergs under tow and trying to deviate from their routes as soon as they entered a predefined circle around the rig. If this didn't pose major

problems for small ships, it was quite different for big and very big ones where this work of changing the road could sometimes last several days non-stop.

I had the opportunity to see an iceberg very closely with one of these boats. It's fabulous, its mass was estimated at 3 million tons and as soon as we got close, the boat shut down its engines, and there, in complete silence, you hear the crackling air bubbles exploding, introduced by the sound of birds colonizing the iceberg. It is extraordinary.

This second campaign should have been easier, but serious problems have thwarted the plans. We arrived on site on the 12 of July and that year, the "pack-ice" had disappeared for almost a month. However it was impossible to arrive earlier because the boat was not available in St John's (Newfoundland) which was our logistics base.

That's where all the equipment, the food, and every other thing that we needed for the operations came from. There was only one boat that ferries back and forth between us and the base, and the navigation time was 96 hours. The loads had to be well thought and especially we should not forget anything in the equipment.

At the beginning of my first stay, something did go seriously wrong for the first time. The set of bottom shutters was already in place and one morning very early, the driver controls of this set began to look like a Christmas tree, with lights flashing on all functions.

After the immediate cessation of the drilling and when the system was secured (change of control line), the investigation of the problem showed that one of the electrical control cables was damaged on the surface just below sea level.

This was simply a result of the improper attachment of the cable along the tube that connects the drilling vessel to the seabed. There was no alternative but to raise the top of the shutter to change the cable.

Before carrying out this operation, the well was secured according to very specific rules and regulations following Canadian regulations very far in advance concerning the environment and other, especially at this time, compared to what was done elsewhere.

The repair operation itself did not pose any major problems other than a waste of time in the drilling operations but it did not stop there. After the whole set was put back in place, during the pressure and functional test procedure, some functions became impossible to perform. This came only from the hydraulic part because the electrical part perfectly responded.

Again, this is a human error that caused the problem. In these latitudes, the seawater has a surface temperature of approximately 3 to 4 degrees but -3 degrees per 400 meters of bottom and the control fluid is based on fresh water so it is necessary to integrate 10% of antifreeze in the oil/water mixture in order to prevent the fluid from freezing in the function lines. Due to various factors, pressure on work, speed of operations, number of functions performed on the system during repairs and tests, the antifreeze fluid that automatically mixes

came to lack in the tank. As a consequence, all the fluid in the system was without antifreeze and, given the temperature at the bottom, you can guess what happened.

With an incredible chance, we managed to disconnect the whole thing and it started again.

While the majority of staff normally worked a 12-hour rotation, this was not the case for the “sub-sea” equipment specialist. All previous operations did not allow him to rest or sleep. He’d been shooting coffee for a while, but after a while, we’re not so good at it.

Furthermore, there was no damage because all the hydraulic control valves and pressure regulators were frozen, so nothing was working anymore so there was a lot of work to be done since all the equipment had to be dismantled to become operational.

This long and tedious work began with the drillers under the supervision of the specialist, but after a while, the site foreman and I quickly realized that he was way out to lunch because he could no longer do the most elementary of checks on the revised elements; in fairness to him there were about forty hours that he was on the go.

He went to bed for a few hours and we continued the rehabilitation of hydraulic equipment (regulators, SPM, valves, etc...)

Because I knew a little bit about all this equipment (North Sea experience) I supervised the restoration of the system, the complete assembly and the final test that preceded the descent to the seabed. That’s when the specialist came back to us, with very clear ideas. I passed the torch to him to carry on operations after a detail review of the work that had been done. Of course, I had to report back to the primary supervisor (who was only vaguely familiar with this system) to be able to talk to the base because that morning, I didn’t wait, I hadn’t slept for 52 hours and my only moments of relaxation had been meals and coffee breaks.

It was the first time I hadn’t sleep for so long, of course, I already have had difficult moments but never this long. In all my work troubles, I often stayed on the breach with very little sleep but I always managed to glean 2, 3 hours of sleep between hard hits but there, nothing of nothing.

Finally things got back to normal and the construction site was ready to end with a test on a small tank. This completion of work was very difficult with early winter weather. When I left the site in September, there had been a snowstorm the day before and the boat was under 30 centimeters of snow and ice. On the island of Brevort, it was under 2 feet of snow (60 cm) and Frobisher was getting ready for the coming winter.

During the David Strait campaign, the heat was never there. It is an area swept over by cold currents that come down from the north and pick up the icebergs that come out of the glaciers of northern Greenland and Frobisher Island. That year we were spoiled because only about 40 icebergs passed through the area, which is nothing compared to the previous year when 143 icebergs came in to disturb good drilling operations.

During the day's weather readings, we monitored temperatures up to half a degree. The maximum recorded over the whole summer was 2.5 degree despite enviable days of sun. Moreover, on these latitudes, we were right to the midnight sun during the month of July because after, the sun disappears more and more over the horizon and the night gradually increases.

At the beginning of September, for the inhabitants of temperate countries, it is cold while the "Inuit" of Frobisher walk in a T-shirt.