A Cruise to the Azores!

A Short Story by Jim Nelson!

For many years I worked in the underwater end of the offshore oil and gas industry.

As a diver I worked on the construction and inspection of oil field structures in the Indian Ocean, the Persian Gulf, the Red Sea, the Mediterranean, the North Sea, the Atlantic and the Gulf of Mexico.

In 1997 following a decompression accident in the Arabian Gulf I switched to the remote underwater intervention by means of ROV’s (remotely operated vehicles) which were becoming popular at that time. These machines took over many of the inspection and light construction jobs which had been the preserve of divers.

After undertaking a two month course and a 1 year apprenticeship I began work as a junior pilot / tech on a pipe lay job in Mexico and by 2011 I was working as a supervisor on a field expansion project in the Caspian Sea.

There were different types of ROV from the size of a suitcase, to the size of a steamer trunk, to the size of a small car, to the size of a van, to the size of a truck. The things that they all have in common are that they are operated from the surface and powered and controlled via an umbilical.

I worked mainly on the steamer trunk size which was electrically powered with some hydraulics to operate its arms. Primarily ROV’S of this kind were used for diver support and inspection.

In that year I was offered a two month contract to take a big (van size) ROV on a 4 week scientific expedition to the mid Atlantic Ridge just north of the Azores and a 4 day survey of the deep water coral reef on the edge of the continental shelf some 600 miles south-west of Kerry.

It had been a convoluted route for me before I put safety boots on deck.

They had called me for an interview in February, on the recommendation of a one-time colleague of mine who worked for them on short-term contracts.

I was due for interview in Galway at 11 AM, so I left Dublin at 6:30 AM, in their

car park at 10:50 AM and in reception at 10:55 AM.

I was there to be interviewed for a senior management position, so I expected treated with some respect.

However my interviewer considered it respectful to send two messages through the receptionist over a period of 45 minutes, without any explanation. or apology for the delay. So after an hour and a quarter, I told the receptionist that I could not wait any longer.

Two hours later, I was almost home when my interviewer called to apologise, he’d been held up in a meeting, I told him that I had travelled 130 miles to be there on time etc, etc, he apologized again, we bid each other good bye and that, as I thought would be that.

It wasn’t, in June another ‘head of recruitment’ called to apologize for the other ‘head of recruitment’ and to ask would I attend for interview again.

This I did and I was offered a job and an expedition in June (I got the impression that they were a bit desperate) because they were committed to project.

I heard later that the guy that they hired when I bailed in February had lost the ROV and then made a mess of the winch when they tried to recover it.

I made a mental note not to do either of those things.

They suggested that the project in June could be my probationary period,

I suggested (again to myself) that I would take extended leave rather than resign from my day job.

Included in the scope was twelve days round trip transit time, and four days mobilisation and de-mobilisation

Being a scientist at heart I jumped at the opportunity, and I simply asked for an extended leave of absence from my Subcontractors job , it would still be there for me when I came back, so I was not risking my career to go off on some Quixotic quest.

My position was to be that of the ROV manager, what would be the superintendent in the commercial world.

The diving was to be incredibly deep for me, around 3000 m and the Machine was seriously heavy duty compared to what I usually worked on, but I relished the challenge.

The scientific community refer to such expeditions at sea as ‘cruises, and this particular one was to be high profile, sponsored by some of the biggest hitters in oceanography probably, filmed for a documentary by an internationally known and respected TV channel and featuring an internationally acclaimed oceanographer and underwater explorer.

The purpose was to explore and thoroughly survey, an area of intense volcanic activity In the Mid Atlantic Rift Valley.

The year before, the geology department of a respected Irish University, had surveyed the water column above and had found good evidence that at least one, previously undiscovered black smoker existed on the site.

Black smoker is the common name given to hydrothermal vents, which occur on the seabed over areas where molten lava oozes out, usually in the very deep ocean

They can grow to heights of 150 m or more, continually renewing their own structure with the iron sulphide boiling out of the various spouts, from the rapidly cooling magma just below The thin crust of the seabed.

The whole adventure was an exciting one for me, but first I had to oversee the loading of more than 100 tons of equipment onto the research vessel.

The mobilisation of equipment on the vessel was to begin on the morning of the of the 12th and stayed overnight in a local hotel.

The ROV spread was stored in a warehouse in the port of Galway so the ship came into the docks there for loading.

The fitters supplied to us were well versed in loading and sea fastening the equipment, and in two days everything was on board.

During the load out we had thoroughly checked the ROV and its peripheral components, so once everything was on board, we deck checked it all with power on.

The Scientists were happy with their equipment and how it was interfaced with ours, so at noon on the 15th of July we were ready to sail.

On that beautifully sunny day, we left the berth and sailed out to the west of the Aran Islands to wet test our Equipment.

We had a camera crew and a director on board, with a helicopter filming us from above.

We were ‘directed ‘to go about our work as normal while the camera crews filmed us.

The presence of the cinematographic people heightened the sense of excitement on board.

Apart from the ten of us on the ROV crew, there was over 30 people on the scientific side, most of them PhD students who would have never been on a ‘cruise’ before so an air of expectation was palpable, it was something that I hadn’t experienced on the commercial side of working under water, in many years.

Oil and gas production had become all very matter-of-fact, same old same old in the nearly 30 years that I had worked in it.

But for me anyway, that ‘cruise’ was way beyond anything that I had ever done before.

3000 m, what would that be like? Would there be monsters?

Following a successful wet test we sailed into the coast at Ras an Mhil in the Galway Gaeltacht to disembark some technicians, after which we set sail, into the setting sun and out into the broad Atlantic Ocean.

It was expected that we would reach our destination after six days, but at the first project meeting on the bridge that day, we were informed that there was a hurricane moving north from the Bahamas which was going to impact us and possibly cause delay,

It was hard to believe that foul weather was coming, as we steamed through a calm sea after the meeting.

I watched the last of the day and smoked a cigarette, on the bridge wing, feeling lucky (not a bit smug) that everything that I was responsible for had gone so well so far.

Weather forecasts at sea are always accurate, and always taken seriously.

So I was not surprised when at the meeting on the second day the Captain told us that we were changing our heading to due West to allow us to take the rising sea bow on, and depending on how severe the weather became the transit time would increase.

By day three we were headed in the direction of Newfoundland, without having any intention of actually going there, except in the most extreme circumstances.

We were about 1000 miles into our 2500 mile journey, but the detour was going to cost us several days.

By the morning of day four, we were plunging bow on into 10 meter waves.

The deck area was underwater most of the time and off-limits to everyone but the marine crew. That pretty much meant that everyone was confined to their cabin, the recreation room or the galley.

As the ROV manager or superintendent I had a cabin to myself above deck, with an actual window, portholes we’re only for those cabins that could find themselves below the waterline in heavy weather, but even my view was obstructed by water most of the time during that storm.

The majority of the people on board except me and the marine

crew were suffering from seasickness, which while never having suffered from it myself, is a miserable condition to be in by all accounts, and during that storm I ate alone in the passenger mess room most of the time.

At the meeting on day five, with only a few in attendance due to mal de mer, the Captain told us that steaming to Newfoundland for shelter was no longer simply a way of riding out the storm, If things didn’t get better, we might have to put in there for shelter. The wind had increased to between 80 and 90 knots and he told us that we were in for a good Atlantic storm or even a hurricane.

As he spoke thunderous 40 foot plus waves crashed over the bow, breaking around the bridge and threatening to hurl the meeting attendees about like dolls, should they have let go of whatever they were holding onto for dear life.

The previous night it had been difficult to sleep with being rolled around the bed by the weather.

The fifth night I had to roll up my spare blankets and use them and the pillows to jam myself in place, but even so I could feel gravity and the kinetic energy of the storm, dragging at me in their attempt to fling me out of bed, and deep sleep was impossible.

Around 4 am I was roused from a doze by urgent knocking on my cabin door and the first mate calling “Jim, this is urgent,

some of the gear has shifted on deck, we need to get it sorted out NOW!”

Cargo shifting on a ship is a serious concern because it could compromise the stability of the vessel, and even in extreme cases turn it over.

A small-ish vessel like ours could easily be tipped over in those weather conditions by even part of the hundred tonnes of equipment moving on deck.

I dressed as quick as possible, and followed the mate down through the crazily lurching passage ways to the wet boot room, on deck level.

The sea door to the deck was dogged shut, but even so down there we could hear the screaming of the wind and the violent crashing of the water just outside.

The rusty deck tools that hung from their hooks above the great steel work bench, beat a slow rhythmic tattoo as they swung against the metal of the hull, to the roll the yaw and the plunge of the ship in the arms of the sea.

Down there near the engine room we could hear the desperate metallic panting of the diesel motors as they wrestled with the ocean to keep us safe.

We dressed in immersion suits, life-vests and harness, then we went back up to the deck above deck level on the port side, where some crew met us and opened the waterproof door and led us out into the maelstrom.

They had rigged safety lines which they clipped onto the back of our harness.

The huge flood lights on the monkey Island were on and flooded the deck with light.

I could see the waves rolling down both sides of the vessel but as waves will do, they also broke left and right across the deck, swamping it every 20 seconds or so in two or three feet of madly swirling water.

The wind whipped the crests of the waves into white foam which streaked down their outward slope like glaciers flowing down an alpine mountain.

The ROV and its garage were the only things that weren’t welded down with sea fasteners, so they were the likely culprits for any movement.

Between them they weighed nearly 7 tonnes, and should they break loose would have caused serious problems for the ships stability.

If a welded sea fastener on the winch for instance, which weighed 28 tons had failed, we were in the shit, deeply because getting chains on to that in those conditions would be almost impossible, and even if it were possible, whether chains would hold it Is debatable.

The first mate and I were the designated team to address this problem, so we descended carrying heavy chains and binders with us, via the outdoor stairway, Into hip high water as the waves washed over the deck.

It turned out that it was both the ROV and its garage, that had worried their ratchet straps lose, so during nearly 3 hours of real danger for the two of us, and for the whole ship if we didn’t get it right, we struggled in the freezing water, pulling and heaving on the straps and chains, until we finally got both pieces of equipment secured to cargo rings on the deck.

When we finished, the storm had gotten worse, causing the ship to dive violently into each oncoming wave and ride it’s inward slope up over the crest and down the outside crashing with a hull shuddering bang into the trough.

Dawn was breaking greyly to the stern but the rising sun would struggle to impose itself on that day of storms.

The wind howled doing its damnedest to twist us to broadside of the furious sea.

We lost a further three days to that storm, but thankfully we had no more issues with moving equipment on the deck.

My heroic 15 (3 hours +) minutes of fame had come and gone without a camera crew in sight, they were all seasick.

It was uncomfortable, miserable if seasick, and the contents of the ROV tool shack, the workshop and the control van had the appearance of having been through a mixer, but we didn’t lose any gear over the side and the ship was shaken up but otherwise undamaged.

We were less than 1000 miles from Newfoundland when conditions allowed at last for a turn due south.

We spent the rest of the transit sorting out the shacks and work shop.

Anything that goes to sea in a container is secured in racks or cupboards, or lashed down to stop that ‘stuff’ from being thrown around the place in bad weather.

That sort of sea securing is good enough for normal bad weather, but will not hold things down if the container is near enough to being turned on its side.

The paint locker in the workshop had been forced open, violently flinging dozens of cans of paint out into the hard steel Interior of the container, where most of them eventually burst open decorating everything in Jackson Pollock psychedelia.

The paint mixed with spilled oil and sea water, creating a most disagreeable unctuous liquid which had to be bucketed down to the waste oil tank in the engine room, one bucket at a time.

The film crew were available to film the cleanup.

We arrived on site at midday on the 24th of July the 11th day of the cruise and five days behind schedule.

The Scientists began their search for the Active Vent using a CTD array which is deployed over the side and towed in a grid search, taking measurements for salinity at various depths.

The Iron sulphide ‘smoke’ is exhausted from the vent under such pressure that it travels up in the water column for quite a long way, affecting the salinity of the water.

By making a number of passes over the possible site, they could determine the approximate position for us to dive.

After three days of 24-hour operations, they had gathered enough data to be able to give us a position on the seabed where they believed the smoker to be, unfortunately they couldn’t tell us the depth.

I had split the ROV team into shifts, and as it happened we were given the all clear to dive at 2 am two hours into the night shift on day 14, the 27th of July.

I had left word that I was to be called when the ROV was in the water and on its way down, so I was there to witness our first working dive.

They probably would have worked it out for themselves eventually, but way out there, literally in the middle of the ocean, it seems logical that one would expect to encounter strong surface currents, and it seemed perfectly natural to me that people working in that environment, would have learned how to counter the effects of strong currents. At least in the commercial world it was perfectly natural.

However, when I came on deck with my cup of ‘wake up’ Joe, they were recovering the vehicle, which was swinging like a pendulum, and it was only by sheer luck that it didn’t smash violently into this side of the vessel.

When I asked what happened, I was told that the current was too strong and that we would have to wait until it abated.

I didn’t like to take the reins from the night supervisor, but he was just going to put the Rover back on its stands to wait for ‘tide’.

I didn’t want to seem as if I was show boating for the cameras, but I posed an hypothesis where the current was permanent, and I asked what we should do? I then called the bridge and asked for the current speed and direction.

It was strong, four knts and hitting us broadside from the Starboard side.

The captain had set his ship up on DP (Dynamic positioning) in the best orientation for him from the point of view of communications and weather, but even when on DP it’s possible to step the vessel along in any direction you like.

So I asked him to step to port at four knts, and I then suggested that they re-launch the vehicle.

Now that we were moving at the same speed and in the same direction as the current, it would have no effect and we launched safely.

Having just filmed an abortive launch, National Geographic had, less than an hour later, got to film a successful one

According to the ships depth reading, the seabed was somewhere between 3000 m and 4000 m below us.

I was hoping for 3000, because the machine was only rated to 3500 m of seawater.

Never having worked at those depths before, I wasn’t sure how long it would take to get to reach bottom, but it had taken over an hour to get to 1000 m for the wet test, so using simple math I worked out that it would take around three hours to get to

3000 m.

At about 100 m the current was no longer an issue, so I instructed the bridge to move back over the dive site.

Everyone reacted to my simple trick as if it was magic.

I wondered how long it would’ve taken them to work something out if I hadn’t been there. The current was constant, so the normal procedure ‘waiting on tide’ would not have worked, they would never have dived and the expedition would have been a total failure.

There was another trick to allow launching in marginal weather conditions which I used later in the cruise.

By putting the boat broadside to the wind, a lee (flat water) is created on the inward (the launching) side of the vessel, allowing deployment without getting the vehicle lashed off the side of the vessel, by the sea.

I hung around while the ROV descended, but at 3000 m the cameras tripped out, so it had to be brought back for repair.

There was no point in going back to bed, so I had breakfast and went to work.

As was to be expected diving to such depths, where the pressure Is more than 300 times that of the surface, water had found its way in to some of the fibre-optic terminations, blocking telemetry signals and leaving the ROV blind.

In fact, the first five dives had to be aborted for one niggly problem or another, and it wasn’t. until dayshift the 29th of July that we passed the 3000 meter line and continued down.

The ROV was fitted with an altimeter which reads height above sea bed, and once we passed 3200 m it began to read various heights, 100 m, 75 m, 150m which could have been thermoclines, water of different temperatures or water of different density.

I was keenly aware that the machine was rated for 3500 m only, and that we had just under 4000 m of umbilical on the winch.

When we reached 3400 m water depth, It was obvious that we were in a great plume of smoke coming from below. Our top cameras, and those on the front and the back were full of it, so I hoped that we were getting close.

At 3500 m I ordered an ‘all stop’ on the descent in order to consider the data from the various sensors available to me.

The scientists in the control van were getting so excited that I was afraid they could rail-road us in to going too far without thinking.

The altimeter readings were still all over the place, so they could not be trusted.

The ROV depth gauge was reading 3500 m, but the CTD sensor that was on the vehicle was reading 3400, so the scientists argued that we could conceivably go another hundred metres based on their depth calculation.

After checking the winch to make sure that there was no slippage of the cable on the drum, I agreed to go slowly down to 3500 m by CTD measurement.

As we descended the cameras were still full of smoke, we were getting very close to whatever was there.

At 3500 m by CTD nothing had changed however, we were still surrounded by smoke, but the altimeter continued to give wildly erratic readings.

The scientists were wild with expectation, urging me on and down, so I had to be very careful.

As I saw it there were four things that could have happened in that situation.

1. We could have continued down and arrived on bottom within the next 10 or 20 m, which would have been great.
2. There was close to 80 tonnes of armoured umbilical cable hanging off the main winch drum. That weight could conceivably override the drum brakes or pull the remaining wraps off, either way 4000 m of umbilical and the ROV would end up a twisted mess on the seabed.
3. The immense pressure could cause any of the power cans to implode, flooding the electronics and killing the ROV stone dead.
4. The area below, was obviously volcanically active, I had seen documentaries showing molten lava oozing out of the seabed near Iceland. The lava was obviously very hot and could melt the ROV quite easily I imagined

Apart from the first option, the others left to be in a cold sweat.

Losing an ROV is an ROV operators worst nightmare.

The spec for the job called for survey of the seabed at 3500 m depth.

I would have been within my rights as the superintendent to pull the plug as it were, once the depth was reached.

How could I do such a thing to the scientists aboard who were full sure that the vent was within the working depth of that particular ROV , If they had not been they would have hired a different ROV, one that could go deeper.

The poor things were in paroxysms of expectation at the thought of discovering their very own smoker, and assured me that the elusive ‘it’ was just another 10 m deeper.

I did telephone both the manufacturer of the ROV and my boss at this stage.

However neither gave me cause to believe that they were going to stick their neck out for me, or that either ‘had my back’

I was on my own, I had to make the decision.

I went to the galley, got a cup of coffee and then went and looked at the winch drum for the time it took me to smoke two cigarettes.

Then for no other reason than I could not see the cable slipping on the drum, I decided to keep going until we found what we were looking for, something really bad happened or we were left with half a drum of cable, one layer deep, I guessed that that would give us another 300 m.

When I went back in to the control van, all eyes turned on me and when I said “okay we will continue our descent in 50 m increments, with a five minute stop after each Increment to allow time for me to physically check the winch, there was a little cheer from the scientists, and a sort of ‘this is on your head mate’ look from my ROV guys.

The head geologist/oceanographer shook my hand and with genuine gratitude said “thank you Jim“.

And so, down we went.

There were five scientists and four ROV people in the control van at that time, and 16 eyes ardently watched the twenty something screens in the video rack, the other two (mine) were locked on to the small black and white CCTV screen showing the winch.

While implosion was not something to be welcomed, it was the least serious of the bad things that could’ve happened.

At least the vehicle would still be attached to the cable and assuming that it wasn’t fouled on something, ‘Dead Sub Recovery‘ would not be beyond the realms of possibility.

3550 m, 3600 m, 3650 m.

Thick clouds of iron sulphide smoke belched up from below, the CTD values were off the scale, the altimeter readings still bounced around erratically, yet still we hadn’t seen anything of the vent or the seabed.

3700 m, 3750 m, 3800 m, I was in a lather of sweat, there was still no indication from the winch that it was about to get ripped off the deck, but I wondered how close we were to a total failure somewhere.

We were 300 m deeper than rated depth, how far could it go.

I took over piloting when I came in from my 3800 meter cigarette break and winch watch, and we resumed the descent.

At 3825 m the thick smoke surrounding us disappeared abruptly, and a large fluffy yellow blob appeared on my sonar screen, dead ahead at a range of 10 m.

Fluffy yellow sonar targets can show shoals of fish, dense array of bubbles, mud mountains, or as I hoped in this case, Black Smokers.

I nudged the ROV forward, and then suddenly in the bright lights, what looked to me like a black cliff loomed up.

The scientists were babbling excitedly among themselves “ it’s certainly volcanic, could it be a smoker?“

“Jim, can you come up slowly please“

Gently I eased the ROV up and within 4 m we were looking at the chimney of a hydrothermal vent.

There were many oooohs and aaaaaahs, a few o my gods, Jesus, fuck me, unbelievable!

It was a magnificent edifice, we had found our smoker and I don’t think that any jaws in that control van at the time did not drop open, we were in awe of it.

We were the first humans to see it and we were among a handful of people to have witnessed an active hydrothermal vent firsthand (well you know what I mean)

I’m not sure what arrangements had been made between the sponsors and the Azores, but that bit of the Azores Bank, for research purposes, belonged to that Irish University, and naming rights were theirs also.

So after I flew around and we all had a good look at the top and the almost soup like black smoke gushing up from below , when I accidentally reversed into another smaller smoker, knocking a couple of metres off which reassuringly would be re-built within a year or two.

Then up and down its outside to assure us that it was the smoker for which we had been searching, and to give us some idea of its scale.

Our chief scientist gave a little speech and informed us that it would be named after the one eyed chief of a tribe who wrecked havoc in ancient Irish mythology.

Our particular one eyed chieftain was a magnificently beautiful monster, standing nearly 100 m tall with a 20 m diameter at the base, and had multiple active vents up its black gnarly flanks.

He is located in the wall of the Rift Valley on a field of so-called pillow lava, that is lava that has oozed slowly out of the seabed and cooled, leaving behind distinctive beds of pillow shaped rock.

It was day 16 of the allocated 30 day program, and we were seven days behind schedule due to the weather on the way down.

As well as the discovery of the smoker, our work scope included side scan sonar survey of the entire lava field, a biological survey of the animal and plant life of the lava field, the taking of geological and organic samples, temperature measurement in a hydrothermal vent, the location and plotting of any further active smokers and finally the discovery and logging of any other geological or organic objects or phenomena of interest.

It was a hugely optimistic scope of work to be undertaken in the time allocated.

Assuming that the return trip was not delayed and that everything went according to plan with the coral reef survey, and then we had eighteen days in smoker country so we could not afford a loss of time to breakdowns or bad weather.

There was much to do, and little time in which to do it.

Incredibly, everything kept working and the weather stayed good enough to keep us diving pretty much full time for the entire eighteen days.

One dive lasted almost a week, we just had to recover the vehicle to top up the oil in the compensators, and then we threw it straight back in again.

I am moved to quote the opening line of Roy Batty’s famous soliloquy ‘ in Blade runner

“ I’ve seen things that you people wouldn’t believe“ but that might be a little overdramatic.

However I have seen things down there, nearly two and a half miles from the heat of the Sun, that were pretty unbelievable.

Over the course of that 18 days, everywhere we went we found active smokers. We first dived on that site in the hope of finding one hydrothermal vent, and we ended up with them coming out our kazoo.

There were none as magnificent as our first, some were mere stumps, and some were close to the end of their lives, choked off by the very iron sulphide that had built them.

But big or small, active or dead, we had struck the smoker mother lode , with many more active volcanic features there than anyone could have hoped for at the start.

We were working in a Caldera where the molten lava was just below a very thin crust of seabed, and where it oozed out slowly in places forming new rock of incredible shapes, or burst violently out in others forming the chimneys of uniquely phantasmagorical shapes.

We encountered several dead vent systems, smoker chimneys that had completely choked themselves off and died.

A peculiar feature of these systems was that in many cases, as each vent died, a distinctly and unmistakably phallic shaped spout was formed, a geological phenomena for which geology was at a loss to explain.

There were some girly titters, from the girly scientists, and one or two crudities from us rugged ROV types, particularly he who was from the worldly wise commercial end of the business, when the first of these dead smokers hoved into view.

One or two of the stuffier senior scientists, took umbrage at my referring to those extinct smokers as ‘dick city’ ‘dick central’ ‘dick town’ eg cetera et cetera, but most of us found it amusing and bizarre.

The extinct systems, quite apart from their phallic association were beautifully forbidding structures, black lifeless and somehow shrouded in silence.

With all the violent activity on the active chimneys, it was easy to associate a great deal of noise to them, like it would be to imagine the rushing sound of water whilst watching a video of a river cataract.

But the dead ones seemed profoundly dead the and quiet, given life only momentarily in the beam of our lights.

Since the first black smoker discovery in the Pacific Ocean in 1979, and each subsequent discovery no matter where, science has been really hard pressed to explain the presence of marine creatures in the area of the vent, In such deep water, so far from sunlight as to preclude the existence of life.

The same marine organisms, and in the same hierarchy proliferate on hydrothermal vents in the oceans of the world, where submarine volcanoes are active, and where the magma is close enough to the surface to heat the the water.

Microscopic Bacteria and Archaea convert chemicals created in the superheated fluids, into energy through a process known as chemosynthesis.

These Microscopic organisms provide sustenance for larger animals and so on up into the macroscopic world of tube worms, barnacles, clams, mussels, octopuses and small eyeless fish.

So an eco- system with hydrothermal microbes as the primary producers in the food web is possible even in the dark cold of the deep ocean, an ecosystem not dependent on energy from the Sun.

There was no life around the extinct systems, so even I could tell that organisms down there were dependent on the activity of the hydrothermal vent.

It was hoped that data collected on our ‘cruise’ would answer a few more questions about life in these harshest of conditions , between the superheated water of 400°C at the vents and the freezing 4°C of the deep ocean only a few metres away.

The ROV was the eyes, the ears, the nose and the hands of the expeditions scientists.  
We looked at and recorded everything onto DVD and hard drive, we took thousands of still photographs, most with the Hi -res colour stills camera.  
We sniffed at the smoke and took samples for analysis  
We stuck temperature probes into the open vents, we made recordings through a hydrophone of the noise of hydrothermal vents (they do whoosh)and we collected enough rock, animal and microbial samples to fill a lab.  
And finally and probably most importantly we took a Side Scan Sonar survey of the entire area.  
Ordinary ROV sonar emits sound from a scanning head In a horizontal arc of about 60°, it looks ahead on one plane, showing just a couple of degrees up and down of that point. The noise bounces off any solid object ahead of the ROV and that reflected signal is received back at the head from where it is digitalised and relayed to a monitor, upon which it can be seen In birds eye view, pictorially in two dimensions by the ROV pilot.  
For that reason it is commonly called Obstacle Avoidance Sonar.  
ROV Sonar is so accurate that an experienced operator can navigate through zero visibility using it alone.  
Side scan sonar on the other hand, relays a 3-D image of what is ahead and (normally) below the ROV. in terms of a permanent record of seabed topography it is invaluable, every bump and dip shows up, and while we all had an idea that there was a lot of scenery down there, we didn’t really know how torturous the terrain was until we saw the side scanned pictures,  
  
Of course the documentary filming company we’re doing the same for us, apart from the sniffing and the temperature probes obviously.  
All of my soul-searching and anguish over the winch,the risk of losing all of the armoured umbilical over the side and the possibility of the vehicle imploding because it was 300 m deeper than it should’ve been;  
All of this I poured out to the camera.  
I was beginning to have images of what the finished documentary would be like, I had seen Searching for Bigfoot, so I was pretty familiar with the format.  
  
Our major smoker and his mythological mates might have used their mythological influence to ensure that neither breakdown nor weather interfered with our work, because we had no downtime what so ever in those eighteen days, a scenario un- experienced........ in my experience.  
In fact the scientists pretty much ran out of work to give us, so we moved out of our area of interest to have a look at the flat featureless sea bed in the mid Atlantic Rift Valley.  
It was indeed lucky that the Azorian (I think Portuguese) Navy did not show up, because a flat and featureless seabed it may be, but it is their flat featureless seabed.  
  
On day 18, the 14th of August we said goodbye to all that we had discovered and the Azorian flat featureless seabed, and headed off to the cold water Coral Reef In 1000 m of water just on the south west edge of Ireland’s Continental shelf.  
The four day transit time would have been a nice opportunity for us all to go sunbathing, but after 18 days solid diving; the ROV was in need of some TLC.  
We did manage to snatch a couple of hours on the monkey island during the first two days, but after that it became too cold for bronzing.  
At daylight on day three of the transit, we were treated to the most astonishing sight. Sitting up in bed out through my window I could see four or five cavorting humpback whales, leaping skyward, flopping back into the sea in a great thunderous (I imagined) splash, maybe feeding or maybe just lepping around for the joy of doing it.  
It was amazing; maybe they were mating!  
  
On the morning of the fourth day, we were treated yet another astonishing site, we were steaming through the biggest fishing fleet imaginab, thousands it looked like, of medium-sized boats with twenty or more rods sticking out of each one.  
I had believed that commercial fishing was carried on with nets; however I was told later that at that time anyway, tuna fishing could only be done with rod and line and hook.

The boats were French Spanish Portuguese and probably Japanese   
The crew tried their hand and bagged a few beauties which were presented to us for a dinner that evening, and delicious they were too.  
In order to keep all those boats and our crew supplied with tuna, the shoal beneath us must have been vast.  
I was lucky enough during my diving days, to have seen those beautiful fish feeding off shoals of anchovy or some such small fish, in the Persian Gulf the Red Sea and the South Atlantic off shore from Angola a sight that I will never forget.  
  
Later that day we reached our destination and launched the ROV.  
We hit bottom at 1000 m which after Moytura was like paddling in the shallows.  
Our scope of work there was to survey and side scan sonar the reef below us   
There was nowhere near the proliferation of life on the cold water reef as there is on the ones that grow in the warm oceans of the tropics, but until shortly before we went there, it was believed that coral only grew in warm water, so oceanographers we’re doing pretty good and had quite enough to be going on with  
  
Only two things of note happened during that survey.  
Our one remaining Robotic arm broke, but it wasn’t a big deal because we weren’t collecting samples.  
And we found a white ceramic sink, thrown overboard, from a passing ship no doubt.  
On the 21st of August we said goodbye to the sink and we headed for Cork.  
We busied ourselves disconnecting everything and taking down the miles of cable that we had spent days running in a few short weeks previously, so we were pretty well advanced with the demobilisation when we tied up in Cork harbour early on the 23rd.  
The fitters were already there waiting for us, and within a day our gear was off the boat, onto trucks and away.  
  
I had intended to pick up a hire car and follow the trucks up to Galway, but our TV documentary producer and our senior scientist, insisted that we stay the night in the hotel, where they had organised a sort of a wrap party, because they were so happy that we hadn’t lost or damaged the ROV and that we had exceeded project expectations.  
I had been sending daily reports to P and O relative to my job and the equipment; however the scientists, TV Production people and the ship’s captain sent a report in every day also regarding the project and progress.  
Everyone was very happy with how things had gone and after a good dinner (but not as good as on the boat) and a free bar, everyone remained so until bedtime.  
  
The next morning there was a lot of hung over hugs goodbye, and after picking up the car I drove myself and two of the lads to Galway to mothball the machine.  
I had intended to drop the car back to Hertz, pick mine up from the warehouse and head home.  
However my boss called and wanted me to have a drink with him after work.  
I met him in one of the million or so pubs in Galway and gave him a verbal report on things, he was very happy and offered me the post full time. I told him that I would think about it.  
  
Strange thing that everyone seemed genuinely surprised and thrilled that everything came back in one piece, and that we didn’t lose the vehicle even once.  
I had more than one drink and ended up in a hotel for another night.  
I finally got home mid morning, the next day.  
  
Over the next week or so I wrote my end of cruise report and sent it in.  
From the point of view of the project, everyone knew that it had gone well, but I had some recommendations for the future which I just could not keep to myself, even though I had sort of decided that I wasn’t going to take the job on full-time anyway.  
  
The budget for maintenance was a pittance at €20,000 per annum.  
A normal work class ROV offshore operates on a maintenance and spares budget of £220,000 per year.  
That was more than the entire budget that they allowed for  
maintenance, spares, salaries, transportation, and anything else.  
  
When the company had been asked to provide an ROV for scientific survey work, they elicited the help of a so called ROV consultant, who recommended the monster that they paid $3.5 million for.  
Instead of a scientific survey vehicle they ended up with one that could build an off shore oil and gas platform on its own.  
I recommended in my report that they sell it and buy a Saab Sea Eye Electric/hydraulic Jaguar rated to 6000 m for £1.5 million.  
I argued that that would make the ROV truly mobile and saleable as such, something their present machine was not.  
  
I know that they were unimpressed with my report and recommendations, and to be honest I was pretty unimpressed with their offer of a one off payment of €7000 relocation allowance.  
So our mutual unimpressiveness led me to turn down his offer of full time employment, and I went back to my day job.  
  
A couple of months later, one of the geologists from the cruise  
contacted me through my linked in account, to tell me that the documentary of our ‘cruise’ will be airing on TV within the week.  
Well I was very excited at my approaching 15 minutes of fame, and I told all my family so that they could tune in also.  
It turns out that the whole concept was a certain oceanographers to act as a vehicle for his monstrous ego.  
There were three expeditions ongoing to study black smokers in the Pacific, in the Atlantic (us) and I think in the Indian Ocean (an Australian boat) with him as the anchor, holding the whole show together.  
Well we watched, and we watched and apart from about 15 seconds through the video racks, that was it, it seemed like I wasn’t there.  
Oh well I thought, I’m sure that I’m not the first wannabe star who has ended up on the cutting room floor.  
I suppose we were out of context.  
  
I did regret that my dramatizing of all the nagging doubt, the gut churning almost immobilizing fear, the desperate need for support for my decisions on the winch was lost.

Oh how I agonised for my public (as I imagined) over the amount of umbilical over the side, and working at 300 m below the rated depth, decisions that could have gone so tragically wrong in a twinkling.

Which I expressed with so much feeling   
OMG how I poured my soul out for the camera.  
I was alone, alone in the footlights, exposed.  
  
Having me sort of air brushed out of the documentary was disappointing but what came next left me flabbergasted.  
The documentary was edited to make it look like that certain oceanographer of Titanic fame was on all three expeditions, finger on the pulse making sure everything was working properly, genuinely hands-on.  
He even gave a little speech, telling his adoring fans, speaking specifically about the expedition as if it was he running the show on my boat in the Atlantic ‘that he could not count the amount of times that he had to make hard decisions, and had to push his equipment to Its absolute limit.  
He finished by telling us  
“That deep sea exploration is not for the faint hearted”  
  
Well, I thought to myself, if I’d had known that he had my back, and that if everything went south, he would simply will me out of the shit with his distinctly un- faint heart.  
I wouldn’t have worried myself sick.  
  
Since then back in the commercial world, when the job is falling apart and I am getting the blame, I tried thinking, what would he do?  
It’s never helped.

The End.