



Scapa Flow Diving Report

Chris & Julie Irvine

The Orkney Islands lie off the north coast of Scotland and is home to one of the best known dive sites in the world – Scapa Flow. I grew up in the parish of Stenness and from my house I had unrestricted views of Stromness town, the island of Graemsay and the massive hills of Hoy. I could also see the stretch of water called the Bring Deeps which forms one of the 3 remaining entrances into Scapa Flow (the other 4 were blocked off during WW2 as a result of the Royal Oak tragedy and subsequently called the Churchill Barriers).

For as long as I can remember, I've been fascinated with the story of the German High Seas Fleet scuttling at Scapa Flow in 1919. When I was a wee lad, my Grandfather used to take me to the Stromness Museum and show me rusty old bells, flags, brass lamps, chipped crockery, brass circuit switches, cap tallies; all accompanied by black and white photos of great warships keeling over at crazy angles. I was hooked. I couldn't believe that an entire navy had scuttled itself on the orders of one man. We all get in trouble at work if we lose or break expensive equipment but to wipe out your own countries entire naval inventory in one afternoon and get away with it demands respect.

To this end, I took up diving with the ultimate aim of diving Scapa Flow and that chance finally came in April 2007 when Julie and I arrived in Orkney for a week's holiday, armed with our OWD and Dry Suit cards, log books and a very fine bottle of Malt Whisky. The OWD course was insufficient for Scapa Flow diving so I enrolled on Scapa Scuba's 5-day dive package consisting of the Advanced Course and Wreck Specialty course with the Enriched Air course added as a bolt-on. Julie opted not to do the Advanced Course so she did 2 guided dives with me on day 1 and then joined me for the first 2 dives of the Advanced Course and classed them in her logbook as Adventure Dives and then completed her NITROX course later in the week.

Day 1 – Churchill Barrier # 2

The order of the day was 2 guided dives and we successfully met our PADI instructors, Kieran and Lindsay, at 0945 as planned. The guided dives would provide me with an excellent opportunity to test the equipment I would be using for the rest of the week as well as a gentle introduction to salt water again. There are several blockships here and the maximum depth is 12m so it is ideal as a starter. After introductions were made and log books and certification cards examined we were issued with our dive kit and given a thorough brief on the history of the Churchill Barriers. Barrier number 2 is always intriguing to any diver who travels across it because the distinctive mast of the steamer *Emerald Wings* sticks out of the water at a slight angle and is visible at all states of the tides and the engine block from the *Lycia* also permanently juts out of the water, giving a hint that there is much more to be explored.

Our first dive was a familiarisation dive and we had a good look round the *Lycia* engine block, the *Ilsestein*, the *Cape Ortegat* and the stern end of the *Emerald Wings*. The dive went fine but there was a distinct lack of any animal life due to the time of year, much to Julie's disappointment! All of the blockships are now well broken up but there are still some recognisable features intact such as engine rooms, hulls and the odd propeller. We exited the water after 45 minutes and de-kitted ready for the de-brief. There were a few points to highlight with the main one being buoyancy. This was Julie's first salt water dive and only my third so we had a lot to learn!

After a surface interval of 1 hour 10 minutes it was time to get back in the water. We were diving the same ships again and Kieran wanted us to focus more on buoyancy control. The dive started well and we spent some time examining great engine cogs and wheels on the *Cape Ortegat* but the problems for Julie and I started when we returned to the *Lycia* engine block. We were in 5m of water and we both started to ascend very rapidly. I tried to kick down to get the air out of my dry suit but it was too late by then as my computer showed me at 1.5m and still rising. Kieran met us at the surface and gently reminded us that air expands as we get shallower. We both kicked ourselves for not watching it but I was shocked at how quickly it all happened. After de-kitting on the shore we had a de-brief and my weight belt was changed to a slightly heavier one.

That was it for day 1 but we both went home cursing our rapid ascents. Our accommodation in Orkney was a superb self-catering cottage at the Hall of Clestrain farm in Orphir. The farm is just along the road from where I used to live so I knew the owners well and they were very pleased to see me back there as an adult and went out of their way to make us welcome and feel at home. The next day was the beginning of the Advanced Open Water course for me and 2 Adventure dives for Julie so the evening was spent studying the dive manuals in front of the fire followed by an early night.



Mast of the 'Emerald Wings'

Day 2 – Churchill Barrier # 2

Both of us were up with the lark and to our dismay, the weather was awful. Orkney is famous for its very changeable weather and today was no exception. Strong westerly winds brought frequent showers of rain and even hailstones. We met Kieran and Lindsay at the PADI centre in Stromness and helped load the van up. The journey to the Barriers was spent going through the Peak Buoyancy knowledge review and discussing yesterday's dives and problems. Joining us for the rest of the week was Mike Gibson from Aberdeen who was an Advanced Open Water diver and loves Scapa Flow that much that he dives there every year. Mike turned out to be an excellent buddy for me for the rest of the week.

The first dive was Peak Buoyancy and we were on the east side of the barrier due to the wind. The dive was planned and briefed and we were all kitted up and in the water by 1100. This was to be a long dive due to all the skills Kieran wanted us to do. The first skill was passing a weight belt block around whilst in a fin pivot which we did several times. I found this to be a good breathing technique exercise. The next skill was a fingertip hover on the wreck of the *Cape Ortegal*. It started well for all 3 of us but I couldn't stop my legs from kicking. Kieran seemed to pay me a lot of attention during this skill so I thought it was only me but the subsequent de-brief revealed that we were all doing it! Eventually we all perfected the technique so we moved on. The next task was a fingertip push off from a wreck which we all did with no problems. On our way back to the shore we again passed the *Lycia* engine block and I remembered yesterday's faff. But what was that in the sand? Something shiny. I dived down to have a look and had just enough time to establish that it was a copper pipe from the engine before I realised that there was air in the feet of the dry suit and I was starting to rise. Surely not again? A quick glance at my computer told me I was at 5m and rising. I raised my arm to dump air but nothing came out. 4 metres. I kicked down to get the air out but it was too late. 3, 2,

1 metres and I was on the surface swearing like a trooper. I thought of Julie laughing at me but she popped up beside me. She had done exactly the same thing. Our last task was to purge all the air from our tank down to 30 bar in 2 metres of water and do a weight check. This we did and my weight was spot on but Julie needed quite a bit of adjusting. That done we exited the water and de-kitted. Again, I was spitting feathers at myself for losing buoyancy control but Kieran told me to learn from it and practice. There's no substitute for time in the water.

Dive 2 was the Navigation Dive. Mike didn't join us for this one so Julie and I had the floor. The timed swim, kick cycles and reciprocal compass heading posed no problems at all. Navigating a square using a compass was interesting because Julie pretty much made a perfect square whereas my attempt was more of a parallelogram with a wobbly edge. Undaunted by this we moved on to the last task. Kieran led us to a sand bank and indicated that he was 'lost' and we were required to lead him back to the shore. I knew we had to go roughly north / NW and to keep the sun on my left hand side so off we went. For a while it was just sand and nothing else so we relied on the compass entirely and it was a relief when familiar bits of wreckage came into view. There was the dreaded engine block of buoyancy fame. This time we were determined to stay down and we did.

After the de-brief we were done for the day. This was also Julie's last dive and she was very pleased to have successfully completed her adventure dives. It was a very steep learning curve for her and it really opened her eyes to the differences between Vobster and the open sea. That was also the last dive in the Churchill Barriers as tomorrow was the Deep Dive.

That evening was spent in the cottage again; me with my head in the dive manual and Julie writing up her log book and generally relaxing. We were both knackered so no alcohol and off to bed early.

Day 3 – Scapa Flow

A big day for me. For years I've wanted to dive on the German Fleet and that day had finally arrived. This was also my first ever dive from a boat so I was quite nervous. The wind was still a strong westerly and there was the odd squall but nothing too drastic but I'm not the best sailor in the world and I was feeling slightly seasick before we even set sail. I met Kieran and Mike at Stromness harbour and was introduced to Emily Turton, who skips the *M.V. Radiant Queen* (our dive boat for the week). As well as running the dive boat, Emily is a PADI Divemaster so she really knew what was going on at all times. The *Radiant Queen* is 52 feet long with a heated wet and dry room below deck as well as a toilet. The galley is upstairs behind the wheelhouse and supplies endless cups of tea and coffee. The kitting up area is on the aft deck where there are wide benches enough for up to 12 divers. Ideal.



M.V. Radiant Queen

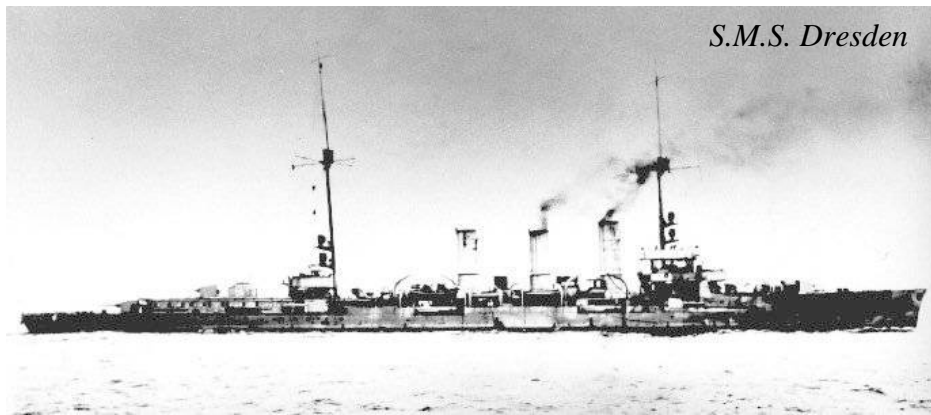
Today's dives were to be the Deep Dive and the Boat Dive and we had a long day ahead of us. We left Stromness harbour at about 0930 for the 40 minute ride down Clestrain Sound and into Scapa Flow. This journey time was spent going through the Deep Dive knowledge review and wreck site briefing as well as me trying not to be sick. The wreck was the *S.M.S. Coln*, a light cruiser lying on her starboard side in 36m of water. We kitted up, Mike and I did our buddy checks and we were in the water before I knew it. The descent was down the shot line and we quickly found the upper side of the ship at the 18m point. I found it rather too quickly as I hadn't put enough air in the suit, resulting in me nearly adding a new penetration hole to the ship's hull. Visibility was quite poor so we concentrated our inspection on the bow area and I had a timed task to do down at 30m which involved writing my name backwards and also completing a couple of maths sums. The name and the first sum were OK but I had a complete memory dump on the second sum. Whether this was down to Nitrogen narcosis or my lack of numeric skills, we will never know. All too soon it was time to ascend the shot line. During the ascent we completed a 2 minute stop at 12m followed by a 3 minute stop at 5m. The stop at 12m was introduced to us by Kieran because he finds it's good for students (and qualified divers) to stop there and think about buoyancy, remaining air and the next stop at 5m. I must admit I found it a very useful stop throughout the rest of the week. Once on the surface we all faced the boat as it came to collect us and Emily's expert handling meant we didn't die a horrible death underneath it. Emily welcomed us on board with a steaming mug of tea and chocolate biscuits and they have never ever tasted so good.

The de-brief focused on my buoyancy at depth (or lack thereof) but I was happy with that because I was learning the hard way and that is quite often the best way to learn. I can read all the dive manuals in the world but I will only start to get good at it when I am in the water.

After a surface interval of 2 hours we were suiting up ready for the Boat Dive. The next wreck was the *S.M.S. Dresden*, a light cruiser lying on her port side in 38m. The shot

line descent was fine and my buoyancy control was improving massively. We examined the bow area of the ship and studied the impressive 5.9 inch guns and the Fighting Control section. The ships are a Mecca for sea life and all the ships seemed to be home to all sorts of crabs, starfish and eels. Visibility was still quite poor but good enough to make out some of the main features further down the wreck. Our ascent was again up the shot line with a 2 minute stop at 12m and a 3 minute stop at 5m. After more tea and biscuits courtesy of Emily we de-kitted and discussed air consumption during the debrief. Mike and I were almost identical in air consumption but we were still breathing too much. It all boils down to buoyancy control, Kieran explained. I was beginning to see how important buoyancy is because it had dominated all my dives that week so far and seemed to affect everything.

That was it for the day. We went through the Boat Dive knowledge review on the way back to Stromness and discussed the days diving. Julie met us at the pier and asked permission to join the boat the next day as a spectator which was granted. The following day would be my last dive of the AOW course and the first dive of the Wreck Speciality course so once again, my head was in the books all evening.



Day 4 – Scapa Flow

Julie and I met everyone at the *M.V. Radiant Queen* at 0845 ready for the day ahead. Julie was aboard to spectate and to experience a dive boat for the first time. The first dive today was the Multi Level and Computer dive and the ship we were diving on was the *S.M.S. Karlsruhe*, a German Light Cruiser lying in 28m. This ship is the shallowest of all the Light Cruisers but has extensively deteriorated over time. Despite this, all the main features are still evident. As it was a Multilevel dive, we descended down the shot line to 28m and worked up the main features to the highest point at 14m. Main points of interest here were the teak decking, guns, open hatchways, anchor capstans and chains. Visibility was good but it was too easy to kick up silt on and around the ship. Our ascents were now done freestyle without touching the shotline but still included the stops at 12m and 5m. Emily welcomed us on board with much needed tea and oranges and I was presented with my temporary AOW certification card after the debrief but there was little time to celebrate as we had the serious business of starting the Wreck Speciality course.

Mike was also starting the course so we planned our dives together under the close scrutiny of Kieran.

The first dive of the Wreck course was going to be the F2 and the YC21 which are perfect as they lie in 16m in Gutter Sound and are constantly washed by a slight current. The shallowest part of the hull is at 8m. The F2 was a WW2 German Escort vessel which is similar to a Light Cruiser and one of the most striking features of the ship is the main forward gun which is still intact. The YC21 is a salvage barge that was attempting to salvage the F2 when it sank also and one feature definitely worth seeing is the 20mm anti-aircraft guns from the F2 that are clearly visible in the hold of the barge.

The dive itself was a familiarisation dive and we examined the main forward gun, wheelhouse, decking, mast, rudder and collapsed stern. Visibility was excellent due to the current washing over us and the sunlight showed up the massive amount of marine life stuck to the hull. We swam west to the barge and studied the guns and tools in the hold before returning to the F2 and free ascending to the surface. More tea and biscuits on arrival at the surface and more knowledge reviewing after de-kitting and debriefing. Julie and I were beginning the Enriched Air course the following day so we were issued with the manual and a completely new set of RDP's. Tomorrow's dives would be a continuation of the Wreck course but using NITROX.

We were both expected to have the entire Enriched Air manual read and understood by the next day so that evening was spent cramming. Our heads were buzzing and I was beginning to hallucinate by 11pm so I admitted defeat by throwing my book across the room and going to bed.

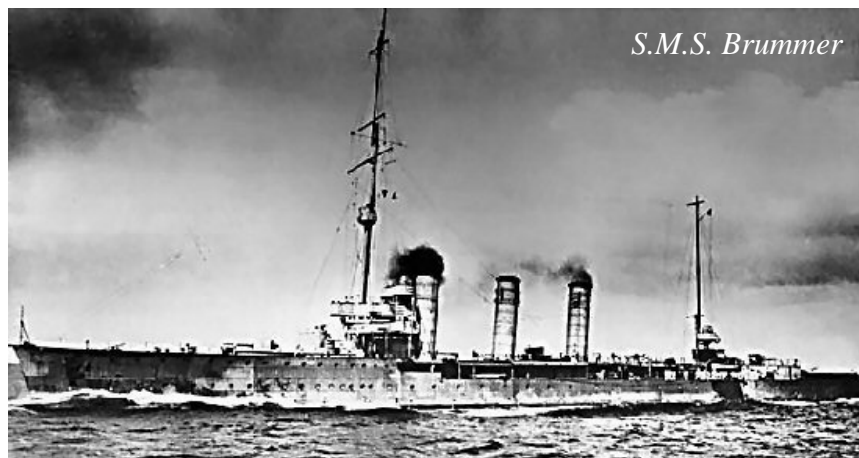
Day 5 – Scapa Flow

The wind had changed round to the SE and brought good weather with it. The first dive this morning was the *S.M.S. Coln* and it was also my first dive on Enriched Air. The Enriched Air theory and exam were soon out of the way and we were in the water on 32% NITROX by 1145. This dive was the second Wreck Specialty and the task was to map it. The *S.M.S. Coln* is a Light Cruiser lying in 36m on her starboard side and is in the best condition of all the cruisers. Anchor capstans, hatches, funnel holes etc are all visible as well as the 5.9-inch guns and the collapsed mast. Visibility was OK but it was all too easy (as always) to disturb the silt. The ascent was a free ascent with the shot line for reference only and the usual stops at 12m and 5m.

Our surface interval was 2 hours 3 minutes during which we had lunch and talked about Enriched Air and mapped the wreck in our logbooks. The second dive was on another Light Cruiser, the *S.M.S. Brummer* and again, I was on 32% NITROX. The *Brummer* differs slightly from the other cruisers as she was a mine layer therefore she lacks the bristling guns but more than makes up for it with the impressive rails that were used to store and move her mines. Also clearly visible is the wheelhouse and radio cabin but there is extensive damage and deterioration to the bow area. The ship lies in 36m on her port side and I got a strange eerie and gloomy feel from her but that may have been due

to the deteriorating light level. Our descent had been down the shot line but our ascent was to be a free ascent with a DSMB. Kieran taught us that this was a vital skill to learn in Scapa Flow because there are plenty of good dive sites with no shot line or marker buoy and the current can carry you some considerable distance if you are not careful.

End of day five. I had passed the Enriched Air course and only had 2 dives to go for the Wreck Specialty. The end was in sight but tomorrow would bring the joy of laying a line on a wreck for the first time. Back in Stromness, Mike and I were issued with a reel and line each and told to practice laying lines around the boat. We did quite well I thought but Kieran had a smug 'we shall see' look on his face. 'Easy', I thought. How difficult could it be? Julie joined us at the dive centre afterwards and sat her Enriched Air exam which she passed with flying colours.



Day 6 – Scapa Flow and Burra Sound

The morning saw us transferring all our kit to the *M.V. Halton* as the *M.V. Radiant Queen* had gearbox problems. We were soon underway and heading down Scapa Flow towards the site of the *S.M.S. Karlsruhe* again. This was going to be line laying territory and I was again on 32% NITROX. We presented our reels to Kieran on the way there and he despaired over mine, as it apparently resembled soggy coiled spaghetti. 'Never mind' he said, 'your reel is an excellent example of how not to do it'!! Once that was sorted we were given the dive brief and what was expected of the line laying task. The task went reasonably well but I had tied off on the same bit of wreckage as Mike and I thought for one horrible moment that they had tangled but thankfully they hadn't. Not as easy as it looks. Reels safely away, we carried on exploring the ships now vertical deck and also identifying potential penetration holes. The current was strong for the DSMB ascent and the sun had gone in so it was a bit more difficult than the previous ascent and I found myself virtually glued to the ascent rate on my computer.

The last dive of the course was next and we moved away from Scapa Flow, heading NW between the islands of Hoy and Graemsay and into Burra Sound where the tidal race is fierce to say the least. Burra Sound has at least 8 Blockships but only 3 are now considered worth diving on. We were diving on the *Doyle*, which is a single screw

coastal steamer sunk in 17m in 1914. Sitting almost upright in the tidal steam she is constantly washed clean of silt and there is an ever-present current, even at slack water. Our dive was at 1pm exactly as that was slack water and we were quickly on the ship. This was the wreck penetration dive and the *Doyle* was ideal for this as there are plenty of open hatches and missing hull plates, which let in plenty of light. That coupled with no silt made it perfect. We did 2 circuits of the ships hold area before swimming round the bow and examining some of the debris on the sea bed. The ship is in remarkable condition despite its age but what really stands out is the completely intact propeller and rudder. They are huge and seeing them was a perfect end to the dive. The ascent was free with a DSMB again and all was well until we reached 5m. I had become disorientated in the current and could feel myself starting to ascend rapidly. I couldn't believe it. My last dive as well. Kieran was beckoning me to slow down but I was at 3.5m and rising. I tried to kick down but it was too late. Kieran gave me a despondent wave goodbye and I was on the surface seconds later. I had too much air in the feet of the dry suit again and it had obviously expanded. Much cursing was had but it was the end of the course and it was Saturday so the focus very quickly became the copious amounts of beer I was going to drink that night.

That evening, we cleared out of the cottage and checked into a hotel before heading back through to Stromness to meet up with Mike and the dive staff. Appropriately enough, there was an excellent ale called 'Scapa Special' on tap in the Stromness Hotel and I lost count of how many I had after my sixth pint. The perfect end to a great weeks diving.

Sunday morning and the holiday had come to an end. My head felt like a truck had reversed over it so I relied heavily on Julie to sort my life out and it wasn't long before we were once again passing over the Churchill Barriers and marvelling at the hidden world we now knew was under the waves and out of sight. The ferry departed St Margaret's Hope on time and soon we were out into Scapa Flow for the last time and heading across the Pentland Firth to the mainland and home.

It had been an exhausting week and a steep learning curve but very worthwhile. Scapa Flow has something for all divers at all levels. Wrecks can be found in anything from the surface to 45m and the marine life is abundant everywhere. Visibility ranges from poor and murky to absolutely excellent, depending on tides and the sea bed comprises of anything from mud, silt, rocks, sand, shale, shingle and stones. I would also class it as one of the best training environments in the world, not just because of the wrecks and depths but also because of the changeable weather, strong currents and raging tidal races that swirl round the islands. Boat diving and shore diving is available anywhere and if the weather is really bad, then the museums at Stromness and Lyness are well worth a visit just to get an idea of the sheer scale of Orkneys heritage. I have a map at home showing all the German Fleet wreck sites in Scapa Flow and my next aim is to see as many of them as possible and I will have great fun trying.

Chris Irvine