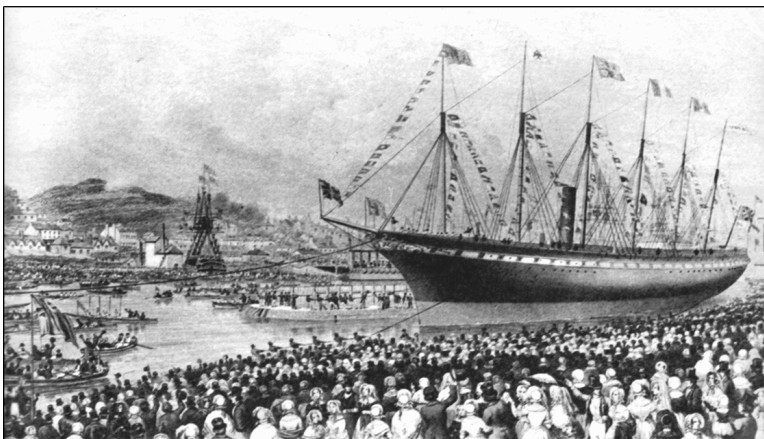


## Chapter Eight – Salvage of S.S. Great Britain 1970



*The launching of the S.S. Great Britain at Bristol by the Prince Consort in 1843.*

Early in 1970 Leslie James Collingwood (Bill) O'Neil, the senior salvage officer of Risdon Beazley Ltd, was sent to the Falkland Islands to look into the feasibility of salvaging the historic ship *S.S. Great Britain*. As with most of Beazley's projects, it was kept fairly quiet until it became a reality.

The *Great Britain* was a technical innovation designed by Isambard Kingdom Brunel, and launched at Bristol on the 19<sup>th</sup> July 1843. The ship was credited with many firsts; she was the first ocean going ship to be built of iron, the first large vessel to be fitted with a screw propeller, double bottom and watertight bulkheads. These plus many other innovative features make her one of the most famous ships of all time. Her hull measured 322 feet, beam 50 feet, main deck to keel almost 33

feet, weight 3,270 tons. The 4-cylinder engine weighed 340 tons and developed about 600 H.P. and she actually achieved 12.5 knots on trials.

The vessel arrived in Liverpool during February 1876, after the completion of voyage number 44 to Melbourne, and was laid up at Birkenhead, only to emerge again as a fully rigged sailing ship in 1882, having had all her machinery taken out by her new owners. The final voyage of the *Great Britain* began on 6<sup>th</sup> February 1886, sailing from Penarth to San Francisco with a cargo of coal. She had made this voyage a few times before, and the return cargo was usually of wheat. She ran in to a fierce gale off Cape Horn in mid-April and a month later she had made no headway when a fire broke out in a cargo hold. The captain decided to head for the Falkland Islands for repairs to the fire damaged hold and leaking decks. Due to the limited repair facilities in the Falklands, the marine insurers declared her a constructive total loss and she was sold to the Falklands Islands Company. She was used as a floating storage vessel, mainly for coal and wool. She contributed to the victory of the Battle of the Falkland Islands by supplying coal to *HMS Inflexible* and *HMS Invincible*.

In 1933 she was no longer required for her present role, and was stripped of her tween deck planking, which was used in the construction of a bridge. Some of her yards were used as horizontal supports on a jetty that still remains to be seen today. In 1936 it was decided to scuttle the *Great Britain* in deep water but many people, led by a local police constable, Mr Doley Williams, complained that she deserved a better end

than that. Eventually the Falkland Islands Company relented, and she was towed to Sparrow Cove about 3 or 4 miles North of Port Stanley. Holes were punched in her hull and she sank upright in shallow water. 'The Britain', as the locals called her, was largely left in peace except for the occasional visit from crew members from naval ships that were anchored in nearby Port William. These were usually cruisers and battle ships that preferred to anchor in Port William as opposed to the normal anchorage in Port Stanley Harbour, due to restricted draft and manoeuvring room. Also, during the summer months, the local inhabitants from Port Stanley used Sparrow Cove as a favourite spot to picnic if they or a friend owned a boat. I can certainly remember getting very excited as a young boy, and being able to scramble onboard the old ship. Even in those days, (early fifties), she was quite dangerous due to rotten decking, old iron ladders, and the slippery mess caused by many years of cormorants using her as a roosting place.

Bill O'Neil returned from the Falklands and reported to Mr Risdon Beazley that there was absolutely no chance of the vessel being able to float on her own for any length of time, so the question of refloating her then towing her all the way from the Falklands to England was absurd. However, he believed the vessel could be refloated. It would not be 'a piece of cake', but if she was able to stay afloat for a few hours, she could be floated over a submersible pontoon. Such a large vessel had never been salvaged this way, and the tow would be the longest of its type ever under taken. An associated company, Ulrich Harms of Hamburg, had used this method to transport dredging equipment such as small workboats, tugs, bucket

dredgers etc. to remote places. The usual method was to tow such plant and equipment but this has always been a very laborious method, and bucket dredgers used to be a tug captain's nightmare to tow over long distances. When all the interested parties had agreed, and permission from the Falkland Islands was granted, (and not without some local opposition), the salvage plan was formulated.

Ulrich Harms at this time was delivering dredging equipment to Boke in the Republic of Guinea on board one of the company's large submersible pontoons, *Mulus 3* (2,667 tons gross). She was being towed by the *Varius 2*, which has been described in many references to the epic salvage project as a tug, but in fact the *Varius 2* hardly resembled a tug at all, she was in fact a stern trawler. The Captain of *Varius 2*, Hans Hertzog from Heligoland, was instructed to tow the *Mulus 3* to Montevideo, where the British salvage team would join them and prepare for the salvage project. Ulrich Harms purchased 3 x 724 tons gross identical stern trawlers from the German Government. They had been built specifically as fishery research vessels and had had little use. They were the most comfortable ships one could ever wish to sail on. The two large trawl winches were ideal as towing winches. However there were problems manoeuvring whilst on a short tow, as unlike tugs that have a central towing position, either direct from a winch or tow hook and gog eye, these ships towed from the large gilson blocks on the quarters normally used for towing fishing nets. The salvage team from Risdon Beazley was hand picked by Bill O'Neil and taken from the company's various salvage vessels to prepare for the mammoth project

ahead. Pumps, diving and rigging equipment was prepared and then transported by air to Montevideo.

Bill O'Neil was no stranger to the Falklands. During World War Two he had been billeted ashore from *HMS Exeter* after she was badly damaged during the Battle of the River Plate. He maintained a close friendship with the family whose house he had stayed in, and in his words they had "treated him like one of the family". The other salvage team members were Bob Light from a family of well-known 'Hard Hat' divers. Bob's speciality was as a shipwright, having trained in the Royal Navy. Stuart Whatley, also ex-Navy, was one of the new breed of divers known as 'Clearance Divers'. His technical diving knowledge was very important in case we were called to go on deeper jobs before returning home. But besides that, Stuart was a great guy to work with and had "arms like legs". I will always be very grateful to Stuart, as he taught me that there was much more to diving than just getting wet and cold. Don O'Hara was also an ex-services diver. He specialised in carpentry and his skills were used to the full on the *Great Britain* job. I was the last member of the team to be picked, no doubt because I was a Falkland Islander and my local knowledge might come in useful. My speciality was diving and rigging, a trade I had been taught in the various merchant vessels I had served on prior to joining Risdon Beazley Ltd.

We arrived in Montevideo a day or so before the *Varius 2* and *Mulus 3*, to give us a chance to get acquainted with the Uruguayan agent and to assist him with tracking down scrap steel and some labourers. As soon as the *Varius 2* arrived we

moved on board and were shown to our accommodation, which was very clean but right down in the forepeak, where even the most seasoned seafarer could not help but feel a bit queasy in a very heavy head sea, especially after a couple of Schnapps.

The following few days were very busy, preparing the *Mulus 3* for the salvage job ahead. First we obtained two jumbo derricks taken off a scrapped British cargo ship. These we welded together, with a very heavy plate at the top and the base welded to the bow end of the pontoon, making a sheerlegs for lifting the masts out of the *Great Britain*. In addition to this, we had long vertical pipes or tubes, about three feet in diameter, welded to the deck to form supports for the ship (dolphins) to be braced against. Also, keel blocks similar to those found in the bottom of a dry dock were fastened by welding to the pontoon's deck for the bar keel to sit on. Other loose steel and equipment that would not get harmed by seawater was sea fastened to the *Mulus 3*. *Varius 2* was topped up with fuel, stores etc. We sailed from Montevideo cheered on by a surprising amount of people who were taking an enormous interest in our forthcoming adventure.

After leaving the main harbour, our Uruguayan pilot took us quite close to the wreck of the *Calpean Star*. This is the ex-Royal Mail ship *Highland Chieftain* (14,131 gross tons) built by Harland & Wolf, Belfast, in 1929. *Highland Chieftain* was constructed to the requirements of H. & W. Nelson Ltd for the emigrant and meat trade between the River Plate Ports and the

British Isles. In 1932 the identity of the Nelson Line was changed to Royal Mail Steam Packet Company.

During World War Two the *Highland Chieftain* was used for trooping, and also her meat carrying capacity was put to good use. She did suffer some considerable damage on the 11<sup>th</sup> October during an enemy air raid whilst in Liverpool. I mention this ship mainly because she had strong links with the Falkland Islands in the days before air travel took over. Many Islanders took passage on the 'Highland Boats' (as they were known) from Montevideo to England to visit relatives in the U.K. or with children going to England to further their education.

The 1,000-mile passage to the Falklands was quite rough, however the *Varius 2* offered a lot more comfort than a normal tug. We took a more westerly route than would usually be taken to keep us closer to the Argentine coastline. We averaged something like 4-5 knots, which is a reasonable speed for a tug and tow in the stormy seas of the South Atlantic. The trip itself was most useful inasmuch that it gave us a good chance to get to know the crew of the *Varius 2*.

Many of the crew were able to speak passable English and the Captain, Sparks (radio officer), and Horst Kaulen spoke faultless English. Horst Kaulen, (nicknamed Mini by the Germans due to his short stature), was in charge of the ballasting of the pontoon and all matters concerning the *Varius 2* and *Mulus 3*. I kept the 1600h to 2000h bridge watch for the captain so that he could attend to the multitude of

chores that required his attention. One such chore was overseeing the removal of a lot of the fish processing machinery to gain space for the ship's comparatively new role as a multi purpose salvage vessel.

We found that the Germans had a similar sense of humour to our own, so at no time did we feel as if we were unwanted but necessary guests. I remember the Sparks purchasing a new pair of khaki drill trousers from the slop chest, and as he was fairly short he had to shorten the legs by about four inches. Whilst doing this, he kept me company on the bridge, and turned up the four inches and tacked them ready to cut off and sew properly. The captain presented Sparks with a huge amount of reports and other paper work to be sent to the company office in Cuxhaven by Morse code.

Whilst Sparks was away in his radio room, the captain turned the trousers up a further 6 inches. When Sparks returned to the bridge, he took the scissors and cut off the unwanted hem and sewed the legs up neatly. Somehow there just happened to be a large audience present when Sparks put the trousers on, and needless to say the bottoms came to about the middle of his thigh. He did look at me a bit suspiciously, but had to concede amid the laughter, that even Radio Officers could make a mistake.

Horst Kaulen was an ex-diver with the appropriate scars to prove it. One of his thumbs had been almost severed when he was diving in the Port of Hamburg on a ship's bottom in pitch-black water. Horst had not noticed that the ship had



made contact with the seabed as the tide ebbed. His air hose was trapped under the ship and he could not surface. He cut his armoured air hose with his diving knife, after closing the escape valve on the helmet, and had enough air trapped in his diving dress to surface. He was able to cling to the side of his diving tender, but rather than pull him on board, the diver's linesman tried to remove his faceplate. Fortunately Horst was still clutching his diving knife and managed to strike the unfortunate linesman a hefty blow, that made him realise that with the face plate removed the diver's air would escape, and with all the lead weights and boots he would sink like a stone. After getting on board Horst felt pain and soon discovered that whilst cutting his air hose in the black water he had almost severed his thumb.

Another amusing anecdote concerning Horst was that I had told him that Penguin eggs were rather nice to eat, and of course he wished to try one. Even though it was too late in the season, I did manage to get him a Gentoo penguin's egg from a friend, and asked the cook to fry it. As luck would have it, Horst was having his morning visit to the toilet, so undaunted he opened the cubicle door and I gave him the enormous breakfast common to the German seamen, but topped with a Gentoo egg covering the entire plate. He said it was his best breakfast ever. It's just a shame I didn't have a camera handy. Horst was very photogenic, and was more than happy to remove his 'Elbsegler' hat and jump on it if something had gone awry or not according to plan, and a camera was handy. We passed Cape Pembroke Light House very early in the morning of the 25<sup>th</sup> March 1970 and began shortening in the

tow. When we were roughly abeam of York Bay, the *Mulus 3* pontoon was transferred alongside the *Varius 2* as a 'hip tow' so that we could pass safely through the 'narrows' and into Port Stanley Harbour. But in doing so the captain, Hans Hertzog, got the two tow wires crossed somehow. I think the fault really lay with poor communication between the bridge and Horst Kaulen, who was supervising the towing winches on the after deck. As is usual in the Falklands the wind increased, and we were closer than was healthy to a lee shore.

After getting sorted out, which seemed to take forever, we were able to get underway again. I had explained from memory regarding the leading marks to steer by on entering the narrows, only to find that both the vertical black and white painted leading masts, known locally as the 'Land Marks', were no longer in position. (Later I was to find they were both still there, but had rotted and blown over and lay partially covered with diddledee bushes). The sun was shining on the town making the red, green and silver corrugated roofs on the houses look very picturesque, and on our port side the iron barque *Lady Elizabeth*, complete with masts and a yard arm, reminded me that I was really home again after an absence of some 10 years.

The *Lady Elizabeth* was built at Sunderland in 1879, and arrived in the Falklands on the 13<sup>th</sup> March 1913, making passage from Vancouver to Mozambique. She experienced a terrible storm off Cape Horn, and on approaching the Falklands for repairs struck the Uranie rocks and, like so many other vessels from that era, was condemned. She was put to

good use as a floating warehouse for over 20 years before being beached in her present location in Whale Bone Cove, better known as 'the bottom of the harbour'. *Varius 2* and the *Mulus 3* berthed alongside the Port Stanley public jetty, which is very close to the Falklands Islands Company jetty. This jetty incorporates another hulk from a bygone age, the *Egeria*. She had put into Port Stanley on the 12<sup>th</sup> September 1872 after failing to round Cape Horn. She was over 90 days out from London with a cargo of coal and cement on passage to Callao, and being considered unseaworthy was allowed to sink in her present position. The *Egeria* is still in use as a warehouse, preserved no doubt by the sheets of corrugated iron that cover her as a roof. *Egeria* was built in New Brunswick as a barque rigged vessel in 1859 of 1,066 tons.

It seemed very strange to arrive back home after such a long absence and the quiet nature and helpfulness of the people was a nice surprise to both the Germans and the salvage team. My mother still lived in Port Stanley at that time, in a typical stone house on Davis Street with tremendous panoramic views of the harbour and beyond, over the ridged stretch of land called the Camber. On clear days Port William could be seen. Sparrow Cove, the resting place of the *Great Britain* could also be seen with binoculars. I decided to see my mother during the lunch hour, and on walking up the steep Philomel Hill, I was stopped by a young boy of about 6 or 7 years old. He said "Are you from that square boat at the jetty"? I replied, "Yes, I was" which seemed to satisfy him, and he continued messing with his cycle. It struck me how unusual it was to hear a child talk without shyness or being warned off about

talking to strangers. On reaching our house my mother came to the door, totally composed and said “Hi Lyle, I thought you would have arrived yesterday, was there a heavy sea running?” It was just as if she had seen me only a couple of days previously, rather than 10 years!

My mother told me of an elderly lady who had a chair that was part of the *Great Britain's* original furnishings when the vessel arrived in the Falklands. The old lady let me have the chair for £5, and it is now on display with other artefacts in the *S.S. Great Britain* museum in Bristol. I remembered that at a sheep station (or camp settlement as they are locally known) called Goose Green, a large bell inscribed “*Great Britain*” was mounted on a type of gallows. It was used daily to summon the shepherds and other workers who lived in the large building called the ‘cook house’ that meals were ready, or as a fire or emergency warning to all the inhabitants living in the various houses on the settlement. This did prove to be the bell from the *Great Britain*, and the Falkland Island Company kindly donated it to the project.

After all the formalities had been completed, and we had taken on fresh water and some other stores, not to mention a hangover after a couple of evenings in the Globe Hotel, we left the jetty for Sparrow Cove to see what the *Great Britain* really looked like. Although it was many years since I had last seen her, my initial reaction was of extreme dismay as to her condition, and I was certainly not alone with my feelings. With not too much trouble we managed to put the *Mulus 3* end on to the *Great Britain's* port side, and the *Varius 2* alongside the

other end, with a couple of anchors down to help steady the pontoon and ship from the blustery conditions.

When I had been on the vessel as a boy, I doubt if I realised the importance of the ship, and certainly would have thought very little about the decay and structural damage. We found that the main or weather decking where it existed was completely rotten, and the only safe places to walk, with extreme caution, were on top of transverse and longitudinal beams or the large box section that ran fore and aft each side. The Tween Decks had no decking at all; so placing equipment such as pumps etc was a bit hairy. The fo'c's'le was reasonably intact and the ancient anchor winch was still operable, even after all those years of neglect. Inside the bottom of the ship there was at least a couple of metres of mud and debris that had accumulated over the years. Prior to scuttling, she had been used for storing junk from other ships. During pumping and mud removal we found many interesting artefacts, such as the ornate blue and white porcelain toilet pan that had been the throne for first class passengers many years previously. There was also a small steam compound engine from a tug or large launch, which was discovered well preserved due its immersion in mud for a long time.

The most obvious and ominous structural damage was a huge split in the starboard side. This had been caused by cutting openings in the sheer strake to make a kind of gun port door to enable passage from ships tied alongside in the years that she was used as a floating storage facility. It was also used as a loading or discharging opening. This opening had weakened

the hull considerably, and after several years of sitting on the seabed, and with the scouring action of the seabed caused by wave surge in stormy weather, the vessel had twisted slightly. On diving and clearing a way under the ship's hull we found the split extended right through the bilge strake, also the garboard strake, and only stopped at the keel. This really meant the hull was only hanging together by the port side, and no doubt sometime in the future would have broken completely in half. We continued our diving survey with a thorough inspection of the lower hull, and found her to be riddled with wastage holes caused by the action of the weather and sea. This was a swathe of about one to two metres wide and extended the full length of the ship, with the starboard side slightly worse than the port side.

One of the first jobs was to bring down a yardarm that was still swinging precariously from the main mast. Luckily a detachment of Royal Marines stationed near Port Stanley generously assisted us with some of the fetching and carrying whilst setting up the operation. A sergeant volunteered to climb up the mast and attach rigging for us so that we could bring the iron yard down. It was about 100ft long and weighed about five ton. The masts had to be removed for two reasons. The first, weight, and the second that it would assist with stability, not only in the refloating but also for the long tow back to England. The mizzenmast was the first to be lifted. Unfortunately, our home-made sheerlegs was not long enough to attach a lifting sling as high as was required for the centre of gravity, and on hoisting it pulled out of its bed very easily and fell on to the weather shelter we had on deck. Luckily no one

was inside, otherwise it might well have resulted in a severe headache for several days.

An amusing thing happened within minutes of removing the mast. At least three Germans and two of our team (including myself), found ourselves delving into the thick mud where the mast had been stepped, hoping to find the coin of the realm that was often placed there before inserting a mast to “bring the vessel good fortune”. We never did find a coin; neither was one found after the other two masts were removed. We had never discussed the possibility of a coin, but obviously German sailing ships must have followed a similar practice. To avoid a repetition with the fore and main mast, we hired a local carpenter, Willie Bowles, with his petrol driven chain saw, and cut the masts at the weather deck level. Both these weighed in the region of 20 tons and 4 feet in diameter. It took quite a while to cut through the masts, as they were not from a single tree but made up from about eight tree sections, pegged and strapped together. The mizzen was landed in Port Stanley and put on display in a waterfront area known as ‘Victory Green’, surrounded by old cannons and a more modern gun that is fired on ceremonial occasions. The mast was not erected, but laid on concrete plinths. During a visit to the Falklands many years later, I was disappointed to see that the mast was quite rotten, because rain and snow over the years had not run off as it would have done if it had been standing.

Stuart Whatley and I started plugging the smaller wastage holes in the hull and making patches for the larger ones. The patches were made with 3-ply with a bolt to go through the

hull with a strong back or 'T' piece to secure it in position. We used rubber strips to make a seal, and in some places we followed the practice, used for hundreds of years, of oakum and tallow to help seal the patches. At a rough estimate we must have covered at least 200 holes. In some places the ship's side was so thin we had to be very careful not to enlarge the holes whilst pushing the plugs through. After this task was completed, our attention turned to the vertical damage in the starboard side. We put a call out through the local radio station saying that we could do with some old mattresses to help seal the massive split. The response was staggering. Foolishly, we had not specified that we only wanted flock or stuffed hair mattresses, so although we did receive many of the type we requested, we were left with lots of interior sprung mattresses, that we did eventually find various uses for.

We stuffed the mattresses from the keel to well above where the Salvage Officer said the maximum draft should be. It was quite hard going, pulling the mattresses under the ship, as it took ages before the air would escape, particularly with a few mattresses that were of the rubber foam variety. We put plywood over the mattresses, and similar to the holes in the ship's side, we used hook bolts to hold everything in position. Whilst this was all going on, the other two men from Risdon Beazley's salvage team, with assistance from the crew of *Varius 2*, were drilling holes with a rather antiquated air driven drill through strips of steel over one-inch thick by 30 feet long and three feet wide. These had to be bolted to the longitudinal stringers near the deck edge bridging the split.



This was done on the weather deck and both of the tween decks. On drilling the ship's stringers, it was noted that the *Great Britain* was far from a rusty heap of scrap, as the drill bits had to be sharpened dozens of times before the holes were finished. The workers who so many years ago had cut the opening in the ship's hull must have had a terrible job, as it was long before gas cutting was possible, and we could see all the jagged edges where they had used drilling as the method to cut the opening. The engine room bulkhead appeared to be very wasted and we did start applying patches to the numerous holes but very soon realised that it was a pointless exercise, so that meant that there was no compartments at all that could be sealed sufficiently to aid refloating. We then turned our attention to putting a couple of mooring ropes to the shore. This was also difficult, as apart from large boulders there were no good anchoring points. Bill O'Neil decided against digging large holes on the beach to put in some anchor points, due to a shortage of time and resources.

On Sunday 5<sup>th</sup> April we started up the pumps and as all looked well the *Varius 2* manoeuvred the *Mulus 3* into deeper water and gently let her sink on the seabed, after all the air hoses and bottom valves had been prepared. The pumping actually took many hours before we could see any difference in the water level inside the *Great Britain*. We encountered the usual problems of blocked suction inlets and the difficulty of keeping the engines topped up with fuel. The most exhausting part was having to shift our large pumps. Even though they were mounted on steel wheels we had no firm deck to pull them along, and had to use a multitude of rigging

to get them in a better position. When the water did start to go down many more holes appeared that required patching. It was blowing a gale non-stop and the business of getting into the water with patching gear was not at all easy or pleasant, especially on the weather side (starboard) of the ship. At one stage the rising tide actually started to lap over the top of the mattress patching, and Bill O'Neil began to show concern, as this meant if nothing else, she was going to be of a deeper draft than had been calculated.

We had been working very hard and had continued without sleep for two nights or even a decent meal break. It was laborious, to say the least, to get out of our diving suits and scramble on the *Varius* to a sit down meal, so the five of us made do with sandwiches and as much coffee as they could bring us from the ship. The situation was looking quite bleak. The water level inside had gone down considerably, but no movement on the *Great Britain* at all, plus a raging gale was blowing. Bill O'Neil suggested that we should go back on board the *Varius 2*, have a decent meal and a shower, then split into watches in order to keep an eye on the pumps. But he warned us the *Great Britain* should have been afloat by now, and that all our work and efforts may well have been in vain.

We had just sat down to a very welcome German breakfast (enough to keep a family going for a week), when there was a shout that the *Great Britain* was moving. Breakfast was abandoned. We got back on the *Great Britain* via our workboat, to see that not only was she floating, but also was

starting to get blown off shore. Our mooring ropes were restricting her movements, but would not hold for long. The *Malvinas*, a standard built 75 foot MFV, fortuitously had appeared with several people armed with cameras. We quickly got her skipper, Chris Bundas, to nudge the *Great Britain* with his bow to check the drift. Our workboat also did its best, plus the small tug *Lively* from Port Stanley was luckily on the scene. All together, with clouds of diesel smoke, we were able to stop her drifting. The *Varius 2* had been unable to assist quickly as she was at anchor close to the submerged pontoon.

Due to the atrocious weather, which was gusting to storm force 10, we couldn't attempt to dock the *Great Britain* over the *Mulus 3*, so the pumps were stopped and we let her take to the seabed again. She was about 30 feet from her grave of over 30 years. The suction on the sea bed must have been broken with the slight rocking movement caused by the gale, and with the ship now in a light condition, was sufficient to help her to float. Had we not been able to respond quickly, and without assistance from *Malvinas* and *Lively*, the *Great Britain* could have gained momentum, and almost certainly would have been wrecked on the rocky outcrops nearby, or drifted completely out of Sparrow Cove to meet her end in Port William. At the time this happened, and probably not until reading this, few people, including some members of the project, were unaware just how near to disaster the salvage of *S.S. Great Britain* had been. To fail on refloating was a possibility, but to float her and then to lose the ship was unthinkable. As the gale did not abate, we decided to take the

chance of some rest, and two men would keep a watch (4 hours on and 4 hours off) and service all the pumps. At least we felt confident that we would be able to float her again, and that in itself was a tonic. As is quite usual in similar situations, we were unable to sleep, so we all returned to the preparation of floating and docking after a hot shower and a hearty meal of curried Falkland Island mutton.

We had two days before the wind abated sufficiently. We started up the pumps again on the evening of the 9<sup>th</sup> April. *Varius 2* had made a day trip into Stanley to replenish her tanks with fresh water and to get a few sundries. The following morning the *Great Britain* was floating nicely. The pumps were coping well with the amount of water that still seeped in from various places that we had so far been unable to trace. With assistance from *Malvinas* and *Lively* we moved without incident to the *Mulus 3*, and manoeuvred between the dolphins, only to find that our draft was too deep to get further than 30 feet over the pontoon. There was no time to argue or try anything else as we had to get back clear of the *Mulus 3* before the ebb tide caught us. This would have been quite a serious situation.

The *Mulus 3* had to be refloated and moved into deeper water. This was done with the minimum of fuss and some nice ship handling from Hans Hertzog and Chris Bundace with the *Malvinas*. We managed to get back to the pontoon early the same evening, but once again the weather had another go at us. This time it was recorded as gusting force 11, even stronger than on the three preceding days. We had no choice but to

keep all the pumps running, with mooring ropes on every conceivable protrusion, and ride the storm out. Had we not been so tired the experience would probably have been very exhilarating, to say the least. Strangely, the rudder that was stuck fast with rust at 30 degrees to port freed itself and assisted in keeping a reasonable heading throughout the worst of the storm.

The following morning the wind had dropped sufficiently enough to try again. This time we did manage to get completely over the *Mulus 3*, but we had to shift more mud and debris from inside the *Great Britain* just to get that couple of extra inches of draft. A great deal of diving followed to position the ship's keel exactly over the wooden docking blocks, and to make sure that the bilge keels would meet the side blocks. With the aid of pulleys and chain blocks from the weather deck to the tops of the Dolphins, we held the old ship firmly in position while the tide ebbed, and she settled nicely upright on the deck of the *Mulus 3*. Sometime not long after midnight, there was a frightening sound of a couple of very loud bangs like the reports of a firearm. On investigating, we found that the plates that had been bolted to the stringers to reinforce the area over the split had buckled and a couple of the bolts had sheared. This was particularly encouraging, as it indicated that as the pontoon was taking the 2,000 tons weight the ship was straightening herself back to her original form.

Early on Sunday 12<sup>th</sup> April the Germans started deballasting the *Mulus 3*, with the divers in full attendance, assisting with the air hoses and operating all the valves that had to be

opened and closed to keep everything on an even keel. These valve wheels were not exactly diver friendly, and our arms ached for some time afterward. One end of the pontoon was kept on the seabed as long as possible to aid stability. By mid-day we knew that we had succeeded, as the bow of the *Great Britain* started to rise above the surface, and as she emerged more and more we began to realise the enormity of our achievement.

I doubt if anyone could fail to admire the lovely lines of this old lady as she rose above the water. To me she looked like a clipper or yacht, and to enhance her appearance great sheets of scale coated with mussels fell off. This revealed iron that looked as good as new, especially before it was exposed to the air for long as it then took on a more rusty appearance. Pumping was finished the following day. The historians then reminded us that it was exactly 33 years to the day since she was scuttled in Sparrow Cove. We still had mounds of work to do securing the ship for the short trip into Stanley, as we did not want to take any chances at this stage. We moved several of the Dolphins firmly against the *Great Britain's* sides, and put a couple of runs of weld at the bottom to hold them in place. There was yet more water that we were able to pump out as we now managed to get inside the double Bottoms. It was very pleasing to note that the split had closed as well as if it had been done mechanically. All that showed was tufts of mattresses protruding. Very little water had seeped through our patching during floating, but of course many holes had appeared that we could not have seen whilst she was sitting on the seabed.

From the distance, and as many photographs show, when the *Mulus 3* was fully pumped out the *Great Britain* totally dwarfed the *Varius 2* and all that could be seen from the port side was the top of the large stern trawler's funnel. On the morning of 14<sup>th</sup> April all was ready to take the *Great Britain* into Port Stanley in order to complete sea fastening for the long tow back to England. Sadly, what followed was a show of very poor seamanship, and hopefully went unnoticed by all the spectators in the flotilla of small boats and people on every vantage point.

The *Varius 2* had coped well with towing the *Mulus 3* alongside previously, but now, with 2,000 tons sitting on the *Mulus 3*, the draft had increased plus the high sides of the *Great Britain* caught every gust of wind like an enormous sail. Bill O'Neil did not wish to interfere with the towing, as there was a sort of truce between him and the Germans to stick with the tasks they both specialised in. I suggested to both Horst Kaulen and Hans Hertzog that they move the *Varius 2* astern by about 10 metres so that she would be in the best position for this type of operation, which tug masters call a hip tow. The idea is that the stern of the tug is clear of the pontoon or whatever it is handling, giving it the ability to make full use of the rudder and be able to steer. I was told that there would be no problem and they would be able to steer okay.

I went on board the small antiquated wooden tug/launch *Lively* and took a rope from the bow of the pontoon. The *Lively's* sister tug, *Clio*, made fast to the pontoon and we got underway without mishap, and passed through the narrows

into Port Stanley Harbour. I doubt if any of us involved with the project, or any one else present in Port Stanley, will forget that special moment with all the cars (or rather Land Rovers) blowing their horns, and the bells from St Mary's and the much bigger Christ Church Cathedral ringing us in. However, we could hardly manoeuvre at all and spent several hours getting no closer to the jetty. All we could do was drop anchor in the middle of the harbour, as the wind had increased to gale force again.

What followed was a scary night. We dragged anchor, and Hans was unable to do much with the main engine due to the fact that we were yawing through 180 degrees, and we were all very pleased to see daylight. Fortunately the wind decreased and we weighed anchor, attached the *Lively* and the *Clio* to the fore end of the pontoon and put the *Malvinas* alongside the port side

Then, albeit terribly slowly due to our restricted steering, we were able to edge our way alongside the Falkland Islands Co. jetty. Had we not had this short lull in the weather the general opinion was that we might well have to head back out to Port William until weather conditions improved. Over the next ten days the *Great Britain* was firmly secured to the *Mulus 3* pontoon. For all this work we had to take on several welders from Port Stanley, some labourers to help with the heavy work cleaning loose scale and debris, driving wedges between the hull and chocks and also to assist us move most of the dolphins again to better positions for bracing.



We were not very popular with the project management team because we had to use cutting equipment to cut fairly large holes through the shell plate at the upper tween deck and weather deck levels to enable us to pass heavy wires and chains round the big stringers. Turnbuckles were used to fasten the chains and wires securely to the deck of the pontoon to help prevent any movement on the long trip home. Whilst the preparations for the lashings were being completed Bill O'Neil, Stuart Whatley and myself spent a full day inspecting and diving on the *Lady Elizabeth*, plus survey dives on the other hulks in Port Stanley Harbour. As the Risdon Beazley salvage team were required for other work in Europe and someone was required to remain with the *Varius 2* in order to report to the Risdon Beazley office if required, I suggested taking on a local seafarer. Kenny Thompson a Falkland Island able seaman and ex-shipmate /school pal of mine suited the role just fine. Kenny was about to return to the U.K. anyway to resume his seagoing career, and the idea of the long trip appealed to him.

Nearing the end of the preparations the *Great Britain* management team organised a cocktail party in appreciation for all those who had assisted in salving the famous ship. The party was held in the bar of a local Hotel, and was a great success. With great difficulty I managed to persuade my mother to attend. I noticed at the beginning of the evening she was trembling and on asking why, she admitted that it was the first time she had ever been in a pub! I guess I had forgotten that Falkland Island ladies did not go in the pubs as a general rule. It didn't mean they never drank alcohol, just that to do it

in a pub was not the thing to do many years ago.

We finally sailed on 24<sup>th</sup> April at about 0900 hours. A large gathering bade us farewell from the jetty and the faithful *Lively, Clio, Malvinas*, and the Royal Marines hovercraft escorted us, plus a flotilla of small private launches. The local air services aircraft made some very spectacular passes over us as their final tribute. In many ways, in spite of the success of the job, it was a very emotional time for the locals, as a great slice of history was shortly to disappear forever from the Islands. For me the strange feeling of elation of a good job, and that I was on my way back to Southampton to my wife and son, mixed with sadness at leaving my birthplace, mother, childhood friends etc, as I doubted very much if a chance to return would ever present itself again.



*Lyle dwarfed by the Great Britain & Great Britain at Sparrow Cove. Both photographs Lyle Craigie-Halkett*

We cleared the Cape Pembroke Lighthouse at about midday, and the tow was paid out to the satisfaction of the *Varius 2* captain. The sight of the great ship wallowing slowly in the South Atlantic swell is something I will never forget, as at times the pontoon would scarcely be visible, but the *Great Britain* really looked as if she was going it alone.

With perhaps a touch of seamen's superstitions, we all agreed that we thought the old lady really wanted to get back to her birthplace, as during the whole of the operation we were constantly amazed that most things turned out for the best, rather than having enormous set backs as so often happens in the realms of salvage. After four days the gale that had accompanied us died away, leaving a fairly heavy swell, but at least the sea was quite calm. So we took this chance to check on the pontoon with its strange load, so some way was taken off the *Varius 2* and the tow wires adjusted a little.



*Being manoeuvred onto the pontoon at Sparrow Cove*



*Moving from Sparrow Cove to Port Stanley      Both  
photographs - Lyle Craigie-Halkett*

Three of us, with a German coxswain, took the small steelwork boat and hung on fiercely as it was launched through the stern ramp (normally used for hauling trawl nets). After clambering on to the deck of the *Mulus 3* we checked all the lashings, braces etc and found every thing to be in perfect shape. Nothing had moved at all, except a few more tons of mussels and rust had fallen down and was starting to smell quite foul. After being accustomed to the throb of engines, it was very strange and peaceful.

We were now convinced that there was no foreseeable reason why the tow all the way back to England would be anything other than a normal towing job albeit a long one. On returning to the *Varius 2*, we realised it was perhaps a bit foolish to have used this method of launch and recovery in the open sea. As

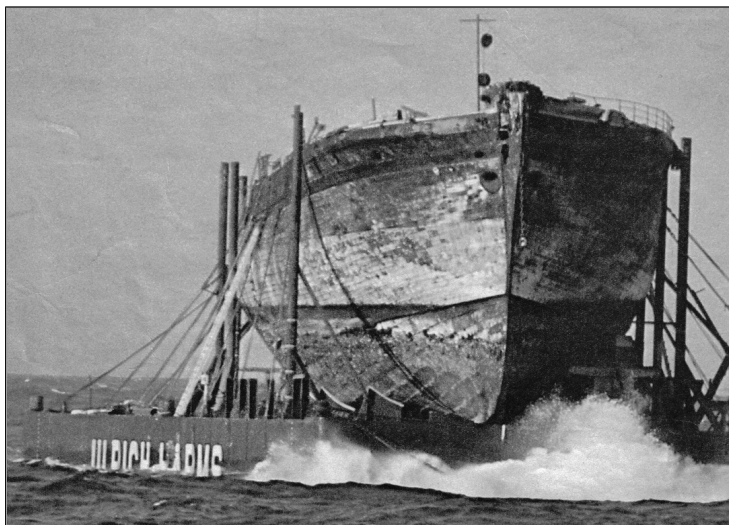
we approached the stern we could see the rudder at times, and of course the wash from the propeller was not helping. The bottom of the ramp was lifting five to six feet above the surface. Amid much shouting, we attached a hook over the bow gunwale, and then waited until the stern dropped in a trough. The winch driver had to heave full speed on three-ton winch and pull us up the ramp to safety, followed by a stiff drop of rum.



*Great Britain's salvage crew*

We reached Montevideo on 2<sup>nd</sup> May 1970. The average speed for the trip was just over five knots, indeed much faster than the trip down to the Falklands. The following two days were spent with further cleaning, lashing, and bracings. We also put in a few more cradles to help support the hull for the other 7,000 miles or so to go. On the 6<sup>th</sup> *Varius 2* and *Mulus 3*, with

the *Great Britain*, left Montevideo for the final and longest leg home. The Risdon Beazley salvage team returned to the U.K. to work on other projects during the time it would take for the *Great Britain* to near her final resting place. Historians had calculated that on her last and fateful trip to the Falklands, the *Great Britain* had averaged 4.5 knots, but on her return piggyback journey the average speed was actually 5.3 knots. The tow was mainly uneventful until the 1<sup>st</sup> of June. As they approached the Cape Verde Islands, stormy conditions slowed them to almost no headway at all, but most importantly, no damage was done to the *Varius 2* and her charge. The 14<sup>th</sup> July saw them making good speed again, and passed Madeira on the 18<sup>th</sup>. They were abeam of Cape Finisterre. Shortly after entering the Bay of Biscay, a RAF Nimrod with a press photographer on board took dramatic photographs, which very soon appeared in a newspaper with the headlines “Grandmother of them all”.





*S.S. Great Britain, towed by the salvage tug Varius II . Photo  
Lyle Craigie-Halkett*

The *S.S. Great Britain* Project Management team had a very difficult time with various authorities in respect of bringing this type of vessel into the United Kingdom on a pontoon - not to mention all the insurance required to undock her in Avonmouth graving dock, plus the risk of floating her on her own bottom for the last leg tow up the river Avon to Bristol. All this was not really the concern of Risdon Beazley Ltd, but what did concern us was the seemingly silly attitude of the Immigration authorities when they got wind of the fact that there was a Falkland Island seaman on the *Varius 2* (Kenny Thompson). Kenny was being paid by Risdon Beazley and was to leave the *Varius 2* on arrival and then continue in the employment of Risdon Beazley Ltd on their salvage vessels. As Kenny was born in the Falklands, he required a work permit if he was to remain in England, but as that had not been applied for and he was on a German ship he was refused entry. Kenny had been to the U.K. several times before on vessels belonging to the British Antarctic Survey, and whilst those ships were in the U.K. for the Austral winter the crews signed off and could go wherever they wished. It was pointed out that Kenny had family living in Oban, Scotland. Also that his ancestors were born in the United Kingdom two generations previously. This did improve the situation a little, but nonetheless he was on a German ship entering British waters. I am not sure who came up with the ludicrous



solution, (me, Roy Martin) but as the small convoy neared the Pilot Station the work boat from the *Varius 2* had to take Kenny, complete with his kitbag and personal effects, and put him on the pontoon. He then had to climb on to the *Great Britain* and thus he was allowed entry to England, as a British seaman on a British ship. It took several months before Kenny Thompson managed to see the funny side of his entry into Britain, as he could be credited with being the first able seaman belonging to Brunel's famous ship since 1886! Captain Hans Hertzog had a bit of a problem as he had been requested to slow down so that Jack Hayward, who had financed the project, would be able to take aerial photos of the convoy passing Lundy Island. This was not at all easy, due to a following wind, and the *Great Britain* acting like a great sail, not to mention that the Bristol Channel has one of the strongest currents in England. However I think the outcome was satisfactory.

The small Risdon Beazley diving/survey vessel *Queen Mother* had met the *Varius 2* in the South West approaches with equipment that would be required for the next phase of preparing the *Great Britain* for her last trip on her own bottom. *Queen Mother* seems a very strange name for a salvage boat, the reason for this was that she had previously been a pilot boat, and was actually launched by H.M. The Queen Mother, and one of the conditions of her sale was that the name would not to be changed. It had caused a few funny moments, such as when one of the crew was returning to the ship in Gladstone Dock Liverpool after a pub-crawl. The dock police on the gate asked the usual question "What ship do you

belong to?" "*Queen Mother*" was the reply. He was told there was alternative accommodation available for smart asses, and had to wait until a list of ships in dock had been studied before sending him on his way. Not long after acquiring the *Queen Mother*, we were searching for the wreck of the Elder Dempster ship *Apapa*, which had been torpedoed on November 28<sup>th</sup> 1917. A Panamanian registered cargo ship pestered us for several hours requesting a pilot for Liverpool. They had obviously looked at an out of date Lloyd's entry, and seen that the *Queen Mother* was a Pilot Vessel.

The *Varius 2*, *Mulus 3* and *Great Britain* arrived at Avonmouth during the morning of 23rd June 1970. The tow was released and a local tug, the *Sea Challenge*, took over the responsibility of bringing the pontoon and load into dock. As we entered the Royal Edward Dock, the *Great Britain* was welcomed back by all the ships in dock sounding their hooters. I doubt this was pre-arranged, as for the couple of minutes it continued the noise increased until it was just about deafening. In spite of the docks being closed to sightseers, every vantage point was packed with press photographers, reporters and the general public trying to get a photograph.

We moored the *Mulus 3* in a lay by berth as a ship was currently occupying the graving dock. We had quite a lot of work to do preparing for floating her off the pontoon. The major job was to cement over the patch covering the split in the Starboard Side, so Bill O'Neil requested a large amount of quick setting cement, which was promptly delivered. The trouble was that we had to hand carry the cement across a

gangway and then down almost vertical ladders to the bottom of the ship, and then had to really go like fury as the cement was setting so quickly. On completion of our job, there was more than half the load of cement still tumbling round in the lorry. When we told the driver we didn't require any more, he said we had to have it all as he had no place to take it, and it must not be allowed to set in his lorry for obvious reasons. After a few heated moments he just tipped the lot on the quayside and sped off. The following day a couple of workers had to be hired to remove the mound of cement that had set solid, using jack hammers, which took several hours. On July 1<sup>st</sup> all the loose equipment, such as the masts, were removed from the deck of the pontoon. A further strong steel plate had to be welded over the split at the insistence of the people responsible for the tow to her final destination in Bristol.

Horst Kaulen had flown over from Hamburg to oversee the floatation. We had quite a fright during the operation, caused by a sticky valve in the *Mulus 3* due to trapped air, and she suddenly took a Starboard list, causing the *Great Britain* to rear over to Starboard. Meanwhile the trapped air was rushing out from the port side bottom valves of the *Mulus 3*. The press photographers just about caused a stampede on the dock edge, trying to get a good shot of the air escaping, but as soon as the compressor was stopped so did the escaping air. I dived and managed to free the faulty valve and after a few hours the *Great Britain* was safely afloat without assistance, except for occasional pumping to keep her totally dry inside.

Two of us split the night between us by keeping a close watch

on the ship, and of course keeping a keen lookout for new leaks. But I am proud to say that she was reasonably sound; the small trickle of water seeping in was no more than on many ships I have worked on, but we had to keep alert. Additional portable pumps had been placed throughout the lower hold, and our big salvage pumps were primed and ready for any eventuality. A platform was erected with scaffolding from side to side to act as a bridge so that the pilot would be able to keep a good watch on the tugs and bends in the river. Once again the weather took a hand in the schedule, and in spite of the riverbanks being lined with photographers and sightseers alike, the tow up the Avon had to be postponed due to the wind gusting force five to six. It was a great disappointment to the many people who had travelled a long way to see the spectacle of the *Great Britain* being towed to her final resting-place. British Rail had organised a special train from London that was to be stopped at the Avon Gorge as the ship went past. Whether they had time to cancel the bookings I never heard.

Even though our main concern was to watch every nook and cranny for any sudden inrushes of water, we took furtive glances of the world outside, and could not believe the great numbers of people everywhere watching our progress. It was later revealed that many people had slept in their cars overnight in order to see the spectacle, and it was later estimated that 100,000 people turned out to watch the *Great Britain* being towed to Bristol. It was quite an emotional trip, especially passing underneath the Clifton Suspension Bridge, another of Brunel's masterpieces. In 1844, outward bound

from her builders, she had of course passed the same place, but that was before the bridge had been built. The foundation stone of the bridge was laid on August 27<sup>th</sup> 1836, but the bridge was not completed until December 1864.

On arrival in Bristol we berthed in Y Dock to await the next suitable spring tides, which were just about two weeks away. This was to make sure that the *Great Britain* could pass over the sill into her permanent dock, which incidentally is the same dock that she was built in. We had to trim the *Great Britain* by the head to bring the stern up enough to clear the sill. Using a rubber water filled bladder, giving a weight of about fifty tons placed in the bows, did this. We finally squeezed into the Great Western Dry Dock during the evening of the 19<sup>th</sup> July 1970. By chance it coincided with her being launched from the same dock on the 19<sup>th</sup> July 1843, for no other reason than that it was the only suitable predicted high water.

Prior to the tow from Avonmouth through the river Avon on Saturday July 4<sup>th</sup>, Bill O'Neil had been told by the Southampton office to ensure that all the Risdon Beazley team were suitably attired in clean Risdon Beazley coveralls etc, as there would be a good deal of press coverage. Bill did not have coveralls so he gave £20 to a person closely associated with the team (although now deceased and should remain nameless), to buy him a white coverall. It was several hours before the person reappeared, obviously having had a very liquid lunch, clutching a plastic carrier bag and being assisted by a taxi driver, who was demanding his fare. The following morning

was still a bit windy, but the dock the great ship occupied was required that day for another vessel, so the decision was taken to proceed. Shortly after leaving the dock, Bill O'Neil put on his new white coverall and commented "Not too bad, but a bit short in the leg." However, on turning his back to us, everyone burst into laughter as 'Kellogg's Cornflakes' was emblazoned across the back. Needless to say, he had to keep a jacket on for the remainder of the day.

The Duke of Edinburgh visited the ship during the final docking. We found it rather disappointing that he said little to Bill O'Neil, the salvage officer, and gave us the impression that he thought it was only German salvors who had salvaged Brunel's vessel and brought her back to Bristol. (Perhaps he had not been sufficiently well briefed). The Risdon Beazley involvement was now at an end, and after the ship settled on the chocks we gathered our equipment together and returned to Southampton.

The S.S *Great Britain* was credited with many firsts, and she now has a few more to add to that list. The first vessel having failed to round Cape Horn to be salvaged from the Falkland Islands. The first ship of more than 1,000 tons to be salvaged on a submersible pontoon. The longest tow with that type of load by a Stern Trawler (this record still stands). The actual salvage was achieved in nothing short of record time, unfortunately no one other than professional salvage operators would appreciate this fact. I pay a visit to the *Great Britain* practically every summer, and it is very gratifying to see how she is sympathetically being restored to her former

glory.

I would like to dedicate this as a tribute to Bill O'Neil who sadly passed away several years ago.





*Lowering the mast and 'that' crack Lyle Craigie-Halkett*