Bedford Sub-Aqua Club Expedition
"The Optimist Challenge"
5-8 September 2008

Thursday

Most of the divers made their way to Sea Palling during the evening on Thursday, with Lisa and Kevin arriving last at about 10.30. We all piled into the caravan to hear the briefing from Paul C, who was designated as Dive Manager for the first dive on Friday.

Many of the divers had taken the opportunity to dive the Ethel during the summer and Kevin had produced an artist's impression of the wreck, which proved very useful in evaluating and modifying the planned tasks. Graham and Kevin's experience is that when the wreck is shotted, the shot is likely to end up in the area of the boiler (central) on the wreck. In the end it was agreed that all three pairs will descend that shot line: the first pair (Fiona and Rebekah) will head for the bow; the second pair (Paul C and Linda) will head for the stern and the third pair (Graham and Clive) will recover the grapple and send it up using a lifting bag. The bow and stern pairs will be armed with a length of line sufficient to use as a shot line and a DSMB. On arrival, they will attach the lines (very firmly) to the bow and stern respectively and send them up via the DSMB. Once pair 3 has recovered the grapple, they will head for the bow and, if there is time, lay the measuring tape from bow to stern and measure the length of the wreck. The bow and stern pairs should also record the depth of the sea bed at bow and stern and record the height of the wreck from the sea bed. With any remaining dive time they might photograph points of interest in these locations.

Once the brief was completed, the team headed off to get some much needed sleep in preparation for the day ahead.

Friday

The alarms went off at 6 a.m. and everyone was up, dressed and breakfasted as soon as possible. Paul (our host) had the TV on to catch the weather forecast and Graham and Kevin went off to look at the sea. In spite of what the TV said, the sea looked almost flat calm and we were all set to go. Paul W arrived just as we were leaving to go down to launch the boat and that meant that the whole team was present for the start of the diving. The boat was prepared, all kit stowed aboard (except for Rebekah's weightbelt – Bekah, you definitely owe Paul C a pint after making him run all the way back to the truck!) and the two shot lines with DSMB attached were carefully fed into two net bags. The boat was

hooked up to the tractor and the launch commenced. By 0700 the boat was heading out to the dive site, leaving Paul W, Helen and Lisa tasked with fuel shopping and administration.

The journey out to the dive site was uneventful and the wreck was shotted successfully on the second attempt. The first pair went in at 0805 and found the grapple located between the boiler and the bow. They turned and headed for the stern, stopping at the boiler to record the depth to the top. They looked at the engine block and swam along the prop shaft tunnel before taking measurements at the deck of the stern. They attached the shot line to a framework just below the stern railing and then went down to record the depth of the sea bed. They completed the dive by returning to inspect the area around the prop shaft tunnel and then sent up their DSMB. Pair 2 went to the bow, where they looked for something sturdy to attach the shot line to. They chose a suitable piece of wreckage and attached the shot line using a series of reef knots. They then sent the line up on the DSMB as planned. They looked around the area of the bow and found an Admiralty pattern anchor, sitting upright on one of its flukes on the port side of the wreck. Pair 2 returned to the grapple (pair 3 had not yet arrived) and shortly after decided to send up their DSMB and ascend. The stern shot was also sent up successfully. Both pairs reported that the line-in-a-bag system worked very well. Pair 3 entered the water at 0837, descended the shot line, put a lifting bag on the grapple and sent it up. They then went to the bow and attached one end of the tape by means of a Prussic knot, and then started to lay the tape, working towards the stern. By this time the current was starting to pick up and it became increasingly difficult to lay the tape, so they decided to secure the tape at about 21.5 metres to a post on the starboard side. From this point, they moved across to the port side, around the boiler and on to the stern. At the stern they measured the depth of the deck, before heading down into the scour under the prop where they again recorded the depth. From there they went back along the port side: however the current was beginning to get very strong, so they sent up a DSMB and ascended.

During the morning the wind blew up and it started to look unlikely that we would dive in the afternoon. Nevertheless we continued as if we were diving and got the kit and boat prepared for the second dive. The decision was made that we would launch and would go out to “suck it and see”. We got three miles out and the swell was considerable. Paul was driving the RIB with Kevin supervising and coaching. Paul commented how mentally tiring it was to drive a RIB in such heavy swell and how he felt he had learned a lot about driving the RIB in more difficult sea conditions. The decision was made to return (very slowly) to Sea Palling. We considered a “reccy” dive on the Fulgens, which is one of our reserve wrecks: however the swell was no better closer to shore and the day’s diving was abandoned.

Whilst waiting for the tractor to come to recover the boat, Clive gave an impromptu class on Cardinal Marks and how to measure cloud cover using the Okta system. Once the boat was recovered and everyone fed and showered as required, Graham took Kevin, both Pauls, Fiona and Bekah to learn partial pressure blending and to fill the cylinders used during the morning dive. Clive, Helen, Lisa and Linda stayed behind to start recording the morning's data and plan for the next day.

A brief planning session before dinner resulted in a group decision to leave the kit where it was on the boat and stay with the same buddy pairs and tasks as we had planned for the afternoon dive today.

Saturday

The weather on Saturday morning was overcast and slightly breezy: however the decision was that the sea state was just about acceptable and the RIB left Sea Palling at 0700. On arrival at the dive site we were delighted to see that in spite of the rough seas overnight, our little red canister was still supporting the bow shot line (well-spotted by Fi!) First in were Kevin and Linda who were tasked with laying the rest of the centre tape and sending the stern shot line back up. They went in just before slack and had a bit of a fight to get down the line: however they carried out their task successfully right up to the point where, after they had taken the final length measurement, they discovered that the tape had subsequently broken at the stern shot line. They re-attached it just behind the aft castle and tied it off.

Lisa and Fi went in second, tasked with measuring the port side of the wreck. Unfortunately, on arriving at the bottom, Lisa realised she had forgotten the tape measure and, furthermore, forgot that she could have used her line reel which she had marked off in metre intervals for the first 20 metres. After a quick "discussion" they decided to hang around the bow section in case Clive and Paul brought the second reel with them when they came down the line. Lisa sketched and photographed while Fi sought out creatures to photograph and record. After about 20 minutes it was obvious that Clive and Paul weren't coming, so they headed aft. Lisa found a very large Lobster in the boiler and Fi found a couple of tiny white Nudibranchs. Arriving at the stern shot line, it was clear that Kevin and Linda had been successful in sending it back up, so Lisa and Fi started to ascend it. When they were part way up it started to feel like the knots had come undone and seemed to go very slack for a while, so they started to prepare a DSMB to send up. Then the line went taut again and they completed their ascent successfully using it. It turned out that Paul C had frantically been trying to re-attach the canister to the top whilst they were ascending the line!

The journey back to Sea Palling was, once again, exhausting for skipper and divers alike, due to the heavy swell. However the forecast was that it would get

no worse, so the decision was made to go back out, but to go to one of our reserve wrecks, the Fulgens, which is only 2 miles out. During the three-hour break, Lisa went through the Dive management 1 module for Dive Leader with Paul and Rebekah, who are both working towards Dive Leader and have nearly completed the course. Rebekah was appointed as (supervised) Dive Manager for the afternoon dive, and Clive covered all aspects of the safety briefing with her so she would be ready to give the briefing to the troops before launch.

We launched at 2 pm and Clive took the role of skipper for the short journey out to the wreck. The wreck was shotted quickly: however the current was still running. Kevin and Linda dropped in first, but missed the line and were carried away by the wind and the tide, so Clive gave them a very gentle tow back to it. Graham and Rebekah went in shortly afterwards. Although we had planned for them to take in the metre-squares Paul C had made to practice a marine life survey, we failed to pass these to them successfully and they went down without them. Their secondary task was to carry out a “reccy” of the site and gain an impression of its layout so we can consider how to survey it. Lisa and Fi had developed a more ambitious plan involving Lisa’s marked-up line reel and a circular search. She had prepared a slate with concentric circles on it, planning to use the reel at 5, 10, 15 and 20 metre distances to search the area around the grapple. After dropping in without the slate, it looked like they might have to descend without it, but Lisa wasn’t having any of that and managed to hold on at the top of the shot line until Clive was able to manoeuvre the boat close enough for Helen to throw the slate to her. She caught it as it started to sink, passed it to Fi and they headed down.

The grapple was located in an area where there were large plates, and it was obvious that it would be easy to recover it, so Lisa attached the line to it and reeled out to 5 metres. The first circle was quite easy to perform and Fi marked items of interest onto the circle as Lisa controlled the reel and photographed marine life and points of interest. The second circle was slightly harder, with the 10 metre line, which snagged a little. Because of the height of the plates and other wreckage, the 15 metre circle proved very difficult, and it became very confusing for poor Fi who was trying to work out how far around the circle they had got, only to discover that the line had snagged and doubled back. At the limit of the 15m circle, when they were almost three quarters of the way around, they spotted a large area of wreckage that was high off the bottom, so they gave up on the circle and went out past the 20m mark where they found an engine and a large boiler, all covered in Plumose anemones and other life, and teeming with Bib and Poor Cod. After a brief examination of this area it was time to go back to the grapple, to ensure there was time to move it clear, attach the lifting bag and send it up. This was done successfully and, after comparing dive time and air remaining, they realised that there was time to go back for a better look at the engine and boiler, which they duly did. Their ascent was carried out from the top of the boiler at 15.5 metres, having deployed the DSMB.

While the afternoon dive was being carried out the two Pauls worked on a new plan for placing a centre line on the Ethel. The measuring tape had proved too weak for the task and had snapped due to the current across the wreck being too strong. In addition, it was easy to misread or misunderstand the measurements on it. Paul C came up with the idea of using a rope with knots tied at 3 metre intervals. Paul W came up with the idea of marking it with insulation tape instead of knots.

The post-diving activities in the evening included a detailed survey of what gas supplies remained and what the plan for filling would be. Due to the large number of cylinders we had managed to beg and borrow between us, the gas filling has not been as frequent as we had expected. Paul W, who is to be tomorrow's (supervised) Dive Manager, was tasked with working out what full cylinders were available and what filling would need to be done to ensure we only had to go and fill one more time. Having done that, we then looked at how this would be accomplished and by who, and who would dive and who would cox the boat for the first dive tomorrow. It was finally decided that the filling would be done by Kevin and Paul W, both of whom have to return home after the first dive tomorrow, so they were keen to be divers for that dive. Graham would cox the boat and the divers would be Kevin, Paul C, Clive, Paul W, Rebekah and Fi; leaving Lisa and Helen to work on logs, lunch and finances! Linda was then able to take up an invitation she had received from another club to go out for a day's diving with them.

Rebekah carried out a debrief on the afternoon dive during dinner, and afterwards the team returned to the caravan to log the rest of the data from the day's dives.

Sunday

The weather on Sunday morning was much better than it had been so far, with fairly calm seas and a bit of sunshine. The clouds rolled in just as the boat left Sea Palling at about 8 a.m.

There was some concern regarding being to locate the Ethel in the event that the canisters had become detached from the shot lines, as the Fishfinder had developed a fault after the last dive and was now unusable. The back-up plan was, therefore, to redirect to the Fulgens if this happened, as the Fulgens is much easier to shot, being scattered over a large area.

The journey out to the wreck site was accomplished quickly as it was a flat calm. On arrival the team found that the bow shot canisters had gone, but the stern shot was still in place. On arrival at the site, Rebekah and the Pauls used the water quality sampler that Rebekah had brought with her.

Clive and Paul W were the first pair in on the stern shot. They laid out the marked rope, keeping it as low to the deck as possible, passing it under the stern winch and across the top of the engine and boiler, and tying it off where needed to prevent it from floating in the water and causing a hazard. Kevin and Rebekah were the second pair in (measuring the port side of the wreck), followed quickly by Paul C and Fi (starboard side). The measurement proceeded with both teams working quickly, efficiently and in tandem! The visibility was excellent, and the teams could see each other at work during the process. Rope signals were mostly not necessary and the pairs used torch flashing and visual/hand signals instead. The measurements were completed successfully, including a measurement of the height of the boiler and the depth of the sea bed inside the wreck. The teams finished at the bow with plenty of time and air to spare, so they went on a “bimble” to see what else they could see. All ascended using DSMBs at the end of their dives and the bow shot was re-established.

The weather had worsened during the dive, and the journey back from the wreck site was a little “lumpier” than on the way out. There was some question as to whether it would be possible to get back out on the Ethel in the afternoon. As it turned out, the wind blew up, and only the hardiest of divers were launching and heading out from Sea Palling for the afternoon’s diving. Lisa, Graham and Paul C stood at the sea wall and watched the sea and decided on the prudent course of action. The waves were crashing onto the beach and the launch and recovery would have been potentially quite hazardous, therefore even the idea of a dive on the Fulgens was abandoned.

The afternoon was spent arranging for kit that was no longer required (mostly empty cylinders) to go home with Kevin and Paul; working out trip costs and reviewing the diving that had been done and the data that had been collected. Lisa used the measurements that had been taken on the morning’s dive and plotted them on graph paper to produce a plan view of the Ethel. The result was definitely ship-shaped. She then started work on a side elevation and managed to draw the two ends and the engine and boiler in the middle, but not much else. Potentially more measurements to be gathered tomorrow! Then Clive provided a lesson on chartwork which took us to 6 p.m. and almost time for dinner.

Monday

We awoke to an almost flat calm and the best weather forecast we’d had all weekend. The diving plan was finalised and we launched shortly after 9 a.m. On arrival at the wreck site, we were pleased to see that both markers were still firmly attached to our shot lines, so when slack arrived, we kitted up and went in. Paul C and Linda were the first pair in, tasked with measuring the dimensions of and distances between the key points of interest on the wreck, and also with recovering the lines and tapes we had put on it. They went down the bow shot

line and started work at that end, leaving the stern shot line for last and thus allowing the other two pairs to use it for descent. Rebekah and Graham went in next, armed with one of the metre squares Paul C had made. They were to carry out a marine life survey on the Port side of the wreck. Lisa and Fi were carrying out a marine life survey on the starboard side, but first Lisa went down to the bottom to check out the underside of the stern and the propeller, as she had not yet seen these. She noted that the two top blades of the propeller were snapped off; one half way across the blade and one completely. She then ascended to the deck where Fi had assembled the metre square and was ready to start the count. The vis was superb, but even so, counting marine life on a wreck which is so completely covered in it is certainly not an easy task. Lisa and Fi's count become less quantity and more variety as the dive progressed, as both of them were keen on marine life identification and had a fair idea of what they were looking at. They managed to get about three quarters of the way along the wreck before time and air were getting short and it was time to ascend. Whilst working on top of the boiler, they looked up and saw Graham and Rebekah preparing to ascend from their dive. Graham gave the double "OK" signal – what a fantastic dive!

Graham and Rebekah's marine life survey also went well. Paul and Linda were successful in recovering the lines, and developed a system that worked quickly and well. This left them with enough time to take most of the measurements that were required as well. All pairs ascended safely and the diving was complete.

The trip back was uneventful and it was then time to wash down the boat and equipment, eat lunch, pack up and head home.

We all felt that the expedition had been a great success, even at this point: however we were also keen to come back and finish the work we had begin on the Fulgens. The Fulgens will be a challenge to measure and map out, because it is spread out over quite a large area and you have no idea exactly where on the wreck your initial shot will land. We have decided to use our reserve weekend, for those of us who are able to make it, to do three more dives on the Fulgens in order to collect more data and hopefully produce some kind of a wreck tour for this wreck as well. Between now and then we will all be racking our brains to come up with the best techniques for surveying the Fulgens!

20-21 September 2008

Friday

Most of the re-formed BEGS expedition team assembled at Sea Palling from 7 p.m. on Friday night. Lisa and Paul were first to arrive and Paul immediately started work on fitting the new Fishfinder (we had discovered that the old one was broken after the last dive of the 5-8 weekend and it had not been possible to repair it). It was not an easy task because it was already almost dark and Paul was working by torchlight. In addition, the bolts on the old mounting were very difficult to undo and one proved impossible. Paul ended up slotting the new Fishfinder into the old mounting and fixing it temporarily with tie wraps. A proper job would be done in the daylight. When Ian, Rebekah and Graham had arrived, Paul went through his plan for the next day's diving.

The idea would be to try to shot the wreck as close to the boiler as possible and then pair one would go down the shot line, clip a reel onto the shot and head off in search of the boiler. If the vis was as good as the last time we dived the Fulgens this ought to be relatively easy. Pairs two and three would follow pair one's line from the reel to the boiler. Pair one would lay one of the new marked-up 30-metre lines from the boiler past the engine in as straight a line as possible (ie hopefully in the direction of what would be the bow of the wreck). This line has marks (tie wraps) every 3 metres and karabiners at 0, 15 and 30 metres. Pairs two and three would clip the tape measures onto the karabiners at 0 and 15 metres initially, and survey the port and starboard sides respectively, using triangulation. If the initial survey did not take too long they would then survey between 15 and 30 metres. Once the "bow" line was laid, pair one would go to the back of the boiler and lay a shorter line in the direction of the stern (shorter because this wreck was an aft-engine collier, therefore the boiler and engine should be closer to the stern than the bow). They would then return to the boiler and send up a fixed shot line from the top of the boiler, to be used for subsequent dives. The last part of the plan was that pair three would, assuming the bow line had been laid, unclip the initial line from the grapple, clip it to the nearest suitable piece of wreckage and then send up the grapple using a lifting bag. Pair one would need to reel back and unclip before ascending on their DSMB. A fairly ambitious plan for a 40-minute slack: however the stern line could always be done on a subsequent dive if time was running short.

Saturday

We had calculated that slack water on the Fulgens would be at approximately 8.30 a.m. so we launched at 7.45 and arrived at the wreck site at 8. The sea was almost a flat calm and the sky was blue. Cloud cover, using the Okta scale of

course, was probably a zero! On arrival we quickly realised that slack water had fooled us again and come half an hour early. We shotted the wreck in double-quick time, threw our kit on, buddy checked and hit the water. Pairs one and two (the Pauls, and Lisa and Daniela) went in within minutes of each other. Pair three would kit up afterwards and go in last.

Heading down the line the water was dark and full of sediment. Things were not looking promising. Arriving at the bottom of the shot line the Pauls discovered that the grapple had landed right beside the boiler (impressive shotting from Graham R) and that the visibility was about six inches! Paul C assessed the situation: the tide was already beginning to run, the visibility was awful and there was no way it would be safe to start laying lines in those conditions. He made the decision to abort. Lisa and Daniela were hanging on the line just above the Pauls. They received the signal to abort the dive and headed back up the line. Once both pairs had arrived back on the surface, they explained the situation and Ian and Rebekah agreed to go down and recover the grapple. It was obvious at this time that there would be no point trying to dive the Fulgens again this weekend. We later discovered that during the past week, work had started on the sea defences being constructed at Wroxham, involving a large quantity of sand being dumped in the sea there. We believe that this could explain the poor visibility at this time.

After speaking to some local experts and consulting another group who had gone diving to the South of Sea Palling that morning, we decided that our best chance of good visibility was further out to the North. We settled on a wreck called the Camilla Weston which was reported to be approximately 25 metres deep and as such, is another wreck that might be suitable for new Sports divers to progress depth and experience. It took us a few attempts to get the shot on the wreck and then we had a fairly long wait before slack water arrived (we had learned our lesson from this morning and gone early!) In the end, only one pair (Ian and Rebekah) carried out a dive on the wreck. Paul and Lisa got as far as 26m and had not actually reached the bottom of the shot. They were put off by the darkness and apparent poor visibility and decided to abort. Ian and Rebekah reported that the shot had actually landed in the shadow of the wreck, on the sea bed close to the stern. They also reported that this wreck was upright and apparently intact, with an intact superstructure that rises up to about 15 metres proud of the sea bed. In good visibility and assuming we could shot it actually on the wreck, this would definitely be suitable to depth progress Sports Divers. Unfortunately, we failed to retrieve our grapple, so the plan for tomorrow will be to return to the wreck (weather permitting) and recover it.

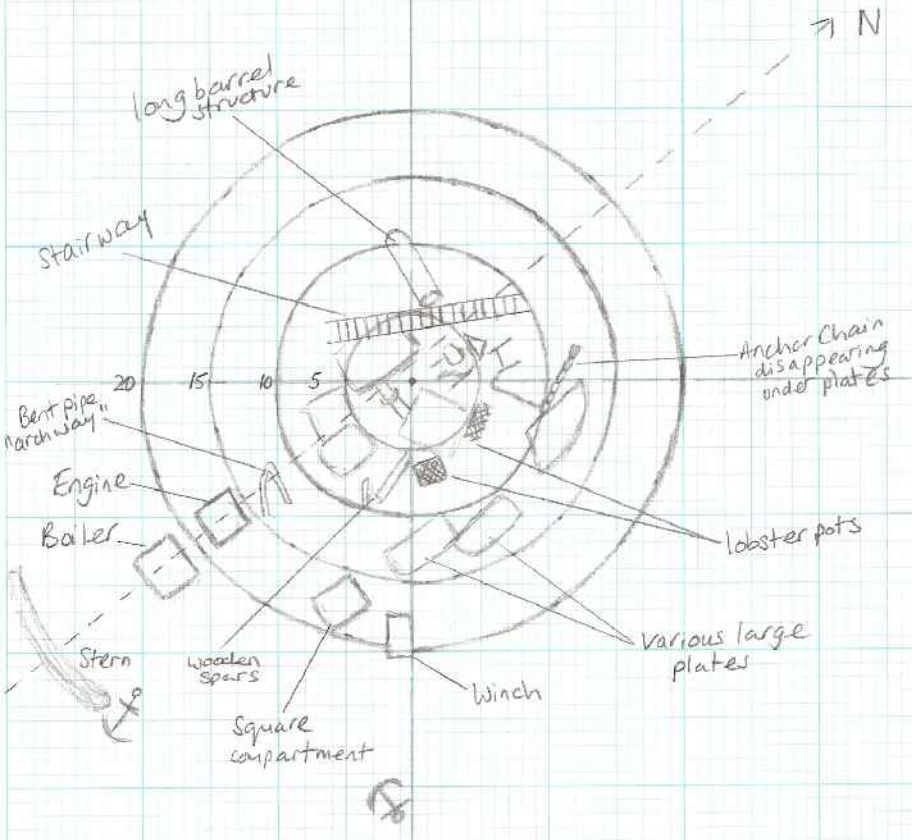
On the way back we decided to check out the lagoon next to the Sea Palling launch area where we had been advised you can find suitable conditions for training, for example navigation etc. We dropped in on the seaward side of the rocky groins (check spelling) that protect the beach around Sea Palling. We found a silty, sandy bottom covered in worms, crabs and sand gobies. Once we

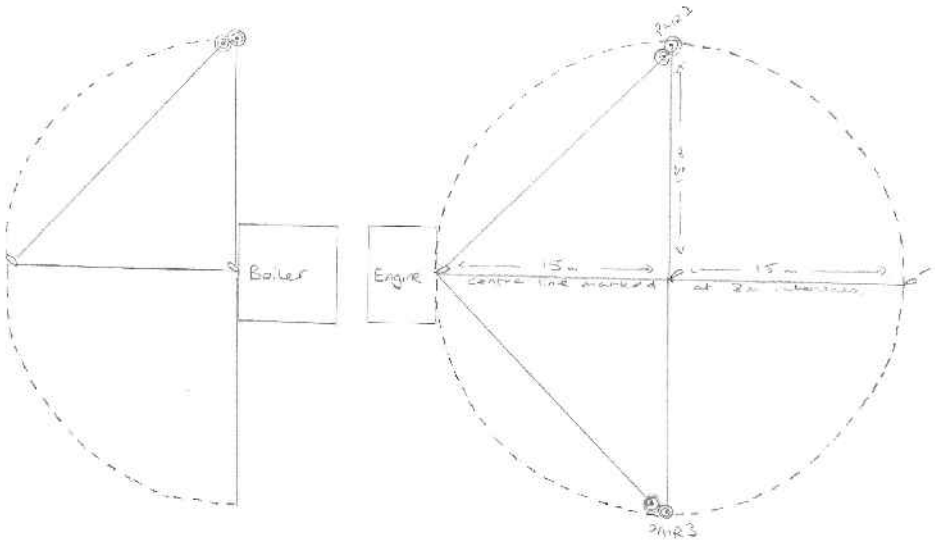
reached the rocks we found them covered in mussels, all open and frilly; and feeding on the mussels were large numbers of common starfish. Paul and Rebekah saw a couple of Lobsters and there were also a number of Dahlia Anemones, although less colourful than those on the Ethel and Fulgens. It was only a short dive, as the last tractor collection is at 5 p.m. however it was a very pleasant dive and resulted in quite a few good photographs. We often find that our new Ocean Divers come to the end of their training without having dived in the sea. We are now confident that we can consider taking them to Sea Paling, walking out across the sand bar at low tide and introducing them to sea diving and currents in comparatively safe and controlled conditions.

Sunday

Sunday's weather was blue sky and almost flat calm. A successful dive on the Camilla Weston in better visibility than the previous day resulted in the grapple being recovered and all divers reporting it as an excellent wreck. We are definitely keen to return next year to gather more information about this wreck and its inhabitants.

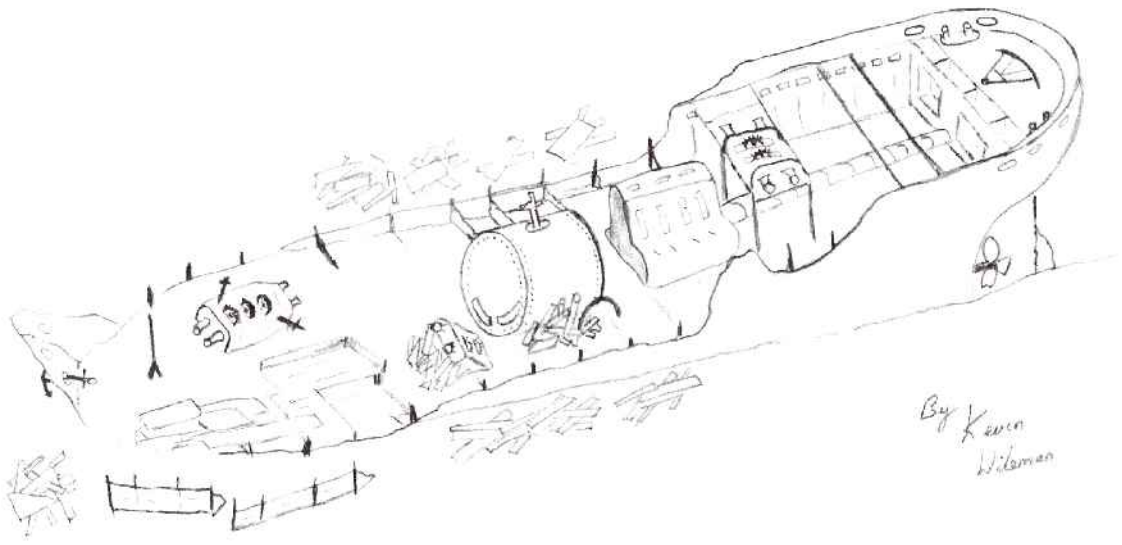
INITIAL IMPRESSION OF PART OF THE WRECK OF THE FULGENS





PAUL C'S PLAN TO SURVEY THE PULGEMS

WRECK OF THE SS. ETHEL



By Karen Wileman

Optimist Challenge, Diving Plan, 5-8 September

Friday

Name	Role	Task
DIVE1 - Ethel		
Kevin Wileman	Skipper (ADM)	
Rebekah Kilpin	Pair 1	Descend shot, fix line to bow and send up on DSMB
Fiona Read	Pair 1	Take depth measurements at bow
Paul Carpenter	Pair 2 (DM)	Descend shot, fix line to stern and send up on DSMB
Linda	Pair 2	Take depth measurements at stern
Clive Bowen	Pair 3	Recover grapple. Lay measuring tape from bow to stern.
Graham Hucklesby	Pair 3	
Lisa Bedard	Non-diving	House keeping. Set up data log on laptop to ensure
Paul Wogan	Non-diving	recording of data following dives.
Helen Bowen	Non-diving	
DIVE2 - Ethel		**ABORTED**
Paul Carpenter	Skipper (ADM)	
Kevin Wileman	Pair 1 (DM)	Re-lay centre measuring tape and take length
Linda	Pair 1	Measurement. Send stern shot line back up on DSMB.
Lisa Bedard	Pair 2	Descend bow shot line and take width measurements
Fiona Read	Pair 2	Along the port side at 3-metre intervals.
Clive Bowen	Pair 3	Descend bow shot line and take width measurements
Paul Wogan	Pair 3	Along the starboard side at 3-metre intervals.
Graham Hucklesby	Non-diving	Gas filling then record data from dive 1
Rebekah Kilpin	Non-diving	Gas filling then record data from dive 1
Helen Bowen	Non-diving	Gas filling then record data from dive 1

Saturday

Name	Role	Task
DIVE1 - **		
Paul Carpenter	Skipper (ADM)	
Kevin Wileman	Pair 1 (DM)	Re-lay centre measuring tape and take length
Linda Krupa	Pair 1	Measurement. Send stern shot line back up on DSMB.
Lisa Bedard	Pair 2	Descend bow shot line and take width measurements
Fiona Read	Pair 2	Along the port side at 3-metre intervals.
Clive Bowen	Pair 3	Descend bow shot line and take width measurements
Paul Wogan	Pair 3	Along the starboard side at 3-metre intervals.
Graham Hucklesby	Non-diving	Housekeeping and record data from dive 1
Rebekah Kilpin	Non-diving	Housekeeping and record data from dive 1
Helen Bowen	Non-diving	Housekeeping and record data from dive 1
DIVE2 - Fulgens		
Clive Bowen	Skipper (*SDM)	Supervising Rebekah
Kevin Wileman	Pair 1	Use metre-squares to carry out marine life survey
Linda Krupa	Pair 1	And general reconnoitre
Graham Hucklesby	Pair 2	Use metre-squares to carry out marine life survey
Rebekah Kilpin	Pair 2 (DM*)	And general reconnoitre
Lisa Bedard	Pair 3	Use marked line and reel to carry out circular search
Fiona Read	Pair 3	And record locations of key points of interest
Helen Bowen	Non-diving	Record data from previous dives and write log of events
Paul Wogan	Non-diving	Devise and construct marked line to be used for
Paul Carpenter	Non-diving	centre line on Ethel.

Sunday

Name	Role	Task
DIVE1 - Ethel		
Graham Hucklesby	Skipper (ADM)	
Clive Bowen	Pair 1 (*SDM)	Lay marked line along centre of wreck and take length
Paul Wogan	Pair 1 (DM*)	measurements.
Kevin Wileman	Pair 2	Take width measurements on port side of wreck
Rebekah Kilpin	Pair 2	
Paul Carpenter	Pair 3	Take width measurements on starboard side of wreck
Fiona Read	Pair 3	
Lisa Bedard	Non-diving	Record data from previous dives and write log of events
Helen Bowen	Non-diving	Work on cost calculations
Linda Krupa		Invited to dive with another group
DIVE2 - Ethel		**CANCELLED**
Clive Bowen	Skipper (ADM)	
Paul Carpenter	Team 1	Marine life survey using metre-squares
Graham Hucklesby	Team 1 (DM)	
Rebekah Kilpin	Team 1	
Lisa Bedard	Pair 2	Marine life survey using metre-squares
Fiona Read	Pair 2	
Kevin Wileman	Non-diving	Gas filling before leaving to go home
Paul Wogan	Non-diving	Gas filling before leaving to go home
Helen Bowen	Non-diving	Work on cost calculations
Linda Krupa		Invited to dive with another group

Monday

Name	Role	Task
DIVE1 - **		
Clive Bowen	Skipper (ADM)	
Paul Carpenter	Pair 1	Take dimension measurements for key points of interest
Linda Krupa	Pair 1	And recover all lines and tapes.
Graham Hucklesby	Team 1	Marine life survey using metre-squares on port side
Rebekah Kilpin	Team 1	
Lisa Bedard	Pair 2 (DM)	Marine life survey using metre-squares on starboard
Fiona Read	Pair 2	side
Helen Bowen	Non-diving	Housekeeping, prepare to leave

BEDFORD SUB-AQUA CLUB LOGSHEET

Site - Wreck of Fulgens, North Haisboro Sands

Date - 20/9/08

Boat - Optimist

Type of dive - Wreck

Dive Manager - Paul Carpenter

Logkeeper - Lisa Bedard

High water -

Weather - Sunny

Water temp - 15

Water Viz - <1m

Current - 1KT

Wind / sea state - slight/calm

Altitude / pressure - 984mb+

Name	Qual	Computer type or tissue code	Gas Mix	Cyl. Size (/s)	Gas In	Time Down	Time Up	Gas Out	Dive Time	Stop 1 min@m	Stop2 min@m	Total Time	Max. Depth	Surface Code	Comments, including training carried out
Paul C	AD	Vytec	32	15/3	200/200	8:23	8:36	150/200	10	2@6		13	18.3		
Paul W	SD	Vytec	32	12/12	210/210	8:23	8:36	150/150	10	2@6		13	17.4		
Lisa	AD	Vyper	air	15/3	200/180	8:24	8:31	180/180	6			7	15.9		
Daniela	SD	Aladdin	air	12	190	8:24	8:31	150	6			7	16.5		
Ian	DL	Vytec	air	12	220	8:44	9:14	60	26	3@6		30	20.4		
Rebekah	SD	Vytec	air	12/3	220/150	8:44	9:14	70/150	26	3@6		30	20.4		

BEDFORD SUB-AQUA CLUB LOGSHEET

Site - Wreck of Camilla Weston, North Haisboro S
Date - 20/9/08
Boat - Optimist
Type of dive - Wreck

Dive Manager - Paul Carpenter
Logkeeper - Lisa Bedard
High water -
Weather - Cloudy

Water temp - 15
Water Viz - 3-4m
Current - n/a
Wind / sea state - slight
Altitude / pressure - 984mb+

Name	Qual	Computer type or tissue code	Gas Mix	Cyl. Size (/s)	Gas In	Time Down	Time Up	Gas Out	Dive Time	Stop 1 min@m	Stop2 min@m	Total Time	Max. Depth	Surface Code	Comments, including training carried out
Paul C	AD	Vytec	32	15/3	200/ 200	14:14	14:21	150/ 190	6			7	25.6		
Lisa	AD	Vyper	air	15/3	180/ 180	8:24	8:31	150/ 180	6			7	24.7		
Ian	DL	Vytec	air	12	220	14:21	14:56	60	30	4@6		35	28		
Rebekah	SD	Vytec	air	12/3	220/ 150	14:21	14:56	60/ 150	30	4@6		35	27.7		

BEDFORD SUB-AQUA CLUB LOGSHEET

Site - Wreck of Camilla Weston, North Haisboro S

Date - 21/9/08

Boat - Optimist

Type of dive - Wreck

Dive Manager - Paul Carpenter

Logkeeper - Graham Richards

High water -

Weather - Sunny

Water temp - 15

Water Viz - 3-4m

Current - n/a

Wind / sea state - calm

Altitude / pressure - 984mb+

Name	Qual	Computer type or tissue code	Gas Mix	Cyl. Size (/s)	Gas In	Time Down	Time Up	Gas Out	Dive Time	Stop 1 min@m	Stop2 min@m	Total Time	Max. Depth	Surface Code	Comments, including training carried out
Paul C	AD	Vytec	27	10/10	200/ 200	8:44	9:17	100 90	6	3@6		33	28.4		
Graham H	AD	Oceanic	29	12/12	220/ 230	8:44	8:49	200/ 230	3			5	10		abandoned - ears
Daniela	SD	Aladdin	air	12	190	8:44	9:17	60	30	3@6		33	28		
Rebekah	SD	Vytec	air	12/3	190/ 190	8:44	9:17	60/ 150	30	3@6		33	28.3		

BEDFORD SUB-AQUA CLUB LOGSHEET

Site - Sea Palling Groins
Date - 20/9/08
Boat - Optimist
Type of dive - Drift

Dive Manager - Paul Carpenter
Logkeeper - Lisa Bedard
High water -
Weather - Cloudy

Water temp - 17
Water Viz - 3-4m
Current - n/a
Wind / sea state - slight
Altitude / pressure - 984mb+

Name	Qual	Computer type or tissue code	Gas Mix	Cyl. Size (/s)	Gas In	Time Down	Time Up	Gas Out	Dive Time	Stop 1 min@m	Stop2 min@m	Total Time	Max. Depth	Surface Code	Comments, including training carried out
Paul C	AD	Vytec	32	15/3	150/190	14:14	14:21	150/190	29			7	4.9		
Rebekah	SD	Vytec	air	12/3	50/150	14:21	14:56	20/70	29			35	4.9		
Lisa	AD	Vyper	air	15/3	150/180	16:20	16:43	100/180	22			23	6.1		
Paul W	SD	Vytec	32	12/12	210/210	16:20	16:43	150/150	22			23	6.1		

SS Ethel Marine Life Survey

Lisa and Fiona: our survey started from the Stern at the centre of the wreck. Using a 1 metre square we surveyed at 3 metre intervals along the length of the wreck on the starboard side. We completed 8 squares before running out of time…

Square 1 – Stern deck at centre

- Plumose anemones, white, small, large numbers (counted 30 within 20cmx20cm area)
- 3 varieties of porifera (we believe mostly varieties of Halichondria)
- Sea Fir and Tubularia Indivisa (we believe) covering a lot of the area
- Barnacles and encrusting worms

Square 2 – Edge of aftcastle.

- 2 Anemones: 1 x sagartia elegans, 1 x cerianthus lloydii
- 3 varieties of porifera (we believe mostly varieties of Halichondria)
- Sea Fir and Tubularia Indivisa (we believe) covering a lot of the area
- 2 small Edible crabs
- 2 Painted topshells
- 1 Tompot Blenny
- Barnacles and encrusting worms

Square 3 – Bottom, inside the wreck.

- 5 Plumose Anemones
- 2 small colonies of dead mans fingers
- 4 varieties of porifera (we believe mostly varieties of Halichondria)
- Sea Fir and Tubularia Indivisa (we believe) covering a lot of the area
- 1 light-bulb sea squirt
- 1 small velvet swimming crab
- Starfish – bloody henry
- 2 molluscs (flat, like a Saddle Oyster, but well camouflaged so difficult to positively identify)
- Barnacles and encrusting worms

Square 4 – Bottom, inside the wreck.

- 1 sagartia elegans anemone
- 4 varieties of porifera (we believe mostly varieties of Halichondria)
- 1 large patch of Polymastia Mammilaris about 30cm x 30cm

- Sea Fir and Tubularia Indivisa (we believe) covering a lot of the area
- 1 small edible crab
- 1 Starfish – bloody henry
- Barnacles and encrusting worms

Square 5 – along the edge of the wreck.

- 1 sagartia elegans anemone
- 1 small colony of dead mans fingers
- Clathrina Coricea (+ other type of sponge – yellow? Check photos)
- Sea Fir and Tubularia Indivisa (we believe) covering a lot of the area
- 1 painted topshell
- 2 molluscs (Saddle Oyster?)
- Barnacles and encrusting worms
- 1 very small, white nudibranch (spotted by Fi)

Square 6 – vertically on the side of the engine block.

- 1 variety of sponges – check photos
- Coral worm
- Sea Fir and Tubularia Indivisa (we believe) covering a lot of the area
- Barnacles and encrusting worms

Square 7 – on top of the boiler.

- 4 sagartia elegans anemone
- 1 variety of sponges – check photos
- Coral worm
- 1 beadlet anemone
- 1 small velvet swimming crab
- 3 edible crabs
- 6 painted topshells
- 2 clumps of Hornwrack
- Sea Fir and Tubularia Indivisa (we believe) covering a lot of the area
- Barnacles and encrusting worms
- 1 Starfish – Bloody Henry

Square 8 – forward of boiler in bow section at 24.7m.

- 3 Goby fry near the winch (identified by Fi)
- 2 varieties of sponge – check photos
- Coral worm
- 1 large dahlia anemone
- 1 small velvet swimming crab
- 2 edible crabs
- 7-10 clumps of Hornwrack
- Sea Fir and Tubularia Indivisa (we believe) covering a lot of the area
- Barnacles and encrusting worms

Graham and Rebekah: we also started from the Stern, but surveyed along the length port side of the wreck. We completed 9 squares using a standard grid system to record our findings.

Square	Fish	Shellfish	Anemone	Weeds	Sponges	Other
1		2	1		7	Starfish
2	6				4	
3		1	2	4		
4	1				1	
5					6	
6	5					
7				3	2	
8		1 topshell		3	2	
9		1 urchin		4	2	

Bedford Sub-Aqua Club Expedition
"The Optimist Challenge"
5-8 September 2008

Water Meter Data

Readings taken on the Ethel:

1. Bow at 17 metres:

ORP	234 MV
PH	8.2
COND	3.8 S/M
TURB *	0 NTV (flashing)
DO	119.7%
TEMP	16.09°C

2. Stern at 17 metres:

ORP	227 MV
PH	8.21
COND	3.8 S/M
TURB *	0 NTV (flashing)
DO	119.8%
TEMP	16.09°C

3. What it all means

<u>ORP - Oxidation Reduction Potential</u>
Whether the water will gain or lose electrons when it comes into contact with another material. The higher the ORP the more electrons it will gain from another material.

Interestingly, we found a reference to a scientific article about how the ORP of sea water can have an effect on the development of the exogastrula (external stomach) of echinoderms (starfish and urchins).

Another explanation found on-line:
Oxidation Reduction Potential (ORP) is a measure of the sanitizing ability of water. ORP readings are expressed in millivolts (mV) and are generated voltages in the presence of the oxidizing agent. The more oxidizer available, the greater the voltage. ORP readings give a reliable, real-time method for monitoring and marinating the disinfectant level in

wash water. An example is that E. Coli and Salmonella are killed at ORP values of 650 to 700 mV within a short time.

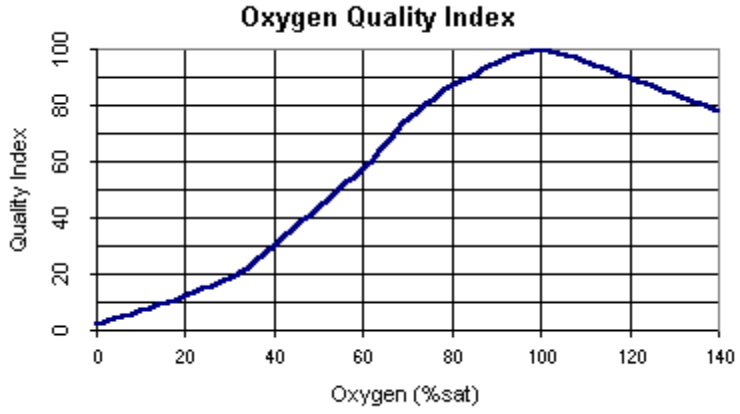
PH - Acidity / Alkalinity
pH is the measure of the acidity or alkalinity of a solution. The pH level of 7.0. is neutral; values lower than 7.0 are more acidic; and values higher thank 7.0 are more alkaline.

COND – Conductivity
An index of the flow of electrical current in a substance.

TURB – Turbidity
Turbidity is the cloudiness or haziness of a fluid caused by individual particles (suspended solids) that are generally invisible to the naked eye, similar to smoke in air. The measurement of turbidity is a key test of water quality. Fluids can contain suspended solid matter consisting of particles of many different sizes. While some suspended material will be large enough and heavy enough to settle rapidly to the bottom container if a liquid sample is left to stand (the settleable solids), very small particles will settle only very slowly or not at all if the sample is regularly agitated or the particles are colloidal. These small solid particles cause the liquid to appear turbid.

**This reading did not work which is a massive shame as it measures visibility! We could lower the probe to see if the visibility is worth getting wet for!*

DO - Dissolved Oxygen
How much oxygen is dissolved in the water. All marine life requires oxygen for respiration. Much of the dissolved oxygen in water comes from the atmosphere: however algae and rooted aquatic plants also deliver oxygen to water through photosynthesis. The main factor contributing to changes in dissolved oxygen levels is the build-up and decay of organic wastes, which consumes oxygen. Depletions in dissolved oxygen can cause major shifts in the kinds of aquatic organisms found in the water. Temperature, pressure, and salinity affect the dissolved oxygen capacity of water. The ratio of the dissolved oxygen content (ppm) to the potential capacity (ppm) gives the percent saturation, which is an indicator of water quality



Our readings on the Ethel were around 120%, which looks to be pretty high quality!

TEMP – Temperature

OPTIMIST CHALLENGE – SAFETY BRIEF

BOAT OPERATIONS

1. Launching the boat

- Kevin or Graham will be the “skipper” for the boat (as determined in the daily dive plans). They will be in charge of the launching operations and will give instructions for launching safely in accordance with the risk assessment.

2. Loading/unloading the boat

- All divers taking part in loading/unloading must have drysuits zipped up.
- The items being loaded into the boat may be heavy and slippery as well as expensive! Please take care when handling items during loading and unloading: ensure sufficient people are involved and work as a team; ensure you have a secure footing and good grip before lifting; do not carry weighbelts by wearing them.

3. Proceeding to and from the dive site

- Only designated boat handlers may take charge of the boat: they are Kevin, Graham, Paul C and Clive.
- Maximum 6 divers + 1 cox in the boat.
- Divers to position themselves in the boat in accordance with skipper’s directions and ensure a firm handhold before setting off.
- Confirm all understand the “man overboard” procedure.
- A radio check will be carried out with the coastguard station before we leave, confirming trip details, and on return. The boat handler will be responsible for radio communications but may delegate to any qualified person as required.
- Boat to be manoeuvred safely at all time, ie adjustment of speed to suit conditions; engine in neutral to drop off or pick up divers; all divers to look out for hazards in the water;
- Effective drainage of floors - use ‘elephant trunk’ or bailer.

4. Shotting the wreck and kitting up

- All those not involved in shotting the wreck to keep clear of the shot and ropes.
- No kitting up to commence until wreck is shotted and skipper gives direction to kit up.
- Boat handler to keep the boat as still as possible during kitting up.
- Divers to kit up one pair at a time. Divers not kitting up to give assistance as required.

5. Generally

- Follow directions given by the skipper.
- Drysuits zipped up at all times when in, on or near the water, including whilst loading the boat (there may be specific occasions when suits may need to be unzipped but these will be subject to specific risk assessment at the time).
- All equipment must be securely stowed in the boat when not in use.
- Engine turned off for any maintenance.

DIVING OPERATIONS

6. Generally

- The Dive Manager will take charge of all diving operations: however they will take into consideration advice and guidance offered by the expedition mentor (Clive). They will also defer to the skipper where matters relating to the safety of the boat are concerned.
- The Dive Manager will delegate tasks as follows:
    - Log keeper
    - Rescue Manager
    - O2 Admin
    - Other tasks as required
- All divers to follow BSAC Safe Diving practices.

7. Before the dive

- Location of oxygen kit, first aid and water. O2 Admin qualified divers are: Clive, Lisa, Paul C, Graham, Kevin, Paul W, Fiona, Rebekah and Helen.
- Confirmation of buddy pairs to be given by the dive manager and agreed by the divers.
- Completion of logsheet details to be carried out by the logkeeper
- Confirmation of the exercise to be carried out and the dive parameters ie depth, time etc. for each dive to be given by the Dive Manager.
- Full buddy check to be carried out by each pair and confirmation that all kit is in good working order. Each diver must carry a DSMB, a redundant gas supply for bail out, line cutting equipment (knife or scissors) and a suitable torch.

8. During the dive

- A Flag to be in place before divers enter the water.
- All divers to descend the shotline as buddy pairs and remaining in visual contact.
- Remain aware of the potential for buddy separation. In the event of buddy separation whilst on a line or wreck, return to the last place you saw your buddy. Look all around for a maximum of 1 minute and if no sign of your buddy, ascend safely, carrying out all necessary stops.
- Diver recall signal will be repeated revving of the boat engine.
- Where a DSMB has been sent up, three tugs on the DSMB line (enough to be felt but not so hard as to adversely affect divers' depth) repeated three times will signal that there is an emergency at the surface and that divers should surface as soon as possible within decompression requirements.
- Use of DSMB on ascent, and correct ascent procedures.
- Use of other aids to visibility at surface. (make CDs for everyone)
- Where surface visibility is reduced, all divers to descend and ascend the shot line

RISK ASSESSMENT

Activity	Risks	Control Measures
Launch/recovery of boat	Trapping/entanglem-ent of clothing/body parts Hit by moving, flying or falling object Cuts/lacerations Hit by moving vehicle Slip/trip/fall – including into water	Boat handlers to control launch / recovery and give clear instructions / briefing. Good supervision and communication throughout. Engine tilt pin removed prior to launch and replaced on recovery. Equipment in good working condition Ensure vehicle/trailer/winch/boat properly secured as required. Ensure vehicle & trailer are stationary; engine stopped & in gear Nobody at stern of boat during launch Equipment properly stowed and secured/removed where unnecessary. Protection from sharp / abrasive parts. Ensure vehicle handbrake is on, engine off & left in gear when not in use. All drysuits, zipped up, lifejackets for those not in suits.
Loading/unloading of boat	Falling from boat into the water Cuts/lacerations Manual handling injuries Hit by moving, flying or falling object Drowning	Proper briefing re care with slippery surfaces, handling of equipment etc. Good supervision and communication throughout. Sufficient personnel involved to launch and load / unload and recover safely Drysuits, zipped up, lifejackets & suitable footwear for those not in suits Appropriate footwear for those not in diving suits Walk carefully, ensure stable footings. Avoid manual handling where possible (eg use rope to raise/lower cylinders) Sufficient personnel involved to load / unload safely – work as a team Equipment in good working order – equipment stored safely on boat Do not carry weightbelts by wearing them.
Use of boat on water – boat moving between locations and kitting up	Slip, trip or fall Boat hitting object in the water Boat hitting divers in the water Trapping body parts Contact with sharp surfaces	Advance monitoring and regular checking of weather conditions. Proper briefing, including “man overboard” procedure. Good supervision and communication throughout. Radio check to local coastguard station giving proposed details/times of trip. Check for/notify large vessels in the area. Effective drainage of floors use ‘elephant

	• Manual handling injuries (heavy objects, slippery surfaces) • Hit by moving, flying or falling object • Boat separation from divers/lost at sea (eg due to deteriorating weather/visibility)	trunk' or bailer • All equipment not in use to be stowed tidily (good housekeeping) • Maximum 6 divers + 1 cox in the boat • Do not take boat out where visibility is impaired (eg fog, darkness etc.) • Use of handholds available • Boat handlers qualified/supervised. • Drysuits, zipped up, lifejackets for those not in diving suits • Adjustment of speed to suit conditions • Use of depth monitoring equipment • Appointment of 'spotters' to check for underwater hazards • Engine in neutral whilst divers in the water close to boat • Engine turned off for any maintenance. • Boat handler to keep the boat as still as possible during kitting up. • Assistance to those kitting up. • Use of DSMB on ascent, and correct ascent procedures. • Use of other aids to visibility at surface. • Use of A Flag and other devices to warn other boats. • Where surface visibility is reduced, all divers to descend and ascend the shot line.
Entering the water and whilst diving	• Hypothermia (due to insufficient thermal protection or suit failure) • Drowning (due to entanglement /entrapment; loss of buoyancy; out of air; panic. • Cuts/lacerations from sharp objects • Pressure/gas-related injuries and illnesses • Diver separation (from each other and from the boat).	• Proper briefing, including diver separation procedures and diver recall. • Proper protective clothing; drysuits and other equipment maintained properly • Redundant gas supply for bail out. • Effective buddy checks to include out of gas procedures; effective buddy monitoring throughout. • Ensure equipment is streamlined to prevent snagging/entangling. • Reduce time/abort dive • Buddy checks prior to diving • Buoyancy checks as required • Buddy monitoring throughout, including regular air checks • Deal with minor problems before they become a hazard • Wear suitable gloves for wreck diving • Carry a torch to use for illuminating hazards and a knife/scissors for cutting nets and lines • Thorough dive planning and dive

		management. • All divers appropriately "dived-up" • Ensure oxygen kit, first aid and water available • Correct ascent speed, include all necessary decompression stops.

Item	Cost	Total
Accomodation & meals	£478.00	
Accomodation & meals Total		£478.00
Car parking	£19.00	
Car parking Total		£19.00
Caravan Food	£7.82	
Caravan Food	£30.25	
Caravan Food	£24.53	
Caravan Food	£1.79	
Caravan Food Total		£64.39
Fuel	£87.07	
Fuel	£89.35	
Fuel	£44.04	
Fuel Total		£220.46
Fuel (last day)	£45.00	
Fuel (last day) Total		£45.00
Gas	£91.00	
Gas Total		£91.00
Launches	£90.00	
Launches Total		£90.00
Oil	£20.00	
Oil Total		£20.00
Tie Wraps	£3.70	
Tie Wraps Total		£3.70
Grand Total		£1,031.55