



Trip Location

Shetland Islands – Unst

Trip Dates

Saturday 8th August to Saturday 22nd August 2009

Boat

Clidive Yellow RHIB

Expedition Organiser

Rory Budds

Mentor

John Davies

Contributors to this report

**Mary Brown, Ben Jaffey, Naomi Davies, John Sharkey
Felicity Twomey, Declan Daly, Annette Millar
Reiko Yamazaki, Warwick Mason, Sharon Taylor
Mike Smith, Neil Skilling, Colin Yule**

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1.0 Introduction

1.1 Background

This report tells the story of our 2009 expedition to Unst. We hope that it will help other BSAC branches visit this extraordinary area. It is not what you would call 'easy diving'. There are no dive shops. There are no commercial compressors. Some of the area is uncharted. The weather is extreme and changeable. The currents can be very strong. The nearest recompression chamber is 217 miles away in Aberdeen. It feels very far away.

However, that said, the trip is more than worth it. In this small island you will find some of, if not the best scenic diving in the UK. The visibility can be breathtaking, with crystal clear water the expectation. The fish life is the most prolific we have seen in the UK and large shoals of fish were present on every dive. The walls and rock faces are oozing and pulsating with anemones, corals, sponges and sea squirts. We had reckoned that the weather would hamper the diving but this was not the case. We always found somewhere to tuck in, even in a force 8. You genuinely feel that you could throw yourself in anywhere and come up with a first rate dive. And when the weather got really bad we went cave diving!

1.2 Our Treasure Island

This year is Clidive's 40th birthday, our ruby anniversary. We wanted to get something really special in the dive programme, an expeditionary UK RHIB trip that we had never done before and hopefully a first for a London based, landlocked branch. This would build on the experiences we have had in the last ten years which have seen us regularly taken one or both of our RHIBs to Lands End and the Scillies, the Small Isles off Pembrokeshire and the Hebridean Islands of Tiree, Canna and Oigh Sgeir 33 miles out. We didn't want to just return to a place we had already visited in hard boats like St. Kilda, the Orkneys or the West of Ireland.

So where could we go? Where could we really test ourselves? Was there anywhere relatively undived but which was practical in our RHIBs?

The answer was Unst, the most northerly populated island in the British Isles. Situated in the North Atlantic, less than 200 miles from Norway and on the same latitude as southern Greenland and Anchorage, at 60 degrees North, Unst is as remote as it gets. Steeped in history and pre-history, Unst was the inspiration for Robert Louis Stevenson's Treasure Island map, his father having there built the legendary lighthouse of Muckle Flugga.

This was where we would be based. Our goal was to dive not only Muckle Flugga but also the Out Stack, the most northerly point in the UK.

1.3 Introduction (more formally.....)

Whilst confirming the club's existing objectives of maintaining our numbers and training activities, the AGM in November 2008 agreed two further objectives:

- to further extend the range of expeditionary diving activity
- to place care for the marine environment at the heart of the club's purpose

Putting these objectives into practical action involved several key elements:

- to purchase a four wheel drive vehicle to facilitate a more adventurous dive programme
- to plan an extraordinary expeditionary dive trip and apply for a BSAC expedition grant to help facilitate this
- to train club members in marine identification so to give us practical skills to focus our passion for the marine environment.

This report should be read in conjunction with the Dive Plan already submitted, which includes detailed information on tides, launch facilities, methodology, risk assessments, etc.

Following acceptance by BSAC this report will be amalgamated with the Dive Plan and put on the Clidive Website as an information resource and planning tool for all divers wishing to dive on Shetland.

1.4 The objectives for of the trip, as stated in the Dive Plan, were threefold:

- a. To complete MCS Seasearch surveys
- b. To carry out an exercise in site location and assessment for recreational diving
- c. To cascade the knowledge and experience held by the First Class and senior divers present, and to further the group's and thereby the club's ability to mount similar expeditions.

The group was to be self-sufficient in all respects, including air. Trip reports were to be made available to Clidive and BSAC members through the websites, and an article to be produced for Dive Magazine. The Seasearch results were to be entered on the national database.

2.0 Summary

Clidive BSAC 410 was awarded a BSAC Expeditionary grant to visit Unst, the most northerly of the Shetland Islands. This was an expeditionary trip to a remote location, the island of Unst, North Shetland. Situated in the North Atlantic, less than 200 miles from Norway and on the same latitude as southern Greenland, Unst is the most northerly populated island in the British Isles. The weather can be extremely hostile and volatile, therefore diving requires careful planning and caution at sea.

The branch took a 6.5m RHIB, via ferry, and also all required kit including a compressor in two branch-owned vehicles, one a 4-wheel drive pick up and the other a transit van.

The expedition took place in August over a two week period and in total fourteen divers participated. These ranged in experience from first class diver to sports diver and everything in between. Prior to the trip the majority of participants had completed training in MCS Seasearch so as to be able to document the marine biology of the area.

Unst is a fantastic place above ground too and would easily fill a holiday in itself. The dramatic scenery and wildlife make walking, boating and even driving a pleasure. And last but not least the people there are so friendly and welcoming it really is a pleasure to visit.

27 trips were done to 18 sites during the 14 days, with a total of 183 dives completed.

The trip objectives were substantially achieved, despite the challenges noted below.

2.1 Notable achievements of the expedition

- Dived 18 sites new to this club and some previously undived sites, and dived every day despite some atrocious weather
- 18 Sea Search surveys carried out
- 14 new BSAC Compressor Operator qualifications achieved
- Daily input to MarLIN marine biological database, 250 records
- Internet blog that kept all club members, families and friends in daily touch with our progress
- Survey of HMS E-49
- Confirmation of wreck locations of Wrecks SS 'Jane' (informing the Hydrographic Office) and clarification of location of Wreck 'Tonis Chandris'
- Cascade of skills to team members in wreck surveying, compressor operation, dive management, photography, boat handling
- Fantastic Fun
- Production of online Dive Guide to Unst diving (hosted by Clidive website)
- Marine sightings – whale, birds
- An appreciation of life in a very rarely visited unusual location

2.2 Challenges

- Logistics of getting club boat from Isles of Scilly via Plymouth and London to Aberdeen
- Lack of diving amenities – the first time we had brought our own compressor on a trip
- A completely new dive area to the club – and at 60 degrees north!
- Early cancellation by club member BSAC Environmental Officer for work reasons, and last minute cancellation by mentor due to illness
- Distance of oxygen supplies for Nitrox diving – turning into lack of nitrox when our mentor did not make it
- Weather – It holds the British record for wind speed, which in 1962 was recorded at 177 mph (285 km/h) — just before the measuring equipment blew away!
- Communications – most mobile phone networks did not work and getting weather forecasts and keeping in touch with the mainland proved difficult.
- Very strong tidal flows and short slack times on northern sites
- Uncharted waters – many areas not surveyed, dangerous shallows and rocks not marked.

Could we have achieved more? – yes, more sites, more westerly exploration, - our constraint was the extreme weather.

3.0 The Diving

3.1 Success Factors

The expedition was very successful in achieving the planned objectives, as is detailed in this section. We believe the success is due to the following:

- careful planning and group meetings prior to expedition
- training in appropriate areas e.g. marine biology
- can-do attitude on part of members
- financial strength of the club with respect to equipment
- ability to be self sufficient in air, equipment, catering
- good social interaction within the team and crucially with local Shetlanders
- interbranch information - help from Zetland BSAC
- interest in the above-water experience
- IT skills for communication to blog and MarLIN database
- experienced dive management
- teamwork
- liaison with hardboat skipper Bob Anderson MV Halton



3.2 The Team & delegations

The trip spanned two weeks, involving 14 divers.

It was an important requirement from both a teamwork and an educational point of view that as many as possible of the tasks and functions of the trip were delegated throughout the group.

	Name	Grade	Skills	Individual Role
1	Rory Budds	AD/OWI	Cox'n MB, CO, EO	Organiser
2	Mary Brown	AD/OWI	Cox'n	Seasearch survey
3	Sharon Taylor	AD/OWI	Cox'n, EO	Wreck surveys
4	John Davies	FC/OWI	Cox'n MB, CO, EO, GB, RB	Mentor
5	Warwick Mason	AD/OWI	Cox'n	Money marshall wk 2
6	Ben Jaffey	AD/OWI	Cox'n, EO	IT
7	Naomi Davies	DL	MB	Seasearch survey
8	John Sharkey	DL	Cox'n	Money marshall wk 1
9	Neil Skilling	DL	Cox'n	Compressor Manager
10	Declan Daly	AD/AI	Cox'n, EO	Photography
11	Annette Millar	AD/AI	Cox'n	Compressor Instructor
12	Felicity Twomey	DL		Wreck Surveys, MarLIN data entry
13	Reiko Yamazaki	DL		Money marshall boss
14	Mike Smith	SD		Press liaison
	Colin Yule	FC		MarLIN data entry
				Compressor support
				Cook
				Phone support
Key				
MB	Marine Biology			
RB	Rebreather			
CO	Compressor			
	Operator			
GB	Gas Blender			
EO	Expedition			
	Organisation			

Dive Management where possible was rotated on a daily basis to broaden the group's experience, 10 persons taking a rotating DM role.

Each evening, a rota was followed:
2 persons compressor duty
2 persons cooking
2 persons on data entry to MarLIN and Seasearch
2 persons planning the next days diving
plus one on the Blog.

There was full rotation of tasks throughout the fortnight.

3.3 Air

There was no commercially available air in Shetland. The dive clubs have compressors, but are located in Lerwick. We made contact with a number of fish farms on the island who pump their own air, but none had sufficient capacity to be of use for a group of our size.

We therefore hired a compressor, of sufficient capacity for the group's needs (8cfm). Four members of the group had previous experience of compressor use and we had one instructor with us.

Group members worked in rotation on a daily basis alternating with household duties to provide air for the following day's activities. 13 members of the team took the BSAC Compressor Operators course during the trip, funded by the grant from BEGS. Nitrox was brought up by individuals, and used on some dives with predictable depth profiles. Members also had nitrox in pony cylinders. Due to the very late cancellation of the trip mentor, who had been expected to collect the oxygen supplies from Lerwick, we did not receive any supplies during the trip. We decided not to undertake the 6-hour round trip to Lerwick to collect the gas – lack of which was no hardship as the weather had us chasing around unknown, inadequately charted sites with less information than we would have liked in order to plan appropriate mixes.

3.4 Safe Diving Practices

Decompression arrangements

Because Unst is such a remote location for RHIB diving, long decompressions were not envisioned due to the possibility of diver separation from the boat. However, deco took place on static shots after wreck dives, and some divers used enhanced decompression mixes. Divers were warned of the dangers of separation and therefore no long hangs were permitted, and all dives were time limited with the agreement of the DM and boathandler. BSAC safe diving practices were emphasised to all, and divers were encouraged to adopt non-aggressive dive profiles, and to take a break during the week. All divers carried pony cylinders, some with Nitrox for use as safe-air decompression. One diver used a Buddy Inspiration Rebreather on most dives.

Dive routines

The plan allowed for two dives per day, starting out at approximately 0800. Sufficient air or gas for two dives was taken on board most mornings. On other occasions, a vehicle was sent ahead to the lunch planned stop with the second cylinders. This allowed access to the more remote sites without return to base. The furthest site was North Holms, 15 miles from base. Sandwiches, soup and fluids were taken in the boat daily. Divers were warned of the need to bring sufficient personal protection, e.g. warm clothing or change of underclothing as necessary for a 60 degree latitude and water temperatures of around 13-14 degrees. The weather proved hostile and changeable so precautions were taken to avoid hypothermia. As it transpired, midge protection would also have been a good idea!

Type of diving

Once again, because of the distance from any emergency services, a cautious approach was taken to the dives in terms of times and depth. As one of the party was not qualified to dive beyond 35 mtrs, any dives deeper than 35 mtrs were on gradual profile sites.

Coastguard

We kept Shetland Coastguard informed of our movements on a daily basis.

3.5 Surveys

Objective b) of the plan related to site location and assessment. Surveys were carried out during a series of dives over the 2 week period of our trip. A detailed sketch of our results is appended, and the methodology is set out later in this report. We also wished to make sketch drawings of as many dive sites as possible to assist future divers. These are attached to each day's dive report.

Wreck Survey of HMS E49

In our application for grant funding, we indicated that we intended to carry out a detailed wreck survey if conditions permitted. The purpose was to gather information which might be of use to other divers, but also to be of historical interest.

The British submarine **HMS E-49** has to rate as one of the UK's best wrecks, and we had heard that it was either disintegrating, sinking slowly into the sand, or being covered by tidal effect. It also has an interesting and very poignant history, with the loss of all personnel to a mine laid by UC-76 in 1917.

We therefore thought it would be a worthwhile exercise to survey the visible area of this wreck, as any measurements taken could be shared with others, and logged on wrecksite.eu for future comparison. The submarine lies in 35m

in the southern entrance to Baltasound. Given its remote location, the wreck is rarely dived, although it was only 10 minutes travel time away from the expedition's base. The wreck is completely sheltered from winds from southwesterly to northerly winds, so is an ideal dive for when conditions preclude diving on the more exposed north and east sides of Unst.

Accurate marks were obtained for the wreck from the Hydrographic Office. There is also occasionally a temporary buoy placed on the wreck by Bob Anderson of MV Halton for a few weeks every year in the summer months.

The purposes of the survey were:

- To enable future divers easily to find and navigate the wreck, making best use of the limited dive time given the depth of the wreck (35m)
- A baseline survey to enable future divers to ascertain whether the wreck is (a) deteriorating; and/or (b) continuing to sink into the sand.
- A Seasearch marine survey to enable the Marine Conservation Society to see what species are present on the wreck and to identify any future changes.

The survey of the wreck was carried out over four carefully planned dives. Each of the dives was scheduled for a day when weather precluded diving other more remote sites. The dives were planned as follows:

- Dive 1: Orientation, photography and Seasearch.
- Dive 2: Main survey dive - wreck measurement and sketching
- Dive 3: Orientation for week 2 group
- Dive 4: Supplemental survey dive – taking additional measurements, further photos of fine detail of the wreck and adding further features to the wreck sketches.

The survey was successful in obtaining accurate measurements of the remaining wreck. These will be made available to all and should a future survey take place a comparison can be made. We are also looking for any previous detailed survey information which has not yet been forthcoming. Further, the survey was led by the First Class Diver candidates on the expedition, to enable them to develop their leadership experience and skills in this area. A detailed description of the methodology, along with the findings, can be found in Section 6 Technical information.

Wreck survey of Tonis Chandris

In addition to the full survey of the E-49, we also carried out survey of the wreck of the Tonis Chandris with the aim of producing a full record of the species present for Seasearch, a sketch map of the wreck for the use of future dive groups and a detailed photographic record of the dive. The survey was carried out in a single dive and was again successful.

3.6 Marine Biology

As earlier stated, at the club's 2008 AGM members had wished to 'put care for the marine environment at the heart of the club's purpose'. To this end, and partly with the Shetland trip in mind, 16 members had attended an MSC organised SeaSearch training course in the early season. 18 Sea search surveys were logged over the two week period, in areas never surveyed under the scheme. These have been sent to the MCS for inclusion in their national database. We also noted marine species on a daily basis, and entered them into a database each evening, for the MarLIN marine biology survey. A total of 22 dives were recorded in this way.

Our plans were curtailed somewhat by the non-availability of club member Susannah Calderan, the BSAC NDC Environmental Officer who had to cancel due to work commitments. We had hoped she would pilot some of the new BSAC marine biology course with us. However we managed to carry out all the planned surveys, and do additional work for the MarLIN database.

3.7 Training

Objective c) of the expedition was to cascade skills and information to the less qualified members of the team, and to share expertise among all members. In particular, this involved:

- Running a compressor operator course for all members (paid for by some of the BEGS grant)
- Rotating the dive manager role on a daily basis, giving assistance with pre-planning and implementation as required
- Delegation of all functions of dive organisation throughout the group
- Boat handling for prospective Dive Cox (since passed test)

3.8 Location and verification of sites

Objective b) of Clidive's trip was to improve on the amount and quality of information available on the area and to make this subsequently available to all divers. In pre-expedition planning we had referenced a number of known wrecks and sites, using the sources below:

- Wrecks and features located with Wrecksite.eu and CMaps Charting tool, in conjunction with Admiralty charts for the area.
- R.N. Baird - Wrecks of the North of Scotland
- Shipwrecks of Orkney and Shetland by David Ferguson
- Gordon Ridley - Dive Scotland Vol. III
- Dive and Diver Magazines
- Scottish Diver
- Admiralty Tidal Stream Atlas NP 209 for tidal information in the Shetland area.
- Clyde Cruising Club for tidal, general and pilotage issues in the Shetland area.

We were also fortunate to have made contact with Bob Anderson, skipper of MV Halton, who was very helpful and hospitable.

Our plan involved the identification of new dive sites, and the verification and collection of information on known sites. This information has been recorded in the daily dive reports. In particular we noted an error in the charted location of the wreck of the 'Jane', south east of Sound Gruney Island. Upon pointing this out to the UK Hydrographic office, we received this reply:

Thank you for your recent email concerning the wreck of SS JANE. Your revised position agrees closely with that obtained by HMS BEAUFORT in 1923, how the charted position became altered to the current position is lost in the mists of time. The wreck will be moved to your position at the next new edition of the chart.

Again many thanks for the data.

Regards,

N McEachan

Wrecks' Officer

UK Hydrographic Office

Wreck 'Tonis Chandris'

RN Baird's 'Shipwrecks of Northern Scotland' suggest that there is a further section of wreckage at a location 300mtrs south of the Vere Rock. Our investigation showed that this is not the case and that the charted position of the main wreck is significantly wrong. We have confirmed this via the UK Hydrographic office.

Confirmed Position Latitude = 60°42'.439 N Longitude = 000°48'.966 W
(Wrecksite.eu)

Clidive Position as dived = 60 42.213 N 000 47.930 W

Charted Position Latitude = 60°42'.118 N Longitude = 000°48'.799 W

We completed a total of 183 dives at 18 locations. We believe 12 of these locations may never have been dived previously. We gleaned sufficient information on each site to allow for ease of future access, and are convinced that Shetland offers the best diving in the UK.

3.9 Communications

We decided to keep our members (and the world) informed of the progress of the expedition using a blog. The site (<http://clidive.blogspot.com>) was easy to set up and has generated a great deal of interest from inside and outside the club, including new members joining up, having seen the kind of diving we do. The Editor of Dive Magazine was reading it from Bali!

Every evening, we sat down and people offered their best couple of photos from the day for the blog, which would be uploaded over a painfully slow mobile phone connection - Unst is not the best place in the world to run a web site from (we often had to stand at the bus stop to get wifi)!

But it worked enough to be able to keep people up to date. Within a few days we found out that club members and friends were all checking it every day.

The links were being passed around workplaces and the daily updates kept

everyone interested and excited in what we were doing. It worked really well and was an excellent way in involving the club and our friends and community in what we were doing.

Underwater video was also taken during the dives, some of which has been put on YouTube for other divers to see:

<http://clidive.blogspot.com/2009/08/couple-of-vids.html>

Sample links to the Blog are in section 6, Technical information.

We have received press coverage for the expedition in the Shetland Times, the Islington Gazette, and at time of writing there is an article with Dive Magazine due for inclusion in the December edition. Copies of these, and a very well written piece for the Club Newsplash Magazine, are in Appendix 5.

3.10 Weather

No report on Shetland would be complete without reference to the weather. For the locals, life happens 'atween widders'.

We were by all accounts 'very lucky' with the weather. This is however a relative term. We moved boat harbour 4 times during the trip to take account of impending hostile weather. A typical weather forecast say for Tuesday 18 August was 'NW force 4-5 veering SE 5-6 occasionally 7 later. Outlook for rest of week, SW Force 4-6'. It must be said that the forecasts from the Met Office, and particularly from Windguru were very accurate, without which we would have had severe difficulty. There are effectively 4 sides to Unst, and if the boat can be positioned appropriately, diving is possible whatever the weather. When the southerly gale struck we were nicely tucked into the north facing inlet of Burrafirth, which allowed us to sample the caves on the east side. Even then, conditions were marginal for diving.

4 Dive Diary

A comprehensive description of sites dived.



Muckle Flugga



Reiko at Out Stack



Clidive Yellow in Burrafirth



Bonxies attack at Hermaness



Baa Skerries



HMS E-49

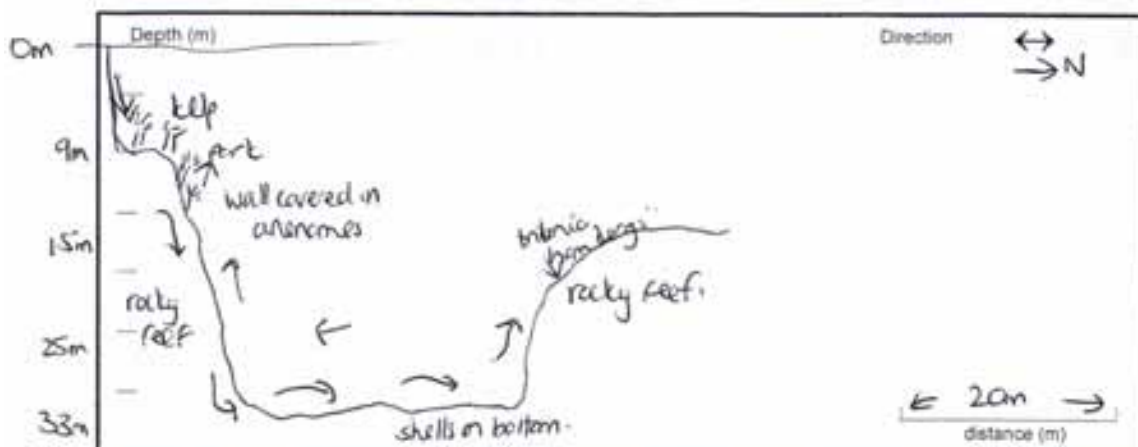


Map	Sat	Ter
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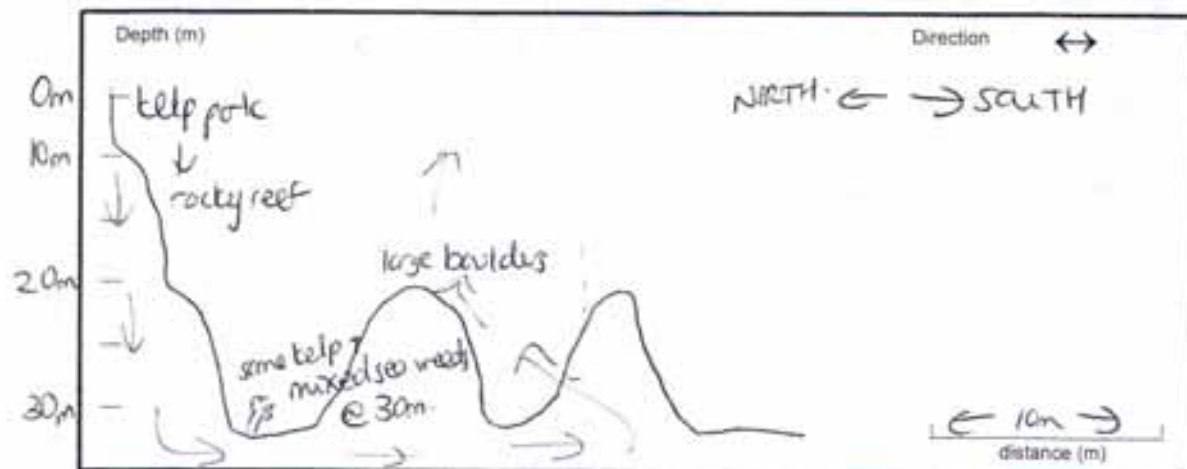
Day 1	Saturday 8 th August 09
Site	North side of Out Stack
Marks	60.51.658 N 000.52.361 W WGS 84
Launch	Baltasound
Sea State	Slight
Distance to dive site	11 nautical miles
Divers	Ben Jaffey, Naomi Davies, Sharon Taylor, Mike Smith, John Davies, Annette Millar with Rory Budds as DM/Coxwain.
Slack	30 minutes before HW and LW Lerwick. Before HW slack, current runs East. After HW slack, current runs West. Before LW slack current runs West. After LW slack, current runs East. Towards springs, current may turn earlier. Slack lasts for 20 minutes only on a neap. Strong up and down currents. Current can be used to advantage with ability. Care required on surfacing (down currents), decompression diving was avoided.
Depth	Max dive to 33m, echo showing 40+m
Visibility	30m
Temperature	12c
Start dive	14.40
Dive time	45 mins max
Surface notes	Dramatic scenery, with thousands of puffins, gannets, cormorants. Numerous skuas hunting in groups. Observed seals.
Underwater notes	Spectacular gully in 30-40+m metres. Walls richly carpeted in brightly covered jewel, plumose and dahlia anemones. Nudibranch 20cm long by 5cm wide spotted. At the time this group of seasoned divers announced this was the best scenic UK diving they had ever experienced.
Sea Search	Yes, completed by Naomi Davies. See appendix 4.

Sketch



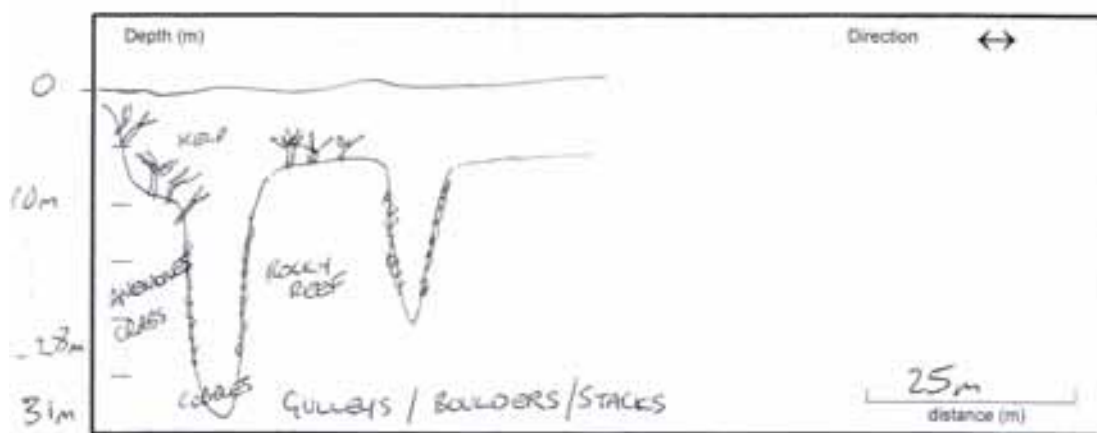
Day 2	Sunday 9 th August 09
Site	Stackingro, Hermaness
Marks	60.49.908 N 000.540.137 W WGS 84
Launch	Baltasound
Sea State	Calm inshore
Distance to dive site	15 nautical miles
Divers	Ben Jaffey, Naomi Davies, Sharon Taylor, Mike Smith, John Davies, Annette Millar w Rory Budds as DM/Coxwain.
Slack	As per admiralty tidal atlas, there is minimal tidal affect inshore. Could be dived at any time.
Depth	Max dive to 34m, Sea Search to 31m
Visibility	15m
Temperature	12c
Start dive	10.35
Max dive time	43 mins
Surface notes	Hermaness headland is stunning and reminiscent of St Kilda. Observed groups of skuas attacking gannets to force regurgitation and then stealing the results!
Underwater notes	A low-energy sheltered site with an area of huge boulders next to a rocky reef. Prolific sponge life and crustaceans.
Sea Search	Yes, completed by Naomi Davies. See appendix 4

Sketch



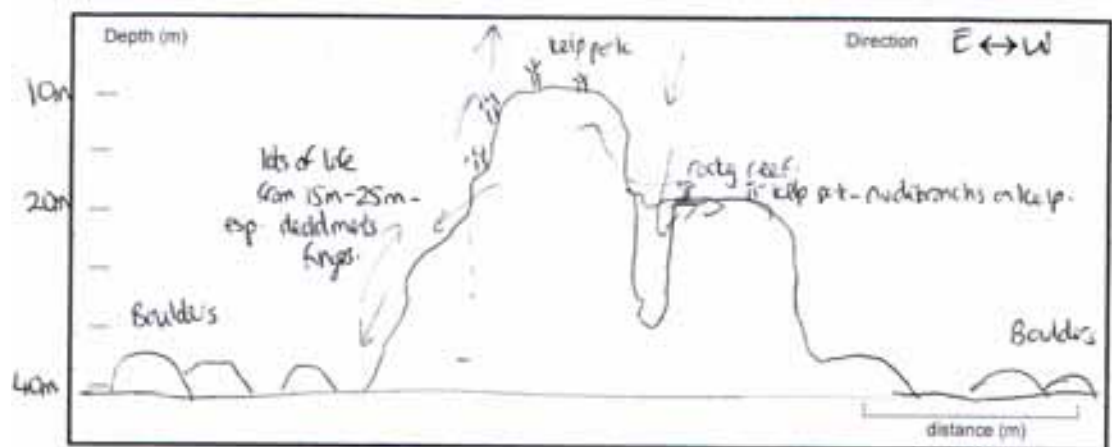
Day 2	Sunday 9 th August 09
Site	North east corner of Out Stack
Marks	60.51.658 N 000.52.361 W WGS 84
Launch	Baltasound. Left boat on pontoon in Burrafirth
Sea State	Slight
Distance	3.5 miles to dive site
Divers	Ben Jaffey, Naomi Davies, Sharon Taylor, Mike Smith, John Davies, Annette Millar with Rory Budds as DM/Coxwain.
Slack	30 minutes before HW and LW Lerwick. Before HW slack, current runs East. After HW slack, current runs West. Before LW slack current runs West. After LW slack, current runs East. Towards springs, current may turn earlier. Slack lasts for 20 minutes only on a neap. Strong up and down currents. Current can be used to advantage with ability. Care required on surfacing (down currents) decompression diving was avoided.
Depth	Sea search to 31m, echo showing possible 40+m
Visibility	20m
Temperature	13c
Start dive	14.16
Dive time	45 mins max
Surface notes	As previous, with seals observed and skuas hunting.
Underwater notes	A gentle drift through spectacular carpeted gullies in 30+m metres before strong currents picked up. Ling, Ballan wrasse and cat shark spotted. Nicknamed 'the day of the Nudi' as so many of different varieties were seen. Photos placed on blog.
Sea Search	Yes, completed by Sharon Taylor. See appendix 4

Sketch



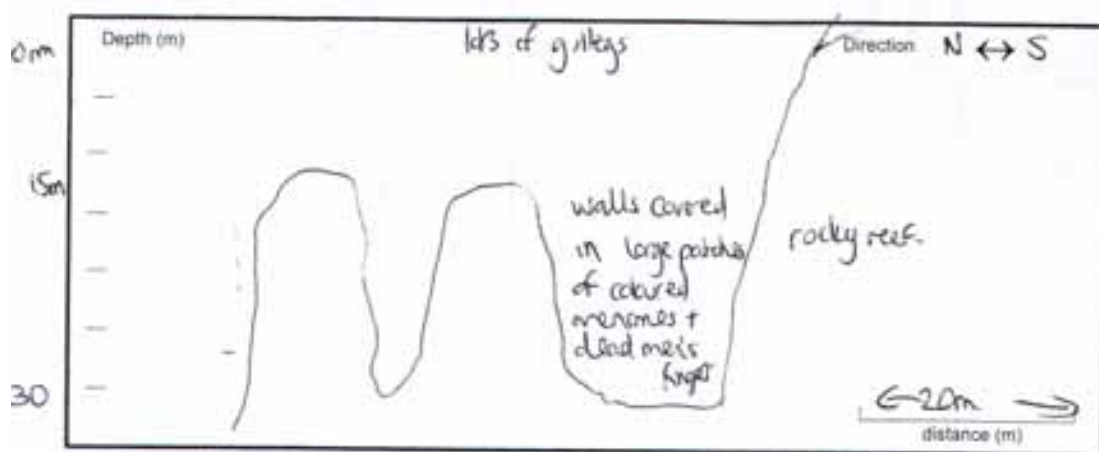
Day 3	Monday 10 th August 09
Site	Stackins-hocka, North West Unst
Marks	60 49 769N 000 54.616W WGS 84
Launch	From pontoon in Burrafirth having launched morning in Baltasound.
Sea State	Calm
Distance to dive site	6 miles
Divers	Ben Jaffey, Naomi Davies, Sharon Taylor, Mike Smith, John Davies, Annette Millar and Rory Budds
Slack	Dive any time
Depth	40m, Seasearch to seabed
Visibility	15m
Temperature	13c
Start dive	09.30
Dive time	41
Surface notes	Due to the completely windless conditions kitting up was unpleasant due to the swarms of midges. Sharon got badly bitten. On the way to the dive site a large Minke whale was spotted. Stack on NW side of Hermaness.
Underwater notes	A large pinnacle/reef with a series of gullies and a sheer wall from 10 – 40m. There are large boulders out on sea bed in 40m however most life was between 20 – 30m. Partially exposed to some light currents, so there are walls of jewel anemones, and prolific deadmen's fingers, dahlia anemones, nudibranchs, red cushion stars and crustaceans.
Sea Search	Yes, completed by Naomi Davies. See appendix 4.

Sketch



Day 3	Monday 10 th August 09
Site	Muckle Flugga, North West Side
Marks	60.51.240 N 000.53.329 W WGS 84
Launch	From pontoon in Burrafirth having launched in Baltasound
Sea State	Calm
Distance to dive site	3.5 miles
Divers	Ben Jaffey, Naomi Davies, Sharon Taylor, Mike Smith, John Davies, Annette Millar and Rory Budds.
Slack	30 minutes before HW and LW Lerwick. Before HW slack, current runs East. After HW slack, current runs West. Before LW slack current runs West. After LW slack, current runs East. Towards springs, current may turn earlier.
Depth	35+m, Sea Search to 30m
Visibility	20m
Temperature	13c
Start dive	13.43
Dive time	50
Surface notes	Diving in the vicinity of Muckle Flugga is awesome with the light house on the high cliffs towering above and thousands of seabirds filling the sky.
Underwater notes	A wall drops straight down to 30m and leads into numerous high walled gullies. Every surface is covered in vibrant colourful life, thick with every type of anemone. Looking into the blue can be seen large shoals of swirling saithe glittering in the sunlight. An octopus and an angler fish were seen. Some small metal pipes were noted, possibly debris from the lighthouse build. It was agreed by many that this was even more spectacular than Out Stack and the best scenic dive they had ever done in the UK (and these were veterans of St Kilda, Scillies, Cornwall and West Ireland).
Sea Search	Yes, completed by Naomi Davies. See appendix.

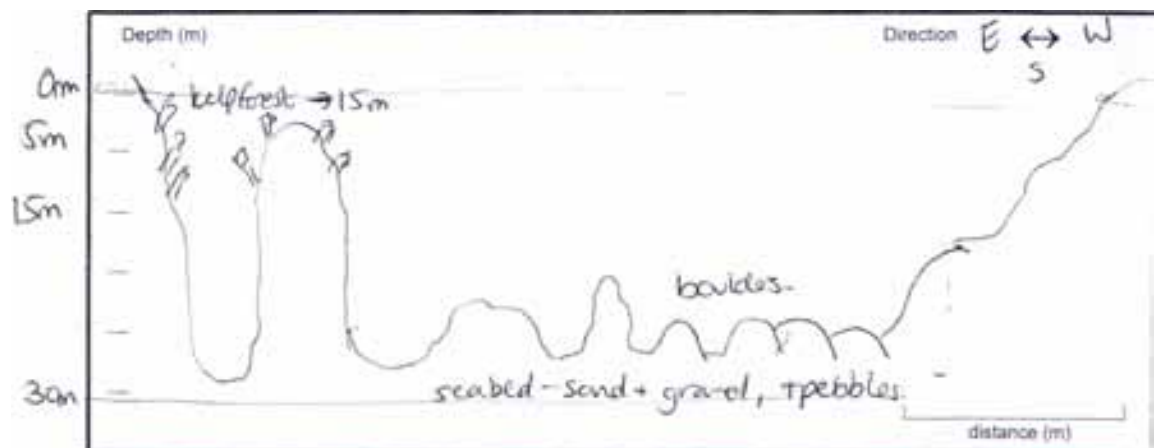
Sketch



Day 4	Tuesday 11 th August 09
Site	Muckle Flugga, North West Side, and Cliff Skerry
Marks	60.51.240 N 000.53.329 W WGS 84
Launch	From pontoon in Burrafirth having launched in Baltasound.
Sea State	Calm
Distance to dive site	3.5 miles
Divers	Ben Jaffey, Naomi Davies, Sharon Taylor, Mike Smith, John Davies, Annette Millar and Rory Budds.
Slack	30 minutes before HW and LW Lerwick. Before HW slack, current runs East. After HW slack, current runs West. Before LW slack current runs West. After LW slack, current runs East. Towards springs, current may turn earlier.
Depth	30m
Visibility	15m+
Temperature	13c
Start dive	09.15
Dive time	58 mins
Surface notes	As previous. All so stunned by previous days dive everyone wanted to return asap!
Underwater notes	Divers ended up going in all different directions due to the changing currents. Very strong currents here, divers need to carry flags as well as SMB, and adhere strictly to agreed dive times and stick to the site – no drift diving here!
Sea Search	Previously
Sketch	Similar to previous, but going west divers end up on Cliff Skerry, adjacent to MF.

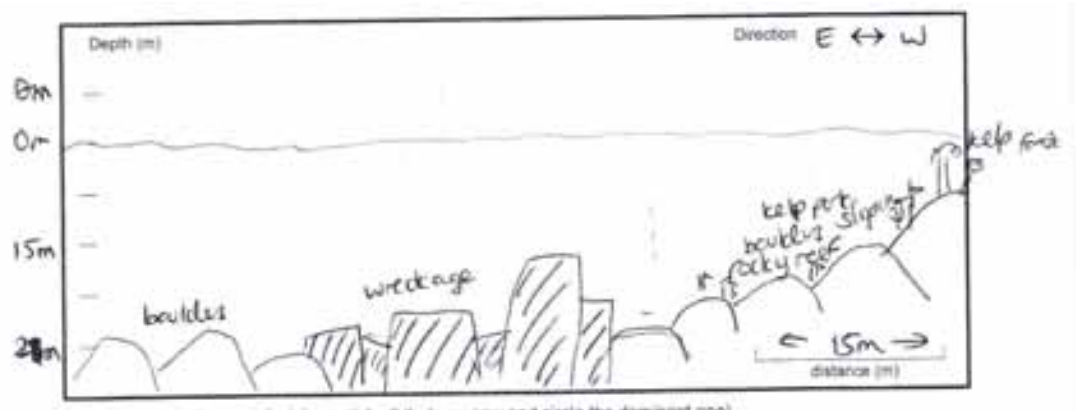
Day 4	Tuesday 11 th August 09
Site	North Holms, west side
Marks	60 46.891N 000 57.454W WGS 84
Launch	From pontoon in Burrafirth having launched in Baltasound.
Sea State	Calm
Distance to dive site	8.5 miles
Divers	Ben Jaffey, Naomi Davies, Sharon Taylor, John Sharkey, Mike Smith, John Davies, Annette Millar and Rory Budds
Slack	As per Admiralty Tidal Stream Atlas, little inshore tidal effects
Depth	34m
Visibility	15m
Temperature	13c
Start dive	14.12
Dive time	47 Minutes
Surface notes	Rock off North West side of Hermaness. Wonderful scenery on the way around the west coast of Unst, completely sheltered from the SE winds. Admiralty Chart dangerously unreliable, uncharted shallows around Holms, need to proceed along coast at safe distance out. Drop divers just south of the north-west tip of the site for an impressive series of walls and gullies, covered in life. The parts of the rock further south are lower energy areas, with more kelp.
Underwater notes	A great nature dive. Sheer drops to 30m, walls with jewel anemones, many nudibranchs, sponges, and both edible and swimming crabs.
Sea Search	Yes, completed by Sharon Taylor. See appendix.

Sketch



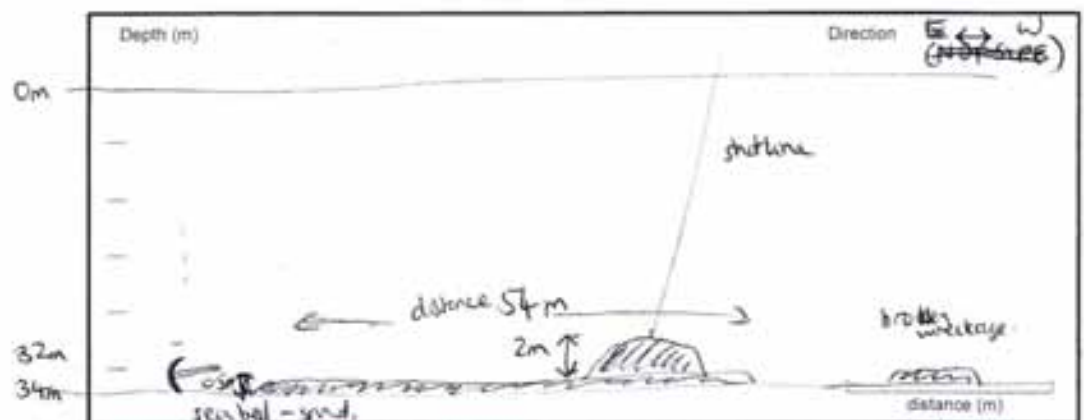
Day 5	Wednesday 12 th August 09
Site	Wreck 'Tonis Chandris'
Marks	60 42.424N 000 48.915W WGS 84
Launch	Baltasound
Sea State	Calm
Distance to dive site	5 miles
Divers	Ben Jaffey, Naomi Davies, Sharon Taylor, Mike Smith, John Davies, Annette Millar and Rory Budds.
Slack	Little tide, best HW -6 to -4 and HW to HW +2 (TS Atlas Lerwick)
Depth	24m to propeller. 27 m to seabed, 15m to remains of bow. Most of the wreck is in around 20m.
Visibility	20m
Temperature	13c
Start dive	10.04
Dive time	51
Surface notes	Wreck does not show up well on echo. It lies around 100m east of Vere Rocks. If not buoyed, drop divers slightly inshore and South of the mark in 20m and get them to search along the 20m contour. They will find the wreck on a slope. NB the location is significantly different from the charted position.
Underwater notes	Intact propeller at 24m and shaft leads up gradual slope. Shaft has interestingly large clumps of coral worm at intervals. Ribs of ship lie each side of shaft, which leads to intact and visually stunning triple expansion engine at 17m, covered in orange soft corals. Both boilers intact and lying to east of main wreckage. Otherwise well broken. Prolific fish life, massive shoal of saithe.
Sea Search	Yes, completed by Naomi Davies

Sketch



Day 5	Wednesday 12 th August 09
Site	Wreck 'HMS E-49' submarine
Marks	60 424.213N 000 47.930W WGS 84
Launch	Baltasound
Sea State	Failed attempt to get back to north of Unst due to sea conditions. Sought safety in south channel of Baltasound - calm, very sheltered from SW
Distance to dive site	2 miles
Divers	Ben Jaffey, Naomi Davies, Mike Smith, John Davies, Annette Millar and Rory Budds.
Slack	Dive at any time, though can be challenging on a spring tide
Depth	34 m
Visibility	30m
Temperature	13c
Start dive	1520
Dive time	44
Surface notes	Between islands of Balta and Huney, south of Balta Sound, 2.75C, 213 degs from Balta lt. Very quick and easy access to one of UK's best wrecks. British submarine, hit mine laid by U-boat in 1917 and sunk just outside of Baltasound on a sandy bottom. War grave and protected site - all personnel lost. Permission to dive must be sought from the local police officer. If unavailable, call the police station at Lerwick. Divers warned not to touch anything on the wreck.
Underwater notes	Stunning visibility – whole wreck visible from 8m depth. Many photos and some video shot for blog. Shoals of small fish glimmering in the superb visibility. First of several dives on this wreck for the purpose of a detailed survey – see methodology section 6.2 Wreck appears to be slowly sinking into the sand.
Sea Search	Yes, completed by Naomi Davies

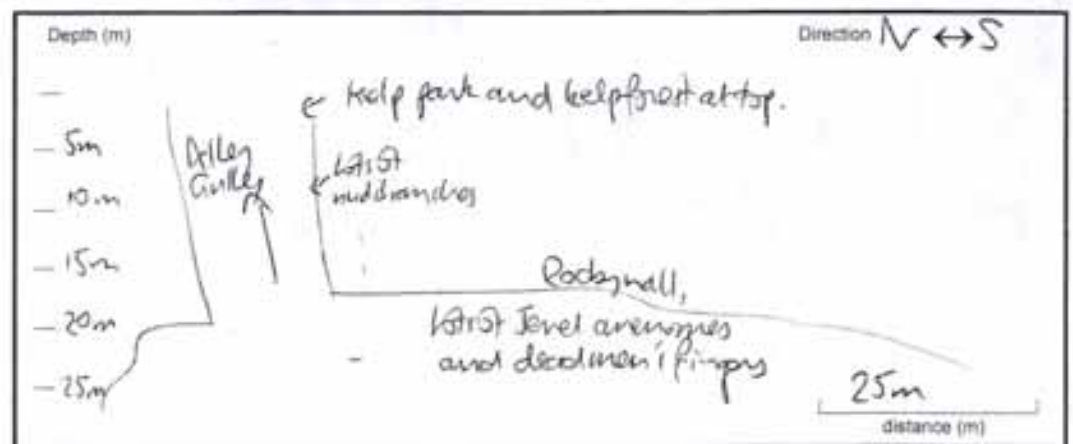
Sketch



Day 6	Thursday 13 th August 09
Site	Bluemull Sound – Ness of Wadbister to south of Gutter
Marks	60 41.890N 000 58.414 W WGS 84
Launch	Baltasound
Sea State	Calm in sound, 2 knots current running
Distance to dive site	15 miles
Divers	Ben Jaffey, Mike Smith, Annette Millar, Sharon Taylor, John Sharkey and Rory Budds with Cox'n John Davies.
Slack	Never a true slack, drift dive only. Acceptable drift dive times 4-5 hours before HW Lerwick and 2 hours after HW Lerwick.
Depth	28 m
Visibility	15m
Temperature	13c
Start dive	1135
Dive time	44
Surface notes	Gordon Ridley suggest caution due to 7kn tidal rate here - Best Lerwick HW+0309 (GR)
Underwater notes	Screaming drift in SW direction through the sound, Initially rocky seabed, then deeper encountered 4 mtr high banks of shells, shale seabed with many plaice lying disguised .
Sea Search	The strong current made a survey unpractical.
Sketch	None

Day 6	Thursday 13 th August 09
Site	Stack of the Muckle Head
Marks	60 45.146N 000 47.070W WGS 84
Launch	Baltasound
Sea State	Calm
Distance to dive site	3 miles
Divers	Ben Jaffey, Mike Smith, Annette Millar, John Davies, John Sharkey and Rory Budds with Cox'n Sharon Taylor.
Slack	Dive any time
Depth	31 m
Visibility	15m
Temperature	13c
Start dive	1556
Dive time	47
Surface notes	Wonderful coast line, sheltered from the SW with little tidal action make this a great site. Riddled with inlets so take your pick.
Underwater notes	Gulley with lots of nudibranchs heading west. Walls and gulleys on SE side with impressive coverage of life. Best dive is on SE side.
Sea Search	Ben Jaffey

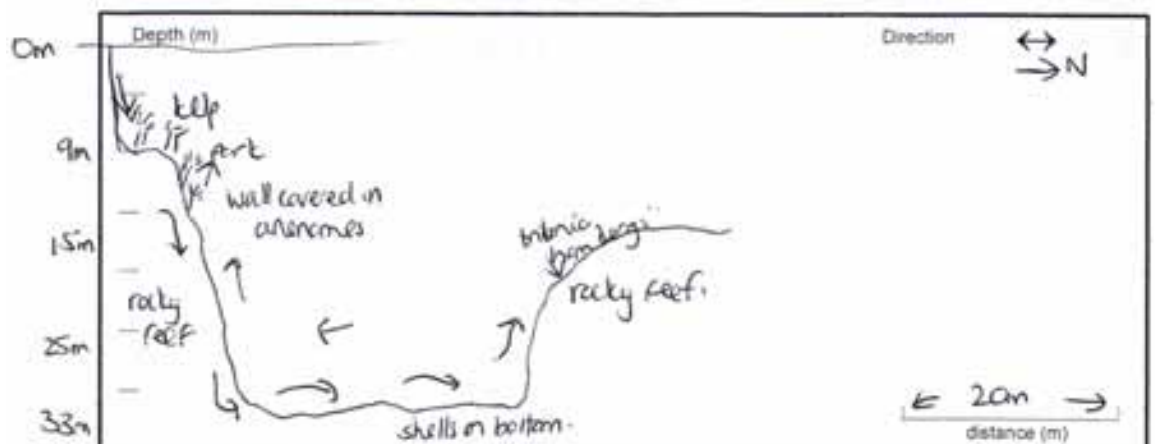
Sketch



Times of each of the species: (please tick all that you saw and circle the dominant one)

Day 7	Friday 14 th August 09
Site	Out Stack
Marks	60.51.658 N 000.52.361 W WGS 84
Launch	Baltasound
Sea State	Calm
Distance to dive site	11 miles
Divers	Ben Jaffey, Naomi Davies, Mike Smith, Annette Millar, Sharon Taylor, John Sharkey, John Davies and Declan Daly.
Slack	30 minutes before HW and LW Lerwick. Before HW slack, current runs East. After HW slack, current runs West. Before LW slack current runs West. After LW slack, current runs East. Towards springs, current may turn earlier. Slack lasts for 20 minutes only on a neap. Strong up and down currents. Current can be used to advantage with ability. Care required on surfacing (down currents), decompression diving was avoided.
Depth	32m, echo soundings to 40m
Visibility	15m
Temperature	13c
Start dive	09.26
Dive time	49
Surface notes	Overfalls and up-currents encourage caution here. Keep divers in close to face of stack.
Underwater notes	Less washing machine effect this time!
Sea Search	No

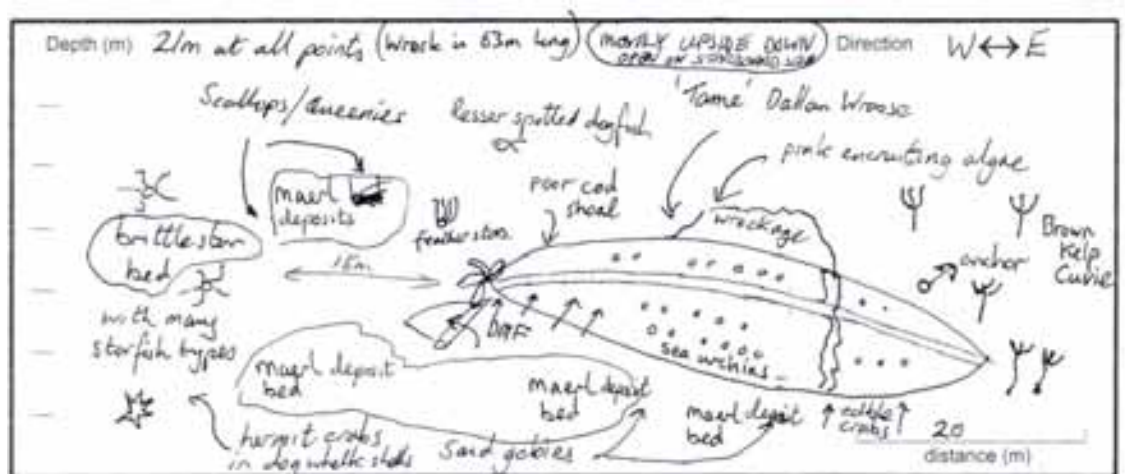
Sketch



Day 7	Friday 14 th August 09
Site	Wreck 'HMS E-49' submarine
Marks	60 424.213N 000 47.930W WGS 84
Launch	Baltasound
Sea State	Calm
Distance to dive site	2 miles
Divers	Ben Jaffey, Mike Smith, Annette Millar, Sharon Taylor, John Sharkey, Declan Daly, John Davies.
Slack	Dive at any time, though can be challenging on a spring tide
Depth	34 m
Visibility	20m
Temperature	13c
Start dive	1443
Dive time	39
Surface notes	Very quick and easy access to one of UK's best wrecks. British submarine, hit mine laid by U-boat in 1917 and sunk just outside of Baltasound on a sandy bottom. Normally has stunning visibility. War grave and protected site - all personnel lost. Permission to dive must be sought from the local police officer. If he is unavailable, call the police station at Lerwick. Divers warned not to touch anything on the wreck.
Underwater notes	2 nd survey dive – see methodology section 6.2
Sea Search	No
Sketch	Detailed sketch in section 6.2

Day 8	Saturday 15 th August 09
Site	Wreck 'SS Jane'
Marks	60 38.461N 000 56.606W WGS 84
Launch	Baltasound
Sea State	Calm
Distance to dive site	12 miles
Divers	Ben Jaffey, Naomi Davies, Mary Brown, Declan Daly, John Sharkey and Rory Budds.
Slack	(As Bluemull sound) 4-5 hours before HW Lerwick and 2 hours after HW Lerwick.
Depth	22 m
Visibility	10m
Temperature	13c
Start dive	1305
Dive time	50
Surface notes	Steamship lying just off small island Sound Gruney. Shows up well on echo. Bow pointing NE.
Underwater notes	<p>Largely intact wreck lying on port side, up to 5m proud on a maerl seabed. Much of the structure is still present, anchors, prop and rudder prominent. There are large holds and swim-throughs.</p> <p>From a wreck diving point of view this might not be the best Shetland has to offer however, the live maerl deposit bed makes for interesting marine biology. There were many feather stars and the friendliness of the Ballan Wrasse was notable, as was the number of jelly fish.</p>
Sea Search	Yes, John Sharkey

Sketch

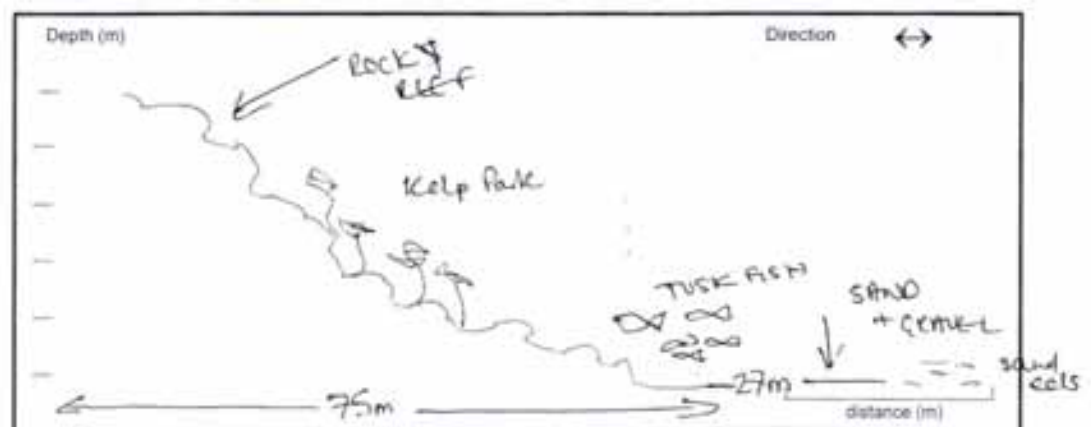


Day 8	Saturday 15 th August 09
Site	Wreck symbol in Baltasound
Marks	60 45.271N 000 48.009W WGS 84
Launch	Baltasound
Sea State	Calm
Distance to dive site	1 mile
Divers	Naomi Davies, Rory Budds, Mary Brown with Cox'n Ben Jaffey.
Slack	Dive any time
Depth	14 m
Visibility	15m+
Temperature	13c
Start dive	1656
Dive time	34
Surface notes	Appalling weather, wind and driving rain, so stayed local to investigate a wreck symbol in Baltasound. Conversation with local residents had told us it was some ex-MOD equipment accidentally dropped off a ship during the building to the Saxa Vord base. The site is currently less than 50m from a fish farm, and owners should be advised of your intention to dive.
Underwater notes	Upon diving it was discovered to be a completely intact mobile crane, now supporting much marine life. The sandy bed was covered in baby (10cm) plaice (over 50 counted.) The crane is covered in life including squirts, sponges, seaweeds and deadmen's fingers. A short distance away the net of the fish farm can be seen like a large wall. The crane is small with a base of 5m and would be inadvisable to put more than a few divers on at any one time.
Sea Search	Yes, Naomi Davies
Sketch	None

Day 9	Sunday 16 th August 09
Site	Wreck 'HMS E-49' submarine
Marks	60 424.213N 000 47.930W WGS 84
Launch	Baltasound
Sea State	Slight
Distance to dive site	2 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Felicity Twomey and Rory Budds
Slack	Dive any time but can be challenging during a spring tide
Depth	33 m
Visibility	20m
Temperature	13c
Start dive	10.01
Dive time	40
Surface notes	Very quick and easy access to one of UK's best wrecks. British submarine, hit mine laid by U-boat in 1917 and sunk just outside of Baltasound on a sandy bottom. Normally has stunning visibility. War grave and protected site - all personnel lost. Permission to dive must be sought from the local police officer. If he is unavailable, call the police station at Lerwick. Divers warned not to touch anything on the wreck.
Underwater notes	3 rd survey dive – see methodology section 6.2
Sea Search	As previous
Sketch	Detailed sketch in section 6.2

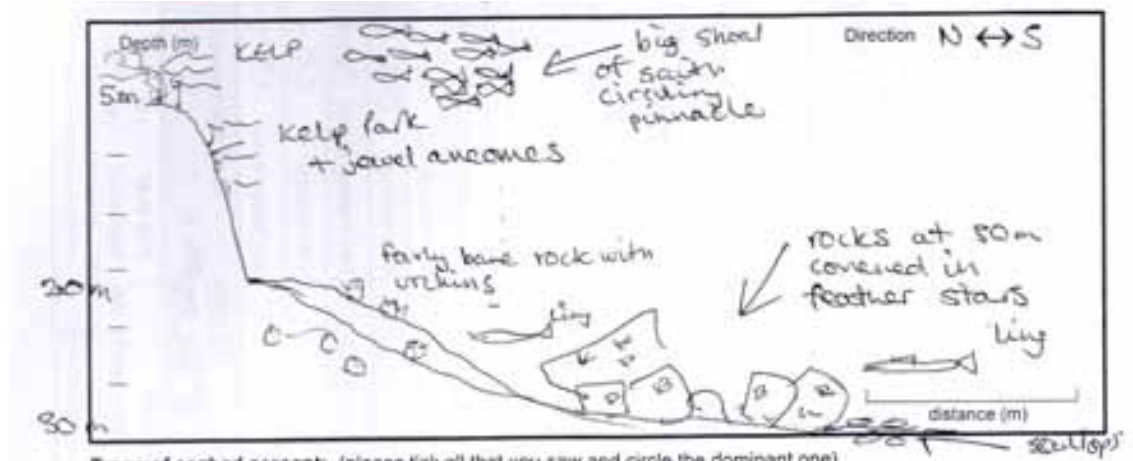
Day 9	Sunday 16 th August 09
Site	Pussi Geo, South East of Balta Sound Lighthouse
Marks	60 44.387N 000 47.826W WGS 84
Launch	Baltasound
Sea State	Moderate, in shelter from NE Force 6
Distance to dive site	2 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Felicity Twomey, Rory Budds
Slack	Dive any time
Depth	28 m
Visibility	30m
Temperature	13c
Start dive	1356
Dive time	45
Surface notes	This was the kind of day that showed was really special about Unst diving. Despite very poor weather, you can find a sheltered spot somewhere and, given a bit of depth, you can throw yourselves in anywhere and come up with a first class scenic dive!
Underwater notes	This rocky reef from the land slopes out to a sandy seabed in 28m with shoals of sand eels glittering in the light. With visibility at 30m this underwater garden was alive with life and felt like a nursery as it was so rich with fry. The rock faces are covered with keel worm that seemed less shy than normal and we were able to observe these creatures close up. Even the kelp was interesting as there were both nudibranchs and whelks on in it. Octopus seen. Seals were observed, though they kept their distance.
Sea Search	Yes, Mary Brown, see appendices

Sketch



Day 10	Monday 17 th August 09
Site	The Baa of Uyea
Marks	60 38.994N 000 52.050W WGS 84
Launch	Baltasound
Sea State	Slight
Distance to dive site	10 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Felicity Twomey, Rory Budds
Slack	Diveable most states of tide, best 4-5 hours before HW Lerwick and 2 hours after HW Lerwick.
Depth	42m, Sea Search to 30m
Visibility	20m
Temperature	13c
Start dive	1037
Dive time	43
Surface notes	Selected from chart to investigate as it looked like an interestingly steep slope.
Underwater notes	A pinnacle at 5m drops off to 20m and then slopes to 42m. The most interesting area is in 25 – 30m where there are large rocks and boulders, covered in feather stars, and small gravel and sandy patches, with very large scallops! Dog fish, butterfly and large ling were spotted. Despite the predominance of feather stars there are also areas of jewel and plumose anemones, squirts and deadmen's fingers. The beginning and end of the dive are memorable as a large shoal of saithe were circling the top of the pinnacle. Like dropping into fish soup!
Sea Search	Yes, Mary Brown, see appendices

Sketch



Day 10	Monday 17 th August 09
Site	Wreck of the 'Tonis Chandris'
Marks	60 42.424 N 000 48.915 W WGS 84
Launch	Baltasound
Sea State	Calm
Distance to dive site	5 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Felicity Twomey, Rory Budds
Slack	Dive at any time
Depth	24m to propeller. 27 m to seabed, 15m to remains of bow. Most of the wreck is in around 20m.
Visibility	15m
Temperature	13c
Start dive	1520
Dive time	42
Surface notes	Wreck does not show up well on echo. It lies around 100m east of Vere Rocks. If not buoyed, drop divers slightly inshore and South of the mark in 20m and get them to search along the 20m contour. They will find the wreck on a slope. Triple expansion engine and many other parts intact. Otherwise well broken.
Underwater notes	Intact propeller at 24m and shaft leads up gradual slope. Shaft has interestingly large clumps of coral worm at intervals. Ribs of ship lie each side of shaft, which leads to intact and visually stunning triple expansion engine at 17m, covered in orange soft corals. Both boilers intact and lying to east of main wreckage. Prolific fish life, massive shoal of saithe.
Sea Search	See previous

Sketch



Day 11	Tuesday 18 th August 09
Site	Baa Skerries
Marks	60 50.758 N 000 53.798 W WGS 84
Launch	Baltasound
Sea State	
Distance to dive site	9 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Rory Budds
Slack	30 minutes before HW and LW Lerwick. Before HW slack, current runs East. After HW slack, current runs West. Before LW slack current runs West. After LW slack, current runs East.
Depth	36 m, Sea Search to 32m
Visibility	20m
Temperature	13c
Start dive	10.22
Dive time	38
Surface notes	The intention had been to dive the north side of Muckle Flugga, but the swell was too strong so we moved west to a more sheltered site nearby, a pinnacle between Muckle Flugga and the main island.
Underwater notes	A stunning dive in a series of gullies. The blue water was filled with shoaling saithe and the walls were covered in anemones, squirts and a (even more notable than usual) number of deadman's fingers. There was also a profusion of flustra at 30m indicating the level of visibility this area enjoys. Lobster, scorpion fish and cat shark spotted.
Sea Search	Yes, Mary Brown but no sketch (gully system was a bit complicated to note in one dive!)
Sketch	No

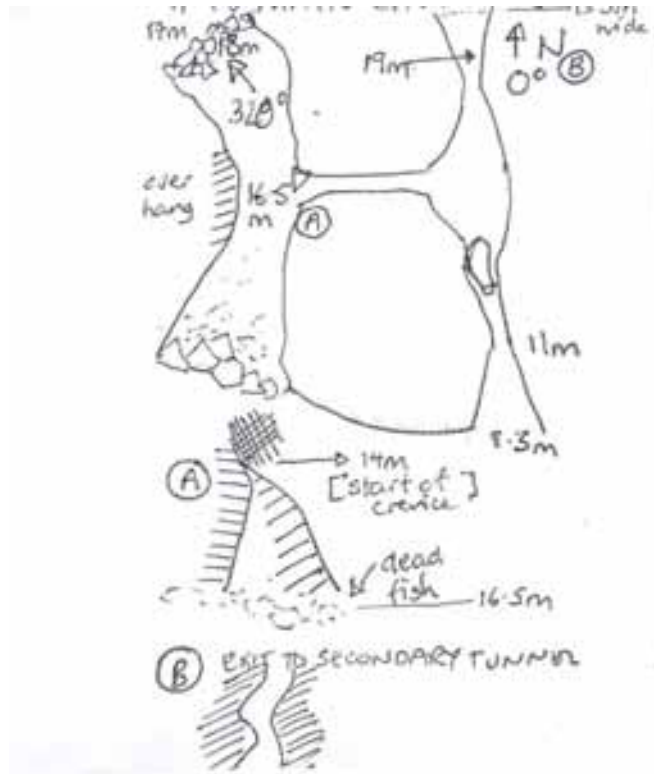
Day 11	Tuesday 18 th August 09
Site	Saito Head
Marks	60 49.230N 000 54.801W WGS 84
Launch	Burrafirth
Sea State	Calm inshore
Distance to dive site	7 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Rory Budds
Slack	Dive any time
Depth	31 m
Visibility	15m
Temperature	13c
Start dive	15.30
Dive time	42
Surface notes	Still too rough for to head off shore so traveled down west side of Unst trying to choose a likely spot to tuck in. There are numerous sheltered spots at the foot of these stunning cliffs of Hermaness.
Underwater notes	Sloping rocky reef from cliff face out to 31m. While not as memorable a dive site as many on Unst, a perfect bad weather opportunity to try something new. Good crustacean life including lobsters.
Sea Search	No
Sketch	No

Day 12	Wednesday 19 th August 09
Site	Out Stack – west end
Marks	60 51.663 N 000 52.584 W WGS 84
Launch	Burrafirth
Sea State	'boiling'
Distance to dive site	3.5 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Felicity Twomey, Rory Budds
Slack	30 minutes before HW and LW Lerwick. Before HW slack, current runs East. After HW slack, current runs West. Before LW slack current runs West. After LW slack, current runs East.
Depth	32m
Visibility	20m
Temperature	13c
Start dive	1035
Dive time	41
Surface notes	We decided to grab a window before an impending storm and dive the Out Stack in marginal conditions.
Underwater notes	Described as an absolutely amazing dive with life covering every inch. The current took us through a gully – now named the “anemone express”. There are several gulleys and ‘bowls’ and you just let the current take you.
Sea Search	MarLIN – Reiko Yamazaki
Sketch	As previous

Day 12	Wednesday 19 th August 09
Site	Burrafirth East - Da Uda Cave
Marks	60 49.825N 000 51.185W WGS 84
Launch	Burrafirth
Sea State	Slight, southerly force 8 blowing foam off wavelets
Distance to dive site	1 mile
Divers	Felicity Twomey, Rory Budds, cox'n Declan Daly
Slack	Dive any time
Depth	19 m
Visibility	20 m
Temperature	13c
Start dive	1455
Dive time	42
Surface notes	This was the 'bad weather' option in the force 8, very windy crossing the firth, but easy once tucked in.
Underwater notes	'H' shaped cave system, with 4 exits, so a safe environment provided one stays within view of 'azure' window. Enough time to come out and go back in again for a second tour. Fabulous dive in gin clear water

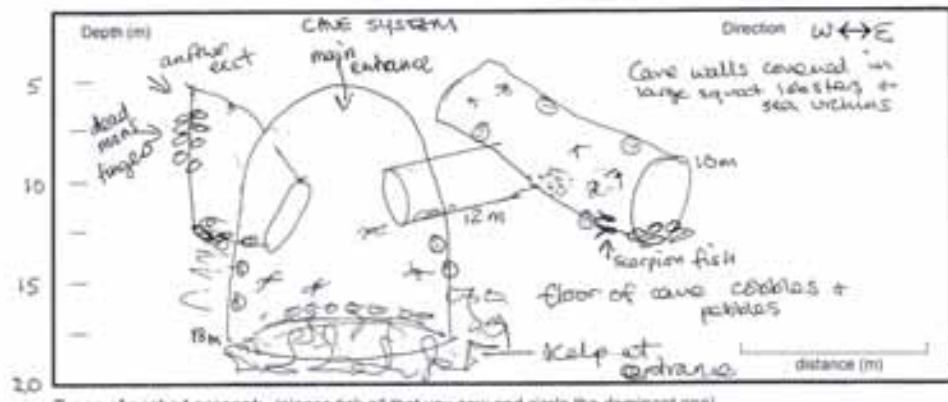
Sea Search

Sketch



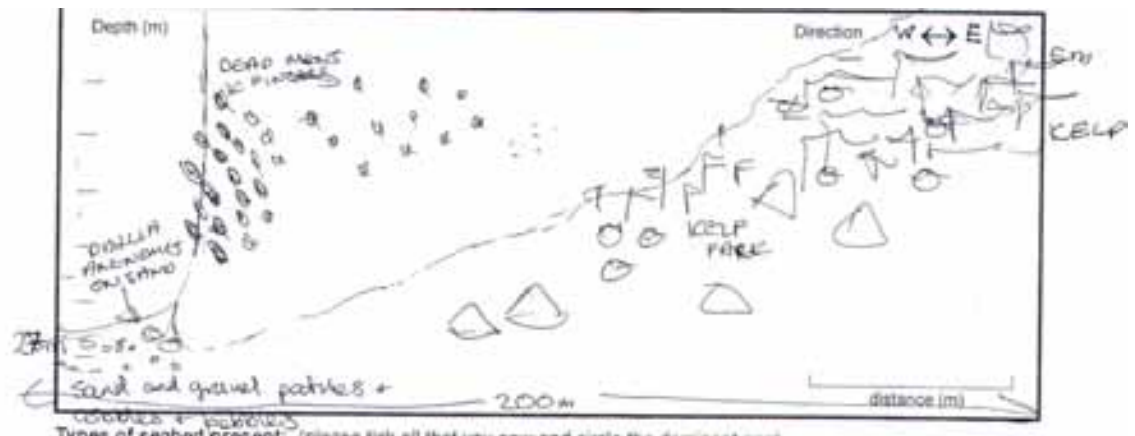
Day 13	Thursday 20 th August 09
Site	Burra firth East – Da Uda Cave
Marks	60 49.825N 000 51.185W WGS 84
Launch	Burrafirth
Sea State	Slight, southerly force 8/9
Distance to dive site	1 mile
Divers	Mary Brown, Annette Millar, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Felicity Twomey, Rory Budds
Slack	Dive any time
Depth	20 m
Visibility	20m
Temperature	13c
Start dive	1120
Dive time	50
Surface notes	Still blowing a hooley so the team opted for some indoor diving.
Underwater notes	Blacks out completely in SE leg. Large lobster surprised by our visit. Open to cavern above, not investigated, saved for a return visit.
Sea Search	Mary Brown, MarLIN - Reiko Yamazaki

Sketch



Day 13	Thursday 20 th August 09
Site	Caves and cliff exploration – southern exit of Cathedral Cavern
Marks	60 50.042N 000 50.960 W WGS 84
Launch	Burrafirth
Sea State	Slight
Distance to dive site	1.5 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Felicity Twomey, Rory Budds
Slack	Dive any time
Depth	25 m
Visibility	20m
Temperature	13c
Start dive	1621
Dive time	49
Surface notes	Narrow southern entrance to back of enormous cavern open to sea from north.
Underwater notes	A number of other indentations were investigated to see how deep the went, answer not very far, but the usual fantastic visibility made for a great dive along the NE wall of Burrafirth and out to the seabed of the firth.
Sea Search	Mary Brown

Sketch



Day 14	Friday 21 th August 09
Site	North Balta Island
Marks	60 45.655N 000 47.525W WGS 84
Launch	Baltasound
Sea State	Calm in lee of southerly strong winds
Distance to dive site	2 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, Declan Daly, Neil Skilling, Felicity Twomey, Rory Budds
Slack	Dive any time, but tuck in from current
Depth	32 m
Visibility	20m
Temperature	13c
Start dive	1055
Dive time	45
Surface notes	Locals had told us of a scallop bed here, but we probably needed to go about another 300 mtrs further north.
Underwater notes	Descended onto startled monkfish. Rocky / sandy seabed, shoals of fry, gentle drift into Baltasound north channel. Divers who went inshore reported a wall of jewel anemones down to 30 mtrs. Superb dive to be repeated.
Sea Search	Too much current at this time (spring tide).
Sketch	No

Day 14	Friday 21 th August 09
Site	Wreck 'HMS E-49' submarine
Marks	60 424.213N 000 47.930W WGS 84
Launch	Baltasound
Sea State	Slight
Distance to dive site	2 miles
Divers	Mary Brown, Warwick Mason, Reiko Yamazaki, John Sharkey Declan Daly, Neil Skilling, Felicity Twomey, Rory Budds
Slack	Dive at any time, though can be challenging on a spring tide
Depth	34 m
Visibility	20 m
Temperature	13c
Start dive	1521
Dive time	40
Surface notes	Final visit to this fantastic wreck to take some measurements of the bow section.
Underwater notes	Current running across wreck, just about diveable. Usual stunning visibility and abundant fish life, resident congers still at home.
Sea Search	MarLIN – Reiko Yamazaki
Sketch	As previous, full sketch appended in section 6.2.

5 Logistics

We were based at Baltasound for launching and mooring. Food, fuel and assistance were available in the vicinity.

Our equipment was kept at the accommodation area in Valsgarth, a short distance from Baltasound.

There were no dive amenities so all necessary spares were brought, and divers were paired off to buddy-up over major items such as cylinders, additional regulators and lead. The trip was to be entirely self-sufficient.

5.1 Accommodation

We stayed at Saxa Vord Resort, Valsgarth, Unst, North Shetland

We booked two Nordabrake Self Catering Holiday Houses for 2 weeks. The Nordabrake houses sleep 5 adults (1 double room, 1 twin and 1 single) Cost was £1770, equating to approx. £100 per person per week. The price included electricity and heating, bed linen and towels. The location was unusual in that the houses were ex-RAF airmens' accommodation, of a very high standard, and all the time brooded over by the enormous and now disused Early Warning Station of Saxa Vord.

5.2 Travel

Our initial concern about this trip was about the difficulty of getting to such a remote location. A decision was made to share driving of boat and equipment with 4 people up and a different 4 back.

How did people get there?

Mary's route:

"For the record, mine was one tube, two trains, Dad's car, one plane, three buses, two ferries, one hitch, one rental car! London to Edinburgh 5 hours and Edinburgh to Saxa Vord 10 hours."

Total 15 hours

Annette's route:

Plymouth - Aberdeen via Inverurie 3 normal trains, 1 night train, 1 lift
651 miles 14 hours

Aberdeen to Lerwick - Ferry 217 miles 12 hours

Lerwick to Unst - Lift and 2 ferries 60 miles 3 hours

Total: 928 miles and 29 hours

Warwick's trip:

Flight London City 1010, transfer at Glasgow, Lerwick by 1530, Unst by 1830.

Total 9 hours

There are two ferries linking Mainland to Yell and Yell to Unst. The inclusive journey time from Lerwick is 2hrs 30 mins.

5.3 Boat and Equipment Logistics

Most of our club diving takes place on the south coast, and the last major outing for this RHIB had been to the Scillies for a week long expedition in June. The boat was taken back via Penzance to Plymouth for a weekend diving, and the intention was then to use it at St. Abbs, a half-way house to Aberdeen. However, this was not to be (they opted for shore and hardboat at St Abbs) so the boat journey from Plymouth to Aberdeen was broken with a short stay at Penton Hook Marina on the Thames near London.

When	What	Where	Who
July 2009	Special trailer service	Plymouth	Matt Williams
Early August	Boat from Penzance to London	Penton Hook	JS
Thurs 30 July	Vehicles to club for first kit collection	Ironmonger Row EC1	RB, JS
Weds 5 August	Collect compressor Stroud> London	Tottenham N17	RB, JS
Thurs 6 August	Boat & equipment Overnight to Aberdeen	Ironmonger Row EC1	RB&JS ST&JD
Fri 7 August	Ferry to Lerwick	Aberdeen	RB,JD,JS,ST,AM
Fri 7 August	Remaining divers in transit	Aberdeen	BJ&ND
Sat 8 August	Any late flyers?	Sumburgh air pick-up	MS
Sat 8 August	First Dive - early launch	Baltasound	All
Sat 15 August	2 nd party arrives, 1st party returns,	Lerwick to London	1st party
Sun 16 August	2 nd week dives commence		
Sat 22 August	2 nd party to return, 4 with vehicles	Lerwick	RB,WM,NS,DD
Sat 22 August	4 remaining divers	Sumburgh or Lerwick	RY,MB,AM,FT
Sun 23 August	Vehicles and boat return to London	Tottenham N17	RB,WM,NS,DD
Mon 24 August	Hired compressor London> Stroud	Bethnal Green	JS
Thurs 27 August	Kit retrieval	Ironmonger Row EC1	All

5.4 Launching and recovery

Our main launch and recovery point was at Baltasound

Position	60 45.680' N 000 50.386' W
Chart Reference	3293
Tidal Data (estimated)	MHWS = 2.3 MHWN = 0.9 MLWS = 0.4 MLWN = 1.8
Tidal Differences	Approx time of high water from Lerwick = minus 0055

A small charge was made for slipway use, and berthage charges. (approx. £1 per day) Water, stores and fuel were available nearby.

An alternative launch and recovery slipway was available at Uyeasound – brand new! This offered shelter from all weather directions. In the event it was not necessary to use this.

We did however make extensive use of a private pontoon in Burrafirth. (many thanks to Edmund Nicholson of Muckle Flugga Charters). This offered full protection from the southwesterly extreme weather we experienced.

6 Technical information

6.1 Equipment taken:

(in addition to fixed boat equipment)

6.5 mtr Tornado RHIB C/w twin 90 hp Yamaha engines on trailer
(full nav & comms equipment fitted)

Club Transit van

Club 4x4 pick-up

14no. sets of personal dive equipment

2no. sets of personal equipment as spares

22no. 12/15 ltr cylinders

9no. Pony cylinders

Lead for 8 divers plus spare

2no. Emergency Oxygen sets incl. 1no. 12ltr and 1no. 7 ltr Oxygen

Nitrox gas blending equipment incl. decanters, analysers

3no. personal (hand-held) VHF radios

3no. personal (hand-held) GPS

1no. Bauer Compressor (8 cfm) hired from www.centralcompressors.co.uk

1no. EPIRB

Equipment for survey work tapes, lines, slates for survey work

Personal still and video cameras and lights

Notes:

Boat engines serviced early season

Trailer service delayed to just prior to trip

All divers buddied up to use same cylinders on second week

6.2 Wreck survey methodology

Survey dives 1 and 2 were carried out by Week 1 divers and Dives 3 and 4 were carried out by the divers on the second week of the expedition. The survey was planned and led by Annette Millar (Advanced Instructor) and Sharon Taylor (First Class Diver candidate). For many members of the expedition, it was their first experience of wreck surveying.

The initial orientation, photography and Seasearch dive was carried out on August 12 and familiarised all of the divers with the orientation and layout of the wreck, including the bow section, which is separate from the main wreckage. On this dive, the divers enjoyed superb visibility, and could see the entire wreck from 10m. Initial sketches were prepared of the main features of the wreck, although these were not to scale.

Photos were taken of all parts of the wreck, which were very useful in completing the wreck sketches later.

The purpose of the second dive was to measure all the main features of the wreck, so as to enable a detailed scale plan to be prepared. Each diver was given tape measures and marked lines and a detailed dry run was carried out before the dive. There was also a full briefing from the survey organisers. This preparatory work was invaluable in enabling buddy pairs to iron out difficulties before getting underwater.

The survey tasks were as follows:

Ben and Naomi – Measure from rear end of conning tower to stern, measuring the height of wreckage every 5 metres.

Sharon and Annette – Measure key features of conning tower

Declan and Mike – Measure from front of conning tower to bow, measuring the height of wreckage every 5 metres.

John D and John S – Measure distance and bearing of bow section from main wreckage. Measure and survey bow section.

Given the size of the wreck, each of these tasks were time consuming and the divers all incurred significant decompression requirements.

The third dive was to orientate the week 2 divers.

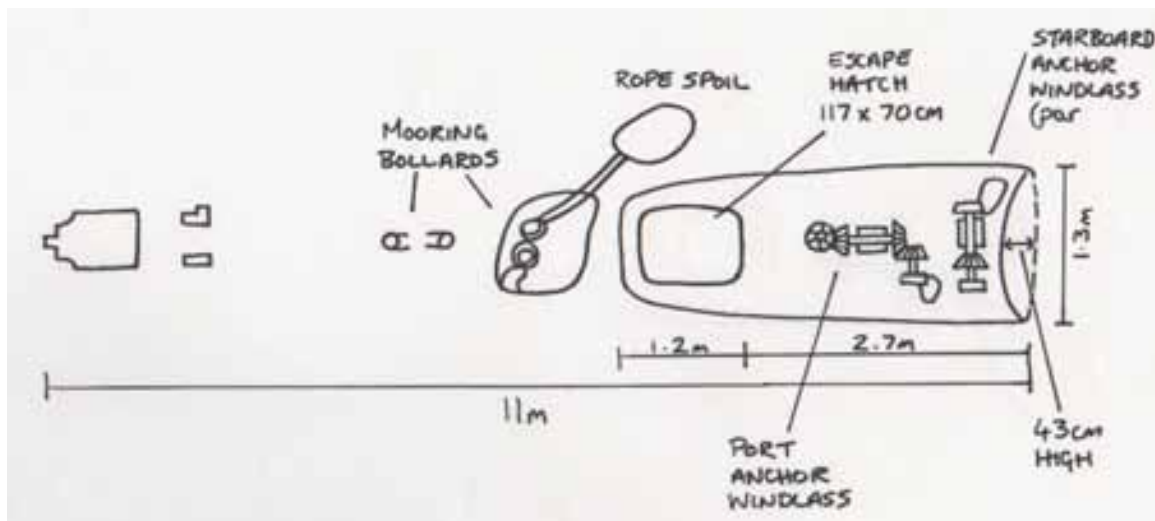
The fourth dive added considerable further missing information on the detached bow section to enable the sketches to be completed.



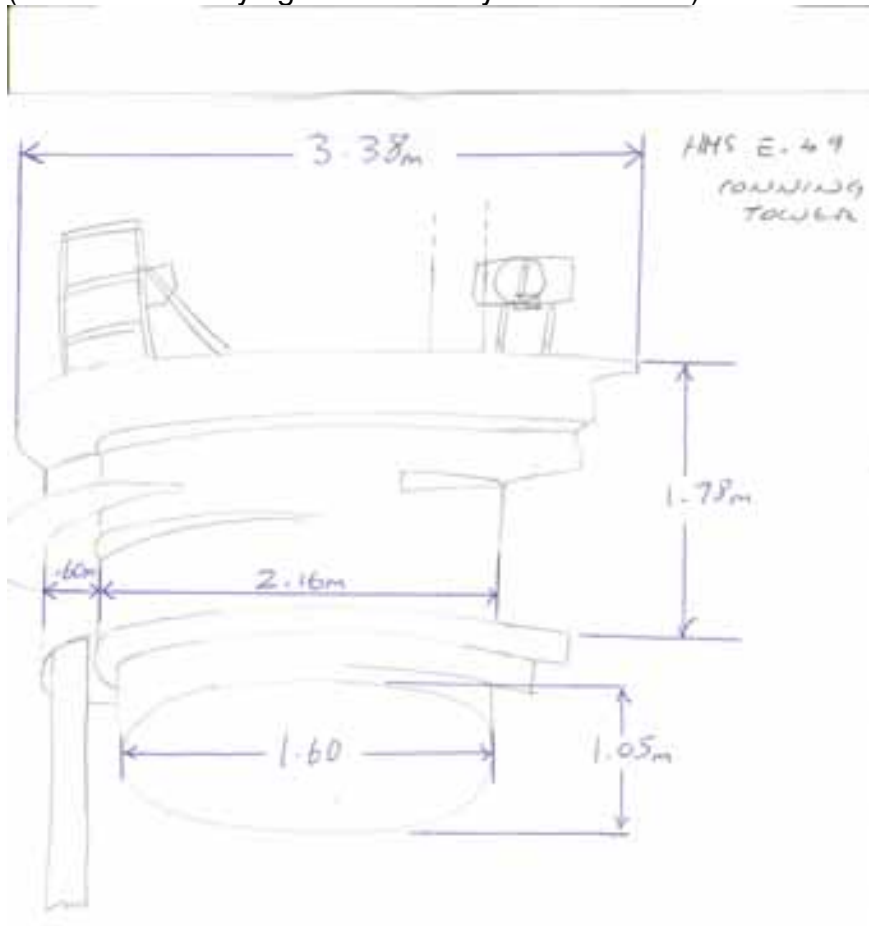
Our highly trained staff

Measurements taken on HMS E – 49, August 2009

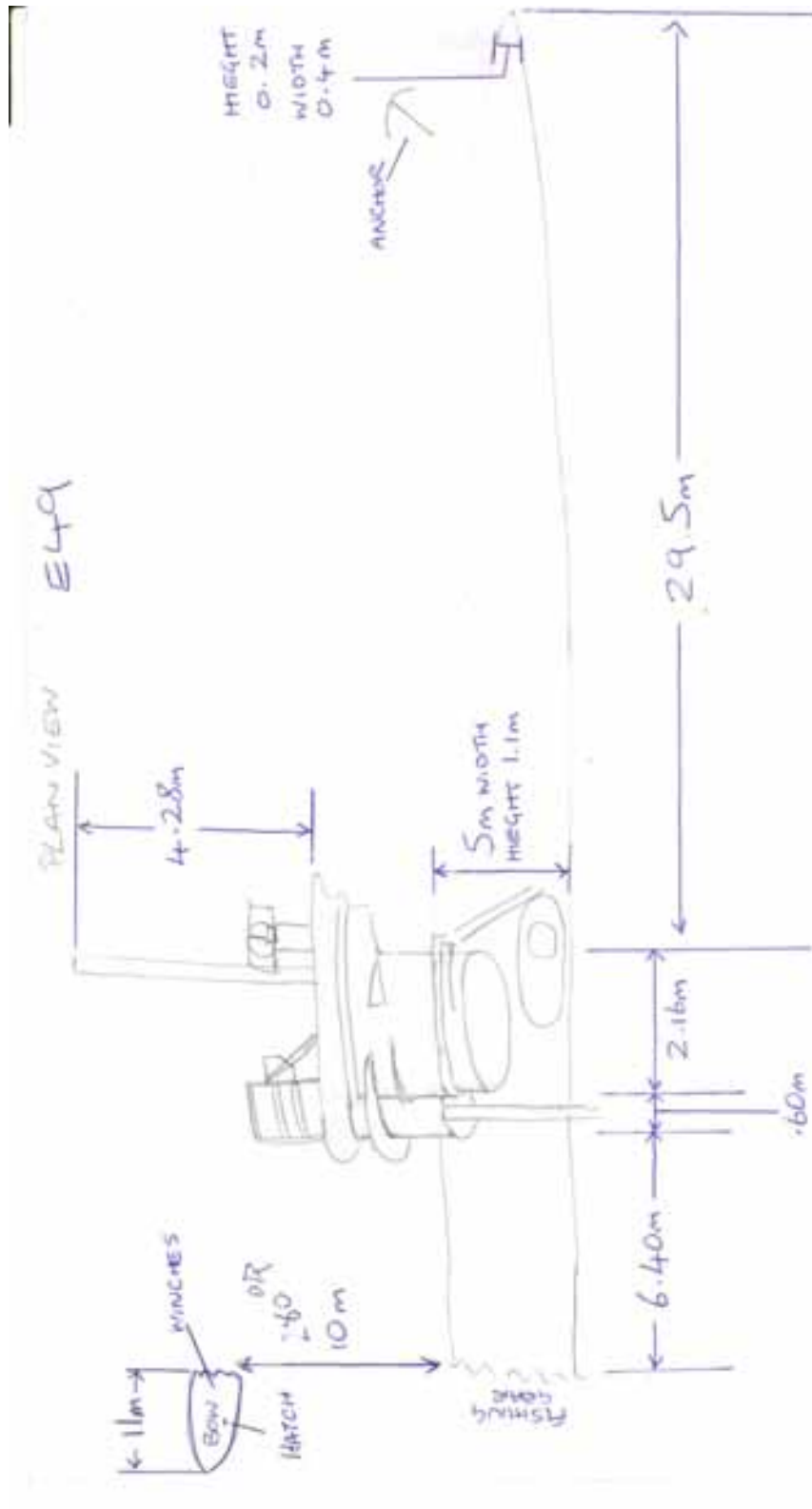
Bow section (detached from main wreck by approx. 10 m)



HMS E-49 Conning Tower
(detached but laying on main body of submarine)



Main body of Wreck HMS E – 49



6.3 Blog

Best of the blog:

E-49 You-Tube Videos:

<http://clidive.blogspot.com/2009/08/couple-of-vids.html>

We uploaded video from our underwater cameras to You-Tube.

Fantastic photos of out-stack:

<http://clidive.blogspot.com/2009/08/out-stack-and-back.html>

We published our sketches of the E-49 and trained the world in triple expansion engines:

<http://clidive.blogspot.com/2009/08/it-was-all-worthwhile.html>

Ben uploading the blog from the bus stop:

<http://clidive.blogspot.com/2009/08/non-diving-activities-in-unst.html>

<http://clidive.blogspot.com/2009/08/our-mentor.html>

We made friends with the locals, and cut the rope around the prop of the Burrafirth/Muckle Flugga tour boat.

<http://clidive.blogspot.com/2009/08/international-rescue-clidive-branch.html>

6.4 MarLIN marine biology database - methodology

We filled in details of what we saw on the Marlin database every night. This involved getting to grips with the Access database and entering records of what we had seen on every dive. The names on the database are in Latin so we had to find the creatures that we had seen on the dives in various marine life guides that we had with us (in many cases we had photos of them which made identification easier) and then look up the Latin names.

We had to enter a separate record for every thing seen and say how many we had counted or if something was common like Plumose Anemones, then we had to estimate coverage or frequency. In total we had nearly 250 records over 22 dives.

The data that we submit via MarLIN will be verified by an expert Marine Biologist which is why they wanted us to take photos of what we saw as these aid positive identification of species.

Before the Shetland expedition, Annette went to the Marine Biological Association in Plymouth and met with Becky Seeley who is the Biological Records Officer there. She said that there was very little data about marine life in Shetland and in particular Unst so said that they would be very interested in what we saw on our dives.

You might be interested to know that the Marlin website has been voted amongst the BBC's best wildlife websites. The information submitted through MarLIN (Marine Life Network) feeds in to the Data Archive for Sea Bed Species and Habitat which is a joint collaboration between various bodies.

Further information is on <http://www.dassh.ac.uk/> MarLIN also collaborates with other marine life recording schemes such as Seasearch and the National

Marine Aquarium rare fish recording scheme to share data about species distribution. (Annette Millar).

Here is a screen shot of the MarLIN database entry.

The screenshot shows a web-based form for the MarLIN database. The form is titled 'Marine Life Information' and is divided into several sections. The top section contains fields for 'Location Name', 'Recorder', 'Date', 'Time', 'Depth', 'Tide', 'Wind', 'Weather', 'Water Temp', and 'Air Temp'. Below this is a 'Species' section with a dropdown menu for 'Species', a text box for 'Number seen', a dropdown for 'Sex', a dropdown for 'Age', and a dropdown for 'Stage'. There is also a 'Description' section with a text box for 'Description' and a 'Measurements' section with fields for 'Total length', 'Head length', 'Body length', 'Tail length', 'Snout length', and 'Fin length'. At the bottom, there are fields for 'Number of photos', 'Number of specimens', and 'Number of samples'. The form is set against a light green background.

6.5 Seasearch

Seasearch is a project for volunteer sports divers who have an interest in what they're seeing under water, want to learn more and want to help protect the marine environment around the coasts of Britain and Ireland.

The main aim is to map out the various types of sea bed found in the near-shore zone around the whole of the Britain and Ireland. In addition they are recording what lives in each area, establishing the richest sites for marine life, the sites where there are problems and the sites which need protection.

16 Clidivers attended the Seasearch observer course organized for the branch in early 2009.

7 Finance

The out turn was positive against the preliminary budget. This was due to an 'expeditionary diving fee' levied on the divers, which goes to the club to help cover equipment wear and tear issues. The compressor costs were far less than anticipated thanks to the generosity of Central Compressors Ltd., of Stroud. Nitrox was not charged to the expedition as members brought their own supplies. The purchase of a club vehicle for towing also meant the predicted W&T payment for use of a member's vehicle was not required.

Shetland Trip budget outcome

Preliminary Budget

Assumptions:

Clidive van used for towing

Boat has to be recovered from Plymouth & stored somewhere near London e.g. Nazeing

One support vehicle

Everyone meets at Aberdeen

Diesel is used @ £4.50 per Gallon

Average mpg 20mpg towing & 30 mpg otherwise

Drivers don't pay Ferry

Support vehicle wear & tear £10 per 100 miles

Sundry mileage on Unst 250 miles per week

Shared trip costs:

Recovery/return to Plymouth	275 miles e/w		
	Fuel (extra used towing)	45	
	Storage	50	
	Extra mileage	20	115
Towing to Aberdeen & back	525 miles e/w		
	Total fuel	230	230
On Shetland	fuel 60 miles e/w	31	
	Sundry mileage fuel	90	121
Support vehicle	wear & tear 550 miles e/w	120	
	Fuel	167	
	Shetland fuel	24	
	Sundry mileage fuel	90	401
Ferry costs	Trailer	262	
	Van	232	
	Support vehicle	232	
	Boat to Yell	19	
	2 vehicles to Yell	16	
	Contribution to drivers	340	1101
Boat costs	boat 6 x 60 x levy 2	720	

	boat fuel	<u>1300</u>	2020
Air costs			
	Compressor hire & fuel	1200	
	Oxygen	<u>600</u>	1800
Sundries	Books . Charts etc.	50	
	Contingency fund	<u>200</u>	250
Total shared costs			<u>6038</u>
Cost each			<u><u>377</u></u>
Individual costs:			
	Accommodation		110
	Subsistence		50
	Share of shared costs		377
	Ferries:		
	Return from Aberdeen	65	
	Return cabin	88	
	Return to Yell	<u>7</u>	160
Total cost each ex Aberdeen			<u><u>£697</u></u>
Cost per dive(predicted)			<u>£58</u>

Actual costs £

	Week 1	Week 2	Total
Boat Fuel	960.46	285.66	1246.12
Food & Drink	513.91	528.85	1042.76
Accommodation	885.50	885.50	1771.00
Van Fuel	412.70	429.84	842.54
Misc.	632.09	872.66	1504.75
Misc.	91.83	400.00	491.83
Total			6899.00
Contributions by divers	3609.05	3674.18	7283.23
Cost per dive – actual (183 dives)			£39.80
Surplus to club for Wear & Tear			£384.23
Expected income from BSAC			£1000.00
(to cover Comp Op qualification fees and W&T)			

Appendices:(Paper copy only)

5. Dive logs
6. Blog copy & Photo Gallery
7. Receipts
8. Seasearch results

Electronic copy (pages 52 – 59)

5. Press articles

Appendix 5 – Press Coverage

<http://www.shetlandtimes.co.uk/2009/08/28/isles-views-53>

The Shetland Times

28 August 2009

Clidive

Clidive is a central London dive club undertaking a British Sub Aqua Club sponsored expedition. Their purpose is to carry out underwater surveys of wildlife for the Marine Conservation Society and the Marine Biological Association and 14 members of the group have travelled to Shetland for a two-week visit.

When asked what they think of Shetland Felicity Twomey of the group said: “The underwater scenery is stunning. There is immense variety of marine life and the visibility is crystal clear. The diving around Unst is simply world class.”

With close proximity to sheltered launch and mooring facilities the expedition, which is self sufficient, have found the Saxa Vord resort to be the ideal base. Weather permitting the journey to Muckle Flugga and the Out Stack takes only 30 minutes.

Felicity went on to say that diving in Shetland feels, and is, remote and unspoilt, but with the right planning in place the diving can be carried out safely. They are all experienced divers; they have brought their own boat and hired a compressor to fill the air tanks.

So far they have found many species of nudibranch, several of those new to them and compared to the south coast of England there is prolific fish life. Anyone interested in following the activities of the expedition can log on to www.clidive.blogspot.com where there are some stunning photos.

FELICITY

Felicity's swimming in an underwater garden

MEMBERS of an Islington-based diving group searched shipwrecks and encountered sea creatures during an adventure to the Shetlands.

Clidive, based at Frobenius Row Baths, Islington, Row, Finchbury, led a 14-strong team of divers to Scotland and to the most northerly part of the British Isles on last month's expedition. The team searched four shipwrecks, an underwater cave system, and numerous fish and gullies as well as

carrying out a detailed survey of Second World War submarine HMS E49, which was destroyed by a mine in 1917, with no survivors.

Felicity Twomey, 31, a keen diver who has been a member of the club for several years, said: "The whole thing really was fantastic. It was a wonderfully remote location and the underwater clarity and amount of light down there was amazing. I have never seen anything quite like it."

"When we were diving to the E49 we had a line going from the boat down to the wreck which was 34 metres down. You couldn't see anything for the first eight metres but after that it was clear all the way down and such an impressive sight."

But as well as searching through wrecks for hidden treasures the divers also encountered some pretty weird and wonderful sea creatures. Ms Twomey said: "We saw all sorts of fish including dogfish, ling and saithe. We also saw octopus, seals and sea anemones which look like flowers."

"The whole thing is like an underwater garden with animals and what look like plants everywhere."

But a trip like this, especially to a place where there are no local scrub diving infrastructure, is not easy. The club even had to source a companion to fill their air tanks, and transport their own boats from their moorings on the south coast.

Ms Twomey said: "It took a lot of planning and a lot of effort on the part



■ FELICITY Twomey on the dive boat

of many members but it was great fun and you get the opportunity to see things that few people ever get to see."

DUNCAN HEPBURN

Michael brings bar back to life

MICHAEL Whelan is restoring a pub to its former glory - when it was run by his TV star dad.

When 30-year-old Michael and his partner Media took over Whelans Lark in the Park in Coppenhall Street, Ilkington, it was in a bad state. Having been run as a rock venue at a drop in the 1990s, his father Gary, who started The 800, and a schoolmaster in Bullykinstangel, made a name for the pub as a popular live music venue.

And now, under the close scrutiny of his dad, Michael is attempting to take it back to its glory days.

He said: "My dad is pretty happy I'm running the pub again and getting it back on track and he's definitely keeping a watchful eye on things."

Just left the Lark in the Park around 15 years ago and opened another pub in Ilkington but we decided it deserved to go back to what it was in the 90s. Obviously it's a very hard climate to run a successful pub at the moment but we're doing pretty well and it has been a success so far and we're confident it will just keep on getting better. We are already booking a lot of private and party parties."

The pub has been a DJ on Friday nights, a live band on Saturday nights and a resident Irish band will be playing every Sunday. Michael, who was running a bar in Spain, said: "We are offering quality homemade food and good music."

DUNCAN HEPBURN

■ THE E49 wreck



Archant London

Advertisement for C2

Diving at the end of the world

Sometimes, you can tell the moment you get into the water that a dive is going to be spectacular. With hundreds of gannets circling above, jumping in at Muckle Flugga is one of those dives. A remote rock, swept by strong currents but with 30m visibility and spectacular marine life. Under the surface, the walls and gullies drop down vertically and are covered with anemones, soft corals, crabs and nudibranchs. Dense shoals of fish circle above you, blocking out the sun.

This isn't a tropical liveaboard, but a UK club RIB trip to Unst, the northernmost island in Shetland. Unst holds the UK record for the strongest recorded wind speed (177mph, just before the wind gauge blew away). It is further north than Moscow and on the same latitude as Anchorage in Alaska. It is just as close to the Faroe Islands and Norway as it is to John O'Groats. It is 810 miles north of London.

You can find Muckle Flugga on the map by going past the Orkneys, through Shetland to the island of Unst, then a little bit further north still. Muckle Flugga is the dot on the map that marks the northern tip of the United Kingdom. After reading a recent article in Dive Magazine reporting great diving in Shetland, our North London BSAC club decided we had to go and investigate. Assisted by a BSAC expedition grant, we hired a compressor, booked self catering accommodation, towed up a RIB and went exploring. To help us make the most of the trip, we completed Seasearch training and trained in compressor operation.

Over two weeks, we dived many new dive sites, but left feeling that we hadn't even scratched the surface of what Unst has to offer.

But what about the weather? Well, it can get windy up there. But the bad weather options make the trip worthwhile in itself. When the inevitable gale rolled in, we dived the E-49 just outside of Baltasound. This is a British submarine war grave slowly sinking into the white sand in 34m. From 12 metres, the whole wreck is visible in the 20m visibility, including the complete conning tower. You can see the whole wreck from one end to another. It is covered in clouds of tiny fish. If you ignore the water temperature, it's like diving in the Med. Then we moved onto exploring the underwater cave systems in Burrafirth and doing fast drift dives in Bluemull sound between the islands of Unst and Yell, all in sheltered blue water. When we had done that, we dived the wrecks of the Tonis Chandris and the Jane. The advantage of island diving is that whatever the weather, there was shelter from the wind on one side or another.

As the wind dropped, we investigated the walls, stacks and caves all around the exposed west coast of Unst. A RIB was ideal, allowing us to get in close to the rocks and quickly cover substantial distances. We carried out Seasearch surveys and mapped the wrecks. Wherever we dropped in, we found clear water and dive sites filled with life. Colourful soft coral and anemones, hand-sized nudibranchs and big shoals of fish were everywhere.

Diving in Unst is on a par with other world class UK sites, such as St Kilda. But the surprising thing was how easy it is. Shetland has many well equipped harbours and slipways. Unst has excellent accommodation and welcoming locals who are delighted to help visiting divers (particular thanks are due to Edmund Nicholson of Muckle Flugga Charters, Bob Anderson, skipper of MV Halton, Unst Inshore Services and Zetland BSAC). Unst offers world class diving to any BSAC club with a RIB and a sense of adventure. Go there!

Side boxes

Top 5 Unst dives

1. **Muckle Flugga** (60 51.240N 000 53.329W). Walls, valleys and gulleys along the exposed north-west side of the lighthouse, covered in marine life and generally with superb visibility, plus plenty of seals. Slack water only lasts for about 20 minutes on neaps and occurs around 30 minutes before HW Lerwick. A serious candidate for the UK's best scenic dive.
2. **Out Stack** (60 51 658N 000 52.361W). The northernmost point of the UK - a wild and remote location, with gannets circling above. Deep valley filled with colourful anemones and soft corals. Large shoals of fish complete the picture - some of the best scenic diving that the UK has to offer. Slack as Muckle Flugga. Strong up and down currents before and after slack – Out Stack is not a place for decompression diving!
3. **E-49**, Baltasound (60 44.213N 000 47.30W). This British submarine war grave lies in 33m and is slowly sinking into the white sand of Baltasound. Visibility is usually excellent and the wreck can be dived at any time on neaps (20m+).
4. **Da Uda Cave** (60 49.825N 000 51.185W). H shaped cavern system in Burrafirth with several long passageways to explore. No currents.
5. **North Holmes** (60 46.951N 000 57.446W). Walls and gullies carpeted with jewel anemones dropping to 30m+ on west side of Unst.

Diving

Take your club RIB, launching at the sheltered harbour in Baltasound (www.shetland.gov.uk/ports). Alternatively, Bob Anderson on MV Halton (www.mvhalton.co.uk) runs liveaboard charters from Orkney and Lerwick, which visit Unst. Edmund Nicholson of Muckle Flugga Charters offers day boat diving from Unst by arrangement (www.muckleflugga.co.uk). Compressor hire is available from Central Compressor Consultants (www.centralcompressors.com). More information on Unst diving and a detailed trip report is available at www.clidive.org. BSAC Expedition Grants are awarded annually to support adventurous diving expeditions in the UK and abroad (www.bsac.com).

Getting there

Getting to Shetland isn't as difficult as you might expect. The ferry runs each night from Aberdeen to Lerwick (www.northlinkferries.co.uk). Once in Shetland, there are cheap and frequent ferries between the islands (www.shetland.gov.uk/ferries). Another option is to fly from Aberdeen, Edinburgh, Glasgow or Inverness to Sumburgh (www.ba.com , www.flybe.com).

Staying there

Comfortable and good value accommodation is available at the Saxa Vord resort on Unst which has a good bar and restaurant on site (www.saxavord.com).

Copy of trip report on Clidive Website and Newsplash Magazine

<http://www.clidive.org/index.php?action=divereports&id=145&firstitem=0>

Shetland, August 2009: Northern Delights

[date of article:3 Oct 09]

by Annette Millar

"Spectacular, unspoilt, fantastic, phenomenal, out of this world, best UK diving ever". After clocking up thousands of dives in most of the world's top locations from the Cocos islands to the South China Seas, the club's hard-core of Advanced and First Class divers are not easily impressed. So when divers like John Davies, Rory, Declan and Ben use descriptions like this about a place, you know it must be good! And yet these descriptions do not even begin to do justice to the diving on Unst. If you ever have a chance to dive there, grab it and you will see what we mean. In the meantime, I will give you a taster of what to expect...

Diving Unst is like diving on a razor's edge, the next stop north is the Arctic circle. The island is battered by the worst weather that the North Sea can throw at her and ferocious currents swirl between Unst and neighbouring islets. For Shetland diving, the timid need not apply! The weather is elemental and can change in an instant. During our two week trip we experienced gale force winds from all four cardinal directions. All of this means that meticulous dive planning and dive discipline are essential, as is making the most of any friendly locals who are willing to proffer local knowledge about currents and weather.

The weather gods were extremely kind to Clidive, particularly during the first week. Over the fortnight we were there, we managed to dive Out Stack four times in total and Muckle Flugga lighthouse. This was quite extraordinary as other longer diving expeditions to Unst hadn't managed even one dive on either site.

The rich currents that batter Out Stack and Muckle Flugga also carry nutrients that support a profusion of life carpeting every millimetre of their sheer walls (although none of it sticks its head far above the parapet – the vast tapestry of deadman's fingers and plumose anemones are all slightly miniaturised and everything else clings to walls in the strongest of currents). The other thing that makes the diving on Unst amazing is the exceptional clarity of the water. On several dives we had 30m+ visibility. Being able to look up from 35m and see huge shoals of fish circling overhead with the sun breaking through was astounding. Even surfacing from dives was exciting as the sheer underwater walls rise up into spectacular cliffs with coves and natural arches with thousands of seabirds like gannets, great skuas, puffins, shags and fulmars circling overhead.

Drifting along the fantastic gully on the north side of Out Stack is a delight and was many people's favourite dive of the trip, here's a small selection of what we spotted on Out Stack: Anglerfish, Octopuses, rocks literally wall-papered in jewel anemones of every hue, HUGE dahlia anemones, Yarrell's blennies, lobsters, crabs tucked in to every little crevice, colourful nudibranchs including the enormous Dead Man's finger eating nudibranch, lots of scorpion fish, butterflyfish, prawns and squatties. We even saw a Minke whale on the way to Out Stack during the first week. Incidentally drifting at some part of your dive is inevitable here – slack here is a mere 20 minutes if you are lucky, a fact that we discovered by trial and error after a couple of unexpectedly fast drifts and resulting hairy pick-ups.

We loved Out Stack so much that we dived there at every available opportunity including on the second week surfacing in a Force 7 which was pushing the boundaries of adventurous diving even by Clidive standards! Although the weather on Unst is harsh, there are so many islands and islets surrounding Unst that it is always possible to find a sheltered site. Even on the days when the weather was shocking, we still had amazing dives including one of my most memorable in a spectacular cave system just a few minutes out from the Burrafirth jetty where we left the boat for several nights.

Another dive that we found very interesting and loved was the sub E49. On patrol from Balta Sound, this submarine was sunk by a mine in March 1917. There were no survivors from this tragedy and consequently, this is a protected wreck and needs to be respected accordingly. The E49 lies half buried at 34m on crystal white sand. The entire length of the sub looms into view shortly after starting the descent and both the sub and the surrounding sea bed are covered in life. The conning tower is still intact although toppled over into the sand. A large part of the bow has split off from the main hull and lies a few metres off. The wreck appears to be sinking or collapsing into the sand and we took some measurements to try and establish if there has been any movement since the last time it was surveyed.

To tie in with Clidive's 2009 mission statement and expedition's objectives of putting conservation at the heart of the club, we used the opportunity of diving on Unst to undertake Seasearch surveys for the Marine Conservation Society and also completed a database with photographs for the Marine Biological Association's "MarLIN" database. Both organisations were very keen for us to collate information about what we had seen on our dives as they have little marine biological data for Shetland and even less for Unst. Although it took quite a bit of time filling in the Seasearch forms every evening and looking up the latin names for MBA, we all learnt a lot more about marine life as the week went on and it definitely has made our dives more interesting (I never thought I would find a discussion about sponges so riveting!).

Rory's full report on the expedition will provide details on the remainder of the many dives that we did over the course of the week, all of which were in our opinion, world class. Drift dives, wreck dives, cave dives, scenic dives, marine life, clear water, Unst has it all. Although we dived solidly for two weeks and explored both known and unknown sites, we don't feel that we have even scratched the surface of what Unst, let alone what the whole of Shetland has to offer.

So if it is so good, why does hardly anyone get to experience the delights of Shetland diving? Well admittedly, there are a few hurdles to overcome. Firstly getting there's the little issue of getting there. Shetland may be officially part of the UK but it is closer to Norway than Scotland and Unst is Shetland's rugged northerly tip. Our party tried virtually every mode of transport to get there – campervan, club van towing the boat, flying, ferry, train, night-train, hitching, hire-car, bus and every combination of the above and we can reliably confirm that whichever way you choose to travel to Unst, it is a long, long way! If you resign yourself to this fact, and accept travel as part of the holiday you can delight in the fact that hardly any other divers will make it this far north and you will be able to enjoy the remarkable diving sites that Unst has to offer completely uncluttered by other dive boats and divers.

The other main challenge of diving on Unst was that there are no dive shops there and no dive shops = no air. This meant that we had to bring our own compressor. Although we hired the largest portable compressor that we could find, this still meant 3 hours of very noisy, smelly pumping duty every night for some unlucky soul, (usually John Sharkey cos he seemed to have a particularly sadomasochistic penchant for pumping!)

Unst has a tiny population of around 500 so although there are other tourists there, (mainly birdwatchers and walkers), tourist accommodation, restaurants and pubs are very sparse to say the least. A year of careful planning and logistical research by Rory, resulted in us staying at Saxa Vord resort, former RAF accommodation which closed in 2006 after the decommissioning of the radar station. Saxa Vord now offers holiday lets in very cosy Norwegian-style self-catering houses. Even better, they have an on-site restaurant serving delicious locally sourced fish and lamb and a pub which offers the local brewed Valhalla real ale til 1am – could we have died and gone to heaven?! Whilst sampling the full range of Valhalla ales, we quickly made friends with Nigel, quite possibly the most friendly and helpful barman in the world and a very useful person to know. He even sourced us some local smoked haddock and gave us some free samples of his highland Shetland lamb which was delicious.

To make the trip viable we applied for and were awarded £1000 from the BSAC Expeditionary grants scheme which has been a huge help. To split the costs between enough people, Rory also took the decision to make it a two week trip with some of us going for the full two weeks and others doing a week or ten days depending on how much leave they were able to take. I dived for just over a week

and did some exploring on foot and by bicycle for the rest of the time. There are some amazing walks such as the Hermaness National Park which gave us a different perspective of the coastline – looking down on the seabirds from sheer cliffs instead of peering up at them. Declan in the first week and Ben and Nome in the second week explored further afield than Unst staying on some of the other Shetland islands.

I can't write a report about a Clidive trip without mentioning the food. As Mike Smith said "you are a cooking club that dives". In spite of the paucity of food shops and the very early starts and late finishes on most days (including one day that involved leaving the house at 6:30am!) Clidive's band of willing chefs still managed to rustle up some amazing meals. Some of my favourites included (amongst others) John Sharkey's Mexican feasts (so good we had to have one each week), Mary's Cullen Skink made with the locally caught haddock, Flic's risotto, Ben and Nome's bangers and mash and home-made soup (almost) every day. So in spite of all the exertions with the diving and walking, we were all suitably replenished and are probably returning to London a few pounds heavier than when we left.

A huge vote of thanks must go to Rory who put so much work into organising a hugely ambitious and successful expedition. Also to all the drivers of the club vehicles without which we wouldn't have been able to do any diving.

Memorable moments.....

Ben's moment of inspiration when he decided to do a pictorial trip blog which became an instant hit both with Clidivers as well as some unexpected audiences around the world. Is this the future of dive trip reporting?

The friendly, colourful locals on Unst who always had time for chat and who absolutely went out of their way to make our stay on Unst so comfortable and memorable. (I must remember to stop waving at everyone now I am no longer on Unst). The owner of our favourite local shop even bought us all a "wee dram" on the last night and gave a speech thanking us for shopping at his store and petrol station, (we think he may have had his most successful trading fortnight ever!)

Us thinking that the heated water in the toilet bowl was a feature in Scandanavian buildings. "It must get REALLY cold in winter on Shetland!" This went on for a week before JD pointed out that there might be a problem with the boiler system.

The many overhead battles that we witnessed between the Great Skuas who would gang up on the poor gannets (yes I know we are not supposed to take sides). They would drag the gannets down into the sea by their wings and force them to regurgitate their food so they could steal it. Meanies.

Sharon's excited squeals underwater when she discovered something of interest. The squeals became VERY excited when we saw on one small rock, an octopus, two scorpion fish and a butterfish, all nearly touching one another.

The dog buoy at the Unst Boat haven. Yes, really, a buoy made out of a dog! Disturbing but quite fascinating...

The mass puffin exodus. One day there were thousands of them, the next day none.

Seeing a Minke whale surfacing near the boat, what more can I say!