

# DRAFT Darwen BSAC Expedition to Newfoundland Final Report

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***24th May-21st June 2017***

Report compiled by Keith Dearden & the expedition team



Darwen BSAC Newfoundland Expedition May – June 2017

## Contents

1. Summary .....	2
2. Dive team .....	2
3. Logistics.....	3
Expedition Equipment .....	3
Preparation .....	3
Sea Transportation .....	4
Operational Base .....	5
Gas station.....	5
Accommodation .....	6
4. Diving .....	6
Group 1 Diary.....	7
Handover – Group 1 to Group 2.....	8
Group 2 Diary.....	9
Bell Island wrecks .....	9
Other dive sites .....	12
Marine life .....	14
Tides & weather .....	15
5. Training Undertaken .....	16
6. Costs .....	16
7. Review of Expedition .....	16
What worked well .....	16
Lessons Learned .....	17
8. Publicity .....	19
9. Conclusions .....	19
10. Acknowledgements.....	19
Appendices .....	19
Log sheets – Group 1.....	19
Log sheets – Group 2.....	20
Dive site coordinates.....	20
Permission letter from Newfoundland & Labrador Provincial Archaeology Office .....	21

## 1. Summary

Darwen BSAC decided to mark the club's 60<sup>th</sup> anniversary by running an expedition to Newfoundland. This expedition set out to be self-sufficient, with all expedition gear being shipped from Liverpool to St Johns, Newfoundland. This worked well, largely due to Keith's professional expertise in international shipping and to Darwen Club's experience of similar expeditions in the UK and also to the Falklands 10 years ago. The expedition involved 12 divers and 1 non-diver, with members of 5 different BSAC branches. The primary objective was to dive the four second world war wrecks off Bell Island in Conception Bay (SS Rose Castle, SS PLM27, SS Saganaga, SS Lord Strathcona). These are truly world class dives, and were worth all of the effort. The group also dived the three whalers in Conception Harbour. Two of the group also dived alongside an iceberg, and a further two snorkelled alongside it. The second group dived some whale bones at an old whaling station.

An article is being submitted to SCUBA magazine, and a presentation will be delivered in autumn to the NW First Class Diver Prep Group (and any other interested parties), to share lessons learned.

## 2. Dive team

Group	Name	Office	Club	Diver grade	Instructor grade	Boat Handler	Diver Cox	Radio op	First Aid	AED	ADP	Gas blend	Chartwork and positioning
1	Jill Dean	Branch Treasurer	Darwen/Trafford	AD	ADI	X	X	X	X	X	X	X	
	Keith Dearden	Branch Secretary & Expeditions officer	Darwen	AD		X	X	X		X	X	X	X
	Martyn Dean	Branch Boat Officer	Darwen/Trafford	AD		X	X			X	X	X	
	Keith Adam		Darwen / Lothian	DL		X					X		
	Maria Harwood	Branch Diving Officer	Chorley	FCD	NI	X		X	X	X	X	X	X
	David Wakelam	NDC ITG Lead	Cardigan	FCD	NI	X	X	X	X	X	X	X	X
	Margret Driscoll	NI Chief Examiner	Cardigan	FCD	NI	X	X	X	X	X	X	X	X
2	Ian Dearden	Diving Officer	Darwen	AD		X		X		X		X	
	Patricia Booth	Training Officer	Darwen	AD	AAI	X			X	X	X		X
	Duncan Read		Darwen	FCD	AI	X	X	X	X	X		X	X
	Jan Grzywna		Darwen	DL						X			
	Neil Turton		Kendal and Lakes	AD	ADI	X		X			X		
	Mona-Lisa Andersson	Non Diver	Darwen										

### 3. Logistics

#### Expedition Equipment

This was a fully self-sufficient trip, and so the equipment included:

- Two RIBs, each with main engine and auxiliary engine;
- Three compressors (one of which was a backup);
- Gas blending equipment, to set up a cascade system;
- Gas booster pump;
- The usual safety and emergency equipment;
- A comprehensive range of spares and tools;
- 12 sets of diving equipment. Most of this was sent via the shipping container, though the rebreather divers chose to take their rebreathers as check-in luggage.



#### Preparation

The expedition planning took place over a 2 years period, and included:

- Research dive sites and tidal conditions
- Buy a shipping container (and find a buyer for when it returns);
- Fit shipping container with a high shelf, attachment rings for cylinders and a hitch lock on the floor to secure the RIB;
- Fit new (narrower) axles to both trailers;
- Obtain adapters for J cylinders & towing hitch;
- Service engines and compressors;
- Plan spares and tools;
- Arrange all logistics:
  - Book shipping container on each leg of the journey, including land transportation at each end;
  - Arrange customs clearance;
  - Arrange for unloading and storage of shipping container in St Johns;
  - Arrange operational base (wharf at Long Pond);
  - Arrange hire cars (2 pickups);

- Book accommodation in St Johns;
- Book trains and hotel at Gatwick;
- Book flights.

## Sea Transportation

Keith obtained a 40 foot shipping container and this was loaded on the ground at Walsh and Dearden's yard in Darwen. It was then lifted and loaded onto a trailer, and delivered to Liverpool docks by John Meek Transport, who are approved for entry to Liverpool docks.



The international shipping was arranged with Winstanley Davis Services as the UK agent. Apparently it is highly unusual for twelve individuals to ship personal goods in one container, and this posed some challenges:

- Canadian customs stopped the container until we sent passport details for the entire group. This caused a minor flurry of activity! Once the details were sent over and they understood the reason for the container being shipped it was allowed to proceed.
- The other complication was the import duty on the contents of the container. There are arrangements for a company to do it, but again 12 individuals is not the norm. We managed to find Beluga Logistics who have a licence to import non-commercial goods on a temporary import licence. The system being that the Canadian customs are paid the relevant duty using a bond, when the container leaves Canada within three months. Customs then refund the duty to the bond.

With all that done the container made its' merry way on the Atlantic Sea to Halifax. Once it cleared customs, Oceanex then took over the shipping. They are the only company to sail into St John's. That leg of the journey was uneventful. On 14th of May it landed on the quay side at St John's after three and a half weeks of travel. Holden's Transport then

did the last leg to their yard where they put it on the floor for us to unload on the 24th of May.

The return leg was no problem at all, the only slight issue was that it missed the earliest sailing out of Halifax so we had to wait a week for the next boat. It landed in Liverpool and John Meek brought it back to Walsh and Dearden to be unloaded.

All the contents survived both legs with no damage, though the smell of unwashed undersuits dwelling in sealed box for a month was somewhat unpleasant!

The shipping container has been sold on its return.

### **Operational Base**

After the hiccup with the Royal Newfoundland Yacht Club, we were fortunate to be put in contact with Paul Dalton who owns a wharf at Long Pond. He agreed that we could use his facilities and was very welcoming and accommodating, even allowing us to use the cabin and toilet on his pilot vessels. This provided very welcome shelter to get changed and to warm up on the colder days!



### **Gas station**

The gas station comprised 2 compressors, (Bower Capitano 140) connected in line, with long whips that would reach the cylinders in the boats. We had taken 3 compressors with one to be kept in reserve in case of failure; fortunately we did as one suffered a major oil leak from the engine on the first fortnight and had to be swapped for the spare. Oxygen cylinders were obtained locally, and a cascade system was established to maximize use of the gas. This was supplemented with a cylinder-driven booster pump that was used by the rebreather divers for their oxygen cylinders.



### Accommodation

We rented a large townhouse in downtown St Johns. The house was comfortable and well-equipped, and was an excellent location close to a range of restaurants and bars for those evenings when we didn't want to cook.

A bonus of diving in cold water is that there was plenty of ice for the G&Ts!



## 4. Diving





## Group 1 Diary

Date	Activity
08-Apr	Load container at Walsh and Dearden, Darwen
18-Apr	Container collected from Darwen & transported to Liverpool
22-Apr	ETD from Liverpool
27-Apr	Container in Halifax. Problem with customs clearance. Had to hurriedly obtain copies of passports of all 12 divers
15-May	Container arrived in St Johns
17-May	Container unloaded at Holdens Haulage, St Johns
23-May	Group 1 travel to Gatwick & stay overnight
24-May	Group 1 flew Gatwick - St Johns. Collected pick-up trucks, checked on the container, met the archaeology team to get permissions, picked up O2 and food, settled in to the house. Went out for pizza.
25-May	Unload container, met wharf owner, set up gas station, launched boats, and sorted personal dive gear.
26-May	Filled cylinders. Dive PLM 27. Keith & Keith were the first pair in the water and shouted "we can see the wreck" as they approached the shotline. Keith & Keith recovered an ROV that the local university had got snagged. All agreed that it was an excellent dive to start the expedition. Weather reasonably calm. Sea was flat. Air temperature 5°C. Water temp 2°- 4. Delighted to find that the wrecks were already buoyed!
27-May	Raining & windy in morning, so we changed the first dive to the PLM 27, which is in a more sheltered location. Air temperature was 3°. Dived PLM 27 and then Saganaga



28-May	Dived Rose Castle and Lord Strathcona. Weather was quite pleasant, with blue skies, but still a fresh 4°. Sea quite calm
29-May	Dived Rose Castle and Saganaga. Keith & Jill opted to dive alongside an iceberg for their 2nd dive
30-May	Journeyed by RIB round to Conception Harbour. Dived the 3 wrecks (SS Charcot, SS Southern Foam, and SS Sukha). Picnic lunch and return. We were a major source of curiosity in this small settlement, with even the deputy mayor driving over to introduce himself!
31-May	Dives on Rose Castle & Saganaga
01-Jun	Just one dive on the Rose Castle. We were all cold and tired, and so opted for an early finish
02-Jun	Non-diving day. Walked up Signal Hill, and wandered around St Johns
03-Jun	Drove to South Dildo to dive the whale bones, but unable gain access to the shore opposite the site due to recent construction work. Shore dived further up, but no whale bones
04-Jun	Dived Rose Castle & PLM 27
05-Jun	Final dive on Rose Castle. Cold, rainy and force 5-6, so decided against a 2nd dive. Disassembled dive gear, and took it back to the house to dry
06-Jun	Gear drying, wander round St Johns. Replace empty oxygen cylinders for group 2.
07-Jun	Load group 1 gear in container. Collected group 2 from airport and sorted out hire cars. Group 2 unloaded gear from container. Returned group 1 vehicles. Debrief and handover. Farewell / arrival dinner then group 1 flew home

## Handover – Group 1 to Group 2

It was a busy few hours, including:

- Collecting group 2 from airport and taking group 1 to airport;
- Handover of satnav with addresses of house, operational base, gas supplier;
- Briefing on wreck sites;
- Contact details for possible access to whale bones site at South Dildo;
- Introduction to wharf owner;
- Local knowledge re restaurants & shops;
- Cleaning the house, changing bedding etc.

## Group 2 Diary

Date	Activity
07-Jun	Arrived St Johns around midday. Collected from airport and sorted out hire cars. Unloaded gear from container, filled cylinders Farewell / arrival dinner then group 1 flew home.
08-Jun	Dived PLM27
09-Jun	Dived iceberg in Portugal Cove and Saganaga
10-Jun	Dived Kelly's Island
11-Jun	Dived Rose Castle & Saganaga
12-Jun	Dived Saganaga & Rose Castle
13-Jun	Dived PLM 27 & Rose Castle
14-Jun	Dived the 3 wrecks in Conception Harbour
15-Jun	Dived Saganaga & PLM27
16-Jun	Dived Rose Castle
17-Jun	Dived Lord Strathcona
18-Jun	Dived Rose Castle
19-Jun	Dived old whale bones at South Dildo
20-Jun	Dived Little Bell Island and Iceberg. Recover boats, disassemble filling station, pack gear in to container

### Bell Island wrecks

These 4 wrecks are remarkably well preserved. This seems to be due to a combination of their protected status, the cold water, few divers and sheltered position.

**SS PLM-27** A cargo steam ship torpedoed at the end of 1942. 15-30m, the shallowest of the four. The prop was still there.

<http://www.wrecksandreefs.com/plm27.htm>.



**SS Saganaga** a cargo steam ship torpedoed Sept 1942. 18-33m.

<http://www.wrecksandreefs.com/saganaga.htm>

Anchors on the deck were a key feature.



**SS Lord Strathcona** A cargo steam ship torpedoed Sept 1942. 23-40m

[http://www.wrecksandreefs.com/l\\_strahc.htm](http://www.wrecksandreefs.com/l_strahc.htm)

Stern gun complete with leather eye piece & declinometer



Porthole lovingly polished.



There were also several small artefacts such as a salt cellar, propelling pencil and cutlery.

**SS Rose Castle.** A cargo steam ship torpedoed Nov 1942. This is the deepest wreck 30-45m. The temperature at the sea bed and in the holds was recorded as low as -2C.

The Marconi room was conveniently located, near the bottom of the shot line!



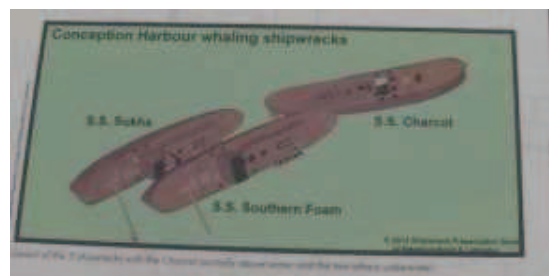
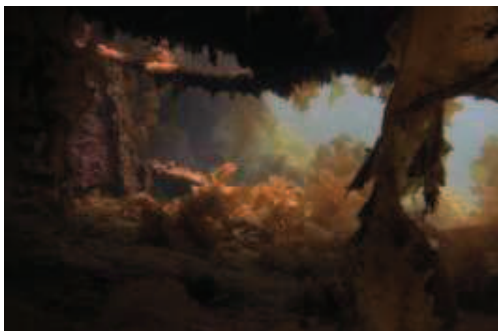


Torpedo off the stern.

<http://www.wrecksandreefs.com/rose.htm>

### Other dive sites

**Conception Harbour wrecks:** SS Charcot, SS Southern Foam and SS Sukha. These were three whalers that broke their moorings and sank / ran aground in 1968. They are shallow (max depth around 6m) and so all 3 were visited in one dive.



**South Dildo shore dive:** would have been a pleasant first dive for a new Ocean Diver, but not worth crossing the Atlantic for! Group 1 were unable to access the site a few hundred metres away where the whale bones are, and so dived from the roadside.



**Iceberg (group 1):** wow, what an amazing experience! The iceberg was resting on the seabed in 30m of water.

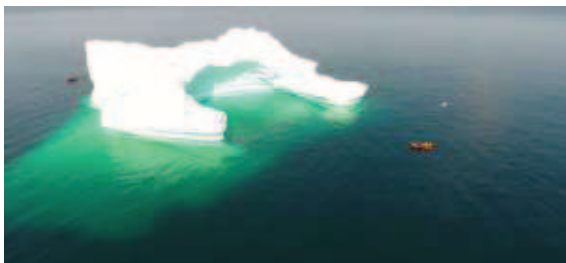


Later on, we read a sign about icebergs, and then saw that this 'berg had turned over a couple of days later. We realized that diving this may not have been such a smart move.



### Iceberg in Portugal Cove

Ian and Jan dived on the ice shelf extending to the left foreground.



Grounded in 60 meters water. The size of the berg would have been described as a "small iceberg" as it was about 18metres at its greatest high and 35 x 60 meters in length. See the International Ice Patrol size categories. However it felt as if it was a very big piece of ice when close to!



**International Ice Patrol iceberg size classification.**

Size	Hight (m)	Length (m)
Growler	Less than 1	Less than 5
Bergy Bit	1-4	5-14



Small	5-15	15-60
Medium	16-45	61-122
Large	46-75	123-213
Very Large	Over 75	Over 213

### **Whale bones, South Dildo**

Group 2 managed to dive the whale bones at South Dildo, by chartering a boat from the local harbour. It was a bit of a disappointment. There were some spines, but no big rib cages. The group wonder if this site was damaged during recent construction work.

### **Kelly's Island, East Shore Southern Tip, Conception Bay**

Sloping seabed composed of sand, mud pebbles and cobbles. Several flatfish were seen on this dive.

The visibility was very good (+20 meters), not greatly affected by the small jellyfish like creatures, pteropoda and small planktonic animals that were beginning to proliferate by mid-June on our other dive sites round the wrecks and icebergs.

Gently sloping shore, which became much steeper near to the southern tip of the Island.

Within 20 meters of the southern tip there was a 0.5 knot current flowing round the tip of the island in a SW direction. The SE tip of the island was not explored as recovery of divers swept round the tip would have been very difficult in the rough conditions. Within 20m of the southern tip of the east coast of the island the depth progressed rapidly to 40 meters and beyond.

Not a particularly exciting dive site but, given the close proximity to our moorings and the rough seas produced by a strong F7 SW breeze, a well-chosen one.

### **Little Bell Island, Conception Bay**

#### **Marine life**

It's cold water, and so has much in common with UK marine life, but there were differences. There was plenty of life on the wrecks. Some notable observations:

- Fish – several flatfish and dogfish which had different markings from the UK (like pale camouflage). None of us had seen eel pout before.



- There were several scorpion fish.
- The urchins and plumose anemones had a green tinge.
- Lots of very small jellyfish (some kind of plankton?)
- Group 2 saw humpbacks on the surface.



## Tides & weather

Research in advance identified a small tidal range, but no additional information about tidal streams. We were relieved to find that tidal movement was minimal, and we could easily swim against the current. This was a big plus factor, as it would have been tough dealing with the cold and planning around slack water.

As identified during the research, Bell Island offers shelter from most wind directions and so we were able to dive every day. It was the biting cold that defeated us rather than the sea conditions.

We expected it to be cold, and it was. A couple of the group recorded  $-2^{\circ}$  on their dive computers! We were generally well prepared with decent drysuits, several base layers and dry gloves plus some had heated vests, but the cold conditions were still a challenge. This impacted on dive times, with 45-50 minutes being about the maximum that any of us could cope with. We were very grateful for the use of Paul Dalton's pilot vessel as a warming station in between dives, and as somewhere to get changed. We made some emergency purchases of windproof jackets and additional flasks for hot drinks.

The cold also impacted on our timeline, with extra time taken to get dressed in multiple layers, kit up and de-kit with dry gloves, and to warm up in between dives.

Unsurprisingly there were also a few free-flowing regulators. As all of the team had twin sets or rebreathers and stages, this didn't cause any serious incidents.

## 5. Training Undertaken

Several members of Darwen club completed AED training and refresher training prior to the expedition. The cold and the long days diminished our enthusiasm for formal training during the expedition, but there was coaching and mentoring on the use of side scan sonar, gas blending and use of booster pump, and all of the group learned something about diving in cold conditions!

## 6. Costs

Below is a summary of the costs for the trip, on top of this we also spent £3186.67 on food and drink over the 4 weeks as well as various meals out in St Johns.

Boat fees for DSAC	£600
House	£4182.00
Flights (including costs for 3 who organised their own at same rate as the rest	£4707.48
Misc. (charts etc.)	£282.23
Container (storage, shipping and insurance)	£11577.08
O2 and fittings	£673.77
Fuel and oil	£1019.62
Vehicle hire	£1774.52
<b>Total</b>	<b>£24816.70</b>

## 7. Review of Expedition

### What worked well

- The diving was world class. The wrecks are well preserved, and all members of the team enjoyed the diving.
- Shipping a container across the Atlantic is no mean feat, and the success owes much to Keith's expertise and contacts in this industry.
- European vs. American standards: Keith researched cylinder threads in advance, and so we were prepared with adapters between European and American

threads on the J cylinders of oxygen. He also obtained and packed a tow ball converter.

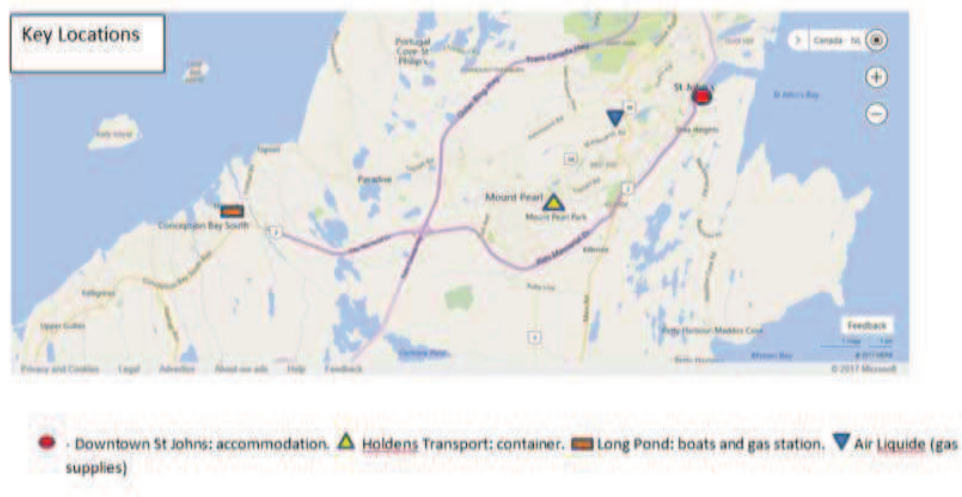
- The expedition equipment included a high level of spares, and the team had the required skills to fix most things. Hence, an oil leak on one of the compressors was dealt with by a quick swap out for the spare compressor.
- Phasing the expedition with 2 groups not only spread the fixed costs, but also spread the effort with Group 1 dealing with all the initial setting up, and Group 2 being responsible for decommissioning and packing everything away. It also meant that we had several spare sets of dive gear when we experienced equipment problems, though an equipment failure on Saturday meant that Maggie missed dives until we had access to the container during business hours on Monday morning.
- The handover worked well. Although Group 1 were unable to gain access to dive the whalebones, they did gain some local contact information (plant manager at the fish processing plant and local boat operator) and Group 2 were able to dive the whalebones, using the local boat charter.
- Plans were adapted based on the weather and sea conditions.
- The team were generally well prepared for the cold conditions, with decent drysuits and base layers, dry gloves, etc. plus diving configurations with redundancy to deal with free-flows.
- Teamwork: everyone got stuck in with what needed doing from cylinder filling to shopping and cooking.
- The locals were very welcoming and helpful, even though they seemed bemused that we would dive there, let alone ship a container from the UK.

## Lessons Learned

There were some key challenges:

- We aimed for 16 divers, but only had 12. We publicised the expedition via the Regional Coaches, Facebook and also handed out some leaflets at the Dive Show, but the prospect of diving in cold water seemed to deter many people, as did the cost. The high fixed costs of such an expedition meant that the cost per diver increased to around £2000. Securing the £1000 BEGS grant has helped us to ease the impact of this.
- Weather: the cold water and air temperatures had an impact in terms of shorter dive times, and also most activities generally took longer than usual due to extra time to get warm, don additional layers and loss of manual dexterity. On some days we curtailed the diving because of the cold.

- Towing: we were unable to hire vehicles with tow bars, so Holdens Transport launched the boats for us.
- The split location meant that we spent more time than usual commuting between the accommodation, the jetty and the shipping container. This made for some long days, but was an acceptable compromise, rather than we stay in a remote place near the jetty.



Some of the unexpected:

- Even with Keith's expertise in international shipping, we were surprised when Canadian Customs put a stop on the container in Halifax until they had seen copies of all of our passports. These were quickly obtained, and the container was released for its onward journey to St Johns.
- We had arranged with the Royal Newfoundland Yacht Club for us to use their facilities as a base and contacted them a couple of weeks before our arrival to confirm arrangements. They had a new manager who said we could not use the facilities! Fortunately we found an alternative, which was better suited to our needs.
- The J cylinders of oxygen were only filled to 140 bar.
- We were disappointed to find that access to the shore was blocked at South Dildo, and so Group 1 was unable to dive the whalebones.

## **8. Publicity**

We are preparing an article for SCUBA, and will schedule a presentation to the North West First Class preparation group.

## **9. Conclusions**

All participants had a safe and enjoyable trip. The Bell Island wrecks are world class, and so are well worth the effort involved. Diving from our own RIBs gave us the flexibility to dive what we wanted when we wanted, but shipping a container does require a lot of planning and is not for everyone. There is a local dive operator, though we didn't see much of them during our 4 weeks. The main tourist season seems to run from July to mid-September in Newfoundland.

## **10. Acknowledgements**

The team would like to thank:

- BSAC for the BEGS grant
- Holden's Haulage, who transported and stored the container, and launched the boats
- Oceanex
- Paul Dalton of PD Industries, for the warm welcome and use of his wharf and pilot vessels as our base
- Ted Perrin, who responded to our request for help on Facebook, and recommended Paul Dalton.
- Shipwreck Preservation Society of Newfoundland & Labrador
- Expedition members, for making the expedition a success, and for the photographs
- Jim Bergshoeff, for permission to use his drone footage of the iceberg

## **Appendices**

### **Log sheets – Group 1**



		Keith D		Keith A		Jill		Martyn		Maggie		David		Maria	
Date	Dive Site	Time	Depth	Time	Depth	Time	Depth	Time	Depth	Time	Depth	Time	Depth	Time	Depth
26-May	PLM 27	42	26	42	25	42	28	42	28			27	23	24	22
27-May	PLM 27	40	27	40	28	47	27	47	29	37	27	37	27		
27-May	Saganaga	44	32	43	30	34	25			36	26			36	26
28-May	Rose Castle	44	38	44	33	32	35	32	36			23	44		
	Lord														
28-May	Strathcona	40	31	40	27	36	32	42	30			42	30	42	26
29-May	Rose Castle	43	35	41	35	42	36	42	39			35	45	34	34
29-May	Saganaga			36	26					40	30	40	30		
29-May	Iceberg	29	33			31	20								
	Conception Harbour (SS Charcot, SS Southern Foam, SS														
30-May	Sukha)	29	10	40	9	42	9	34	10	41	10	41	10	41	10
31-May	Rose Castle	41	35	37	32	38	43	39	44	32	34	45	44	32	34
31-May	Saganaga	40	30	42	30	37	27	37	27	40	28	40	30	40	28
01-Jun	Rose Castle	38	38	37	37	49	35	49	39	31	35	46	40	31	35
02-Jun															
03-Jun	South Dildo	31	15	47	16							30	12	30	12
04-Jun	Rose Castle	47	41	44	43	45	42	34	36	32	33	42	39	32	33
04-Jun	PLM 27	43	30	47	28	43	27	43	27	31	30	42	29	31	30
05-Jun	Rose Castle	45	35			40	40	40	40	29	34	43	44	29	34

## Log sheets – Group 2

		Ian		Neil		Duncan		Jan		Pat	
Date	Dive Site	Time	Depth	Time	Depth	Time	Depth	Time	Depth	Time	Depth
08-Jun	PLM27	42	30	37	29	48	30	42	30		
09-Jun	Iceberg, Portugal Cove	29	40	37	40	32	39	28	40		
09-Jun	Saganaga	35	28	54	30			33	27		
10-Jun	Kelly Island	27	39	34	40	29	41	28	40		
11-Jun	Rose Castle	29	31	45	37	58	38	16	31		
11-Jun	Saganaga			45	37					35	31
12-Jun	Saganaga			39	28			35	29		
12-Jun	Rose Castle	35	25							35	23
13-Jun	PLM27	33	46			28	21				
13-Jun	Rose Castle			58	44	26	44				
14-Jun	Conception Harbo	27	9	22	9	25	9	34	9		
15-Jun	Saganaga			33	32	27	30	30	31		
15-Jun	PLM27	42	21							35	22
16-Jun	Rose Castle	36	34	54	42	30	34	30	35	35	31
17-Jun	Lord Strathcona	26	33	52	34			41	29		
18-Jun	Rose Castle	33	35	61	35	27	34	28	32		
19-Jun	Whale bones							37	18		
20-Jun	Little Bell Island and Iceberg	21	32	40	21			40	22		

## Dive site coordinates

Saganaga N47°34.985 W052°58.714

Lord Strathcona N47°35.299 W052°58.086

PLM 27 N47°35.972 W052°58.313

Rose Castle N47°36.099 W052°57.852

Conception Bay Harbour N47°26.679 W053°12.342

Kelly's Island 47°32'36.79N 53°00'01.29W

Mooring used for boats N47°30.898 W052°58.626

## Permission letter from Newfoundland & Labrador Provincial Archaeology Office

