DIVING INCIDENTS AND THEIR LESSONS

Cdr. Martin Marks, R.N. — Chairman of Diving Incident Panel

"Amongst your delegate papers you should have a copy of this year's Diving Incident Panel Report. I have made two major alterations to this year's report compared with previous years.

First, in respect of the Summary Reports, you will find that they are generally longer than they have been in the past, and I have tried to emphasise the lessons that can be drawn from them — where possible. In some cases there is not sufficient information to draw any conclusions.

Secondly, with the assistance of *Diver* magazine and the new NDC Bulletin I have tried to make diving incidents more than just a once per year event at this Conference, as it has tended to be in the past. The aim is to try and keep attention focussed on the subject all the year round.

This year, I have received 213 Incident Reports, which is a large increase on the last couple of years; I will return to that point later.

During the year there have been 13 fatalities, again an increase over the last couple of years. This figure was not helped by two double tragedies. *(Fig. 1)* Eight of the thirteen were BSAC members. I am delighted that, this year, there have been no solo fatalities, but the most significant fact must be that eight of the fatalities were combined with an element of separation and, whilst this cannot be put down itself as the cause of death, it has to be considered that events may have been different if a buddy had been present at the time. To illustrate this, I will outline four of these incidents.

FATALITIES		
	1983	1984
TRIOS	4	2
SEPARATED	3	8
SOLO	2	0
TOTAL	9	13

Figure 1

March 72/84 involved a dive leader who became separated from his two buddies during a low visibility dive to 36m. He was later found in shallow water and despite attempts at EAR, was pronounced dead on arrival at hospital. **April 106/84** also involved a trio on a 36m dive, and again one diver became separated, this time during the ascent. He was found on the bottom with his DV out. Checks on his air and equipment found nothing wrong, and the post mortem recorded drowning, cause unknown.

April 42/84 — a pair of divers surfaced after their dive, about 20m from their boat, and exchanged 'OK' signals. Shortly afterwards one was seen to submerge. Branch divers immediately

conducted a search supported by HM Coastguard, a helicopter, a lifeboat and two other boats. A split drysuit was suggested as the cause, but there is no evidence to support the theory as there has been no report of the body being found.

July 101/84 – two divers carried out a shore dive without an SMB or surface cover. They became separated and one surfaced, when he could not find his buddy, to raise the alarm. After a massive search by a helicopter, a lifeboat, several other boats and 39 divers, the body was found near the shoreline some 6 hours later. It was reported that he had no lifejacket and that there was gill netting on the body. The DV had been pulled out by nylon.

The lesson must be to stick like glue to your buddy, from the time you enter the water until you leave it. In a trio, as I have said before, one diver does not have a buddy.

Sept 168/84 was a particularly tragic event. Two experienced divers undertook to clear a culvert leading from a 20ft deep pond. The owner was becoming concerned about children playing in and around the water, and feared an accident. The culvert was, in fact, a drain for this depression in the land. The divers found that the culvert was covered by a steel sheet, and atempted to attach a rope to it and pull it away from the surface. This did not work and so they dived with a crowbar to move it. Shortly after, the owner – on the bank – saw a rush of air to the surface, and he called the emergency services. It was decided to be too dangerous to send in divers, and so the pond was pumped out. One diver was found wedged in the 2ft diameter culvert opening, and the other was later recoverd from some way down inside. Culverts are potentially dangerous for divers, and this type of work is a job for experts, who would insist on the culvert being blanked off at its outer end and allowed to fill, to balance the pressure, before approaching the submerged end. The force generated by a 20ft head of water flowing through a 2ft diameter pipe is enormous, and the water speed would be of the order of 20 knots.

A particularly bizarre incident, not forming part of the report, was recently reported in the Press. It concerned the body of a fully-kitted diver being found in the charred remains of a burned-out house on a hillside near Hollywood in USA. It was suggested that he had been picked up by a Fire Brigade aircraft as it had scooped up seawater to drop onto the fire!

This year we have had 69 bends incidents reported; I repeat – 69; around double that of the last three years and nearly four times the 1980 figure of 18. *(Fig. 2)* However, it is important to differentiate between an increase in incidents and an increase in data capture, and I believe the situation is more probably due to the latter.

BENDS		
	1983	**1984**
TOTAL	38	**69**
RECOMPRESSED	33	**67**
30 METRES +	18	**45**
UNDERWATER RECOMPRESSION	3	**5**
BSAC	22	**34**

Figure 2

This year several recompression facilities have agreed to pass on details of bends incidents involving amateur divers and 38 reports came from two such centres.

However, what is of great concern is the large increase in the number of incidents arising from very deep dives, and by that I mean 50 to 70m. Last year there were 4, this year 18, one of them being for 20 mins at 70m (or 230 feet). Another was for 32 mins at 50m, and both led to serious bends cases.

Diving at these depths and bottom times will increase the risks of a bend dramatically. It leaves no room for any error or unforeseen circumstances, and running out of air during stops is potentially crippling or lethal. Treatment of such bends is difficult, as oxygen cannot be used at that depth, and very long periods on air are required in the chamber. The doctor often finds all his options disappearing, and the treatment can generate a bend of itself.

The BSAC recommends 50m as a limit for amateur air diving. The H&SE sets 50m as a legal limit for professional diving on air, and there must be a recompression chamber available on site for all diving below 50m and, where decompression stops exceed 20 mins, for dives between 10 and 50m.

I am not for one moment suggesting the use of on-site chambers by amateurs, but it does serve to emphasise the risks that some divers seem willing to accept for their sport. I wonder if their dependants are aware of the potential risks to their standard of living; it is not easy to earn a living when paralysed from the waist down. I am aware of one diver this year and one last year who are now in that predicament.

Another area of concern is errors in decompression calculations. In at least 5 cases, and I suspect several more, divers using the two-dive concession are entering the Table for the second dive with the depth of that dive, and not with the GREATEST depth of the two dives. This is the only explanation for their missed stops. If this error is made, several second dives can appear to be no-stop dives when they certainly are not.

Five bends incidents involved some form of re-entry decompression or in-water recompression. For example, **May 77/84** – during a dive to 45m a diver who had become separated from his buddy ran out of air and missed 5 mins of stops at 10m and 5m each. On surfacing he complained of dizziness and was sent back down to complete his stops. The symptoms cleared initially, but back on board he complained of numbness in the feet and proper recompression was arranged. The BSAC no longer recommends re-entry decompression and the reference to it in the current Diving Manual should be deleted. Putting a diver with any decompression sickness symptoms back into the water is irresponsible.

Aug 186/84 – after 25 mins at 36m a diver ascended direct to the surface, missing 20 mins of stops. Within 10 mins of surfacing he reported stabbing pains in the foot. The hardboat skipper contacted other dive boats in the area for advice and 'it was agreed that he go back in with the Dive Marshal for re-entry decompression'. The pain disappeared. The comments on the previous incident apply but in addition one must ask why, when a BSAC Branch is undertaking deep dives, was there no diver on the boat competent to make a decision on the action to be taken in the event of missed stops and possible decompression sickness symptoms?

The possible reason behind this kind of decision is well illustrated by **Aug 117/84.** After a dive of 20 mins to 36m with correctly planned stops, three divers were ascending when one found that, because of his gloves covering his wrist seals, he was unable to dump air from his drysuit to halt his ascent at the 10m stop. He was sent back down to carry out the stops, and about three hours later he developed symptoms and was recompressed in a chamber. A very honest report from the Dive Marshal admitted that he was aware that this was not the correct procedure but had been done in the hope of helping the victim 'without too much trouble'! He went on to say that he has now adopted an attitude of 'b . . . . r anyone's convenience; if in doubt, call for help'. I commend such an attitude in these circumstances.

A number of incidents involving novices has been of considerable concern this year. One of these led to a fatality but, in view of impending legal action, I shall have to pass this one by. In other cases, the incident was often generated by a novice being placed in a diving situation way outside his capabilities.

For example, a diver who was admitted to a recompression chamber for treatment had spent 22 mins at 30m with stops of 3 mins at 6m and 2 mins at 3m – and that does not tie in with any Table that I can find. He then spent 3 hours on the surface, followed by 30 mins at 7m. The novice reported to the chamber

staff that his right arm went numb before the second dive! He later developed pins and needles and a pain in the right shoulder, and was recompressed for 42 hours. He said that he thought it was a no-stop dive. The wreck he was on is known, in fact, to be deeper than 30m and when this was put to him, he conceded that there had been some discrepancy between the depth gauges. This diver was not yet Third Class, and was the Dive Leader on a Branch dive. If these facts really are correct – and they came for a reliable source – then this Branch's Diving Officer should look very closely at the standards of training and dive marshalling.

Sept 174/84 involved three novices with 10, 5 and nil previous open water dive experience, who went on a shore dive. The sea conditions deteriorated quickly during the dive, and once back on the surface the first open water novice began to panic. She was towed onto some nearby rocks by one of her buddies as they could make no progress towards the shore. The alarm was raised by an onlooker and, there being no boat or shore cover, an inshore lifeboat came to their rescue. A very honest Branch report noted: an unauthorised dive, no cover, no SMB, no weather check, no qualified diver, a trio of novices, no buddy lines and signals not followed correctly. **July 152/84** was an almost identical incident, again a trio but this time with a 'just Third Class' leader with two novices, who were rescued by another Branch. Both incidents involved the same Branch!

It really is important that novices are taught and supervised by experienced, competent divers of at least the new Dive Leader grade, or – better still – by an Instructor when available in the Branch. The principles of progressive instruction must be followed, and this is particularly important when selecting a dive site or evaluating diving conditions, if novices are involved.

There have been 10 reports of burst or damaged eardrums, and the majority of these have involved novices doing initial open water training, particularly the D test. In **May 96/84** the diver had a cold but considered himself fit to dive. He was able to clear his ears during the descent to 9m but at the end of the dive, as he was ascending, he heard a 'pop' in one ear and experienced a sensation of coldness from it, accompanied by a whistling noise. On the second dive, that afternoon, he was able – not surprisingly – to clear his ears, but he became disorientated and dizzy. If you are involved in the training of novices, as no doubt the majority here are, it is essential to keep plugging away the message about careful ear clearing, and not diving with a cold.

In **April 126/84**, during a training exercise to land a body, the victim was playfully cuffed on the ear. He complained of dizziness and a whistling in the ear, later diagnosed as a perforated eardrum probably resulting from the blow being transmitted to the eardrum through a water-filled hood.

There have been 31 reports of lost divers – and the vast majority are, as usual, due to the absence of a surface marker buoy. In **May 75/84**, a pair of lost divers without a SMB initiated a search involving a helicopter, lifeboat and several other boats. They were eventually picked up by a passing speedboat after 1½ hours in the water, unharmed. **Oct 1/84** reports an incident where the coastguard was alerted by a 999 call from a diver reporting his 'mate' overdue. Several boats and a helicopter were involved until the helicopter spotted bubbles and sent its own diver down to investigate. He found the missing diver, who was quite unaware of the alarm!

July 15/84 features two divers who share with another incident the 'Raspberry of the Year' Award. They were on a Branch shore dive but left the water without being seen or informing the shore cover. As a result, the rescue services were alerted when it was thought that they were missing. An inshore rescue boat and two lifeboats were launched, and police and coastguard launches were put on standby. The police later found the divers at their own Branch premises!

I believe that HM Coastguard do an excellent job in helping out divers when misfortune strikes. In return, the least that we can do is to take reasonable precautions in the way we go about our diving, and not cause accidents by ignoring standard safety precautions and routines.

Sharing the 'Raspberry of the Year' Award is the diver in **June 5/84** who was stung in the hand by a lionfish. He suffered excruciating pain as he was transferred to hospital, and badly swollen fingers and arm the next day. He had been waving his hand over the fish to excite it for a photograph.

There were two incidents pointing out the perils of bad pool discipline. **Jan 18/84** and **Feb 22/84** both involved novice divers rolling fully-kitted into a pool, on top of other swimmers. Both the other swimmers needed stitches as a result. Is your Branch pool marshalling and discipline all that you know it should be?

It is refreshing amongst all the gloom and doom incidents to record some good practice. **Aug 151/84** – an experienced Third Class diver accompanied by a novice undertook an incident-free dive in good conditions to 24m. Ascent commenced after 27 mins, with an adequate air reserve. It soon became apparent that the novice was having difficulty in ascending and the dive leader went up to her three times to assist. Both were hampered by the souvenirs that they were carrying, and the dive leader said afterwards that he was reluctant to remove her weightbelt or inflate her ABLJ, to avoid shaking her self-confidence. The results of his extra efforts were that the leader exhausted his air at about 12m. Realising that something was wrong but unable to see her buddy, who at this stage was behind her, the novice inflated her ABLJ and carried out a buoyant ascent. The dive leader lost consciousness, but luckily surfaced naturally shortly afterwards. An alert boat grew went to assist when there was no response to the 'OK' signals, and in-water EAR was given. This was successful in restarting his breathing, and undoubtedly saved his life. The coastguard was alerted and a helicopter took both divers for treatment. The leader received extensive recompression for pulmonary barotrauma and the subsequent arterial gas embolism; he has been advised not to dive again. The novice escaped with minor ear damage. Well done, J. Cooper, A. Harris and K. Chapman, all Third Class divers from Chelmsford Branch, who carried out the rescue!

One or two other incidents with lessons are worth looking at. **Sept 181/84** – whilst moving an inflatable towards the water's edge, a diver's knife fell from its sheath and lodged in the pebble beach. The owner was unaware, and as he moved away the coiled telephone cable between the knife and sheath stretched to its full length and suddenly catapulted the knife back towards the sheath. Unluckily, it struck another diver on the foot, causing lacerations after it had penetrated his bootee. Immediate First Aid was given to stop blood loss, and later he needed four stitches in the wound. Lesson – check that knives are well secured in their sheaths, and avoid elastic security lines.

Undated 16/84 told of a diver on holiday who hired a cylinder and DV. He later developed a chest problem that required major surgery to remove rust particles which had caused an abscess on his lung. **Undated 17/84** is another report of a diver on holiday, who hired a cylinder but used his own DV. During the first dive he experienced a gradual loss of air and had to abort. The DV HP inlet filter was found to be clogged with rust particles; the cylinder had not been inspected for some years. The moral is clear – when you have a choice, only hire from reputable dive centres and always check that a HP filter is fitted and in good condition on any hired DV. There is no come back if you do not come back!

April 62/84 – as a result of cavitation problems with an outboard engine, a diver went over the side to inspect the propeller. He turned it through a quarter-turn to check for any looseness. The engine, which was in gear, started! The diver was lucky to escape with a small cut. I must admit that I would not have thought it possible to 'bump-start' an outboard, but obviously it is! The incident took place in a very hot climate, and this no doubt contributed to the ease of starting. The moral – always isolate any machinery before working on it, by disengaging gears, switching off at the power supply or ignition, emptying pressure vessels, etc.

And talking of pressure vessels brings me to **April 64/84**, a spectacular incident, to say the least.. A diving cylinder was being pressure-tested in the water-filled container of a professionally-built rig, operated by a competent person. At 4200psig, the adapter screwed into the cylinder blew out, struck the lid of the container, shearing six hold-down bolts, and the lid and bolts ascended to the ceiling six feet up. One of the bolts embedded

itself there. The lid descended – this is beginning to sound like the barrel of bricks joke – and struck the operator, luckily without any injury. Subsequent examination showed that the cylinder neck threads had sheared, and the presence of air in the hydraulic part of the pressure system is suspected of having aggravated the effect of the thread failure.

The effectiveness of the Diving Incident Panel depends entirely on the reports that are sent in. Several serious incidents this year involving BSAC Branches have not yet been reported by the Branch, and the summaries have had to be based on press cuttings and personal contact. The DO of one Branch wrote to complain of my interpretation of one of last year's fatal incidents, and yet the Branch did not even report it! I try to be as sensitive as I can when reporting deaths, but I believe it would be totally wrong to push them under the carpet if there is a lesson for other divers.

Producing the DIP Report is only the start of the process. Unless it is widely read, it is pointless. Every Branch will get a copy of the Report, and I only ask that you see that as many members as possible get a chance to read it. I have this presentation on tape, and if anyone would like to have a copy, just send me a spare cassette and a stamped, addressed envelope for one of the easiest Branch presentations that you have ever prepared.

On the subject of reporting, the Incident Report Form has been completely revised and copies of the new version are available from BSAC HQ.

My thanks are due to all those who have sent in reports. My special thanks to George Cairns for all his help and to Bernard Shally at BSAC HQ for his work in arranging the printing of the Report and the new forms. And thank you for your attention."

QUESTIONS

Mel Dawson *(Billericay)*: "In view of your report, do you think that the NDO is right when he says that he wants to keep away from Rules and Regulations in diving?

Personally, I have had no real incidents in my Branch, but there are times when I have to be very forceful in getting people to use SMBs or not dive in trios in good conditions.

I feel that BSAC should start to implement more Rules and a bit more legislation after hearing your report. For instance, when attending a Drysuit Training Course it was said to me in the discussion session that exhaust-dump valves are not mandatory; I personally think that it should be a Rule."

Martin Marks: "This is a nice, political red-hot potato. I think that we have to be very careful of introducing Rules that cannot be enforced; that is the real heart of the problem.

We are a democratic Club and there are limits to what we can introduce. It would be nice if we could stop people killing themselves, or getting bent, but it is not that easy."

Mike Holbrook: "Rules are one thing, implementing them is another. What we need to do is educate. You have been pretty forceful as DO of your Branch, but unfortunately that is not the case in every Branch.

We strongly recommend that SMBs are, in most conditions, virtually mandatory. But we all know that there are sites and dives that do not need them, and so a Rule would make them used when they could, perhaps, be hazardous. That is the danger of Rules."

Terry Crocker *(Plymouth Sound)*: "Am I right in saying that **Nov 20/84** is the same incident as reported recently in *Diver* by Bill Brothers?"

Martin Marks: "Off the top of my head, I do not know; I would rather not comment without checking."

Terry Crocker: "The details you give are very similar. On that particular day, very late in November last year, there were only three people around Fort Bovisand when the Coastguard 'phoned. I think that this is something that should be publicised today... The Coastguard were at fault for ringing 48021, and the only Bovisand staff available was the boy in the shop, apart from myself and another diver from Plymouth Sound. The lad said 'We have two bent divers coming in, what do we do?'

Luckily I knew the system and was able to make the necessary call on 261910, and the duty standby doctor was available at the spot, with his team, by the time the divers arrived.

With this recompression facility treating, this year, in the order of 50 decompression incidents, and the staff getting a little fed up of being on duty every weekend, I think it is important that the air-call number is available to all divers in the South West."

Geoff Oldfield *(Merseyside)*: "Could you highlight the correct procedure, for the benefit of new DOs in the audience, for reporting and getting action on possible decompression incidents?"

Martin Marks: "The Coastguard is normally the contact line, particularly if you are in a boat at sea. They are the only people who can call out a helicopter to you.

Generally HMS Vernon will want you to go through a medical officer first unless it is an emergency, because they want to know who they are talking to and whether he knows what he is talking about. But they are always willing to help.

If you do not go through a doctor and just turn up at a chamber, particularly a commercial one, you may find yourself landed with a big bill."

Clive Murphy *(N. Herts Group)*: "You mentioned a report where a group of three divers had done an unauthorised Branch dive. Is this a common occurrence?"

Martin Marks: "I had several reports where the DO, in writing the report, said that he did not know that the dive was taking place."

APPENDIX 1 STATISTICAL SUMMARY OF ACCIDENTS AND INCIDENTS

ITEM	1980	1981	1982	1983	1984
Incidents reported	151	216	149	142	213
Incidents analysed	148	203	148	142	211
British incidents	135	190	126	126	200
Incidents abroad	9	8	10	9	11
Location unknown	6	5	12	7	10
BSAC Members	106	160	108	112	138
Non BSAC Members	22	9	15	6	15
Membership unknown	17	33	26	24	74
Total fatalities	13	12	9	9	13
BSAC fatalities	6	5	6	7	8
BSAC Branch diving	2	4	5	6	5
ALL fatalities: solo	5	5	3	2	0
ALL fatalities: separated	0	5	3	3	8
ALL fatalities: underwater	7	9	8	9	10
ALL fatalities: on surface	5	3	1	0	0
ALL fatalities: trio	1	1	0	4	2

ITEM	1980	1981	1982	1983	1984
Decompression sickness	18	30	36	38	72
Recompressed	16	23	33	33	67
Depth reported	16	24	24	28	63
30m or deeper	14	19	14	18	45
Repetitive diving	6	7	8	3	19
Attempted recompression underwater	6	3	3	3	5
Commercial chamber	7	5	14	19	35
Service chamber	7	11	12	12	29
BSAC Members	12	23	18	22	34
Definitely NOT BSAC	4	2	8	2	3
Ascents	36	46	35	26	26
Emergency ascents	6	5	1	7	8
Aborted dives	11	30	11	17	13
Assisted ascents	8	11	7	9	8
Buoyant ascents	5	15	14	9	9

ITEM	1980	1981	1982	1983	1984
Coastguard alerted	24	37	27	47	58
Ambulance	4	10	8	11	8
Police	2	7	5	4	12
Lifeboat	14	16	10	21	32
Helicopter	12	31	22	26	37
Divers in the water	128	157	137	127	132
30m or deeper	30	18	18	39	64
50m or deeper	4	5	2	4	29
1m to 30m	42	76	43	44	47
On the surface	40	58	18	15	73
Involving boats	21	44	19	15	28
On land	17	6	4	1	8
Swimming pool	8	6	4	5	7
Bad seamanship	3	8	6	7	10
Injury caused	6	25	18	25	24
Weight/buoyancy involved	6	8	7	4	7
Solo diving	12	26	10	5	9
Separation	6	14	9	12	19
Resuscitation	8	7	5	4	3
Narcosis reported	6	5	1	2	1
Ears	5	14	7	10	10
Good practice involved	29	13	10	11	5

MONTHLY BREAKDOWN	ALL INCIDENTS	FATALITIES	BENDS
November	7	0	3
December	3	0	0
January	7	1	1
February	2	0	0
March	6	2	0
April	18	2	1
May	23	0	3
June	23	0	7
July	36	3	14
August	28	2	11
September	17	3	5
October	13	0	2
Undated	30	0	25

All the above reports are based on information received between November 1st, 1983 and October 31st, 1984.

HISTORY OF DIVING FATALITIES

YEAR	MEMBERSHIP	DEATHS BSAC	DEATHS NON-BSAC
1959	2,615	1	
1962	5,023	1	
1963	5,255	1	
1964	5,571	2	
1965	6,813	3	(0)
1966	7,979	1	(4)
1967	8,350	1	(6)
1968	9,241	2	(1)
1969	11,299	2	(8)
1970	13,721	4	(4)
1971	14,898	0	(4)
1972	17,041	10	(31)
1973	19,332	9	(20)
1974	22,150	3	(11)
1975	23,204	2	
1976	25,310	4	
1977	25,342	3	
1978	27,510	8	(4)
1979	30,579	5	(8)
1980	24,900	6	(7)
1981	27,834	5	(7)
1982	29,590	6	(3)
1983	32,177	7	(2)
1984	32,950	8	(5)

RECORD OF MAJOR FACTORS OCCURRING IN INCIDENTS, 1981 - 1984

Code	Item	1981	1982	1983	1984
1	Aborted dive	30	11	17	13
2	Assisted ascent	11	7	9	8
3	Buoyant ascent	15	14	9	9
4	Emergency ascent	5	1	7	8
5	Other ascent	15	2	1	1
6	Aural barotrauma	14	7	10	10
7	Pulmonary barotrauma	3	1	2	4
8	Boat trouble	29	19	15	28
9	Decompression sickness – not recompressed	5	1	2	5
10	Recompressed in water	3	3	3	5
11	Recompressed in chamber	26	32	33	67
12	Ambulance	10	8	11	8
13	Coastguard	37	27	47	58
14	Helicopter	31	22	26	37
15	Lifeboat	14	10	21	32
16	Police	7	5	4	12
17	FATALITY	12	9	9	13
18	Good practice involved	13	10	11	5
19	Illness	15	2	11	8
20	Injury	25	18	25	24
21	Lost diver(s)	21	15	21	31
22	Rescuer	5	4	0	1
23	Rescued	33	22	34	44
24	Resuscitation	7	3	4	3
25	Unconsciousness	1	5	7	7
26	Embolism	1	3	0	7
27	Pressure accident	52	54	47	22
28	ABLJ	10	10	4	28
29	Breathlessness	4	4	8	29
30	Buoyancy/weight	8	7	4	7
31	Carelessness	28	16	14	9
32	DV performance	3	6	10	17
33	Equipment – faulty	26	17	24	2
34	Equipment fitting	4	2	2	2
35	Equipment use	3	4	9	8
36	Equipment wear	0	0	1	5
37	Equipment inadequate	4	6	3	5
38	Fire/explosion	2	1	0	2
39	Foul air	2	0	1	1
40	Fuel	2	3	0	1
41	Hypothermia	6	0	3	2
42	Illness beforehand	5	4	4	6
43	Ignorance	5	6	11	11
44	Malice	2	0	1	2
45	Motor	18	6	7	11
46	Narcosis	4	1	2	1
47	Out of air	22	11	7	8
48	Pre-dive check	0	2	1	8
49	Repetitive diving	6	8	3	19
50	Ropes	0	2	2	1
51	Rough water	13	4	5	10
52	Bad seamanship	8	6	7	10
53	Good seamanship	0	0	0	0
54	Separation	14	9	12	19
55	SMB absent	12	8	6	15
56	SMB inadequate	5	2	5	1
57	Solo dive	26	10	5	9
58	Three diving together	13	7	8	8
59	Training drill	5	4	3	11
60	Training inadequate	3	11	16	9
61	Sharing	9	7	4	5
62	Deep dive (30m plus)	23	18	30	50
63	Low vis. underwater	1	3	1	2
64	Disregard of rules	24	14	20	34
65	False alarm	2	2	2	3
66	Cold	6	7	8	4
67	VVDS	10	3	2	5
68	Divers underwater	157	137	127	132
69	Divers on surface	58	18	15	73

SUMMARY REPORTS

Each of the following reports is set out in a standard way: month, serial number, precis, membership, qualification, organisation of dive, type of dive, where – country/water, depth in metres (italics), and a set of numbers which indicate an analysis of the major factors in accordance with the code provided in the previous column.

KEY

MEMBERSHIP:
B = BSAC, I = Independent, O = No organisation,
C = Commercial, N = National Snorkellers Club.

QUALIFICATION:
O = None, S = Snorkel, 3 = Third Class, 2 = Second Class,
1 = First Class, Inst = Instructor.

ORGANISATION OF DIVE:
C = Club/Branch, P = Private, O = None,
Comm = Commercial, H = Holiday.

TYPE OF DIVE:
B = Boat, Sh = Shore, Sn = Snorkel, D = Drift,
T = Training Drill, O = None.

LOCALITY:
H = Home, A = Abroad, F = Freshwater, S = Sea, L = Land,
P = Swimming pool.

DEPTH:
In Metres (Italics). X = Unknown or not relevant.

November 20/84. Bend. A party of divers carried out a dive to 57m. The first pair dived without incident. The second pair also had an incident free dive until they were about to ascend. At this stage the buddy noted that the dive leader was behaving in an odd manner and shaking the shot line that they were about to ascend. He also realised that he had fully inflated his ABLJ. The DL started to rise and the buddy grabbed hold of him and the shot line. He also started dumping the ABLJ air without realising that the bottle was still turned on. He was then hit on the wrist by the DL with his knife! The buddy, bravely, made two more attempts to prevent or slow down the ascent but at 25m had to let go to continue to his decompression alone. He was joined by the standby diver but before he could finish his stops the tide began to run so much that he was unable to maintain his depth and had to surface. He missed 15 minutes at 5m. The coastguard was contacted and the two divers were transferred quickly to a chamber. The buddy suffered a type 2 bend whilst the dive leader, apart from his earlier narcosis, only showed vague decompression sickness symptoms. The first pair of divers also developed more minor symptoms but did not mention them until later. They were checked over and deemed alright. B.1/2.C.B.H/S.*57*.9.11.13.46.62.64.68. (DIP comment – although the diving was carefully planned, this incident illustrates the dangers of pushing amateur diving to the limits and beyond. There is no room for any error or unforeseen occurrence. The report expresses surprise that bend symptoms appeared even though they had stuck closely to the BSAC/RNPL Table. This attitude is a little naive. No table guarantees immunity and at this depth the risk is high. This dive was right on the Limiting Line of the RNPL Table 11. Note that the BSAC recommends 50m as the safe limit of air diving. So too does the HSE for professionals. Diving below 50m will dramatically increase the risk and decompression incidents must be expected to occur.)

November 23/84. Branch reports 9 incidents of ear and sinus infections in 6 months (including Dec 49/84). Investigation of pool water negative. B.X.C.X.H/P.6.19.69.

November 27/84. Bend. A group of divers undertook a commercial acquaint course. This involved a dive in a training tank to around 5m for about 25 mins each, followed by a pub lunch (some had up to 2 pints) and then a dive in a chamber to 50m. This involved 10 mins at depth plus stops giving a total time of 30 mins surface to surface. That night one diver complained of a back ache but paid no attention to it. Over the next two days he developed pain in the buttocks, side and later the knees. On the third day the firm that ran the course were contacted for advice and when by day four his legs and lips started to itch and day five his legs throbbed and he had a headache, the firm told him to come in on day six! He was recompressed for 135 mins on oxygen. This cured all symptoms bar a slight leg pain. BX.Comm.T.H/F.*50*.11.62.69. (DIP comment – any decompression sickness symptoms after a deep dive must be treated seriously and early MEDICAL advice sought. The ethics of a commercial organisation treating a customer where they may or may not have been the cause of the bend are dubious to say the least. Alcohol before a deep dive is certainly a risky practice.)

November 29/84. Whilst doing assisted ascent training a diver broke off at 10m and proceeded to the surface on his own. He later stated that he had suffered air in the stomach making it diffficult for him to inhale and leading to the involuntary ascent. He also admitted that when sharing he never placed the DV fully in his mouth because it made his very sensitive gums bleed. As a result he was swallowing water, and apparently air, in large amounts. No after effects. B.3.C.T.H/F.*20*.2.35.59.68.

November 30/84. On surfacing a novice diver became very distressed. Dive leader noted his skin was grey and lips cyanosed. Released weightbelt and inflated ABLJ. Improved as he was towed ashore. No response to distress signal from a large number of divers at a "popular inland diving centre"! Diagnosed as colic. B.O.C.T.H/F.*20*.22.27.69.

November 32/84. Bend. After a dive to 23m for 24 mins a diver reported that his legs felt tired and then that he could not move them. Transferred ashore by which time he could just stand on one leg. Recompressed. B.3.C.B.A/S.*23*.11.69.

November 34/84. A diver who was hot decided to dive without a hood. Each time he tried to put his head underwater he choked and gasped for breath. He replaced his hood and dived without incident. B.2.C.Sh.H/F.9.29.35.66.68.

December 13/84. Trainee diver became exhausted during pool training. He was swimming on the surface with a full equipment but using a snorkel, overcome by panic and when trying to fit DV sank below the surface. Rescued by instructor. Known to be unfit and heavy smoker. B.O.C.T.P.23.30.60.69.

December 19/84. A diver (3rd Class/20 dives) was using a new wet suit "four times thicker" than before! He needed 20lbs of weights with an 87 cu ft aluminium bottle. His weight belt came loose during the dive and hung on his leg-mounted knife. His buddy (novice, first open water dive) went to assist and lifted off the belt whereupon he started to sink to the bottom. The first diver quickly deflated his ABLJ ("I find buoyancy compensation necessary below 3 metres"!) and followed his buddy down to 15 metres from the 7 where the incident started. They refitted the belt on the bottom (17m) and ascended slowly. B.3/O.C.T.H/F.*17*.30.68. (DIP comment – here we have a novice on his first dive being taken in by a 3rd class diver with only limited experience himself and limited knowledge of buoyancy control – he needed air in his ABLJ at 3m but could get down to 17 without a weightbelt! A good response from the novice and a good, critical covering note to the report by the Branch DO.)

December 49/84. Burst ear drum during octopush. B.X.X.Sn.H/P.20.68.

January 9/84. Engine failure. No detail. B.X.X.B.H/S.8.45.69.

January 18/84. A novice made a backward entry into the pool in full kit and landed on top of a passing swimmer, cutting open the latter's head which required five stitches. Because of his hood the novice had not heard his buddy's direction that it was not clear to go. B.O.C.T.H/P.20.59.68. (DIP comment – in a previous year a fatality also resulted from a diver's loss of hearing due to a diving hood being worn. Hand signals should be used if there is any chance of doubt. The question of separation lanes during pool training is also raised.) See also Feb 22/84.

January 21/84. During assisted ascent training the "victim" suddenly broke away from his buddy at about 10m and descended rapidly. Descent arrested by his companions at 24m. Unknown to them the victim had been suffering ear pain but pressed on with the ascent in the hope that it would clear. It did not and he dived to relieve the pain but without informing his buddies what he was doing. He had problems clearing his ears on previous drill. Brought slowly to the surface. No after effects other than slight nose bleed. Report also notes problems experienced in air sharing with a DV fitted with a 2nd stage "anti-scratch guard". B.3.C.T. H/F.*24*.6.20.27.59.61.68. (DIP comment – a good critique of the incident produced by the branch DO.)

January 24/84. Bend. No detail received. B.X.X.X.A.9.68.

January 26/84. After a dive to 20m, a diver suffered a blinding pain from above his left eye (frontal sinus). Diver had been treating himself the previous week for a slight stuffiness. B.Inst. C.Sh.H/F.*20*.1.19.20.69.

January 44/84. Diver suffered burst ear drum during E & F training. Previous history of similar problems in both ears.B.O. C.T.H/P.20.68.

January 133/84. FATALITY. No details. I.X.X.X.H/F.17.

February 22/84. A trainee diver entered the pool without consulting the marshal and was swimming on the surface. A second trainee rolled in backwards, again without approval, and his pillar valve hit the first trainee on the head. He was badly cut and required 9 stitches. B.O.C.T.H/P.20.59.64.69. (DIP comment – pool discipline!) See also Jan 18/84.

February 92/84. Snorkeller ruptured eardrum during training for 'G' test. B.O.C.Sh.A/S.*7*.6.20.27.59.68.

March 40/84. FATALITY. A snorkel diver, who had completed only A, B, C tests and snorkel lectures, was taken on an open water aqualung dive to a planned 14m (actually 22m) with one foot visibility at the surface and in conditions described as heavy ground swell. It was his second open water dive only. There was no pre-dive brief or equipment check. The dive leader told him to meet at the anchor line and they commenced their descent. However, as they descended the dive leader lost contact with the novice in the very low viz and dark conditions. The novice never arrived at the bottom. A subsequent search was not successful. The body has since been found. B.O.C.B.H/S.*22*.13.15.16.17.21. 54.60.64.68. (DIP comment – a whole series of errors: allowing trainees in open water before they are qualified; putting a novice into totally unsuitable conditions; a complete breakdown of progressive instruction; no pre-dive brief or check; inadequate supervision of the novice; poor dive planning; poor log sheets. A very detailed report received from the Regional Coach. Branch follow up action initiated by the NDO.)

March 41/84. Mild hypothermia. No detail. B.X.X.X.H/F.41. 66.68.

March 45/84. Assisted ascent; no detail. B.X.X.Sh.H.F.2.61.68.

March 48/84. Six divers on a boat-handling course were rescued by a lifeboat when their dory capsized in a Force 6-7. They had arrived too late for the briefing which would have told them not to venture outside the harbour. All suffered from hypothermia after half an hour in the water – only one had a wet suit on. I.X.C. B/T.H/S.8.13.15.23.41.51.52.66.69.

March 59/84. Burst eardrum during D test. By 4m had been unable to clear ears due to cold hands so ascended noting slight vertigo as he did so. Some pain developed three hours later. B.O.C.Sh/T.H/F.*4*.6.20.27.59.66.68.

March 72/84. FATALITY. Dive leader separated from two buddies during a dive to 36m in poor visibility. He was found in 1 to 2m of water apparently sitting on a rock. Lifted to the surface and given EAR. Pronounced dead on arrival at hospital. Out of date flares would not ignite so that help had to be summoned by divers going ashore. Total dive time reported as 22 mins, no reference to stops that would be required. I.X.C.B.H/S.*36*.12.13. 14.15.16.17.21.24. 54.58.62.68.

April 42/84. FATALITY. After a dive to 36m a pair of divers surfaced about 20 feet from their boat and exchanged OK signals. Shortly afterwards one diver was seen to submerge. Branch divers immediately conducted a search and the coastguard was alerted. A helicopter, lifeboat and two other boats then commenced a search of the area. Suggestion of a split dry suit but no evidence available to support the theory. B.S(nearly 3).C.B.H/S.*36*.13.14. 15.17.62.68.

April 43/84. Two divers tangled in nylon nets at 30m. Two other divers who attempted to rescue them also became enmeshed. A further pair of divers managed to cut them free just before they ran out of air. Newspaper/DIVER reports only – no branch report. B.X.C.B.H/S.23.68.

April 46/84. Two divers with no SMB surfaced half a mile from their boat and were unable to attract its attention. Swam ashore. B.3.C.B.H/S.21.55.69.

April 47/84. Buoyant ascent after DV free flowed at 15m. Difficulty in breathing on surface. Taken to hospital but recovered quickly. DV had not been serviced for over 2 years, he had not dived for 18 months and had rejoined the branch without the DO being aware! B.3.C.Sh.H/S.3.29.33.68.

April 51/84. Diver's dory swamped in rough weather. B.X.C.B. H/S.8.51.69.

April 53/84. Buoyant ascent after suspected weightbelt failure. No after effects. Similar belt, also brand new with long stainless steel clasp fastening and worn by diver's buddy showed, on examination, that half the steel clasp had come out of its seating. B.X.C.B.H/S.3.33.68.

April 61/84. A 3rd Class diver "acquainting himself" with a new membrane dry suit undertook a dive to 30m with two strangers. He had problems with the variable dump valve and during the ascent it came apart in his hand. On the surface the suit flooded. He inflated his ABLJ but left his weight belt on. His distress signal was spotted and he was towed ashore. Treated for shock! He had received no formal dry suit training. B.3.X.T.H/F.*30*.23. 30.33.58.60.68.

April 62/84. As a result of cavitation problems with an outboard engine, a diver went over the side to inspect the propellor. He turned it through one quarter of a turn to inspect for any looseness. The engine started! The diver was lucky to escape with a small cut. B.Inst.C.B.A/S.20.35.45.68. (DIP comment – no doubt most divers would have thought this an unlikely event but it DID happen, possibly assisted by the high temperature in this overseas location. Always put engines out of gear before approaching the "sharp" end must be the lesson from this.)

April 63/84. Two divers rescued from deteriorating weather by coastguard inshore lifeboat. A shore dive with no cover at all. O.2.P.Sh.H/S.13.15.23.51.54.69.

April 64/84. A diving cylinder was being pressure tested in a water filled container. The rig was professionally built and operated by a competent person. At 4200 psi the adaptor screwed into the cylinder blew out, struck the lid of the container, sheared the six lid holding down bolts and the lid and bolts then struck the ceiling six feet up where one bolt embedded itself. The lid struck the operator as it descended but the latter was not injured. Subsequent examination showed that the cylinder neck threads had sheared. The report also notes that the presence of air in the hydraulic part of the pressure system may have aggravated the effect of the thread failure. B.Inst.P.O.H/L.27.33.37.69.

April 66/84. Engine would not start after diving completed except for one pair. Another boat was alerted to collect these divers when they surfaced. Only one paddle carried and dry box found to be flooded after boat began to swamp. No unused spark plugs carried and no bailer. Boat eventually beached. B.X.C.B.H/S.8.13.23.37.45.51.69. (DIP comment – a well considered and critical report by the branch DO.)

April 79/84. Divers SMB snagged by boats that had broken adrift. Divers accused by boat owner of uprooting moorings with SMB line! Later confirmed that boats had been drifting first. B.2.C.Sh.H/S.1.8.52.68.

April 88/84. Two branch inflatables towed in after engines failed. One found to have gear wheels broken up and second incorrectly secured selector. B.X.C.B.H/S.8.23.33.36.45.69.

April 89/84. Branch boat went to the aid of a capsized assault craft. Craft assisted to shore and then its divers (no SMBs) picked up when they surfaced. B.X.C.B.H/S.23.51.55.69.

April 97/84. Diver suffered pain in the knee and elbow after a "10 to 12" metre dive. After 5 days he sought precautionary recompression. Minor bend diagnosed. Previous bend history in 1980. B.X.C.B.H/S.11.68.

April 106/84. FATALITY. One of three divers became separated during the ascent from a dive to 36m. He was later found on the bottom with his DV out. Subsequent checks of his air and equipment found nothing wrong. He had been using a new ABLJ for the first time and had reported a headache before diving but otherwise there was nothing out of the ordinary. The post mortem records death by drowning, cause unknown. I.(=3).C. B.H.S.*36*.16.17.21.42.54.58.62.68.

April 116/84. Two divers at 20m had agreed to ascend when one of them reached 50 bar. At 55 bar, one spotted a large fish and stabbed it. In doing so he became entangled with his goodie-bag, buoy line and crab hook. He had to cut himself free. During the ascent he ran out of air and had to share with his buddy. He reported that whilst sharing he swallowed a lot of water. B.X.H. B.H/S.*20*.2.23.31.47.61.68.

April 126/84. During a training exercise on landing a body in open water, the "victim" was playfully cuffed on the ear. He complained of being dizzy for a moment and later that he had whistling in his ears when he cleared them Diagnosed as perforated eardrum probably resulting from the pressure transmitted from the blow through a water filled wet suit hood. B.X.C.X.H/F. 6.20.27.59.69.

May 38/84. As a diver was being picked up by an inflatable the prop struck the diver's cylinder. Diver badly shaken but unhurt otherwise. B.X.C.B.H/S.8.52.69. (DIP comment – it is recommended that engines are stopped or in neutral when picking up divers. Prop guard?)

May 52/84. Engine failure and boat swamped in deteriorating weather. Divers fired red mini-flare which alerted coastguard. 6 divers lifted ashore by helicopter. Boat towed in by fishing boat. Water found in fuel tank. B.X.C.B.H/S.8.13.14.23.51.69.

May 54/84. BSAC members rescued lone diver in distress off beach. Diver was found to be a trainee from another BSAC branch who had decided to try it out alone and ran out of air! B.O.P.Sh.H/S.23.29.43.47.57.60.64.69.

May 55/84. Burst eardrum during 'G' test. B.O.C.B.H/S.7.20. 27.59.68.

May 56/84. Charter dive boat flooded and in danger of sinking. Towed in by fishing boat. B.X.C.B.H/S.8.69.

May 57/84. ABLJ accidentally inflated inside wreck. Diver ascended to roof of companionway and deflated jacket with some difficulty. B.2.C.B.H/S.5.28.68.

May 58/84. Bend. Diver and novice made rapid ascent from 20m. After 2 hours dive leader's face and left arm began to go numb. Recompressed. Diagnosed as cerebral DCS. Age may have been a factor. B.X.X.Sh.H/F.*20*.3.11.30.68.

May 60/84. Bend. Diver on holiday did 15 mins at 45m; 4 hr 20 min surface interval; 20 mins at 24m – a no stop dive on the USN Table he was using but missing a total of 15 mins of stops on the BSAC Table. Later developed tingling in the hands. Diving school insisted it could not be a bend "because tingling was in both hands"(!). At local hospital he was confronted by a doctor who spoke no English. Diving school staff not allowed to speak to the doctor; a diving specialist doctor at the hospital was not consulted; no recompression treatment was given; such therapy would have cost £1500 and there was more than a suggestion of cash down before treatment! The school's insurance was invalid due to "negligence". B.3.H.X.A/S.9.45.64.68. (DIP comment – the USN Tables are not recommended for use by amateurs. Divers on holiday abroad should make sure that they have adequate medical insurance which includes cover for diving – many holiday insurance policies specifically exclude diving activities.)

May 67/84. Inexperienced diver reported to be unconscious and with little pulse. Helicopter called and lifeboat launched. Casualty transferred to hospital but not recompressed. Coastguard report only – casualty gave false address. X.X.X.B.H/S. 13.14.15.19.25.69.

May 68/84. Diver observed in tidal race by coastguard. Lifeboat launched but own inflatable picked diver up before lifeboat arrived. Coastguard report only. X.X.X.B.H/S.21.23.54.69.

May 69/84. Diving cylinder exploded (whilst filling?) causing extensive leg injuries. Radio news report only. X.X.X.X.H/L. 16.20.33.38.69.

May 71/84. At about 15m diver experienced slight disorientation which became more severe as he descended. He realised he was losing consciousness and his last act was to inflate his ABLJ. Rescued by boat party and taken to hospital for oxygen treatment. No after effects of his rapid ascent but retained for 24 hours. A subsequent check on the air in his cylinders revealed very severe contamination of carbon monoxide and carbon dioxide. B.X.C. B.H/S.*15*.3.12.19.25.39.68.

May 74/84. Diver panicked when he inhaled water on the surface. Rescued by buddies but breathless and suffering from severe headache when he got back to the shore. Doctor diagnosed fluid on the lung. B.2.C.Sh.H/S.13.19.23.29.69.

May 75/84. Lost divers (without a surface marker buoy) initiated a search involving a helicopter, lifeboat and several other boats. Divers picked up by a passing speedboat after one and a half hours in the water but unharmed. B.X.P.B.H/S.13.14.15.21. 23.55.64.69.

May 77/84. Bend. During a dive to 45m a diver separated from his buddy, ran out of air and missed 5 min at 10m and 5 min at 5m stops. On surfacing complained of dizziness. Sent back in to carry out missed stops (!!!). Symptoms initially cleared but back onboard he complained of numbness in the feet. Coastguard arranged ambulance and recompression. B.3.P.B.H/S.10.11.12. 13.54.62.68. (DIP comment – re-entry decompression is no longer recommended by the BSAC; it will probably only conceal symptoms in the short term and will almost certainly hinder therapeutic recompression later.)

May 82/84. Coastguard received a report of a small vessel on fire followed by a further report of it firing red flares. Investigation by the lifeboat found that a diver was an hour overdue and only one other person onboard(!). Missing diver found after over 2 hours searching. He reported that the helicopter over flew him four times and the lifeboat passed him once but he was unable to attract their attention. X.X.X.B.H/S.13.14.15.21.23.57.69. Coastguard report only.

May 83/84. 999 call to coastguard reporting an inflatable with divers onboard, engine broken down and dragging its anchor. Rescued by inshore lifeboat. I.X.X.B.H/S.8.13.15.23.33.45.69. Coastguard report only.

May 84/84. Coastguard received report of an unconscious diver being brought in. Ambulance arranged to hospital. Diver lost consciousness underwater and was brought to the surface with his lifejacket. No detail but reported as "not suffering from bends". I.X.C/H.B.H/S.3.12.13.15.25.28.68.

May 96/84. A diver had a cold but considered he was fit to dive. During the descent to 9m he was able to clear his ears but at the end of the dive he was not so successful as he came up. Eventually one ear cleared; he attempted to clear the other and finally felt a "pop" and a cold sensation from it. This was followed by a whistling noise. "On the second dive in the afternoon I was able to clear my ears but after 2 minutes underwater I became completely disorientated and dizzy!" He signalled to his buddy and they aborted the dive. Perforated ear drum diagnosed. B.3.C.B. H/S.9.1.6.20.27.42.58.64.68.

May 99/84. Divers' hard boat drove straight over SMBs attended by two inflatables which both displayed A flags and despite polite and later shouted warnings from the inflatables. Met with abuse. Boat name and club recorded. I.X.C.B.H/S. 8.52.64.68.

May 127/84. During deep rescue training the victim became involved in a buoyant ascent. On surfacing he came out of the water to the bottom of his "stab jacket" type lifejacket. The jacket was undone and on surfacing the inflation forced its "wings" apart spilling the diver from the jacket. No after effects. Investigation revealed that the diver had thought he was separated in the nil viz conditions, became entangled in rope and came up against "resistance". He panicked and carried out a buoyant ascent. B.3. C.B.H/F.*24*.3.28.34.(35?).36.54.59.69. (DIP comment – is nil viz really the right conditions for deep rescue training?)

May 131/84. Dry suit incident. Report incomplete. B.3.C.B. H/S.*24*.67.68.

May 153/84. Trainee doing 7m snorkel for D test cleared ears about 3 and 6m on descent. Ascent was fairly rapid and slight vertigo noted at 3m. Ear problem developed 4 hours later. Diagnosed as ruptured ear drum. Since healed. B.O.C.Sh.H/F. 7.6.20.27.59.68.

June 5/84. Diver stung by lion fish on the hand. First aid given by applying hot coffee and ice water. Later suffered excruciating pain as he transferred to a hospital. Badly swollen fingers and arm the next day. Diver had been waving his hand over the fish to "excite it" for a photograph. B.X.C.B.A/S.20.68.

June 12/84. A direct feed hose on a recently serviced DV only filled its associated ABLJ very slowly. Inspection revealed that the hose had been fitted with an HP adaptor which considerably restricted the flow of LP air from the first stage. Later the same ABLJ developed a weep through the DF hose. An uninformed attempt at repairs involving stripping the valve resulted in a brass blank blowing out when pressure was applied. A thread in a polycarbonate housing had been stripped, probably by overtightening. B.3.X.O.H/L.35.36.43.69. (DIP comment – do not attempt repairs on DVs unless you know what you are doing!)

June 36/84. Despite earlier problems with an outboard engine it was used on a branch dive where its condition deteriorated. Fault traced to a partially stripped gear cog. Return trip made by replacing the cog back to front so that the astern capability was lost but ahead was now restored to normal. B.X.C.B.H/S.8.33. 35.52.69.

June 37/84. Separation in low viz. Missing diver surfaced ten minutes later. B.O.C.B.H/F.22.21.54.63.68.

June 65/84. Bend. A diver using a new VVDS in open water for the first time (without a lifejacket) had a bottom time of "10-15 mins" at 29m (total dive time 20 mins). A normal ascent rate was reported. Ten minutes later he felt sick and vomited but as the boat was rolling this was initially put down to seasickness. However, when this was followed by partial paralysis of his legs and slurred speech, the coastguard were informed and a helicopter arranged. He was recompressed for five and a half hours but still had numbness in his legs. He had three further sessions totalling 240 minutes but still had some after effects in the legs. Advised not to dive again. Diagnosed as arterial gas embolism by doctor. Branch believes that it was a trapped nerve. B.Sn.C.B.H/S.11.13.14.26.27.37.67.68. (DIP comment – the BSAC recommends that a lifejacket is used with a dry suit. The fact that the jacket obstructs the suit valves only means that the choice of combination was poor. Dive records showed surface to surface time only – whilst this is a useful check of the divers reported bottom time, it is the wrong record for any future calculations or investigation.)

June 70/84. Diver hit on the head when inflatable and hardboat collided. Conflicting versions of the incident from the two parties which arose from two branches diving on the same wreck. B.X. C/Comm.B.H/S.8.20.52.69.

June 73/84. Bend. Diver spent 57 mins at 80 feet which he thought a no stop dive (cf 27 mins at 26m no-stop equivalent on BSAC Table). Five minutes later he developed pains in the leg and lower back, pins and needles in the left leg and thigh. Coastguard arranged helicopter. Casualty spent four and threequarter hours in recompression chamber and a further 24 hours in hospital. X.X.P.H/S.26.11.12.13.14.16.27.43.(57?).64.68. Coastguard/MOD reports only.

June 76/84. 3 lost divers reported to coastguard who initiated search involving a helicopter, a lifeboat, a coastguard shore patrol and two boats. Divers swam ashore. They later reported that their cover boat was absent when they surfaced. SMBs? X.X.X.B. H/S.13.14.15.21.55.68. Coastguard/MOD reports only.

June 80/84. Inflatable reported 2 missing divers. Coastguard initiated search by helicopter, inshore lifeboat and two other boats. Divers swam ashore and arrived exhausted but unhurt. Refused to give addresses to coastguard. X.X.X.B.H/S.13.14. 15.21.(55?).69.

June 81/84. Bend. Immediately after a 38m dive for 12 mins a diver suffered tingling and loss of sensation in his right arm and pain in his right shoulder. After 10 mins he developed a milder muscular spasm in his left side. The coastguard were contacted and a helicopter arranged to a recompression chamber. Diagnosed as cerebral air embolism and recompressed. Diver had made two other dives in previous 19hrs – 16 mins at 25m; 7 hr surface interval; 33 mins at 12m; 12 hr interval; dive as above. No branch report. B.X.X.B.H/S.38.11.13.14.26.49.62.68.

June 85/84. Coastguard observed a diver surface 75 yds off shore and inflate an ABLJ. Another diver then surfaced and a nearby angler raised the alarm. First diver assisted ashore and reported that a DV failure had lead to an emergency ascent after "only an hour" at maximum depth of 60 ft. Diver reported to be on fifth open water dive only accompanied by an "experienced" diver. Ambulance called to take both divers to hospital but divers discharged themselves without examination or treatment. X.X. X.Sh.H/S.4.12.13.23.68. Coastguard report only.

June 86/84. "Decompression emergency". No detail received. B.X.X.X.H/S.

June 87/84. Inflatable with three divers onboard swamped – strong winds blew sea over the stern, stopping the engine. Rescued by lifeboat. Press cutting only. X.X.X.B.H/S.8.13.15. 23.45.51.69.

June 93/84. Shortly after commencing a 30m wreck dive, a diver suddenly lost his air supply. Signalled to buddy, who was not very experienced, but was immediately offered air to share. Having established a rhythm, they carried out a controlled assisted ascent. Discovered that pillar valve was shut off. Either not turned on correctly or rubbed on wreck during work to remove a piece of pipe. B.2.C.B.H/S.30.2.18.23.47.68. (DIP comment – a text book recovery.)

June 94/84. An overweighted diver removed his DV on surfacing, swallowed water and then found he could not replace his DV as it had caught in his torch lanyard. He could not inflate his ABLJ because of a defect resulting from incorrect assembly of the purge assembly. Recued by buddy who held him up using her own ABLJ. Diver was wearing his usual dry suit weights with a wet suit. B.3.C.B.H/S.23.28.30.33.69.

June 95/84. As an inflatable approached a beach with just the cox'n onboard he leant over to select neutral. This action caused him to twist the throttle and the boat accelerated throwing him over the stern. The boat ran up the beach showering pebbles from the propellor. No injury; prop and skeg slightly damaged. Branch intend fitting an engine cut out to be attached to the cox'n. B.3.C.B.H/S.8.45.69.

June 98/84. A branch boat searching for a wreck approached a fishing boat for assistance but were met with abuse and two attempts to ram them. Later they discovered that a boat similar to the one they had encountered was known to carry a shotgun! Reported to HQ. B.X.C.B.H/S.8.44.69.

June 105/84. A lone diver reported that his wife was alone in an inflatable three quarters of a mile off shore. He had been diving and, on surfacing could not see the boat so he swam ashore. From there he could see that his wife could not start the engine. Rescued by lifeboat. X.X.X.B.H/S.8.13.15.23.57.69. Coastguard report only.

June 107/84. Bend. After 20 mins at 29m a diver noticed a pain in his lower middle back as he removed his set and weights. He also had numbness and pins and needles in both legs. He generally felt unwell but after 15 mins the pain went although not the sensations in the legs. Later he vomited which he put down to a strong smell of diesel and his regular habit of being seasick. Later in the day he dived to 24m for 18 mins but it was not until days after the incident he realised he had missed a stop. Once back onboard he still had pins and needles in the legs and later found he had an unsteadiness in his walk. By the next morning he had not passed any urine since the dive (another decompression sickness symptom) and sought medical advice. Spinal bend diagnosed and recompressed twice. B.2.C.B.H/S.29.11.68. (DIP comment – any bends symptoms after a deep dive near the limits of the Table must be regarded with suspicion. This diver is regarded by his branch as level headed and safety conscious – it could happen to YOU too! Pins and needles are a SERIOUS bends symptom and must not be ignored.)

June 110/84. Bend. After 15 mins at 39m (11 mins no-stop) a diver "finned quickly" to the surface. Numbness in the legs and abdominal pains. Over 8 hours of recompression spread over four sessions. Advised never to dive again. O.(=3).P.B.H/S.39.11. 62.68.

June 146/84. Bend. After a dive (unspecified) the previous week a diver had felt unwell. He spent 57mins at 11m and developed a woolly feeling in his head and chest as well as back pain. Recompressed. X.X.X.X.H.*11*.11.42.68.

June 156/84. During a pool session a trainee inflated an ABLJ on the surface using the emergency bottle but did not turn the bottle off again. The ABLJ burst after a few seconds, ripping around the bottom seam. The dump valve, which also acts as an overpressure valve, was reported to be operating before and after the incident. B.O.C.T.P/H.28.33.38.59.69.

June 157/84. Burst eardrum, no detail. B.X.X.X.H.6.20.27.68.

July 15/84. Two divers on a shore dive left the water and then the dive site without informing any other members of the party. As a result the rescue services were alerted when it was thought that the divers were missing. This involved an inshore rescue boat and two lifeboats being launched plus police and coastguard launches being placed on standby. The police found the divers at their Branch premises! B.X/O.C.Sh.H/S.*7*.13.15.16.21.31.64. 65.69.

July 35/84. After one of two boats broke down and the weather deteriorated, two divers spent 30 minutes on the surface before being found. B.2.C.B.H/S.8.21.45.51.69.

July 39/84. Diver shot himself in the leg with a speargun.... "there was lots of blood"! B.X.C/H.X.A/S.20.68.

July 50/84. Bend. Diver with bend symptoms lifted by helicopter to a recompression chamber. Spent "all night" in the chamber. No detail – coastguard report only. X.X.X.B.H/S.11. 13.14.68.

July 90/84. Bend. After a dive of 18 mins at 28m, a diver began to feel exhausted as he neared the surface. In the boat he was dizzy and his right arm and leg went numb. Feeling returned after two hours but he was left with pains in the upper right arm, elbow and groin. These continued for the rest of the day, easing in the groin and worsening in the arm. He discussed it with his companions and everyone "seemed to agree it wasn't a bend". The next day the pain in his arm was worse so he saw a doctor who diagnosed a Type 2 cerebral bend. Recompressed for a total of 4½ hrs in two sessions. B.X.X.B.H/S.*28*.11.68.

July 100/84. Bend. Coastguard received a report of a fishing boat with a diver onboard who was unconscious but required recompression. Diver had spent "ten to fifteen mins" at 100 ft. Helicopter lifted diver to chamber for ten hours of recompression. Coastguard report only. X.X.X.B.H/S.11.13.14.25.68.

July 101/84. FATALITY. Two divers did a shore dive without an SMB or cover. They became separated and one surfaced when he could not find his buddy. Shortly afterwards he raised the alarm, initiating a search by a helicopter, lifeboat, several other boats and 39 divers. The body was located near the shoreline after some six hours. It was reported that the diver had no lifejacket and that there was gill netting on the body; a further report suggested that his DV had been pulled out by the nylon. X.X.X.Sh.H/S.13.14.15.16.17.21.37.54.55.64.68. (DIP comment – the massive growth of gill and tangle nets with their inherent threat to divers is being actively pursued. If nothing else this incident makes a strong case for diving with a buddy...."I dive safely alone" brigade please note. See also *Diver* Magazine, October 1984.)

July 102/84. FATALITY. A party of divers planned a dive to around 50m on a wreck 25 miles offshore. The divers used a shot line and clipped a buoy reel line to the bottom of it whilst they explored the wreck. As one pair were returning to the bottom of the shot line one diver indicated his watch with some anxiety and set off at a faster pace. Shortly after this he became entangled in his reel line. His buddy freed him and observed that he was becoming distressed. They set off but the diver entangled himself again. The following events are not too clear but the branch report indicates that the other diver was by now becoming low on air and left for the surface before he ran out. After carrying out a period of decompression (duration unknown) he surfaced and raised the alarm. Searching divers found the body within a couple of metres of the shot line. The body was still entangled in the reel line and the DV was not in place. B.3.C.B.H/S.*42*.13.16.17.47.54.62.69. (DIP comment – although much effort had gone into dive and decompression planning, dives to this sort of depth incur a high level of risk. There is no room for any error or unforeseen occurrence; plenty of reserve air must be incorporated in the dive plan and the plan rigidly adhered to.)

July 103/84. After a dive boat reported two divers missing a search was initiated by the coastguard involving several local vessels, a lifeboat and a helicopter. The latter sighted the divers and winched them onboard the lifeboat. The cover boat had lost one SMB whilst picking up the other pair of divers. B.X.X.B. H/S.13.14.15.21.69.

July 104/84. Helicopter called out to search for seven missing divers. Arrived at search area to find them wading ashore. MOD report only. H/S.13.14.21.65.69.

July 108/84. FATALITY. After a report of an overdue diver, a major search was initiated by the coastguard. Body found close in shore. No detail. Coastguard report only. X(not B).X.X.X.H/S. 13.14.15.16.17.68.

July 109/84. Inshore lifeboat went to the aid of a diving inflatable in difficulties trying to beach in heavy seas. ILB crewman assisted them ashore. Coastguard report only. X.X.X.B. H/S.8.13.15.23.51.69.

July 111/84. Bend. A diver admitted to a recompression chamber for treatment reported that he had spent 22 mins at 30m with stops of 3 min at 6m and 2 mins at 3m (?); he then spent 3 hours on the surface followed by 30 mins at 6-7m. The diver reported that his right arm went numb BEFORE the second dive. He later developed pins and needles and pain in the shoulder. Recompressed for 42 hours – air had to be used instead of oxygen. It later became evident that he thought the dive qualified as no-stop but was unable to explain why he did stops anyway. Diver not yet 3rd Class and was the DIVE LEADER on a branch dive. The wreck he was on is known to be deeper than 30m – when chamber staff mentioned this they were told of some discrepancy between the depth gauges used! B(!).Sn.C.B.H/S. *30+*.11.62.68. (DIP comment – this branch's DO needs to look carefully at their decompression training and open water diving standards if this diver is representative of their members.)

July 112/84. Ascent incident reported as "Loss of fin, ear problem, snatching DV from own mouth, buddy having to do free ascent". No detail. B.X.X.X.H/S.1.4.68.

July 113/84. A diver carried out a buoyant ascent after a 20 min dive to 57m. Blood from his mouth and ear on surfacing. Recompressed. Coastguard report only. X.X.X.B.H/S.*57*.3.11.13.14. (26?).28.62.68.

July 114/84. Coastguard alerted by an inflatable that a diver was missing. Search initiated and diver picked up by a fishing boat after an hour. X.X.X.H/S.13.14.15.21.23.54.(55?).69.

July 115/84. Bend. After 20 mins at 36m (with correct stops) a diver reported dizziness, lack of arm co-ordination and later tingling in his legs. Helicopter lift to chamber and recompressed. Diagnosed as arterial gas embolism. First dive for 7 months. Dive marshal reported as acting promptly and efficiently to obtain assistance. B.X.C.B.H/S.*36*.11.13.14.*26*.68.

July 119/84. Bend. A diver joined up with a BSAC branch on a commercially organised diving holiday. There was no check on log books and the newcomer claimed, and was accepted, as an experienced 3rd class diver. (His out of date BSAC membership receipt indicates he was a novice.) On one day he spent 25 mins at 26m, followed by an over 4 hour surface interval and then 23 min at 24m. Both dives involved hard physical effort in a tidal race. After an hour he had difficulty in standing and experienced numbness in the legs but he explained this away with some authority and, as he was a doctor, this was accepted by his companions. Overnight his symptoms deteriorated and recompression was arranged. Diagnosed as cerebral and spinal bend. May not be able to dive again. B.O.H.B.H/S.*26*.11.13.14.64.68. (DIP comment – these dives are apparently possible on the BSAC Table if the common error of forgetting to use the GREATEST depth was made on the second dive. However, a commendably honest branch report notes that some members were using PADI/USN Tables. If that was the cause, the result speaks for itself. These Tables are designed for warm water, for fit young servicemen with professional supervision. They DO NOT include any allowance for hard work. They are NOT RECOMMENDED for amateurs. Never ignore bend symptoms after a dive that is outside or on the edge of the Tables. Always check on

the qualifications of strange divers. It is worth noting that the cerebral element of the bend may well have interfered with his judgement.)

July 120/84. Missing divers recovered from rock by helicopter after search. Coastguard report only. X.X.X.B.H/S.13.14.15.21.23.69.

July 121/84. Lost divers after SMB line parted and cover boat followed free buoy. Coastguard alerted and search initiated with helicopter, inshore lifeboat and other dive boat. Divers picked up by passing vessel. X.X.X.H/S.13.14.15.21.56.69.

July 122/84. Bend. After a repeat dive (19 mins at 27m; 3 hour surface interval; 25 mins at 15m) which was outside the Table a diver reported back-ache and later pins and needles in the feet. It was noted that his symptoms worsened on the way to see a doctor as the vehicle climbed a hill. Recompressed twice. Advised never to dive again. Another member of the same party reported to have similar symptoms but cleared up without treatment. This diver on realising stops had been missed on another dive had carried out re-entry decompression. B.X.C.X.H/S.*27*.10.11.64.68. (DIP comment – this dive, of course, appears to be allowed by the Table if you forget to take the GREATEST depth of the two dives for the second dive calculation. This is a common error. See also Aug 117/84 – re-entry decompression comment.)

July 123/84. After a dive to 37 mins at 20m, a four hour interval and then 45 mins at 12m, a diver felt a pain in the left shoulder but put it down to arthritis. He continued diving twice daily to 10-20m. When he sensed pins and needles in his feet he sought medical advice. Diagnosed as a muscular bend in the shoulder, no diving for two weeks. A diver with 16 years' experience who admitted being careless but was lulled into a false sense of security by the comparatively shallow depth of the second dive. B.Inst.X.X.H/S.*20*.9.64.68. (DIP comment – it could happen to YOU too! See comment after July 122/84.)

July 124/84. A novice panicked when his mask and then DV were pulled off by kelp and he shot to the surface from about 9m. Calmed by buddies. B.Sn.C.X.H/S.1.4.58.68.

July 125/84. Diver rushed ashore to hospital for emergency operation. B.X.C.B.H/S.18.23.69.

July 136/84. A diver on holiday operated his air reserve lever and signalled to his (foreign) buddy who acknowledged but made no attempt to surface. Diver later ran out of air and had to carry out an assisted ascent, successfully. Diver commented in his report that the lesson to be learnt was that on occasions such as this a diver must take the initiative in aborting a dive. B.X.H.B.A/S.1.2.47.68.

July 137/84. A diver with no contents gauge and no reserve ran out of air at 30m and carried out an assisted ascent. Hired equipment – contents gauge had been refused when requested and cylinder in dubious state of test! Diver's comment – if you are not diving with your own club who take scrupulous care to ensure their members' safety you must take the important decisions yourself. There is no come back, if you don't come back! B.X.H.B.A/S.2.37.47.68.

July 139/84. Bend. Dive profile: 14 mins at 150ft (45m) with 5 mins at 10 and 5m; 3 hour surface interval; 20 min at 65ft (20m), no stops. Recompressed. X.X.X.X.H/S.*45*.11.62.64.68. (DIP comment – yet another diver who seems to have forgotten to take the GREATEST depth for his second dive calculation.)

July 140/84. Bend. After 16 min at 46m a diver suffered a DV first stage malfunction and carried out a "hurried but controlled" assisted ascent. He then re-entered to carry out stops of 10 min at 10m and 25 mins at 5m. After 4½ hours he carried out a second dive of 20 mins at 30m with 7 mins of stops at 5m. After 30 mins he developed pain in his elbow which got worse. Recompressed. Reported to be using USN Table. B.Inst.X.B.H/S.*46*.1.2.10.11.33.49.61.62.64.68. (DIP comment – a diver assisted bend! Even ignoring the "hurried" ascent initiated by a failure outside his control and the re-entry decompression, the second dive is way outside the BSAC Table.)

July 142/84. Bend. After a dive to 54m with a reported bottom time of 60 mins (!?) and "some" decompression a diver developed a numb right lower leg and right forearm. Recompressed. X.X.X.B.H/S.*54*.11.62.64.68

July 143/84. Bend. After a dive for 10 mins at 42m (no stop limit) but with a 2 min stop at 5m (?) a diver developed pins and needles in the left elbow. Recompressed. X.X.X.B.H/S.*42*.11.62.68.

July 144/84. Bend. A diver spent 22 mins at 30m (chamber staff believe the wreck concerned is deeper) with 3 mins at 6m and 2 at 3m (cf 5 mins at 10m and 5m required). He noted a numb right arm and pins and needles shortly afterwards. He then carried out a second dive (!) of 30 mins at 6-7m. The chamber staff believe this was an attempt at in-water recompression. On the first dive this NOVICE DIVER was the DIVE LEADER! When quizzed about the depth of the first dive he commented that some gauges read 30m, others 32m and that he thought it was a no-stop dive anyway. He could not explain the stops undertaken. B.Sn.C.B.H/S.*32*+.10.11.31.42.43.60.62.64.68. (DIP comment – another example of a novice undertaking a dive outside his capability; there is no way he should have been leading a dive to this depth. Undertaking a second dive with clear bend symptoms is very foolish – pins and needles are a SERIOUS bend symptom. Branch DO need to reconsider his training and dive marshal organisation carefully.)

July 145/84. Bend. A diver spent 15 mins at 50m with the correct stops. He noted mild bend symptoms which went away. After a surface interval of 2hr 15mins he spent 20 mins at 20m with a 4 min stop at 5m (the correct stops are off the Table, in excess of 5 mins and 25 mins). He developed a joint pain spreading to the upper arm. X.X.X.X.H.*50*.11.43.60.62.68. (DIP comment – the second dive would "appear" to be within the Table if the Table is entered using the depth of the second dive and not the GREATEST depth (i.e. 50m) whish SHOULD HAVE BEEN USED. Circumstantial evidence only! Yet again, a second dive after symptoms had been noted.)

July 149/84. A diver noticed that his buddy had suddenly gone into a state of coma and was lying face down on the bottom. He acted quickly to bring him to the surface and the boat's CB radio was used to alert the shore party. The latter made ready the group's mini-bus and rushed the victim to hospital where he recovered quickly. Medical staff unable to offer explanation. Air contamination discounted. B.3.C.B.H/S.*10*.1.4.18.23.25.68.(DIP comment – an excellent example of the reasons for diving with a buddy – "1-dive-solo" brigade please note. Also, well done the buddy and the rest of the group.)

July 152/84. BSAC branch boat came to the aid of a diver in distress on the surface. The diver's two buddies continued dive and rejoined former ashore. Rescuing branch noted: no shore cover, dive leader "just" 3rd Class, two novices just completed pool training, no SMB, no one knew they were diving, no dive log. B.3/O.C?.Sh.H/S.1.23.43.55.58.60.64.69. (DIP comment – an accident looking for a place to happen! Same Branch and similar incident to Sept 174/84.)

July 154/84. A charged ABLJ bottle was thrown from a first floor window during pursuit of a thief. It fell some 10m to the basement. On recovery the pillar valve spindle had broken off level with the main body and the purge button spindle was also bent. Cylinder did not explode. B.35.

July 158/84. Coastguard alerted after inflatable fired red flares. Established that two divers were one hour overdue. Picked up by fishing boat 3/4 miles away before lifeboat and helicopter arrived on the scene. X.X.X.B.H/S.13.14.15.21.23.(55?).69.

August 6/84. Bend. Diver developed gripping pains under rib cage followed by pins and needles in the legs after a dive to 25m for 20 mins. He had done 42 mins at 20m the previous day. (Both within the Tables). Hospital diagnosed mild decompression sickness and advised no treatment. Late the following day further symptoms appeared – incontinence, leg pains – and recompression was arranged. Type 2 spinal bend diagnosed. No obvious cause although it was considered that some personal emotional stress, an earlier strenuous holiday and surf sailing that morning may have contributed. B.3.C.B.H/S.*25*.11.12.68.

August 7/84. A diver in a membrane dry suit was thrown into the water when his inflatable swerved to avoid another boat. The dry suit was undone and the fall split the suit to the cuff. B.X.C.B.H/S.52.67.69. (DIP comment – there is an obvious hazard in unzipping a dry suit, particularly the membrane type, when there is any chance of the diver falling into the water.)

August 11/84. Diver using surface demand equipment dragged along the bottom when his umbilical became entangled in the

support boat's screw after the boat's cable parted. Diver was able to surface and reach the boat. B.2.P.B.H/S.*8*.1.8.50.57.68.

August 117/84. Bend. 3 divers planned a dive to 36m for 20 mins with stops at 10 and 5m. One diver later surfaced to report that he had been unable to halt his ascent at the 10m stop because he could not dump air from his dry suit. His only means of doing this was via the wrist seals which were OBSCURED BY HIS GLOVES. Diver went back in for re-entry decompression. (DIP comment – this practice is NOT recommended by the BSAC.) Symptoms developed after 3 hours. Recompressed in chamber. Dive marshal admitted he was aware that re-entry decompression was not recommended but used it in the hope of helping the victim without too much trouble. He has now adopted an attitude of "b....r anyone's inconvenience, if in doubt call for help". B.X.C.B.H/S.3.10.11.36.62.67.68. (DIP comment – it's a pity more marshals haven't adopted this attitude.)

August 118/84. Bend. Divers spent 16 mins at 34m; after a "bare two hours" they did 31 mins at "over" 9m. Recompressed. I.X.X.X.X.H/S.11.62.68.

August 128/84. Bend. After 11 mins at 38m a diver "ascended rather quickly". After 5 mins he complained of numbness, pain and pins and needles in the lower body and legs. Taken to hospital. First doctor diagnosed decompression sickness but did not have authority to initiate recompression. Second doctor decided on observation only. On the insistence of the diver's companions a third doctor was brought in and *HMS Vernon* contacted for advice. Diver then recompressed for 6¼ hours. B.2.C.B.H/S. *38*.11.62.68.

August 129/84. DOUBLE FATALITY. An experienced 2nd Class diver and a novice on his third open water dive were put into apparently ideal conditions by an experienced boat handler. Cox'n became alarmed when the SMB disappeared below the surface and contacted the other divers ashore by VHF for assistance. He picked up some other divers and when he was still unable to relocate the first pair, again radioed for assistance. A second boat was launched to help in the search. When, after 20 minutes, the divers had not been found a major search was initiated which was called off at dark and restarted the next morning unsuccessfully. The novice's body was washed ashore after a gale six weeks later. The body was tangled in SMB line, the ABLJ inflated, although it and the cylinder plus DV had been removed and were only held to the body by the tangled SMB line. The weight belt was in place with 12kg on it. B.2/0.C.B.H/S. *20+*.13.14.15.16.17.21.68.

August 134/84. Hardboat went astern between two divers from another boat. The latter were connected by a buddy-line and this pulled one of the divers to within 15cm of the propeller which was still going astern. Terse "discussion" followed. Hardboat party had previously buoyed a wreck with an A flag causing some concern from the next group to arrive who spent some time searching the wreck when they found the flag with no cover boat around. B.X.C.B.H/S.8.31.52.69.

August 135/84. Bend. Missed stops. Two divers given therapeutic recompression after careless dive planning. Profiles were:

	1st dive	Interval	2nd dive	Missed stops
Diver A	13mins/34m	2hrs 39min	30mins/23m	½hr+, off Table
Diver B	10mins/34m	3hrs 01min	30mins/23m	as above

B.X.X.X.H/S.*34*.11.31.49.62.64.68. (DIP comment – in both cases the second dive would appear to be acceptable if the time penalties for the first dive were rounded down instead of up, as they should be, and the GREATEST depth requirement ignored .....yet again!)

August 141/84. Bend. 20 mins after a dive of 23 mins to 100ft (31m) with no stops carried out, a diver complained of heavy legs, dizziness and pins and needles sensation. Recompressed. B.3. X.X H.*31*.11.62.64.68.

August 147/84. Lost diver brought ashore by another boat. Inshore lifeboat launched to inform diver's boat cover which was still searching for him. X.X.X.B.H/S.13.15.21.23.(55?).69.

August 148/84. A 2nd Class diver and a trainee were to dive on a wreck at 30m. However, the dive leader missed the shot line as they drifted down tide to it and attempted to swim directly to the wreck on his own. The trainee went down the shot line but when he realised he was alone, CARRIED ON WITH THE DIVE BY HIMSELF. Meanwhile, the dive leader surfaced when he found he could not get to the wreck, blew his ABLJ and waited to be picked up. When the boat cover realised he was missing the coastguard were alerted and a helicopter and lifeboat launched. The boat cover found the missing diver shortly afterwards. B.2/O.P. B.H/S.*30*.1.13.14.15.21.23.54.(55?).60.64.69. (DIP comment – is a 30m dive in, apparently, a strong current really the place for a trainee? Why did he not surface when he realised he was alone? A series of examples of poor diving practice.)

August 150/84. After two dives within the Tables a diver complained of itching all over. He had also been stung on the face by a jellyfish. After a period of observation and injections, diagnosed as a reaction to the sting and not a bend. B.X.C.B.H/S.*20*.19. 65.68.

August 151/84. An experienced 3rd Class diver accompanied by a novice undertook a trouble free dive in good conditions to 24m. Ascent commenced after 27 mins with adequate reserve. It became apparent that the novice was having difficulty ascending and the leader returned to her three times to assist. He too was hampered by carrying souvenirs. The result of this extra effort was that the leader exhausted his air at about 12m. Realising that something was wrong but unable to see the leader, who was behind her, the novice inflated her ABLJ and carried out a buoyant ascent. The leader had lost consciousness but luckily surfaced naturally shortly afterwards. An alert boat crew went to assist when there was no response to their OK signal and in-water EAR was given. This restarted his breathing. The coastguard were alerted and a helicopter took both divers for treatment. The leader received extensive recompression for pulmonary barotrauma and the subsequent arterial gas embolism. He has been advised not to dive again. The novice suffered minor ear damage. B.3.C.B.H/S. *24*.3.7.11.14.18.20.23.24.25.26.27.28.30.47.54.68. (DIP comment – an excellent report from the Branch DO. A splendid response from the boat party and one diver in particular, which undoubtedly saved the dive leader's life. The dive leader had been reluctant to remove the novice's weight belt or inflate her ABLJ to avoid shaking her self-confidence. On the first occasion of help this is no doubt reasonable but after that he should have taken such a step. The report suggests that this incident underlines the case for buoyant ascent training as practised by the Scottish SAC. BSAC experience has been that such training is more likely to generate incidents itself and is, therefore, no part of our training. The incident also illustrates the importance of alert lookout and prompt response from the surface cover.)

August 159/84. Three divers working on a wreck using a shot-line and "spider lines". After 15 mins (at 28m), one diver suddenly became aware that he was very low on air. He "located the dive leader and they regrouped". As they ascended he ran out of air at 15m and shared with the leader. B.3.C.B.H/S.*28*.1.2.31.47.54. 58.61.68. (DIP comment – if he had to locate the dive leader then he didn't have a buddy; suppose he had a more serious incident?)

August 160/84. On the ascent from a 49m dive a diver became snagged at about 36m. He descended to free himself but could not see the cause. Again he was snagged on the ascent and this time he removed his set, discovered he was caught up in fishing line, and carried out a free ascent. He was found on the surface (condition not known) and taken down for 85 mins of "wet" recompression. X.X.X.X.H/S.*49*.4.10.54.64.68. (DIP comment – where was his buddy? Re-entry decompression or "wet" recompression is not recommended.)

August 164/84. Coastguard lookout observed two divers drifting with the tide and blowing whistles. Helicopter scrambled. Meanwhile one diver managed to scramble onto some rocks and was picked up by an orange inflatable. Boat collected second diver as helicopter arrived. Coastguard report only. X.X.X.B.H/S.13.14. 21.23.54.69.

August 165/84. Bend. Coastguard received report of diver with bends symptoms. Helicopter called for transfer to recompression chamber. No detail. Coastguard report only. X.X.Comm.B.H/S. 11.13.14.68.

August 166/84. Hardboat reported to Coastguard that three divers had drifted away in low visibility. Three other fishing boats

and a lifeboat joined the search, one of them locating the divers. Coastguard report. X.X.X.B.H/S.13.21.23.69.

August 167/84. Yacht reported to Coastguard that it had picked up two divers who had become separated from their boat. C.G. Auxy recovered divers, returned them to their own boat and then towed it into harbour. Divers' SMB had been taken by the current causing cover boat to lose contact. Coastguard report. X.X.X.B. H/S.8.13.21.23.69.

August 169/84. Ruptured eardrum. No detail. B.X.X.X.X.7.20. 27.68.

August 170/84. Bend. Diver spent 30 mins at 30m without stops; six hour surface interval; a further 30 mins at 30m. Missed out 30 mins of stops. After about 90 mins he developed pain in the left elbow. Recompressed. X.X.X.B.H/S.*30*.11.31/43.49.57.62. 68.

August 171/84. Helicopter guided inflatable to its divers. They had become separated from their cover when the engine failed to start. X.X.X.B.H/S.13.14.21.23.69.

August 172/84. Bend. After four weeks of an expedition involving lengthy dives to 8-12m (typically 70 mins per day), a diver made an 85 min dive to 8.4m. During the dive there were several slow ascents to the surface to communicate with snorkellers and then a swim 200m back to shore. After 30 mins, pain was noted in the right knee and elbow followed, after two more hours, by this spreading to both knees, elbows and shoulder. This was put down to carrying equipment and sleeping on a camp bed. When, after 6 hours, pins and needles was experienced in the legs and arms, recompression was arranged. B.2.C.Sh.A/S.*8*.11.68. (DIP comment – the BSAC Table is strictly designed for a profile of descent/time at depth/ascent. It does not allow for repeated ascents/descents. Nevertheless, the bottom times were very conservative with respect to no-stop times.)

August 186/84. Bend. After 25 mins at 36m a diver ascended directly to the surface missing 20 mins of stops. Within ten minutes of surfacing he reported stabbing pains in the foot. The hardboat skipper contacted other dive boats in the area and "it was agreed that he go back in with the Dive Marshal for re-entry decompression". Pain disappeared. Diver was a lapsed BSAC member. Branch committee decided not to accept him as a member or include him on other expeditions without further discussion. B.3.C.B.H/S.*36*.10.43.62.64.68. (DIP comment – See August 117/84 – should branches undertake dives to 36m when, apparently, there is no DIVER onboard capable of taking the correct action when faced with a minor bend? This diver was lucky that he faced no further complications arising from the re-entry. He should have sought medical advice.)

August 188/84. Reversed ear on ascent from 20m dive. B.X.X. X.H/S.7.27.68.

August 189/84. After a dive, an ABLJ was inflated to dry. The plastic pillar, onto which the cylinder 'A' clamp fitted, exploded. No injury. Report notes a similar incident, same make of ABLJ, last year which was not reported at the time. B.X.X.X.H/L.27. 28.33.69.

August 190/84. Bend. Divers spent 22 mins at 30m without stops and on the later "no more than 9m" dive, although reporting a 9m depth, later admitted to going deeper. Honesty of reported bottom time for 30m dive also suspect. Diver later recompressed after tingling pains in the chest and pins and needles. Both divers now no longer welcome at the branch where they were diving as guests. B.2/3.C.B.H/S.*32*.11.31.49.54.62.68.

September 25/84. An equipment check between dives noted that the intermediate hose of a DV had become loose where it was attached to the 2nd stage. The chamfered, blind nut that holds on the swivel attachment was missing and it was later established, when the nut was found amongst club equipment, that the nut had been missing throughout the first dive. B.H/S.33.69.

September 161/84. Bend. After dives to 21m and 42m respectively a diver ran out of air and achieved no improvement when he operated his reserve. Did a rapid ascent from 42m, omitting some 55 mins of decompression. Within four minutes of surfacing he suffered pain to the chest, tingling in the legs, distorted vision, pain in the elbows and shoulders followed by confusion, disorientation and collapse. He was rushed to a chamber and was inside within 32 minutes. Diver made an "amazing" return to fitness after an initial five hours in the chamber plus 1½ hrs per day for some ten days. Advised not to dive again. O.O.P.B.H/S. *40*.4.11.33.43.47.57.62.68.

September 162/84. Bend. After a dive to 50m for "16 to 20 minutes" without stops a diver experienced a "niggle" in the legs which rapidly became worse. By the time he reached the chamber he was paralysed from the waist down. Spent over 8 hours in the chamber and will need lengthy period of nursing before he MIGHT regain use of legs. It was noted that the diver's buddy who carried out the same profile was unaffected. The victim was grossly overweight and had a heavy diet of fatty foods and alcohol which might have increased his susceptibility. Type II spinal bend. O.O.P.B.H/S.*50*.11.20.43.62.64.68.

September 163/84. FATALITY. Abroad whilst on holiday. No detail received. B.X.H.X.A/S.17.

September 168/84. DOUBLE FATALITY. Two experienced divers went into a pond to clear a culvert to allow the pond to drain. They found the culvert covered with a steel sheet and attempted to pull this off by attaching a rope and pulling from the surface. This did not work. They descended with a crowbar and shortly afterwards the pond owner on the surface noted a rush of air to the surface. He called the emergency services. The pond was pumped out. One diver was found wedged in the culvert opening (some 2ft in diameter) and the other some way down inside the culvert. The visibility in the pond had been reported as zero. B.X. X.Sh.H/F.6.16.17.27.68. (DIP comment – any form of culvert is potentially dangerous to divers. This work is a job for experts who would insist on the culvert being sealed at its other end before approaching it. The force generated by free flow under 20 foot head of water through a two foot culvert would be enormous.)

September 173/84. 40 to 50ft fishing vessel manoeuvred amongst several inflatables on a wreck site causing havoc with several near misses to divers on the surface and one collision with an inflatable. No injury. One exhausted diver from the hardboat rescued by divers in an inflatable. Boat's registration number reported. B.X.X.B.H/S.8.52.69.

September 174/84. Three novices (with 10, 5 and nil previous open water dive experience!) undertook an unofficial shore dive. The sea conditions deteriorated quickly during the dive and once back on the surface the diver on her first open water dive began to panic. Towed onto some nearby rocks by one of her buddies as they could make no progress towards the shore. Alarm raised by onlooker and inshore lifeboat rescued them. Branch report notes: unauthorised dive, no qualified diver, no cover, no SMB, no weather check, trio, no buddy lines, signals not followed correctly. B.O.P.Sh.H/S.13.15.23.29.43.55.58.60.64.69.

September 175/84. Three divers in an inflatable picked up by a passing schooner after they ran out of petrol and fired off white flares. Transferred to a motor cruiser and brought ashore with inflatable in tow. B.X.X.B.H/S.8.13.23.35.45.69. Coastguard report only.

September 177/84. Bend. After 17 mins at 20m a diver had to carry out an emergency ascent with a novice. Two days later he dived for 20 mins to 45m – no details of stops. Six hours later he noticed numbness below the left knee and difficulty in walking plus loss of bladder control. Recompressed. Used dry suit and twin 78 cu ft cylinders. X.X.X.X.H.*45*.4.11.62.68.

September 178/84. Immediately after a lecture session on pressure, ears and sinuses, a novice doing his first practical session snorkelling forgot to clear his ears. He felt his ear pop. No other symptoms. Woke that night with ear pain and bleeding. Perforated ear drum diagnosed. Hearing affected. B.O.C.T.H/P. *3*.6.20.27.59.64.68.

September 179/84. Fishing vessel reported a lost diver. Helicopter and lifeboat launched; several other boats assisted including an underwater search. Located by a boat one mile from the datum position, unharmed, about half an hour later. X.X.X. H/S.13.14.15.21.23.54.(55?).(57?).69.

September 180/84. Inflatable engine failed returning from dive. Flares were set off but masked by fireworks from a hotel nearby. No response to S-O-S on a torch. Divers paddled ashore and found coastguard preparing for a search as a result of the group leaving an expected time of return with them. Fault traced to defective dead man's switch. B.X.C.B.H/S.8.13.33.45.69.

September 181/84. Whilst pushing an inflatable towards the water's edge, a diver's knife fell from its sheath and lodged in the

pebble beach. As he moved on, it stretched the coiled telephone cable between the knife and sheath to its full length. The knife came loose from the beach and was catapulted towards the sheath striking another diver on the foot causing lacerations after penetrating his bootee. Immediate first aid given to stop blood loss and four stitches later inserted. B.2.C.Sh.H/L.20.

September 182/84. Bend. Hard boat reported to coastguard that they had a diver onboard with a possible air embolism and were "putting him back down again"! Symptoms reported to have eased but diver advised to contact *HMS Vernon* on return ashore. Coastguard report, no branch report. B.X.X.B.H/S.10.13.26.64. 68. (DIP comment – re-entry decompression is NOT RECOMMENDED; putting a diver with symptoms back into the water is potentially dangerous even though it may appear an easy solution at the time. In such cases recompression should be sought in the usual way. See Aug 117/84.)

September 183/84. Bend. After 14 mins at 46m with stops of 5 mins at 10m and 10 at 5m (cf more than the required 5 and 5?) a diver complained of pains in the arm. Transferred to recompression chamber. Coastguard report only. X.X.X.B.H/S.*46*.11.13. 62.68.

September 184/84. A yacht reported to the coastguard that she had a diver over the side who was overdue. Lifeboat and helicopter alerted. Diver surfaced and search stood down. Coastguard report only. X.X.X.B.H/S.13.14.15.21.57.64.68.

September 185/84. Two divers surfaced from a wreck using their ABLJs to bring up some cannon balls! On the surface they found that they were unable to make any headway towards their cover boat because of the tide and their load. One diver developed cramp and assistance was called for. Because of nearby rocks, other divers went in to assist and divers in distress picked up when the tide had swept them clear. B.X.C.B.H/S.23.28.30.35.64.69. (DIP comment – a diver's own ABLJ should never be used to lift weights, the practice is potentially hazardous. Why not use a spare ABLJ if no lifting bag available?)

October 1/84. Coastguard alerted by 999 call from a diver reporting that his "mate" was overdue. Several boats and a helicopter were involved in a search until the helicopter spotted bubbles and its diver investigated. He found the missing diver who was quite unaware of the alarm. X.X.X.X.H/S.13.14.15.21. 54.55.64.68. Coastguard report.

October 2/84. Coastguard spotted two divers in a tidal race some distance from their boat. Lifeboat launched and helicopter called. Divers recovered safely by lifeboat. X.X.X.B.H/S.13.14. 15.21.23.64.69. Coastguard report.

October 3/84. Inflatable tending divers capsized by wind throwing crew into the sea. Divers surfaced and crew assisted onto upturned boat. Helicopter assisted all three ashore. X.X.X. B.H/S.8.13.14.23.69. Coastguard report.

October 4/84. Inflatable with 3 divers onboard overturned half a mile offshore. Two swam ashore but third reported in difficulty. Helicopter called but diver assisted ashore by sailboarder. X.X.X.B.H/S.8.13.14.23.69. Coastguard report.

October 8/84. Incident reported to Sports Insurance Bureau. No detail received to date. B.X.X.X.X. Not included in analysis.

October 28/84. After a dive to 12m for 45 mins, a diver signalled that all was not well at the start of the ascent. During the ascent the diver started to lose consciousness. On the surface the diver appeared to be suffering from shock, loss of memory and respiratory failure. EAR was given. This was followed by involuntary spasms and convulsions of the legs. Taken to hospital but by this stage was perfectly normal again. Recompressed. Diver admitted a previously undisclosed history of epilepsy as a child. X.X.B. A/S.*12*.18.19.24.25.(42?).68.

October 31/84. Fishing boat drove straight over buoyed shot line and SMBs despite signals from hardboat. No injury. Reported to coastguard. B.X.C.H/S.(44?).52.69.

October 33/84. Diver suffered from vertigo and vomiting after a dive to 20m for 23 mins. Given precautionary recompression but did not change symptoms. Diagnosed as internal blockage of the ear. Previous history of ear problems. B.3.C.B.A/S.*20*.6.11.27. 42.68.

October 78/84. Lost divers, no detail. X.X.X.X.H/S.21.

October 138/84. Bend. Over a period of about four hours a diver undertook five dives to a wreck at 15m. The dives were 3 x 20 mins, 10 mins and 100 mins respectively. No stops were carried out. The dive is off the BSAC Table. Some 4 hours later he complained of pain in the joints and was recompressed. Advised never to dive again. X.X.X.B.H/S.11.49.64.68.

October 155/84. Shortly after rolling backwards into the water from a hard boat, a diver's backpack waist strap slipped over his drysuit inflation valve causing the suit to inflate. He was unable to stop it because his arms were forced up and out by the inflated suit. Suit became very tight, almost suffocating around the neckseal. Released by her buddy. B.Inst.C.B.H/S.23.34/36.67.68.

October 176/84. Diver made free ascent from 48m. Branch report not returned. B.3.X.X.H/S.*48*.4.62.68.

October 187/84. Bend. Recompressed. No detail yet. B.X.X. H/F.11.68.

Undated 10/84. Diver made several attempts to have out-of-date cylinders charged. Refusal resulted in him producing, eventually, a cylinder with what appeared to be a forged test stamp but no certificate. Still airless! ex-B.3.P.O.H.33.64.69.

Undated 14/84. About two hours after dive in a lake at 2000 ft altitude, a diver suffered a severe headache and blurred vision in the left eye. Diagnosed as a burst blood vessel in the eye. B.X. C.X.A/F.*15*.20.27.69

Undated 16/84. A diver on holiday hired a cylinder. He later developed chest problems that required major surgery to remove rust particles that had caused an abscess on the lung. Suspected that they came from the cylinder. X.X.H.A.19.33.68. (DIP comment – it can only be assumed that the DV inlet filter had been removed – see also Undated 17/84.)

INCIDENT REPORTS

If you would like to add to, correct or place a different interpretation upon any of these incidents, please put it in writing and send to the following address:

*Dave Shaw,
2 St. Michael's Road,
Bessacar,
Doncaster DN4 5LT

For new incidents, the minimum information that is of use consists of:

Date of incident

Name of victim(s)

Vicinity of incident

Nature of incident

All of this can be briefly stated on a Preliminary Incident Report Card. These are circulated by HQ to branches or can be obtained from the address above.

Much more use is the greater detail that can be set out on an Incident/Accident Report Form and one is sent out to all those who send in a Preliminary Incident Report Card.

WHAT IS AN INCIDENT?

Any event involving divers or diving equipment in, or our of the water where the diver is killed, injured or subjected to more than normal risk.

NAMING NAMES

Information obtained on incidents is treated confidentially and, despite frequent requests at the DO's Conference, names are *never* quoted. The only exception to this is where an act of rescue or saving life merits recognition.

**EDITOR'S NOTE*

Readers are advised that although Cdr. Martin Marks, RN was responsible for producing this Incident Report, he had relinquished the position of Chairman of the Diving Incidents Panel at the time of printing these Proceedings.

Therefore, we have given the name and address of the newly-appointed Chairman of the DIP.