

Chuck Rolfe, Editor
RR2
Kinburn, Ontario
Canada
KOA 2H0
Phone(613)832-1653



FOUNDED
HALIFAX, N.S.
1981

FOUNDING MEMBERS

Glenn Adams P. Eng
André Desrochers
Leo Goneau
Terry Havik
Michael Walsh

First President
Stanley F. Watts

DIPPERS DIGEST #38

15 September 1999

DIVING TENDER #7

A musical talent was relatively rare among the troops at the Diving Unit, although a few of them could play the KAZOO fairly well (Pusser type toilet paper and a comb) and the GIBSON (a corn broom plucked in time to the beat) after a few good belts of the undeniable inhibition releaser, so the ones who could actually play an instrument sober were often in demand - even if the guitarist would pass out pages listing the only songs he could play, if not properly, at least loudly. Mind you of course, there were odd ones who rattled the SPOONS, and one who could actually carry a rhythm, but these tools were left at home because some of the more exuberant types thought nothing of pulling the strings out by the roots or punching holes in the drum skins or tossing the silver out the scuttle whenever they felt like doing so! However there was one of my lads who could play the PIANO ACCORDIAN and, while at first it proved to be a novelty, it soon wore off since about all he could play was the oompah-pa sort of tunes and the For'd Mess soon tired of the "Tales of the Viennese Woods" being played at meal and Tot times, so he was banished to the Quaterdeck or beyond. However, not to be done in by an unappreciative crew, he decided to do his serenading whilst on Watch at the Brow where the Killick of the Watch had permanently assigned him to be the Middle or Morning Watch (Midnight to 4 A.M. or 4 to 8 A.M.). Prior to this, he had purchased a piece of property with an ancient house way out in the boondocks past Eastern Passage, near Lands End on the Dartmouth side, whose well water had a hard time seeping through the strata and the pump was in dire straits, desperately needing a ring and valve job. So when his Frau wanted to take a bath, by the time the hot water had trickled to its required level, it was too cold to enjoy a good soaking. Now he, being an ingenious kind of guy, decided that rather than repair the pump and redig the well, set up an arrangement with an immersion type heater hooked up to a wire separated by an aspirin suspended over the tub at the desired depth. The theory behind this was that while the water was dripping in, the coil would keep it hot until it reached the pill, which would dissolve, thereby allowing the two wire ends to touch and short out the fuse running the asthmatic pump. Naturally all the lights on that same circuit blew at the same time, so notifying the sweet thing that her bath was now ready and to pull the plug on this apparatus before screwing in a new fuse - available in abundance at the "L" Shop at the abattoir. Providing the rules were followed, everything worked pretty well until that evening while watching that new invention - the TV - and not wanting to miss the Lucy Show coming on, nor waiting for a full tub, she grabbed the two wires to remove the gear. Well, to shorten the tale, the lad upon hearing a piercing screech followed by a loud thud, raced up to find his bride in the nude against the broken lath and plaster wall!! Needless to say, that rube goldberg invention was scrapped and no more cuddlies until the well was deepened and the pump refitted, seeing as how the wife couldn't follow proper EOD procedures. She was also becoming quite annoyed at having to open the rear door of their new car (new to them that is) in order to be able to sit in her right-ful spot, while he did the same thing on the other side to be able to get behind the wheel, receiving the odd boot heel in the ear occasionally. At the time of purchase he had been advised by the seller that although the car was in exceptionally good shape, it had one minor flaw, which was that the drivers door had a tendency to fling open after a big bump, or a sharp turn to the right. Searching for a solution since he didn't want to suffer a road rash or harm his other half or replace the worn out latch, he decided the easiest method would be to weld it shut, which he completed to his satisfaction. However, the paint around the doorposts didn't look too good thereafter - like scorched and blistered, but he was content, at least the doors wouldn't move. During those bitter winter months, the warmest place to stand his Watch (depending on wind direction) without incurring the Killicks wrath, and still be able to play his instrument, was just outside the Heads. This still posed a problem to our ACCORDIAN man as he couldn't see the Brow to observe who was coming aboard, what with the Security people popping up at times which seemed

(to him at least) like every time he was on Duty, specially when he was squeezing the box the loudest & hardest and couldn't hear the phone ring to warn him. So, genius that he was (although some would question that), he rigged up a warning system. It was a simple device really, a battery from a Battle Lamp, a length of conduit, a trip wire leading up to a light bulb at where he was transported to ecstasy doing his music thing, and it worked rather well. Right up that is, till the weather improved to the point where all the watertight doors, hatches and portholes were left open to catch a breeze and blow out the stale air hanging about from unwashed bodies and Ace's Engine Room boots - not to mention the odour from the Ships Galley. However, this also let the sound of a Souza March, played with gusto, penetrate the For'd Mess whose occupants didn't like being aroused in the early hours of the morning by the noise and the thump-thump of boots on the steel deck in cadence to the war cry. It irked this young lad of mine so much that he vowed it would be the last time, specially since the day before he had celebrated his birthday, with the boys in the Mess being quite generous with their sippers of Tots, and besides, he had one great big hang-over. Inevitably, four more days passed and Duty was calling our impresario, who set up his folding chair, rigged up his early warning system and commenced to entertain. Meanwhile the young lad was in the Guard Shack killing time with the Commissionaires at the Main Gate (there was only one) and waited for a lull in the music. He knew the player would treat himself eventually to a hot cup of tea after which the noise would resume, and when it did, he strolled out and tripped the wire. It is to be noted that my young lad was on a Trade Group Course, of which one part was Photography, and an abundance of #5 flashbulbs were available, incidently being the same size as the one in the warning device cooked up by the player. Boring a hole through trial and error and pouring the contents of a Thunderflash (aluminum powder) in the bulb and sealing it (a bit tricky), it became a passable substitute for the warning light. When the current ignited the flash filaments there was enough zap to encourage the powder to rapidly expand to the point it went BOOM, giving off a dazzling glare along with a heck of a loud noise, luckily vaporizing the thin glass of the bulb. The first reaction of our player was lashing his legs straight out, kicking his cup of hot tea into the air, where it turned a couple of times with out spilling a drop and landing between his legs, tipping over and scalding the family jools. Next he tried to stand up too quickly with his accordin in his lap, where it continued on until stopped by the deckhead, at which time it came back down to further throw him off balance so that he ended up laying spread-eagled on top of his prize squeezebox, bewildered and dazed. Oddly enough, the instrument only had a few superficial scratches, while the player wasn't called upon for the next few weeks to do diving duties as he complained of sore 'chestnuts', and walked a little like an Austrian cowboy. And, oh yes, the strains of the Skaters Waltz were never heard again!

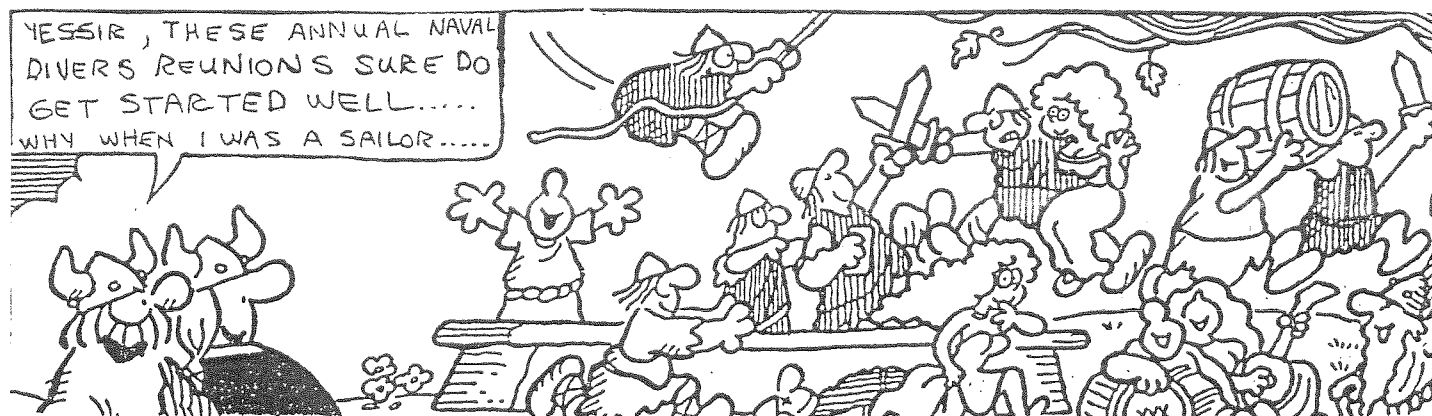
THE END

THANK YOU FOR READING MY STORY ABOUT DIVING TENDER NUMBER SEVEN - AUTHOR

EDITORS NOTE:-We certainly do owe our gratitude to the Author of these stories of historical interest. They remind us all about the so-called "GOOD OLD DAYS", and of those intimately involved in them, who will definitely remember all the others who were part of our diving history in the Royal Canadian Navy.

CNDA REUNION

A firm date has not yet been finalized, however we have been given to understand it will be held in Victoria, British Columbia approximately the middle weekend in September 2000, hosted by the Pacific Chapter. This will allow those people wishing to attend, some idea of making long range plans. When more details are forthcoming, we will publish it in the DIGEST.



MEMBERSHIP RENEWAL

For all those whose membership is about to expire as of 31 Dec 99, we have enclosed a Membership Renewal Form which we urge you to complete and return with your cheque to the Chapter you wish to be a member of. Others who are paid up for the year 2000, or beyond, will not receive a Renewal Form until September of the year it expires. Please renew right away so you wont forget-Thanks.

HERE AND THERE

John & Patricia Cole spent a couple of weeks in the Halifax/Dartmouth area and dropped in to see Bob Coren at his home in Fredericton, N.B. Bob is keeping hale and hearty by utilizing the local golf course and appears to be ageless. John also visited Gerry Mailloux when passing North River N.S. Gerry is still operating a B&B place and a stained glass business while conducting Security Seminars extensively across the country. Talk about a busy guy - he now has a franchise for Bio-degradable Disposal Bags - one of these days he will slow down and retire completely!! John also took a drive out past SHEARWATER to Lands End and Cow Bay to see if they have changed at all. He met up with Glen Frauzel who now has a Fishing Licence for his boat and is no longer in the berry farm business. He hears that Dougie Hughes is suffering from arthritis and Dan McLeod is still hurting with hip problems. Captain Rick Bowers will be returning from his position as the Canadian Defence Liaison Officer in Washington, D.C. USA to retire in July to Sidney, Nova Scotia possibly to operate a Bed & Breakfast there.

Medals for two heroes

THE PROVINCE Victoria B.C.

Friday, February 19, 1999

Navy divers removed explosive chemical from Terrace hospital

By Steve Berry
Staff Reporter

Here's the scenario: Eight litres of a highly explosive, unstable chemical sit in a Terrace hospital laboratory, next to the operating room and just below the intensive-care unit.

A snowstorm is howling outside, and it's too cold to evacuate the hospital.

The chemical's manufacturer washes its hands of the problem, and the Mounties aren't equipped to deal with it.

Who you gonna call?

The Canadian navy, of course, in the persons of Petty Officer First Class Ron McMillan and Lt. Andy Walsh at the Fleet Diving Unit in Colwood.

Why them? Because these guys are nuts enough to volunteer for the bomb-disposal unit. And this night, Dec. 8, 1995, is their night.

"It was cold as hell and blowing hard," Walsh, 41, recalled yesterday. The team had studied up on the chemical, pecric acid, and found it to be nasty in the extreme.

"In its liquid state it's fine," said Walsh. "But when it crystallizes, it's explosive. If it happens to crystallize on metal, it's more sensitive than the explosive they use in detonators."

Walsh and McMillan, 44, struggled into bomb suits and approached the lab.

What they found was enough to shake them.

"The containers were stuck to a metal tray. And the metal tray was



Peter Blashill — for The Province

Lt. Andrew Walsh of the Fleet Diving Unit at CFB Esquimalt is to receive a medal for bravery.

stuck to the wooden shelf underneath it, all with these crystals all over it. It was as unstable as you can make it."

They knew that if it exploded, the shock wave would surely kill people. With no bomb-disposal trucks or much of anything else of help on site, the pair filled a dump truck with sand, "so if the thing did blow when we were transporting it, the general public would have been safe."

They "gently" got the containers loose from the tray and carried them out to the truck. Then

they "gently" took out the trays and the wooden shelf.

And they "gently" drove that truck out to the airport area where there was an open field.

As Walsh was carrying a container from the truck his vision was obscured by the driving snow and his foot went into a ditch, pitching him down about a metre, but he managed to keep his feet.

"I probably went through about 2,000 heartbeats in that time."

There was no cover, so they crawled under the truck before detonating the chemicals.

And yes, they had a beer or two afterward. "It was quite a night, altogether," said Walsh. "Those are the times when you sit down quietly and look at each other."

Walsh and McMillan — who was in Quebec yesterday diving under ice — will receive the Military Meritorious Service Medal this fall for their efforts.

They "placed their lives at grave risk to ensure the safety of patients who could not be moved," reads their citation. "Their actions clearly exceeded the normal call of duty."

OBITUARY

Friends mourn 'Frogman of Burma'

THE OTTAWA CITIZEN JANUARY 19, 1999

Another old soldier quietly faded away on the weekend. The funeral of Harry Avery, 81, is at St. Bartholomew's Anglican Church at 11 a.m. today.

His war story was the stuff of legends. He was awarded a Military Cross by the British: the second highest honour England gives to members of its land forces. Avery was an airman, and the award was for his service on and under water.

In this column in 1995, his story was unravelled. He was serving at a radar base in England during the Second World War when he heard the British were looking for swimmers for a special secret assignment. A powerful swimmer from his childhood at the family cottage at MacLaren's Landing on the Ottawa River, and a member of Lisgar Collegiate's swim team, he signed up. He had no idea what he was getting into, but he figured if it involved swimming, it had to be good.

He became one of dozens of men trained in California to use surfboards



Dave Brown
Brown's Beat

to cross water at night, and infiltrate, ninja style. In February 1945, the training was put to work, and Mr. Avery was sent across the Irrawaddy River. It was about three kilometres wide at that point, and flowed through the heart of what was then

Burma, now called Myanmar.

He would make eight crossings, and skulk about in the dark looking for landing sites that could support tanks. After the amphibious assault by the Second British Division, he had to make several crossings under fire. Radio communications had been knocked out and he became a messenger.

When we talked in 1995, those under-fire crossings were still much on his mind. "The trick was to put on a pair of swim fins, dive in and swim as far as you could underwater. Then surface for a quick gulp of air and get back down again. You just kept that up until you got out of range."

His was one of those hush-hush assignments. It wasn't until December

1948 that the British army opened its files on the contributions to its army made by a Canadian flight lieutenant who was something of a sailor.

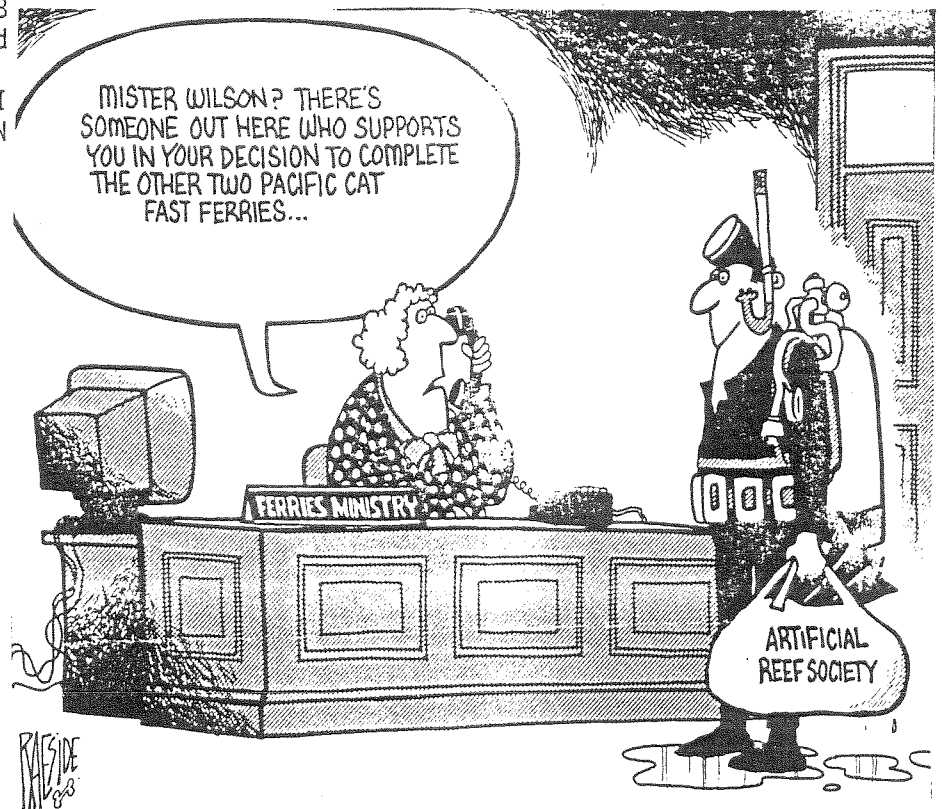
His story was picked up by a U.S. magazine in the 1960s, and he became known as the "Frogman of Burma."

He didn't think of his war service as heroic. His idea of a real hero was an unknown soldier of the Cameron Highlanders. While skulking through the dark jungle one night, he found the wounded Englishman crawling back toward the river. He had lost a foot. He refused an offer of help. Help somebody that needs it, he said. Mr. Avery affected an English accent when he quoted the man. "I can still crawl."

EDWARDS, Oliver M. "Twisty"

Following a short illness, at Perth, on Sunday, March 7th, 1999. Oliver M. Edwards "Twisty" Edwards (veteran of WWII, served as a diver in the Royal Canadian Navy and subsequently on the Welland Canal). Cherished husband of Clara L. (Purdon) Edwards. Loved father of Sandy (Glenn) Moodie of R.R. #3, Perth. Sadly missed by his grandsons Scott and Tyler Moodie, granddaughter Marnie Poole and sisters Dyllis Williams of Auckland, New Zealand and Mary Jones of Cardiff, Wales. Friends may call at the Blair & Son Funeral Home, Perth, Tuesday, March 9th from 10 a.m. until service in the chapel at 11 a.m. A reception will follow at the Royal Canadian Legion, Perth. In remembrance, contributions to the Poppy Fund of the Royal Canadian Legion, Branch 244 Perth would be appreciated. A Royal Canadian Legion Service of Remembrance will be held Monday at 7 p.m.

Our good friend Frank Hershner has passed away at age 76 at his home in Lakeland, Florida on 6 Jun 99 from cancer. Frank was one of those trained by the USN at Pier 88 in New York City in August 1943 and served in his diving capacity in many parts of the world during WWII. He was a longtime member of the USN Salvage Divers Reunited, joining our Association in 1993 in the Ottawa Chapter. In his later life he was a Real Estate Broker and Notary Public in the State of New York prior to retiring to Florida. We extend our sympathy to his wife and family. Good friends are always remembered.



BEN ACKERMAN

Ben says his cap is of to those people whose initiative got this Divers Association going, which is certainly most appropriate for all those Divers looking for a group to become part of. He goes on to provide some unique historical data as to how the Diving Branch evolved after WWII. He comes from Peterborough originally, and joined the RCN as an Ordinary Seaman Telegraphist at Toronto in 1940, being Commissioned thereafter in 1944. His diving qualification was attained in May 1951 and he retired from the Navy in August 1965 with the rank of LCDR.

The Canadian Navy Divers are an unique group in all the world of diving! The RCN was the first and only Navy in the whole world, and perhaps still is, to train and employ full time Divers in a Branch of their own. Just in case some of the more recent Divers in the Branch are unfamiliar with our history, I would like to inform them as to how it all came about.

In the beginning (well after Adam & Eve) the RCN had only one type of Diver, the old standard hardhat. An underwater mechanic is perhaps the best way to describe him, Bagsy Baker men. Very competent at their tasks but restricted in mobility and therefore the number of tasks they could undertake. These were the part time Divers; after a period of a year or two, most went back to their original Branch and Trade, but authorized to wear a Divers Badge on their sleeve.

As a result of Allied experience during WWII, it was appreciated that the RCN had no countermeasure for many of the new more sophisticated types of mines. This included the nasty limpet mine. We required Swim Divers, and they must be trained for mine disposal. Since the Germans had introduced bomb/mines it was necessary to include bombs in disposal training. So started the Underwater Swimming Unit; ask Colin Drew, an original from the Ordnance Branch, who took this training.

After a brief period on our own, I was summoned to Ottawa by the late George Cook to discuss the creation of a new Branch which was to incorporate the old Standard Divers and the new Swimmers. In order to sell the idea of creating a Branch of our own, we had a lot of work to do. We had to create four Trade Groups on paper, which meant it was necessary to show that the degree of knowledge and experience needed for each Trade Group could be equated to an existing Branch. We chose the Engine Room Branch as a model. There was much discussion and changes before it became law and recruiting could begin.

Naval Headquarters never did want to admit that such things as mines existed, but they were afraid to deny it. Finally, under pressure from our NATO allies, a decision was made that we should recruit four teams of 10 men each to be trained as Mine Countermeasures Divers. Within an hour of getting the official message approving this, I was in Dockyard trying to convince the Chief of Staff to approve a message to the Fleet asking for volunteers. We took it that the Admiral seemed reluctant in this matter, but after a short delay, and messages back and forth with NDHQ, the message went out. Since I was wearing three hats, I got some flack from our training establishment, HMCS NADEN, for not consulting them. Since our Branch came into being, we had been transferred from the Ordnance Branch and the Seaman Branch in the case of the Standard Divers, and now came under the TAS Branch for training only. Now the waters get very muddy, but having had some training in the Potomac River I was used to that! My three hats - OIC Diving Training and for administration under Naden, Officer Commanding Operational Clearance Diving Unit #2, and lastly but not least as Staff Officer Diving on the Staff of FOPC - got me out from the authority of Naden & the TAS School, and later the new Training Commander who truly wanted full control. Trouble was everyone I had to deal with outranked me, so you can see that I had to be quite diplomatic. After recruiting most of one Mine Countermeasures Diving Team, NDHQ got cold feet and cancelled authority for a second West Coast Team.

I learned that the East Coast were slow off the mark and did not even get a start on one team before this change in NDHQ's priorities occurred. They finally did get started. One very memorable day I visited the Standard Diving Unit at Naden to inform them that we, the Underwater Swimmers, were taking them over and they either had to "Sink or Swim". If they wished to carry on diving they had to put on flippers. Harry Myers was O.I.C. there and I think Chief Wigmore was also there, but I'm not certain now. Anyway, all seemed unconvinced. We had had a brief tiff when one day I was asked if our men could inspect the cathodic protection on a DE, then in a major refit. It seems the hardhatters had been asked, as was appropriate, but said they could only do one side, then the ship would have to be turned around. She was berthed at Yarrow's with 50 thousand lines aboard and the loss of time would be unacceptable - of course the pump-suit Diver could not go under the keel pulling his lifeline behind. We did the job in a forenoon and won the praise of all - except the old originals. I believe I was a successful salesman because we got most of them, and thank God for that; they, plus the original Ordnance Chiefs, were the backbone of a very new and challenging endeavour!

At a Tripartite Conference in 1954 I learned just how truly unique we really were. While meeting

with the Brits and our USN friends, we learned for sure that we had the best trained, most flexible Divers within NATO. All because we were too small a Navy to have EODs(Explosive Ordnance Disposal) UDTs(Underwater Demolition Teams), Beach Clearance & Attack Swimmers and the Standard Divers! However we were capable in all these roles and, since we had cross responsibilities, we could use swim equipment to do ship repair work when most appropriate. Later, both the RN & USN copied us!! We pioneered in changing sonar domes and screws while afloat, saving the drydocking costs and developing a most valuable capability to have in wartime. The opportunity to be inovative had never been better! When you are first, you don't have to deal with those people who hate change. I remember trying to rid us of the need for Dockyard Maties - those guys who had been known to light up and forget the stage they were supposed to be handling. You know the story of the hardhat Diver who was squeezed into his helmet when someone let the stage drop him to the seabed. I had designed a flotation stage that I hoped the Swimmers could operate without lines to the surface for control. The prototype was a flop - it went to the bottom with the dome!

While on innovation, I must mention Leading Seaman Nearing and his hot water suit. It worked well and was a pioneering event. Hot water suits are quite popular today with Commercial Divers. Then there was DERK - meaning Dome Emergency Repair Kit. This was a bandaid approach to making a dome useable after being damaged at sea without the ship having to return to base. I had reason to believe this was needed because of my experience when we hit a submerged log during WWII as ASCO in HMCS SHEDIAC. This meant we were no longer of any use as an Anti Sub weapon, but we had to make a long trip home without "ears". The prototype DERK was also a failure and I didn't stay around long enough to find out if there ever was a Mk 11 model, and if it was a success. Since all our DEs now had trained Swim Divers, it seemed to make a lot of sense to give them a bigger purpose if possible.

After we lost Frank Bayfield-Davis while using the CDBA, I felt it necessary to develop an acoustically/magnetically safe SCUBA gear for mine countermeasures, leaving the O₂ gear to the daredevil Attack Swimmers. Francois Vellerem, Managing Director of US Divers, transmitted my idea to Cousteau who supplied me with 6 aluminum tanks and, as some will remember, I tried to create a silencer for the Aqua Lung Regulator, I think with some success. I believe work on this project stopped when I retired. Incidentally, when I visited Francois in Santa Anna, California, I told him about our first dive with Aqua Lung, and he said then that I was the first person in North America to make an Aqua Lung dive. I don't know if this is true - remembering that he was a salesman and I an important buyer; but I will claim the fame till someone proves me wrong. Also at the same time we unpacked the first Aqua Lung, which was Cousteau's infamous Constant Volume suit, and I had the misfortune to be one of the first to try it out - it was porous after very few dives but, on the first dive it proved to have another and more dangerous flaw, the air escape valves seized up if your ascent was too fast - then it became very fast indeed! In fact, I only held on to my hat with my teeth, which fortunately were all mine. These suits were made with WWII balloon silk, or whatever the barrage balloons were made of. Later, rubber suits with better valves were produced by Cousteau, which were the most satisfactory dry suits that I have ever worn. I will never know why our next dry swim suit was obtained from Pirreli, it was well made but not rugged enough, particularly for mucking as we did in the Arctic. The Brit's Dunlop suit was OK, it certainly was rugged, but was not a constant volume suit. On ascent, we had to open our cuffs and let air out through the face opening. I think our complaints about the Cousteau air release valves influenced Headquarters decision, I just don't remember for sure.

Going back to the balloon material suits that leaked after a few dives, I went to NRE at Dartmouth, N.S. to ask for help in making the material waterproof. A Dr. Rogers, a very scientific looking gentleman with a beard, produced an NRE treated suit and asked for our cooperation to test it in the Stadacona swimming pool. Three of us turned up and he said that won't do, we need enough men to submerge an inflated suit completely so he could inspect for bubbles! I pointed out that there were not enough Divers in the whole world to do that - he seemed unconvinced until we tried.

I started out to just thank you for your thoughtfulness in sending me news of the CNDA, but after reading it, I became submerged in memories. I am sure there is not a Navy Diver alive who does not have good stories to tell, all true of course! Honestly though, the truth is many times stranger than fiction when it comes to diving in many cases.

The NOAC have been collecting stories from their members and publishing them. They are "Salty Dips" and are about to go to press. I think the Divers Association should consider doing the same, calling them "Sub-Salty Dips". I liked the shark attack story by Stan Stephenson, I believe it to be the only one involving RCN Divers - and it is particularly strange that it should happen in Canadian waters. Sure would like to know where my old time friends are located. I'm in good spirits, hale & hearty as ever, living at RR4, Picton, Ont. KOK 2T0 Phone(613)476-2073. Cheers to all of you.

Clearance Diving

- - A New Career

BEFORE seriously considering entry into the new Clearance Diving Branch, a candidate must ask himself a number of soul-searching questions:—

Am I prepared to enter and master an entirely new world where new dangers lurk, which in most cases must be faced alone and often in murky blackness?

Having faced and learned to avoid the dangers of "bends", oxygen and nitrogen narcosis, air-embolism, asphyxiation, "squeeze" and a dozen others, am I capable of mastering all the many skills required of a clearance diver?

Am I prepared to apply these newly acquired skills in the performance of clearance diving duties, whether in connection with underwater inspection, maintenance, repairs and salvage, or demolitions, countermining, render-safe and disposal of explosive devices of either "friendly" or enemy origin?

The RCN Clearance Diving Branch embraces the functions of the standard divers, the "port party" divers of the Second World War, who were used to clear "unsweepable" mines and sabotage devices from harbours vacated by the enemy, and the bomb and mine disposal squads who dealt with unexploded bombs, projectiles, parachute mines, etc., ashore.

After a moment's consideration of the hazards and skills involved, it is not difficult to understand why the clearance diver stands second on the list of those eligible for Trade Group Four.

However, the new rate of clearance diver was not simply "created" and vested with these new responsibilities, but is the result of five years of planting, growth, pruning, grafting and even cross pollination. In fact, behind the recent decision by Naval Board to establish a Clearance Diving Branch lies a story of discouragements, delays and frustrations which threatened to destroy the seed entirely.

It all began in March 1949 when the need for a Mine Disposal Organization was recognized. At first it was considered that this requirement could be met by a few officers trained in self-contained diving and the mine render-safe techniques used in the Second World War.

Lt.-Cdr. (P) H. J. G. Bird and War-rant Engineer (now Ord. Licut.) E. D. Thompson, were the first to volunteer

and were sent to qualify with the Royal Navy as instructors. On their return an Underwater Training Unit was established in HMCS Stadacona and the first RCN(R) Officers and UNTD Cadets were accepted for training.

With the clear definition of naval responsibilities for bomb and mine disposal, however, the concept of the organization broadened to embrace mine searching and surface weapon disposal techniques and it became apparent that training should be extended to include men. This requirement was first met by the armourers as the Ordnance Branch had accepted the responsibility for sponsoring and co-ordinating the organization.

Several Reserve officers with wartime experience in diving, bomb and mine disposal, DEMS, combined operations and even X-craft were attracted into the organization on short service appointments. Of these, some have since transferred to the regular force and most are still serving.

Until more comprehensive training could be undertaken in the RCN, officers and men were trained as instructors in the United States Navy. Meanwhile, all manner of instructional aids in the form of mines, bombs, rockets, projectiles and torpedoes were ordered as well as the most advanced types of self-contained diving equipment. The Dominion Rubber Company started development of a Canadian prototype underwater swim suit embodying the best features of the British, French and American suits which had been used to date. Approval was granted to build suitable vessels for clearance diving training and operations, and a second underwater training unit was established in HMCS Naden.

This unit matured rapidly under the guidance of Ord. Lt.-Cdr. E. L. Borra-daile, who was later involved in a fatal accident while dealing with a Japanese mine washed ashore on the West Coast.

From this time on, delays and dis-appointments became numberless, and strikes, manufacturing difficulties and procurement red tape seemed endless.

During this difficult period when stocks of diving equipment were rapidly becoming unserviceable a "dry" dive became the exception to the rule and it soon reached the point where a dry diver was openly suspected of nursing his dive and was regarded as slightly soft (though secretly envied).



In spite of the many shortcomings of the equipment, many highly successful operations were carried out including the salvage of several crashed aircraft. Both officers and men were keen and were learning quickly, although the physical conditioning required for underwater swimming was not easily achieved. There is, in fact, a case on record of a swimmer who, after a half hour's strenuous work on the bottom, surfaced, climbed the ladder half way and paused for a much needed rest. His "tender"—a particularly conscientious type—sensing distress, unsheathed his sharp knife, slashed at the harness of the breathing set and then at the "frog-man" suit in his efforts to free the diver. The latter recovered quickly from his diving exertions but required two stitches in his back as a result of the over zealous attentions of his tender.

By 1952 it became obvious that duplication existed between the Underwater training units and the standard diving schools and, as a result of a survey of all diving requirements in the Navy, it was decided in August of that year to establish a Diving and Explosive Disposal School and Training Centre which would be responsible for all training and peacetime operations in these fields.

Bringing the two organizations together effected economies in equipment, facilities, time and instructional personnel. It also emphasized the similarity and weaknesses of both. Chief among these weaknesses was the inability of either to offer its men the firm foundation of a rank structure with career prospects comparable to other trades in the Navy. At this point, moreover, it became difficult to reconcile the technical with the operational aspects.

Finally, after two years in which countless proposals and counter-proposals were sifted and considered, the best solution appeared to be further amalgamation of the two functions of standard diving and explosive disposal into one branch for men, and, because it seemed desirable to integrate this with other aspects of mine counter-measures, the organization was transferred to the Executive Branch.

And so in February, 1954, the Clearance Diving Branch was born. Following this new birth will surely come the usual teething troubles, the childhood and adolescent growing-pains leading to maturity. However, the foundation has been laid for a workable organization and the status of diver has been raised from a secondary to a primary qualification.

Standard divers who elect to transfer to this new branch will only be required to undergo conversion courses in explosive disposal techniques to fully qualify. These men have already proven their aptitude and physical fitness for diving and their psychological fitness to deal with explosives. However, the new candidates, who will come largely from HMCS Cornwallis must undergo a thorough screening.

First must come a recommendation from their commanding officer vouching for their reliability, intelligence and common sense. Then a special medical examination, followed by a "dry dive" in the re-compression chamber to a simulated depth of 100 feet of water.

In the chamber the candidate is taught to equalize pressure on the eardrums by clearing the eustachian tubes, to relax and breathe deeply—so necessary in diving. He is carefully watched for symptoms of nervousness, excitability and claustrophobia. The greatest number of failures show up in this test—most through inability to "clear" their ears, some through claustrophobia, etc.

Not all those who successfully pass the pressure test will become clearance divers, however, for next comes a screening to determine a candidate's psychological suitability to meet the exacting and hazardous tasks ahead. In this the candidate is subjected to a series of questions to obtain his reactions to certain conditions and his ability to think his way out of difficult situations.

Most of the questions asked are of a serious nature. Occasionally, however, Lt.-Cdr. J. C. Ruse, officer-in-charge of the Diving and Explosive Disposal School, will strike a lighter vein by telling the time-honoured procedure for divers to adopt when confronted by an octopus. It goes something like this:

"When a diver is interfered with by an octopus in the course of his diving duties, he shall immediately tuck his bare hands under his armpits to prevent the octopus from seeing or feeling bare flesh. If it attacks, the diver shall remain motionless until completely embraced by the tentacles. He shall then endeavour to free one hand sufficiently to tickle the octopus under an armpit, which has the desired effect of throwing it into convulsions allowing the diver to escape."

Any candidate who can take a detached and coldly realistic view of this and asks—"Sir, how can you be sure it is an armpit and not a legpit?" is assured of a passing mark.

After passing all the above tests, the "candidate" becomes a "trainee" and commences actual diving. Failures occur at this stage, too, for initial training is in reality a further screening. Men who show no signs of claustrophobia in the chamber occasionally revolt at being sealed into a diving suit. Others can't stand the feeling of being on the end of a rope so far from home and completely dependent on the attendant on the surface (as is the case of the fully-weighted diver). Still others do not possess the mechanical aptitude necessary to work with divers' tools,

while some show nervousness when dealing with explosives. Occasionally a man will show the symptoms of low oxygen tolerance, which means that it is unsafe for him to use oxygen either in a breathing apparatus or during decompression in a deep-sea suit.

The method employed to determine a diver's tolerance to oxygen in the early days of the Second World War, when little was known of the subject, was to lower him on a lifeline while breathing oxygen from a self-contained breathing set, and increase the depth until a jerking on the line indicated that the subject has gone into oxygen convulsions. This method gave the desired information with no ill effects to the diver other than the loss of dignity. However, it was never looked forward to as an exhilarating experience and was later superseded by other more scientific methods. Today an encephalograph will tell the story with no loss of dignity.

Little by little, confidence will grow as ability increases. The ever-present risks and responsibilities are shared equally by diver and attendant, for, just as carelessness on the part of the attendant can endanger the life of the diver, so can the diver endanger those above him by an incautious move when dealing with explosives. For this reason divers' attendants—or "tenders" as they are called—are always qualified divers themselves.

Soon the clearance diver will learn that he is a member of a highly trained team, each dependent on the efficiency and co-operation of the other members for his life. From this sense of responsibility and inter-dependence, and the knowledge that one is of the half who made the grade, comes that priceless asset in any team—esprit de corps.

The clearance diving organization will be established as a small peacetime nucleus geared to expand efficiently in time of emergency. Its versatility and mobility will permit employment with minimum delay in any or all of the fields for which it is responsible.

Should war *never* come, the clearance diver will be fully employed in carrying out the diving duties relative to salvage, inspection, maintenance and repairs to ships' hulls, jetties and sea walls, and the laying of moorings, etc. He will also deal with the mines or other explosive weapons which are washed ashore. He will undertake the necessary underwater demolition jobs. He will occasionally be called on to recover a practice mine or a depth charge.

Surely such an organization can be likened to an insurance policy which, throughout its life, pays its own premiums!—G.C.

About the Author

A yacht designer at Lakesfield, Ont., Lt.-Cdr. George Douglas Cook, 41, joined the RCNVR in 1940 as an acting lieutenant and spent the next five years with the Royal Navy on bomb and mine disposal work.

He was awarded the George Medal in 1941 for a five-day ordeal in dismantling a German parachute mine at Suez single-handed. Early in 1942 he earned the Bar to the GM for similar work on a highly-sensitive "G" mine at Haifa. He had to clear the area of 14,000 people, sandbag the mine site and work in a tent for three and a half hours, much of it in total darkness.

Confirmed in the rank of lieutenant-commander in 1945, he was mentioned in despatches later that year for "outstanding service and devotion to duty".

Demobilized at York in January, 1946, he returned to Lakesfield until April 1951 when he embarked on a short service appointment, to serve on the staff of the Director-General of Naval Ordnance, broken by a course with the U.S. Navy.

He transferred to the Ordnance Branch in February, 1952, but early this year reverted to executive rank as have all clearance divers and was attached to the directorate of TAS and Mine Warfare. He was also granted a permanent commission. In May Lt.-Cdr. Cook began a Junior Officers' Technical and Leadership Course at Stadacona.