THE FACEPLATE

DEEP SEA DIVING SCHOOL
EXPERIMENTAL DIVING UNIT

WASHINGTON D. C. 20390

Vol. I Number 1 May 1965

DIVING OPERATIONS ROWLAND CAVE, ARKANSAS

LT A. P. FESTAG, USN

At approximately 0130 5 April 1965, three Navy Divers from the Deep Sea Diving School, Washington, D.C. responded to a call for volunteers to participate in the rescue of four men trapped by rising water in a cave in Arkansas. LT A.P. FESTAG, L.E. THOMAS, DCC, Master Diver and T.A. JENKINS, GMG1, Diver First Class departed Andrews Air Force Base in an Air Force jet along with five members of the National Capitol Rescue Team and were flown to the Little Rock Air Force Base at Jacksonville Ark. Helicopters were standing by but could not be used because of heavy ground fog. Personnel and equipment were loaded into six Arkansas State Police vehicles and proceeded to Rowland Cave, near the town of Fifty Six, Arkansas, a trip of about 130 miles. Upon arrival at the cave they were met my Mr Stewart Prosser, Arkansas State Civil Defense Director, several members of his staff, and the usual multitude of sightseers. During the briefing Mr. James Springer and Mr. Thomas Kleles, two professional civilian divers employed by Gulf Coast Diving Co. joined the group. These two men were on vacation and were passing through the area, heard of the situation and came to the scene to volunteer their services.

At the scene the situation was as follows:

1. Four men trapped in the cave for over 24 hours.
2. The water was rising at a rate of about two inches per hour. Depth at this time was about 18 feet.
3. One of the men was diabetic and the status of his supply of medicine was unknown.
4. At about 0800 an SOS signal was received from the trapped men over the cave's installed lighting system which was still working dispite being underwater.
5. Weather predictions were for thunder storms and heavy rain starting that afternoon to continue for at least a day and a half.
6. Air temperature in the cave entrance was 50° F and water temperature 54° F.
7. Underwater visibility was two feet to zero caused by suspended silt particles.
8. Three row boats were in the water in the cave entrance.
9. There were two known high levels in the cave, one was about 300 feet from the closest point of approach and the other about 900 feet. The lighting system ran thru the first level and terminated at the second.

The boats were loaded and the party rowed back into the cave as far as possible, approximately 300 feet. At 0930 the first set of divers, LT FESTAG, SPRINGER and HOOVER (A member of the National Capitol Rescue Squad) attempted to carry a safety line, telephone wire and telephone to the first high area. A 20 foot section of an old wooden handrail broke loose and fouled the divers who returned to the surface. A second dive was made and a descending line secured to a wooden walkway on the bottom. On the third dive SPRINGER and LT FESTAG took the safety line and using a bight of the line with SPRINGER tending LT

Thomas Jenkins GM1 DV escorted four men out of Arkansas Cave.

FESTAG worked the line in about halfway and secured it. On the fourth dive with KLELES tending and JENKINS swimming, JENKINS reached the first high area and made contact with the trapped men. JENKINS instructed the men to make the safety line fast, stressing that this was their contact with the outside. None of the trapped men were in distress and the diabetic had a good supply of medicine.

JENKINS and KLELES returned to the boat using the safety line. On the way back KLELES experienced regulator trouble and became fouled in the safety line. JENKINS assisted in cleaning him and both divers returned to the boat safely. SPRINGER and LT FESTAG, swimming the safety line, brought sandwiches in to the trapped men. The men were informed of the predicted storm and rising water and told that the only way to get them out would be through the use of SCUBA. They were agreeable to this and were then told that the divers were getting low on air and the SCUBA bottles would have to be re-charged requiring several hours.

At 1130 SPRINGER and LT FESTAG returned to the boats and the group returned to the cave entrance where arrangements had been made to get more air.

The group was back in the cave and rescue operations were resumed at 1345. The first set of divers, JENKINS and THOMAS, carrying single bottle SCUBA rig, Facemask, weight belt and wet suit top went into the water. They reached the trapped men and dressed one for the first rescue. JENKINS and THOMAS instructed the man in the use of scuba stressing continuous normal breathing particularly during the ascent. In the event his facemask was knocked off the man was instructed to ignore

it because it was just a luxury and not a vital piece of diving equipment. The plan was for JENKINS to enter the water first, the escapee to take hold of JENKINS' flipper and JENKINS would pull them both along the safety line. Chief THOMAS would follow behind with an underwater flash light to render assistance if required. All three men were snapped into the safety line. Everything went according to plan on the first run and this procedure was used to bring out the remaining three men. At 1430 the first trapped man was brought to the surface, put into a boat and taken to the cave entrance. THOMAS and JENKINS went back to the trapped men and brought out another one.

After this dive Chief THOMAS came out of the water and returned to the cave entrance. SPRINGER went in as JENKINS partner and they brought out the third man. The fourth man was brought out by KLELES and JENKINS.

At this point all hands participating in the rescue were pretty tired but in very high spirits. It is not often that this type of operation does not end with some casualty either to the trapped men or the persons attempting the rescue.

As the boat with the fourth man landed at the cave entrance Chief THOMAS was waiting to assist the men ashore. It was at this time that tragedy struck and Chief THOMAS collapsed, the victim of a heart attack. Mouth to mouth respiration was started immediatly. Dr. R. SLAUGHTER of Batesville, Ark. was at the scene and, with the assistance of three nurses and several people trained in first aid, administered oxygen, adrenilen and other stimulents, and external heart massage. After over two hours of fruitless effort Chief THOMAS was pronounced dead.

It was a somber group that returned to the Little Rock Air Force Base that night. Chief THOMAS' body was taken to the Little Rock Veteran's Hospital for autopsy. The National Capitol Rescue Squad people returned to Washington, D.C. that night. JENKINS left the following afternoon. LT FESTAG escorted the deceased back to Washington, D.C. on April Seventh. Chief THOMAS was buried in Arlington National Cemetary on April Ninth.

The autopsy bore out the initial diagnosis of heart failure.

This was a very successful operation although marred by the tragic death of Chief THOMAS.

THE FACEPLATE

Published quarterly as an unofficial publication. It is planned in the near future to have "The Faceplate" approved by SECNAV. This periodical is compiled and edited at the U.S. Naval Diving Center, Washington Navy Yard, Washington, D.C. The opinions expressed in this publication are those of the writers and do not necessarily reflect the offical policy of the U.S. Navy. The purpose of the Faceplate will be an exchange of information between all men who work under the sea.

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EDITORS COMMENTS

This issue of "FACEPLATE" goes to press with a minimum of articles from the fleet, primarly because we just didn't hear from the good old 'operating' forces. Keeping in mind that this "unofficial" news media "FACEPLATE" is for all the diving stations, ships and diving personnel throughout the Navy is not "ours" here at theschool and unit but primarily "yours" in the fleet, it would seem we would be swamped with articles, facts and figures from all of you on the various and interesting diving operations, experiments and Salvage jobs from which we would all benefit. Exchanges of views, procedures and techniques in the fleet is a prerequesite for a diving salvage unit which can be prepared to undertake any job in salvage, deep sea or shallow-water work with a minimum or research and subsequent loss of time.

I am sure you "Old Masters' at this Salvage "know-how" can impart a great deal of knowledge to us, a line here at the school on your many interesting salvage operations, techniques and procedures which you have "proved" in the field. We hope to have the "FACEPLATE" printed and as such,we will be able to illustrate your articles with any associated pictures which you may include with your articles.

THOUGHTS & COMMENTS OF OINC

CDR C. H. HEDGEPETH, USN

I have high hopes that with this issue of FACEPLATE we have initiated new era in communications among the Men-in-the-Sea regardless of organization, qualifications, personal attachments etc. Each organization performs at most important function in the many highly specilized areas and while each of us is justifibly proud of the organization to which attached we should not be blinded by these present attachments. It behoves each of us to not only be aware of the total navy capability in the sea but to learn as much as possible about the problems encountered and techniques used to accomplish the mission.

The FACEPLATE is your publication and should serve two purposes. (1) Informal and unofficial exchange of unclassified professional information and (2) Exchange of personal news.

We need your help in the way of contributions written and photographic, professional and personal, Help us and help yourselves by sharing your experiences with others.

FROM THE MEDICAL DEPARTMENT

LCDR BOB BORNMANN, MC, USN

In the January issue of FACEPLATE, I made a plea that hospital corpsmen working in a chamber facility review the Health Record of diving candidates when they show up to take a pressure test. A good example of the failure to do just this showed up in March at the Diving School. This young lad knew that he was color blind and there were two entries about the fact in his Health Record. But the examining medical officer missed the defect, and it was not picked up at the pressure test as it might have been. The result? The man is justifiably upset about a needless disruption of his home and the Navy wasted a tremendous amount of money shipping him, his household, and his dependents all the way from Hawaii.

The medical department also gets a bad reputation for allowing him to build up his hopes for Diving School and then abruptly dashing them to bitterness.

DIAGNOSTIC PROBLEM

A NAVMED 816 received from a West Coast diving activity recently related the case of a civilian SCUBA diver who was overtaken by severe pain very shortly after a relatively shallow dive. Although the examining medical officer felt this was probably not the result of decompression sickness, it was decided to give the patient a trial run of recompression therapy. During the Table 2A it became obvious what the problem really was and the doctor then was in the unenviable position of trying to treat a kidney stone case inside the chamber.

It is inevitable that such cases shall occur, and the Diving Manual states WHEN IN DOUBT, TREAT BY RECOMPRESSION. However, the naval medical officer should not feel obliged to rush into recompression therapy simply because a chamber is available and the patient has a pain. If the diagnosis is doubtful and the treatment is not of immediate emergency nature, the doctor should make sure that he has completed a history and physical adequate to rule out the other possible causes for the diver's proolem. In this case the urinalysis was done during treatment rather than before. Such preparation is necessary not only to distinguish between bends and other painful conditions, but also to learn if there is concurrent medical problem which may have to be treated at the same time.

EXPERIMENTAL DIVING UNIT ACCIDENT

LCDR R. PESCOTT, USN

The Experimental Diving Unit has been conducting a series of dives to obtain information decompression limits and an estimate of divers work endurance.

Such a dive was started at 0700 on 16 February 1965 with Frederick W. JACKSON, BM2(DV), USN, and John P. YOUMANS, EN1(DV), USN as subjects. This was a 250'/120 min. dive. The dive went well and at the end of two hours the divers were brought up in the igloo, took off the MK VI rig and were breathing a 20% 02 and 80% He mixture on masks. They were being brought up on a continuous rate of assent of 3 FPM changing to 1 FPM. Approximately 25 minutes after going on the masks the divers were transferred through the tunnel into the chamber, the atmosphere in the chamber was 35% he, 35% N2 and 30% 02. Twice 02 was added to the chamber atmosphere, once, 10 lbs, the next time 15 lbs. Approximately 2 hours and 40 minutes after the dive started and at a depth of 94 feet a fire occurred in the chamber. Both divers died within seconds. An attempt was made by GARRAHAN, MR1(DV), and TAYLOR, BM1(DV) to reach the chamber through the igloo. They did get the inner door from the tunnel open but clouds of smoke, black and choking, drove them back into the igloo, almost overcome by smoke they had the presence of mind to don breathing masks, GARRAHAN managed to get in the water in the tank, but TAYLOR's hose became fouled and he couldn't reach the water. The igloo was brought to the surface and Senior Chief WALLACE, the Master Diver entered the igloo to look for the two divers. He found TAYLOR, but GARRAHAN managed to crawl to the hatch and was assisted out. Both GARRAHAN and TAYLOR were put into number five chamber for treatment. Later that night they were transferred to Bethesda Naval Hospital for Treatment. Chief WALLACE went back into the igloo and attempted to get into the chamber but the air hose on his hask broke and he was forced back. At this time, the chamber had become very hot and it was decided to wait and cool the chamber down, before removing the bodies of YOUMANS and JACKSON.

The cause of the fire we believe was started by the CO2 scrubber that was installed in the chamber. This is not official as the investigation report with its conclusions has not been through the chain of command and published as of this writing.

Everyone at the unit felt the loss of the men in the tragedy, as they were close to all of us. Every precaution is always taken before each dive, equipment is tested the day before and also tested again the morning of the dive. This tragedy is one of those unforseen happenings that no one ever thinks will happen, but unfortunately in this case did.

Garrahan MR1, Wallace BMCS, and Taylor BM1, made heroic effort to save divers trapped in the chamber.

The safety record of the Unit will compare favorably with and probably better than that of civilian industry, this being only the second fatality in over 38 years of operation.

The chamber is now being renovated and will probably be ready to go in another two or three months. Many improvements are going to be installed and we intend to continue with the deep work on decompression tables and divers' work endurance t deep depths.

Our thanks to all the divers who contributed to the windows fund, this fund has reached $4,000. This money is now in the bank and will be given to both widows when all contributions are in.

INVESTIGATION BOARD FOR EXPERIMENTAL DIVING UNIT

LT E.V., DOWNEY, USN, DSDS

On Thursday February 18th, a board of three Navy Captains was ordered to investigate the flash fire that occurred at the U.S. Naval Experimental Diving Unit (EDU) here.

The Commandant of the Naval District Washington, Rear Admiral Andrew J. HILL directed Captain Douglas G. PHILLIPS, the Director of Machinery Division at the Bureau of Ships, Captain Richard R. WAITE, a Navy Doctor from New London, Connecticut, submarine base, and former senior medical officer at EDU, and Captain Edward R. GASKIN, submarine warfare officer in the Office of Naval Research to investigate the facts and circumstances surrounding the flash fire which took the lives of two Navy enlisted divers.

Frederick W. JACKSON, BM2 and John P. YOUMANS, EN1 were fatally burned on Tuesday February 16th when a flash fire occurred in the decompression chamber of a simulated deep sea diving tank at the EDU, Washington Navy Yard.

They inspected the decompression chamber--the sight of the flash fire--and all facilities that serviced it looking for any item that might present a hazard under pressure in an oxygen enriched atmosphere. In their search for source of ignition they had to keep in mind the unique conditions under which a diver must operate an area in which man has a limited amount of knowledge available at the present.

The board took sworn testimony from 15 people who were either present at the time fire occurred or in some way involved in the Unit's research program.

They utilized the testing facilities of the Naval Research Laboratory to test, inspect, and analyze any of the chamber components which could have contributed to the fire.

As the result of the board's preliminary findings the Commandant, Naval District Washington, D.C. sent a message on February 20th to submarine force commanders and others recommending that the air filter cartridge in the carbon dioxide cannister (Co2 Scrubbers) be suspended from use. The investigation indicated the possibility of impregnation of filter paper with an unknown hydrocarbon as the source of the fire. A substitute for paper cartridge filter can be made by forming wire frame and covering it with several thicknesses of clean gauze or cheesecloth.

Although the Navy has taken the lead in experimental undersea research, it is not the only group interest. The diving unit has received a steady stream of phone calls inquiring into the possible cause of the flash fire. There are nearly 50 similar diving chambers across the country. Nearby University of Maryland, for example, has a chamber used primarily in medical research.

The EDU is a pioneer in undersea research by virtue of its mission which is to do experimental work in connection with diving and related matters and to develop safe methods and procedures for undersea use.

Their's is the proving ground for the Navy's other research programs, such as the 'Deep Submergence" and "man in the sea" programs. The aim of the projects is to enable man to do useful work under water anywhere on the continental shelf for extended periods and return safely to the surface.

The potential of this program has Economic and Medical as well as military applications.

ECONOMICS:

(a) ocean floor mining
(b) fish and underwater crop farming
(c) off shore oil operations
(d) underwater construction
(e) inspection and repair of pipelines and cables

MEDICAL:

(a) high pressure oxygen treatment of gangrene, open heart surgery.
(b) treatment of drowning victims
(c) treatment of carbon monoxide poisoning

When asked about the history of EDU Commander Charles H. HEDCEPETH the Officer in Charge pointed to a shelf containing 235 volumes of the EDU Research and Evaluation Reports and said "There's our history". These reports are available to all interested government agencies and contractors.

MARK VI DIVING APPARATUS

K. WALLACE, BMCS(DV) - EDU

MK VI Standard

A few words from the Unit this issue on the MK VI. A major complaint from divers in the fleet is their lack of knowledge of the only mixed gas semi-closed SCUBA apparatus in the diving Navy. I hope to clear the air a little with this article.

The UDT and EOD are the only operating forces that the MK VI is being issued to, at the present time. The prototype of the MK VI was the MK V, which by the way, is now obsolete and has been called back in to undergo a modification that will convert them all to MK VI's.

The Mark V was originally designed for use with oxygen and nitrogen mixtures. Due to the c nstant gas flow, higher percentages of oxygen than air (21%) and the re-breathing of approximately 4/5 of the exhaled gas, a longer dive is permitted at any given depth, plus a minimum of decompression due to the reduced percentage of inert gas.

At the present ime, divers at the Experimental Diving Unit have completed all the test dives using HeO2 as the artificial atmosphere. These dives consisted of maximum "no decompression dives", repetative dives, oxygen decompression dives, and standard HeO2 tables for SCUBA. In all, we made about 500 dives testing these tables. (Treated a few divers also)

In the very near future we expect to field test the tables in the fleet. (Keywest has water temperatures we are used to 90° F, so _____) (Hope no one thinks ulterion motives had a guiding hand.) They will be sent out to the fleet. These tables only provide a 200 ft capability but I see no reason why this can't be extended to a deeper depth later on, thus giving to our ASR's a five capability for checking bell seats, hooking up down hauls, etc.

Only one mixture of HeO2 is required, consisting of 68% HE-32% 02. It is delivered to the diver at a rate of 18.5 L/M f from two 3000 lb bottles with a volume capacity of 2200 liters. Being a partial re-breather it has an inhalation breathing bag. From the exahalation bag, a portion (approximately 1/5 of exhaled gas is exhausted to ambient, the remainder is forced through a cannister of baralyme where the carbon dioxide is removed. The cleansed gas is then mixed with the 18.5 L/M new gas and re-enters the inhalation bag and recycled.

On the following pages are two pictures of the MK VI standard, the other is the MK VI with the oxygen bottle attached giving the diver the benefit of oxygen breathing during decompression.

Please Hollywood, no contracts for the models. They have obligated service to complete in the Navy. We also require undivided attention and services at EDU.

MK VI O^2 cylinder attached

NEW DIVING MANUAL

K. WALLACE, BMCS(DV), USN

A recent new project directed by the Officer in Charge is the revision and up-dating of our present Diving Manual (NAVSHIPS 250-538). A board consisting of two officers, and six enlisted men (2 Master Divers, 2 First Class Divers, 2 Medical Technicians) will make the initial evaluation, recommend changes and revisions of the layout of the manual. The board will have many obstacles and months of hard work before this initial evaluation is completed. I am aware of the many fine ideas in the minds of my fellow diving compatriots in the fleet who are not privilidged to be stationed at this outstanding diving billet. So being you are there and we are here, creating an impossible problem and difficult situation for audio communication, we appreciate and need letters from throughout the Diving Navy bringing to our attention any corrections, deletions, recommended revisions, etc. Your bylines are necessary for the manual.

So, get off of it sailors and get with the problem! Take the old pen in hand and let us come up with a future diving manual we can all be proud of, one which will reflect the "Know How" of all navy divers.

Letters can be addressed to any of the board members listed below:

LCDR J. HARTER, USN	Senior Member, EDU
LT J. DISNEY, USN	DSDS
K. WALLACE, BMCS(DV), USN	EDU
J. CLEVENGER, BMCS(DV), USN	DSDS
C. DUFF, HMC(DV), USN	EDU
R. CURRAN, HMC(DV), USN	DSDS
J. TAYLOR, BM1(DV), USN	EDU
T. JENKINS, GMG1(DV), USN	DSDS

PREPARING YOURSELF FOR MASTER COURSE

FREDERICK R. COLLINS, SFC(DV), USN

When you, the Master Diver Candidate, arrive at the U.S. Naval School, Deep Sea Divers for the five week course for Master Divers, we expect you to have a thorough knowledge on all phases of diving. Subjects that you are weak in if any, will be emphasized during your refresher training. You are evaluated on your performance in class as well as in the field.

To help you to prepare for the Master Divers Course, I would like to bring out some points that some Master Candidates have been weak in during past training.

1. Not knowing what to do if you can't maintain the proper rate of ascent on a standard air dive - Study Table 1-4.

2. Where to get the new group letter and residual nitrogen time. - Study Tables 1-6, 1-7, 1-8.

3. What to do when you have 02 Symptoms or 02 failure on Surface Decompression 02 (1-17). Study page 120, article 1.5 5-6.

4. Rate of ascent for Table 1-17 and 1-18. Study page 120 article 1.5.5-7 and 11.

5. When to start time when divers are in the chamber - remember time is started on divers when they reach depth.

6. When you have the side. Take charge, let everyone know that you are running the dive.

7. When to use Surface D in case of omitted Decompression. Study page 123 and 124 article 1.5.6(2).

8. When to reduce the depth when shifting to the emergency air - HeO2 Table during a HeO2 dive. Study pages 118 and 119 article 15.5 (16-21).

The points that I have brought out seem to be the biggest problems that the candidates have. If you will study these articles and set up problems pertaining to these situations (make up simulated depths and times so your divers will not need actual decompression), your five week stay at DSDS will be much easier and more beneficial to you.

If you have any questions on the course, or anything you don't understand write to me at the school and I will be glad to find the answers for and send you the information.

ATTENTION MASTER DIVERS

WALTER E. BENT, Jr., QMC(DV)

Everyone knows what fabulous "story tellers," divers are, and that Master Divers can speed off exploits a mile long. Well here is your chance to give a complete "unadulterated" picture of your diving career. No fantasy, fiction - just the facts so, "Save the 600 foot dives and the night in Gitmo for the Chiefs Club".

What we want at the Deep Sea Diving School is a complete file on each Master Diver. This is to include the jobs you have worked on, all diving billets, types of work done and every commendations or meritorious awards for diving you have received. Also for kicks a short resume on what you would like in the future both in the navy and out. Enclose an 8 x 10½ photo of yourself and your present diving station or ship. Your photo is to be taken in the Deep Sea Diving Rig holding the diving helmet on your lap.

All this inrormation will aid us in keeping up with the present where abouts of our "Masters" and the duties being performed by them. It will also be a "ready recall" for you for future employment when you've done your "30".

So men run don't walk to the nearest desk and forward all the above information to Walter E. BENT, Jr., QMC(DV), USN, U.S. Naval School, Deep Sea Divers, Washington Navy Yard, Washington, D.C.

O^2 POISONING

A CASE OF UNUSUAL SUSCEPTIBILITY TO OXYGEN POISONING

R. M. CURRAN, HMC(DV), USN

On 8 March 1965, an incident occurred which should be of interest to all diving activities, particularly those where operations utilizing HeO2 are routinely carried out.

A student in the 25th week of instruction made an open sea HeO2 dive to a depth of 112 feet. Bottom time was 07 minutes. Gas supply was 81% He, 19% 02 delivered from HeO2 banks. No work was done on the bottom. PPT used was 130/10 with one stop at 40 feet on 02 for 16 - 1 = 15 minutes. No problem was encountered during ascent, and the diver got on the stage easily. At 40 feet he was shifted to 02 and ventilated in 45 seconds. (Average vents being 45 to 75 seconds for all previous dives.) This was the third dive of approximately the same depth for this diver, and the last of 10 dives for that particular day. He had previously made 60, 150, 220, and 320 foot "wet pot" dives with no adverse effects.

After 14½ minutes at 40 feet, the diver reported numbness in the hands and ringing in the ears. The rack shifted to air and the stage was brought up. During this time diver reported "dizziness" and "shaking all over". He was unable to ventilate and communication was lost at approximately 20 feet. He was probably unconscious at this time. The ascent was continued, and the diver was rigid upon reaching surface, but collapsed upon being landed on deck. When the helmet was removed he was unconscious, breathing heavily, and bleeding from the nose and mouth.

He was placed in the recompression chamber after a four minute surface interval and taken to 165 feet. After three minutes at this depth he regained consciousness. After 27 minutes at 165 feet he was clear of all abnormalities. Treatment Table Three was selected due to the possibility of traumatic air embolism. Treatment was uneventful and the diver surfaced at 1443 on 9 March 1965. The only complaint he had at this time was a painful tongue, which he had bitten during the convulsion, and a sore lip which was incurred when he collapsed on deck.

The following is a summary of the symptoms this diver presented from leaving the 40 foot stop to reaching the surface (ONE MINUTE).

Numbness at 1943 : 30 (Moderate)
Ringing in the ears at 1943: 30
Dizziness at 1943:: 45
Muscular twitching at 1944 (Severe)
Unconsciousness and convulsions (Severe) at 1944 :: 30

Why this diver was affected following a short period of 02 decompression is unknown. Cold may have been a contributing factor, as other divers reported being moderately cold during previous dives, but this cannot be positively established. The cannister time was 2 hours 58 minutes prior to dive. The baralyme used was analyzed at EDU and found to be absorbing effectively chemically, although possibly defective through channeling in the canister.

This case is illustrative of rapidly progressive oxygen poisoning and points out several typical features of this condition. There appears to be no definite explanation why this man developed oxygen poisoning, as is the case all too frequently. He had had multiple long exposures in the past. All the known contributing factors have reasonably been excluded (increased C02, fatigue, physical exertion).

Also typical of this case is its rapid progression, the time from first sympton to convulsion being only 60 seconds. This illustrates the need for prompt competent action. Another thing to remember is that 02 poisoning can develop in the early minutes at shallow stops, and one should be just as prepared to treat in the earlier times at the stop as after long exposures.

PERSONNEL, U.S. NAVAL SCHOOL, DEEP SEA DIVERS

STUART, Ray D., BMC(DV), USN and WILSON, Ronald NMN, SF1(DV), USN, were transferred to the Fleet Reserve. JONES, Harry NMN, BMC, (DV), USN, is busy making preparations for transfer to the Fleet Reserve in the near future.

SUPERVISOR OF SALVAGE

CDR W. F. SEARLE, JR.

The Office of the supervisor of Salvage is an interesting billet and one which is often not fully understood. In actuality it is a field office of the Bureau of Ships and not a code within the bureau. That it is frequently thought to be the latter has been, concurrently, the cognizant code in the Bureau for Salvage (and until recently, diving) matters.

The duties of the Supervisor of Salvage, U.S. Navy stem from three basic sources.

1. Navy Regulations, Article 0445, assignes to the Bureau of Ships certain operational responsibilities in salvage matters. The operational responsibilities, as opposed to the logistic ones, are assigned to SUPSALV. In certain salvage cases, usually those which are long and drawn out and occure in inland water, the Bureau of Ships accepts OPCONN, relieving the Service Force's ships for normal fleet support. In such cases SUPSALV assumes command. The NORMANDIE, Mission San Francisco, and Potomac are examples.

2. In 1948 the congress passed a law, known in the salvage navy as Public law 513, 80th congress. This law authorizes the Secretary of the Navy to furnish ship salvage services to both public and private vessels. In effect (and clearly stated in the congressional hearings which preceded the act) this law is a subsidy of private shipping, and for all interests and purposes, of all shipping rates. The law allows the navy itself to provide salvage services. It also is a means by which the Navy can provide a subsidy to private salvors. The congress recognized that lacking such subsidy, private commercial salvage coverage would atrophy for lack of business and lacking a salvage coverage, shipping insurance rates and hence freight rates would go up and while the law prescribes the Navy competing with private salvors, it does provides for the Navy charging conquerable salvage rates when salvage is performed by the Navy. The law authorized the Secretary of the Navy to prescribe these rates, to render bills for salvage to non-navy activities and to waive such claims when deemed appropriate. The Secretary of the Navy has delegated all these responsibilities to the Supervisor of Salvage. It is under this law that SUPSALV and the Service Force ships operate wherever they perform work on merchant ships or ships and aircraft of other than Navy MSTS, or Marine Corps. It is under this law that SUPSALV administers salvage contracts with Merritt - Chapman and Scott Corp. on the east and west coast, and with Lezon Steveduring Co. in Manila.

3. OPNAV Instruction 4740.2A provides that the Bureau of Ships will be prepared to activate the Navy Salvage Service in time of war. The Navy Salvage Service is headed up and administered by the Supervisor of Salvage. In war time the Navy is empowered to take over the civilian salvage capability or the nation, as needed, and to coordinate all salvage of bot military and commercial Shipping. Generally speaking inwar war time all service force salvage ships are committed to combat salvage of one type or another and the navy salvage service assumes responsibility for all salvage on the coasts of North America from Alaska and New Foundland to Panama.

The Supervisor of Salvage is billeted as NOBC 9375: Ship Salvage Operations Officer. He primarally assigned to the Bureau of Ships where he is double hatted as Code 108: BUSHIPS Salvage Officer. Letter correspondence addressed SUPSALV should be addressed:

Supervisor of Salvage, U.S. Navy
(Bureau of Ships, Code 108)
Navy Department
Washington, D.C. Phone: OX6-3084 (days)
OX6-3181 (nights)

Messages for SUPSALV should be addressed to BUSHIPS with internal passing instructions: PASS TO SUPERVISOR OF SALVAGE.

The Assistant Supervisor of Salvage is billeted as NOBC 2515: Legal Specialist - Admiralty. He maintains the SUPSALV office in New York and for administrative purposes is attached to the Industrial Manager, Third Naval District. Letter correspondence should be addressed to

Supervisor of Salvage, U.S. Navy
260 Madison Ave.
New York, New York
Phone: OR9-3500 (24 hour watch)

Messages for ASSTSUPSALV should be addressed to INDMAN THREE with internal passing instructions: PASS TO ASSTSUPSALV

HIGH PRESSURE CHAMBER OPERATORS NEEDED

LTJG J.R., VAIL, MSC, USN - EDU

For the benefit of those who are nearing retirement we are printing a copy of a letter distributed by Captain Harry J. ALVIS, MC, USN (RET), who is now with the Veterans Administrations.

"Retired Navy Divers may find very interesting and adequately paid retirement jobs in the field of Hyperbaric Medicine. This is the use of chambers pressurized to the equivalent of 33, 66 (and occasionally 99) foot dives. Patients breath oxygen and various other gas mixtures for treatment or as emergency life-saving procedures.

The field is undergoing a great surge of interest. Men familiar with chambers and their associated equipment are in considerable demand right now. Diver hospital corpsmen have some advantages in this field but any sober, reliable, alert former first class, master of diving officers can qualify if he has the desire to do so. The work will be clean and in association with physicians and other professional level personnel. Those divers in articifers ratings can and will be taught any medical matters they need to know. Courses are given by manufactures' and hospital staffs in their respective fields.

Programs are starting at several locations in the country. The first Postgraduate Course for Physicians in this field of medicine was given at the School of Medicine in Buffalo, N.Y. in June of this year. In April, a get together of those former divers working in this field was held in Chaicago and a tentative plan for a Society for Operators was formulated.

The Veterans Administration is setting up such a program at the VA Hospital, Buffalo, New York, Dr. HARRY J. ALVIS, M.D., (Capt., M.C., USN, RET.) is the Director. Dr. Alvis was, for nearly 15 years, associated with submarines and divers and is well known among divers on the ASR circuit. Dick MORIN, (HMC(DV) USN RET.) is the chief operator at the Chamber in the Physiology Department, School of Medicine at Buffalo. Dr. Edward LANPHIER (formerly M.C. USN at EDU and with UDT-2) is in charge of the Hyperbaric Physiology program at the School of Medicine.

Anyone interested in finding employment in this field is encouraged to write any of the three individuals named. In addition to Divers, it is considered that Submarine Hospital Corpsmen, Escape Training Tank Instructors and Aviation Altitude Chamber Technicians and Corpsmen would be adaptable to this kind of work. Inquiries for competent personnel are received here quite often from chamber manufacturers, hospitals and medical schools."

THE "OLD MASTERS" QUIZ

1. What is the maximum rate of descent for air divers?
2. How is the total bottom time computed?
3. What is the rate of ascent on all air dives except table 1-17?
4. What is the rate of ascent on table 1-17?
5. What constitutes a repetative dive?
6. What is the maximum depth and time for table 1-17?
7. What is the maximum depth and time for table 1-18?
8. What do you do with delay time during ascent if you are within 30 feet of the bottom?
9. What do you do with delay time during ascent if over 30 feet from bottom?
10. What do you do if your rate of ascent is too fast on a no decompression dive?
11. What do you do if your rate of ascent is too fast on a decompression dive?
12. What do you do with delay or fast time between stops?
13. How do you treat a blow up on a no decompression dive, who is sympton free?
14. How do you treat a blow-up on a decompression dive, who is sympton free?
15. What type of symton diagnosis is pain under pressure?
16. What does surface internal time include on table 1-17?
17. What is the rate of ascent in the chamber on table 1-17?
18. What is the rate of descent in the chamber on pain only bends?
19. What is the rate of descent in the chamber for serious symptoms?
20. What is the maximum relief depth for table 1 or 1A?
21. What is the treatment depth for table 1 or 1A?
22. How do you treat pain only bends if not relieved within 30 minutes at 165 feet?
23. What is the maximum time at 165 feet for table #3?
24. What is the rate of ascent between stops on all treatment tables?
25. How long must a treated diver remain in the immediate vacinity of the chamber?

NEWPORT REPORTS

U.S. NAVAL UNDERWATER ORDNANCE STATION
NEWPORT, RHODE ISLAND

LT J. E. KALENOWSKY, USN

The Range Department here at NUOS has the military mission to support the Research and Development activities of this station. This involves the recovery of lost (sunken) ordnance.

Our recovery record has increased immeasurably in the last year due to the increased use of a pinger receiver system and the skillful use of this equipment by the divers. We believe the use of this equipment is mandatory for continued successful recovery operations. We feel our work is important and that we can be proud of our record.

Not all underwater work is confined to the range. Like other diving activities, we have our share of oceanographic, body recovery, and maintenance projects.

The present diving gang includes the following:

OFFICERS - LT J.E. KALENOWSKY, USN (Leaving shortly for a tour onboard USS SKYLARK, (ASR-20)

LTJG D.A. DUNNE, USNR (Relief for LT KALENOWSKY)

CWO4 L.A. HAYES, USN

MASTER DIVER — HASLIP, G. GMGC(DV), USN

FIRST CLASS DIVERS — PULLIAM, L.L., SFL(DV), USN; HAYDEN, A.C., DC1(DV), USN; MICHALSKI, E.M., BM2(DV), USN

DIVING TECHNICIANS — O'LEARY, J.M., HMCS(DV), USN; ROPER, B.N., HMC(DV), USN (Due to report in APR.)

Our reason for writing is to agree with the "mild grip" advanced by Bob SHEATS, TMCM, USN, Naval Torpedo Station, Keyport (FACEPLATE - January 1965, Page 9) concerning the joint allowance of divers and other station personnel at shore activities in which diving is an important function. Because of a "streamlined" work force, divers must often be diverted from their primary tasks (diving) and be assigned to other jobs which, though important, still fall into the category of routine. This interference is frustating to all concerned and can definitely hinder successful c mpletion of assigned underwater tasks. Because of our small diving force (currently three under complement), this problem is magnified still further.

What can be done about it? We have recently submitted a request for change to NAVPERS 576 which would reflect this separation of allowances. Maybe if similar action is taken by other diving activities, we may achieve some results.

George (Snuffy) Haslip, master diver at Newport, prepares to go to work on the range.

PONTOONS

JOHN M. CLEVENGER, BMCS(DV), USN

The U.S. Navy build 75 of these pontoons to be used in Submarine Salvage. Each pontoon is assigned a BuShips Structural number as do all navy ships. They are divided into three (3) types, I, II, and III.

TYPE I - DIMENSIONS & BUSHIPS NUMBERS

1. BUSHIPS Numbers 3, 5, 6, 7, 9, & 10
2. Length 34' 7/8"
3. Diameter 13' 13/4"
4. Lift 85 Tons

BuShips number I and II posses the same general features, but with the following dimensions:

1. Length 32'
2. Diameter 11'
3. Lift 60 Tons

TYPE II & III DIMENSIONS AND BUSHIPS NUMBERS II THRU 75

1. Length 32'
2. Diameter 12' 6"
3. Lift 80 Tons

Type I pontoon differ with type II and III in construction and placement of center bouyancy compartment.

Type II differs from III in arrangement of piping and internal bulkheads.

Forty of these pontoons are in commission with ten (10) being located at the following activities.

1. Commanding Officer
   FIRST Naval District
   Boston, Mass.

2. Indmon
   USN, San Diego
   San Diego, California

3. Commanding Officer
   14th Naval District
   FPO, Pearl Harbor
   San Francisco, California

4. Commanding Officer
   Charleston Naval Shipyard
   Charleston, S.C.

When drowning out pontoons take note that BUSHIPS Numbers 1 and 2 have a lifting capacity of 60 tons where all other type I's lift 85 tons.

All type II and III have a lift of 80 tons.

The tests on these pontoons is outlined in NAVSHIPS 250-631-2 and has been changed to biannual instead of yearly.

All stud link chains is to phased out and replaced with die lock chain. This means when changing from stud link to die lock chains the holding stoppers must be changed from the toggle type to the U shaped type. The prints are on page 25 of NAVSHIPS 250-631-2.

Also note that the test pressure has been changed to 10 p.s.i.

WELDING OF CRACKS IN UNDERWATER PORTIONS OF HULL

In welding cracks underwater the Quenching Action of the water on the weld causes it to harden and crack, making underwater welding of leaks very difficult. If a diver will take box shaped container long enough to cover the crack and fill with temp-seal, place it over crack and hold in place, then welding can be done inside of ship.

The Temp-seal (Insulating Compound Electrical - 9 G 5970-295-7658 H F), keeps water from coming in contact with metal and also retains heat so that the weld cools out slowly, this keeps the weld from cracking. A much better job can be done by welding this from inside than could ever be done by trying to weld underwater.

"OLD TIMERS"

LT. E.V. DOWNEY, USN

I often wonder what happened to the Diving Officers, Masters and my diving partners that I have served with for the past twenty-two years.

With this in mind we are starting this "Old Timers" column. In this column interested shipmates can be made aware of what has happened to their old shipmates in the diving profession who are now out of the service. We here at the FACEPLATE will also be able to keep a file on where the old timers are.

The information we would like from the old timers is when and where he went through Deep Sea/Salvage Diving School, his diving billets and any interesting diving or salvage jobs he particapated in.

Following this short history of his diving career if he would give us his address and what he is doing now and if possible enclose a picture that will be returned.

The FACEPLATE on receipt of these articles will put the old timer on the mailing list of the FACEPLATE and use these articles as space permits. To start the column we have the stories of two old timers that are here in the Washington area.

FRANK H. MUNGER HMC, USN

Chief Frank H. MUNGER, HMC, USN retired from the Navy on 8, November 1957. His last tour of duty was spent at the Experimental Diving Unit. MUNGER graduated from the Diving School in July of 1943 and was assigned to the USS ORTOLAN (ASR-5) then operating in the New Hebrides and Guadalcanal area. While on the ORTOLAN he made several dives on the sunken troopship COOLIDGE and also on a section of Battle ship drydock.

Other ships ans stations include the Deep Sea Diving School from January 1946 to March 1949 as instructor in the medical aspect of diving. Following MUNGER was assigned to the USS HOIST (ARS-40) where he was acting Master Diver and assisted in the salvaging of the USS SIMON NEWCOMB off the coast of Goose Bay, Labrador, the salvaging of a seaplane off Hampton Roads, Va. and laying beach gear for the USS MISSOURI job.

In May of 1951 MUNGER returned to the Deep Sea Diving School for another tour of duty as instructor in diving medicine.

In July of 1954 MUNGER was assigned to the YFNB-17 which was scheduled to do a cable trenching job off the coast of Bermuda. During the next four months he assisted in blasting two trenches one and one fourth miles through coral from the beach out into the Atlantic.

Upon returning to Norfolk Munger was transferred to the USS OPPORTUNE (ARS-41) where he served until November 1954 and then was transferred to the USS RECOVERY (ARS-43). While on the RECOVERY Chief MUNGER assisted in the salvaging of Jet planes off the coast of New Foundland and Lavrador and towing jobs in the Carribean area.

In May of 1955 MUNGER reported to the Experimental Diving Unit for duty where he worked on various projects such as evaluation of New Decompression tables, Helium & Oxygen mixing and other duties in connection with diving experimentation.

Since retiring from the navy MUNGER has become a successful Life Insurance Agent with the Acacia Mutual Life Insurance Company of Washington, D.C. and now resides with his family on Oak Avenue, Box 189, La Plata, Maryland.

LATE EXTRA - Frank is nomminated and is running for Mayor of La Plata, Maryland

C. M. (Pete) PRICKETT, GM1, USN

C.M. (Pete) PRICKETT, GM1, USN, graduated from the Diving School, Washington in October 1946. Upon graduation Pete was assigned to the USS KITTEWAKE (ASR-13). The Experimental Diving Unit was Pete's next tour and it was during this tour of duty that he set the U.S. Navy Diving Record of 500 feet in the open sea (This record still stands). The Unit was also going through the series that led to the 561 foot dives in the igloos at the Unit.

Back to sea this time in the New London area and Pete was assigned to the USS SUNBIRD (ASR-15) which served as his happy home between 1952 and 1956.

Late in 1956, Pete returned to the Washington area and back to the Unit for another tour experimenting with deep dives.

In 1958 Pete was back in the New London area on the USS SKYLARK (ASR-20) for what proved to be his final tour in the Navy. Pete retired from this command in January 1962.

Going back to civilian life found Pete heading back once again to the Washington Area. Pete is making his home at 216 Hampton Street, Oxen Hill, Maryland, 20021.

Pete is still working for Uncle in the Security Force of the Naval Propellant Plant, Indian Head, Maryland.

ANSWERS TO

THE "OLD MASTERS" QUIZ

1. 75 F.P.M.
2. Time left surface, until time left bottom.
3. 60 F.P.M.
4. 25 F.P.M.
5. 2 or more dives in a 12 hour period.
6. 170 feet for 40 min.
7. 190 feet for 60 min.
8. Add to bottom time the additional time used in ascent, and decompress accordingly.
9. Increase the first stop for the amount of delay.
10. If bottom time puts you within 10 minutes of a decompression dive, stop at 10 feet for exceeded time, if not within 10 minutes of decompression dive, disregard.
11. Stop 10 feet below first stop for the exceeded time.
12. Disregard, time between stops is not critical.
13. Keep in the immediate vicinity of chamber and observe.
14. If within surface decompression limits decompress accordingly, if not treat on Table 1 or 1A.
15. A serious symptom.
16. Time from 30 feet in the water, time on deck, time back to 40 feet in the chamber.
17. 20 F.P.M.
18. 25 F.P.M.
19. As fast as can be tolerated by the patient.
20. 66 feet.
21. 100 feet.
22. Decompress according to table 2 or 2A, probably not bends.
23. 30 minutes.
24. 1 minute between stops, rate depends on distance between stops.
25. 6 hours.

FROM THE CMAA DEEP SEA DIVERS SCHOOL

HAROLD S. LIDDLE, DCC(DV), USN

As I sit down to write another article for the FACEPLATE, it is my sad duty to report the death of another member of our family of divers.

Monday morning, 5 April 1965, at approximately 0200, LT A. P. FESTAG, USN, Chief Damage Controlman Lyle E. THOMAS, USN and Gunnersmate First Class Thomas A. JENKINS, USN departed the U.S. Naval School, Deep Sea Divers for Fifty-six, Arkansas to rescue 4 civilians trapped in a cave. They successfully brought the four men to safety after teaching them to use SCUBA gear. About 200' from the entrance the shaft had filled with water to a depth of about 35', after the men had entered the cave on the previous day.

About 55 minutes after surfacing from his two trips with survivors, Chief THOMAS became unconscious, doctors on the scene worked on him for approximately one hour and a half without success, Chief THOMAS never regained consciousness. The cause of death was a massive heart attack.

Chief THOMAS entered the Navy, 16 June 1943, and had a total of 21 years 10 months active duty at the time of his death. He graduated from Salvage Divers School, 29 May 1952 and First Class Divers School, 28 October 1960. Chief THOMAS was designated a Master Diver 1 June 1964. He reported to the Diving School for a normal tour of instructor duty 7 December 1964. His last duty station was the USS SUNBIRD (ASR-15).

We who knew Chief Lyle THOMAS feel a personal loss and deep sense of grief over the passing of a fine diver and an outstanding shipmate.