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THE FACEPLATE

NAVAL SCHOOL DIVING & SALVAGE EXPERIMENTAL DIVING UNIT

WASHINGTON D. C. 20390

FACEPLATE

MAY 1969

EDU HOSTS DIVING CONFERENCE



In early December the Experimental Diving Unit hosted the first International Naval Diving Conference in San Diego. Representatives from eight nations participated in and contributed to the conference. This was primarily a working level conference to discuss problems in hardware, techniques, training and other problems of common interest to participants.

On Friday, the first day of the conference, attendees heard presentations on diving hardware, techniques, training, and capabilities from representatives of the United States, United Kingdom, Canada, Australia, France, West Germany, Sweden, and Switzerland.

Saturday provided conference attendees with an opportunity to journey to Long Beach where they received a briefing on Sea Lab III operations and toured the <u>USS Elk River</u> (IX-501) for a close look at the Mark II Deep Dive System and Sea Lab support equipment.

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Two commercial submersibles which operate in the San Diego area, <u>Deep Star 4000</u> and <u>Deep Quest</u> provided the main interest on Sunday. Conference attendees were provided an opportunity to inspect the craft and their surface support vessels. On Sunday afternoon a cocktail party was held at the Submarine Officer's Lounge at Ballast Point.

The attendees left San Diego on a foggy Monday morning to fly to San Jose to view the Mark 1 Deep Dive System and the Deep Submergence Rescue Vessel located in nearby Sunnyvale.

This highly successful conference was the first opportunity for diving specialists from various navies to get together to exchange ideas and opinions. The exchange both officially and unofficially was spirited and proved very valuable to all concerned. PAGE TWO

FACEPLATE

Published quarterly as an unofficial publication this periodical is compiled and edited at the Naval School, Diving and Salvage and the Experimental Diving Unit, Washington Navy Yard, Washington, D.C. The opinions expressed in this publication are those of the writers and do not necessarily reflect the official 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

Due to the casualty to the diving complex at the school, it has been necessary to continue the course of instruction on a shift basis. This required rescheduling the staff personnel on a two shift basis. The end result was the continuation of training on a full time basis but the side line activities such as "Faceplate" had to take a back seat, thus we are late with this edition. We are nearing a return to normalcy and expect to be on the street as per normal schedule after this edition. As divers, the "Faceplate" can be your medium for promulgating all that good dope you have about your local area of general interest to the rest of the diving navy. Send your articles with photographs, if appropriate, to Editor, "Faceplate".

NYLON + WOOL=DANGER

Recent studies of nylon foul weather clothing has indicated that a definite spark hazard exists when the insulated extreme cold weather nylon jacket, type A-1, is worn next to woolen clothing. The static electricity build-up is greater than the 2800 volt limit established as the point where hazards from sparks are a danger when handling ordnance or volatile fuel.

Conjure up a picture of a diver in wool underwear wearing an A-1 jacket, removing an electric blasting cap from its container. A little old 3000 volt discharge from his finger tip could ruin his whole day!! The A-1 jacket, when worn over cotton clothing, does not produce these dangerous voltages, but when the jacket is taken off the wearer may be left with a charge greater than 2800 volts. As a result of these investigations, ComNavOrdSysCom has directed observance of the following safety precautions:

Whenever nylon or other synthetic clothing isworn for protection against the weather, the inner garments be cotton and that individuals, after removing nylon clothing, not handle ordnance or fuel until they have grounded themselves to discharge the static electricity.

77.5 HOURS AT 1000'

A joint Navy-Duke University saturation dive to a simulated depth of 1000 feet commenced at Duke University on 2 December 1968 and was completed on 18 December 1968. The Naval Ship Systems Command's Navy Experimental Diving Unit conducted all operational aspects of the dive and performed all diver support equipment evaluations. The Duke University Medical Center carried out the biomedical experimental protocol. The dive, the first saturation dive to this depth, was extremely successful. During the 77 hours and 30 minutes spent at saturation depth, the divers performed extensive physical and mental tasks in a normal manner. All observations indicated that divers can perform well under these conditions if life support systems maintain a level of support equivalent to that at the surface. The detailed medical results of the dive, to be published in the near future, will make available comprehensive information in such areas as heart rate, respiration frequency, oxygen consumption, carbon dioxide elimination, partial pressure in arterial blood of oxygen and carbon dloxide, central nervous system function under various conditions, and human performance and reaction response at deep depths. A variety of diver breathing equipment, a heating system, and a communication speech unscrambler were tested at depth. Test data from these tests will be highly useful in perfecting 1000 foot rated diver support hardware. From an overall operational standpoint this dive will provide the necessary confidence to conduct at sea deep dives off the California Coast in the Spring of 1969 using the Navy's new Mark I Deep Dive System.

MAY 196

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Course: At 1540, 17 March, the patient was placed

SCUBA DIVER BENT

Marrative Summary: A 33 year old male civilian reported to a U.S. Naval Shipyard recompression chamber on 17 March complaining of nausea, dizziness, blurred vision, and headache. He stated that he was a graduate of a civilian diving school with 2 years of pleasure diving experience.

was diving from a small boat on the morning 16 March and first left the surface at 0900. He noted that his depth gauge was not working and estimated his depth at 80 feet where he stayed for approximately 25 minutes. He made no stops on the ascent. His second dive at 1030 was to approximately 65 feet where he stayed for 10 minutes. He ascended directly to the surface. The third dive was at 1530 to an estimated depth of 85 feet where he stayed for 15 minutes. During this dive he ran out of air and had to go on reserve. He expended his reserve and made a rapid ascent to the surface. During the ascent he experienced pain in his chest. On surfacing, the pain in the chest subsided but he noted a severe pain behind his left eye. He experienced no difficulty breathing.

He returned to the mainland that evening, took some coffee and aspirin, and went to bed free of the headache and feeling fine. On the morning of 17 March he noted dizziness, blurred vision, pain behind his left eye, and experienced nausea. When he attempted to read the morning newspaper he noted that the letters seemed to run together.

His past medical history disclosed that he had had high blood pressure for several years and had never taken medication for this. The physical examination revealed a male of medium build in no acute distress. The blood pressure was 180/140 in both arms (MMD Section 15-30 limit for divers is 140/90). Examination of the eyes, ears, throat, heart, lungs, abdomen,

remities, and nervous system was normal with exception of blurred vision. A chest x-ray was normal. of 144/96. He completed the table 6 with no complications and was released, symptom free. Questions: 1. What errors were made during the dives?

in the recompression chamber and started on

a Table 6. Twenty minutes after reaching 60 feet, his headache had subsided. By 1630, his nausea and dizziness were gone and by 1656 his vision was no longer blurred. Physical examination in the chamber was normal with the exception of a blood pressure

What are the diagnostic possibilities?
How would you have treated him (a) on the scene, and (b) when he presented at the recompression chamber on 17 March.

OLD MASTER'S QUIZ

All questions are on minimal recompression, oxygen breathing method, TT 5, 5A, 6 ϵ 6A

1. Approval was granted for use of treatment tables 5, 5A, 6 & 6A to Naval Recompression facilities with oxygen administration capabilities when in the opinion of whom such therapy would benefit the patient?

2. Under whose supervision must the use of the minimal recompression, oxygen breathing method treatment be carried out?

3. When is oxygen breathing without recompression approved?

4. What treatment table should be used for pain only, if all pain is completely relieved within 10 minutes of reaching 60 feet?

5. What is the normal rate of descent using oxygen treatment table 5 & 6?

6. What is the rate of ascent using oxygen treatment tables 5 & 6?

7. How would you compensate, if for some reason, the ascent rate of one foot per minute was slowed?

8. What action should be taken if the pain is not completely relieved after ten minutes at sixty feet?

9. What action should be taken if rate of ascent is exceeded?

10. When should the patient commence breathing oxygen on tables 5, 5A, 6 ϵ 6A?

PAGE FOUR

COMBAT SALVOPS BOOMING



Are you tired of routine shipboard diving duties? Do you desire responsibility and challenge? If you are eligible for reassignment and desire the opportunity to vastly enlarge your diving and salvage experience then Harbor Clearance Unit One is the place to go. The following letter has recently been received from CDR Barry F. WINANT, III, USN, Commanding Officer of Harbor Clearance Unit One and is reprinted in its entirety for your information. Very little publicity has been extended to this hard working outfit in the past and this article provides a wealth of "straight depe" for the divers unfamiliar with HCU-1 and the tremendous job they are doing in Viet Nam and South East Asia waters.

HCU-ONE SALVORGRAM

Harbor Clearance Unit ONE is now fully three years old and after the usual growing pains of a new command has shaken down to a compact, and we feel, efficient organization. We continue to be plagued by personnel shortages especially now that the enlisted distribution plan (EDP) includes us. Our Vietnam operations are varied and countrywide with emphasis on the Mekong Delta. With our YLLC's, CSB's and YDB's frequently engaged in separate operations, its sometimes difficult to keep track of them. Running from one operation to another at full throttle has become routine. Most of the diving in-country is in relatively shallow water so decompression has not been a problem. However, we do have swift currents of 3 to 6 knots and visibility below three feet is generally non-existent. So for the info of divers at the school, the Potomac River is good training for Vietnam. Educated hands make the best substitute for unlimited visibility. Our diving in Vietnam is much the same as most salvage diving except for the added element of snipers, mines and occasional artillery fire. However, the water is warm and inviting.

We have four Combat Salvage Boats (CSB's) now in operation and doing a magnificent job with the mobile riverine force. Each boat is manned by all enlisted crews of six men including four divers. Our CSB's routinely engage in combat operations in company with Riverine boats. They are converted LCM6's but not recognizable as such. Each have sleeping accommodations for PAGE FIVE

FACEPLATE

eight men, a complete galley, a 15 cubic foot freezer and a 5 ton air conditioner which alone is enough to put it in the flagship class with the Riverine Forces. They mount two twin 50 caliber machine guns and numerous other automatic weapons. Bar armor and armor plate protect the crew and equipment. Equipped with 3 fire monitors, an 850 gallon mechanical foam capacity, a 1000 GPM fire pump, 2 generators, a 10 ton "A" frame forward, 4 large air winches including a stern anchor winch, a large air compressor for both diving and salvage work and of course all manner of diving and salvage equipment, even heli-arc welding equipment. An excellent Salvage Craft and great opportunity for senior petty officers who seek responsibility and high adventure. CSB skippers have included:

CSB-1 - SFC(DV) John R. ALDERSON CSB-2 - BM1(DV) Robert E. BATTY CSB-3 - DC1(DV) John T. BRADY (Detached) CSB-4 - QM1(DV) William E. LAFON

Another great billet for enterprising petty officers is skippering YDB's 1 and 2, currently and most ably held down by BMI(DV) William BARRENTINE and BMI(DV) Layton M. CALLOWAY, Jr. MAY 1969

Our ex-German Heavy Lift Craft are in a major Americanization program at SRF, Subic. YHLC-2 officially named CRANDALL is nearing completion. CRILLEY, YHLC-1 has a way to go. While the conversion did not change topside appearance appreciably, changes are readily apparent inside. With American made generators, rewiring and habitability being high on the list. We have an ambitious training program scheduled to commence as soon as the first "HEAVY" is completed in January. These craft will never take a beauty prize but the 2400 ton Tidal/Ballast lift capability and 600 ton stern gantry capacity more than makes up for their lack of sex appeal.

We have moved to a new mooring site at Subic with our own pier, warehouse and parking lot. The installation is quite an improvement over our old spot. YRST-1 is MED-moored with other HCU-1 Salvage Craft alongside receiving services. We currently operate and maintain seventeen diving and salvage craft not counting miscellaneous boats. We've got considerable talent but there is room for much more.

CSB DEMONSTRATES FIRE PUMPS



PAGE SIX

We maintain and operate Advanced Diving System FOUR (ADS-IV) at Subic Bay under the care of Harbor Clearance Team TWO (HCT-2). All HCU-1 divers are trained in the operation of the system, second and first class alike. Operations permitting, HCU-1 divers are given refresher training every two months. Inasmuch as ADS IV is a completely self-contained deep dive system it works equally well from the decks of ATF, ARS or ASR. Training in Subic Bay limits us to 155 feet but we have taken the SDC to 445 feet without difficulty.



Subic is the crossroads of the Navy these days. It seems that sooner or later you'll meet shipmates either reporting in or passing through, so either way if you are in the area "come aboard". We're always glad to have visitors and renew old acquaintanceships.

PERSONNEL NEWS

Captain E.B. MITCHELL has relieved Captain W.F. SEARLE, JR. as the Supervisor of Salvage, U.S. Navy. Captain SEARLE tackles a challenging area in NAVSHIPS as the newly created Project Manager for Mine Service and Patrol Craft Aquisition pending his retirement from the Navy next year.

CDR J. HUNTLEY BOYD, now CINCLANT Salvage Officer will relieve Capt. MITCHELL as OinC, EDU this early summer.

LCDR DELANOY, NSDS' Executive Officer departs in June for duty as Commanding Officer, USS GREENLET (ASR-10), at Pearl Harbor, Hawaii.

CHBOSN R. BELSHER, formerly of HCU-1, reported to NSDS for duty as the Senior Salvage Instructor.

Master CPO EISSING, NSDS' Senior Enlisted Instructor, departs in July for duty in USS GREENLET (ASR-10).

FACEPLATE

CHANGE OF COMMAND AT NSDS

Recently Naval School, Diving and Salvage has had two changes of command. Commander William R. Leibold was relieved by Lieutenant Commander Billie L. Delanoy on 13 December 1968 as an Interim relief until Lieutenant Commander James F. Newell, Jr. reported aboard 31 January 1969 and relieved LCDR B.L. DELANOY. LCDR J.F. Newell, Jr., USN, assumed command of the Naval School, Diving and Salvage, from duty as Commanding Offi-cer, USS CHANTICLEER (ASR-7). He is a native of Alexandria, Louisiana, and enlisted in the U.S. Navy in 1944 and received his initial commission as an Ensign in 1958. He is a past graduate of the Naval School, Diving and Salvage, and has served in the following ships in various capacities up to Executive Officer, USS CHANDELEUR (AV-10); USS PCE 846; USS SEA LEOPARD (SS-483); USS SWORDFISH (SSN-579); USS SENECA (ATF-91); USS

YELLOWSTONE (AD-27); and USS GREENLET (ASR-10).

LCDR B.L. DELANOY, USN, assumed command of the Naval School, Diving and Salvage in addition to his regular duties as Executive Officer of the Command on 13 December 1968. He has previously served as Commanding Officer, USS UTE (ATF-76); Officer in Charge, Submarine Escape Training Facility, Pearl Harbor, Hawaii; Executive Office USS SAFEGUARD (ARS-25); and Executive Officer, Harbor Clearance Unit One. While with HCU-1 in Viet Nam he received the following decorations: Bronze Star Medal with Gold Star in lieu of Second Award and Combat "V"; Navy Commendation Medal with Combat "V"; and the Navy Unit Commendation. In addition to the above, he has served in the following commands as an enlisted diver: USS CHANTICLEER (ASR-7); USS GREENLET (ASR-10); USS RECLAIMER (ARS-42); USS CURRENT (ARS-22); USS YUMA (ATF-94); and the Subic Bay Harbor Clearance Unit.

CDR W.R. Leibold is from Los Angeles, Calif. and enlisted in the Navy in 1940. He was advanced to Chief Boatswains Mate in 1943 and appointed a Boatswain in 1945. He was commissioned Ensign in 1951. He has served at sea in a destroyergm@nelayer, submarines, submarine tenders and submarine rescue ships, having commanded USS COUCAL (ASR-8) and USS GREENLET (ASR-10). Ashore he has served at the University of California at Los Angeles, the Bureau of Naval Personnel and as Officer in Charge, Submarine Escape Training Tank, Pearl Harbor and Navy Experimental Diving Unit, Washington, D.C. Cdr Leibold served in the Pacific throughout World War II and the Korean War. He has been awarded the Silver Star Medal, Navy and Marine C Corps Medal, Bronze Star Medal, Secretary of the Navy Commendation Medal, Purple Heart, two Presidential Unit Citations and the Submarine Combat Insignia. After leaving NSDS, CDR Leibold reported to the Deep Submergence Systems Project Technical Office, San Diego, California for duty as Officer in Charge.

MAY 1969

PAGE SEVEN

FACEPLATE

CIVILIAN DIVER INSTRUCTION

SECNAV INSTRUCTION 12000.20 of 2 April 1969

This new instruction covers all civilian divers including contract divers working for the U.S. Navy.

1. Purpose: To establish rules governing civilian divers.

2. Definition: To differentiate between the three civilian diving groups in the Navy:

- a. Working Divers Blue Collar
- b. Specialist divers White Collar (GS-Civil Service employees)
- c. Contract Divers Performing diving work for the Navy under a contract of any type.

3. Civilian Diver Ratings:

Civilian Diver (CDV) Supervisor Diver (CSDV) SCUBA Diver (CDV-SC) Trainee Diver (CDV-AP)

4. Diving services contracts with the Navy is also covered in the new instruction. 5. We hope to publish a new pay scale for civilian type divers in the near future.

OLD MASTER'S QUIZ "ANSWERS"

1. Responsible Medical Officer. He must submit a form 6240-1 after each treatment. 2. A Medical officer. He is not required to be on the scene.

3. In an emergency, during transportation to a compression chamber, or while recompression facilities are being prepared. 4. Table 5.

5. 25 feet per minute, a more rapid rate

is desirable if more serious symptoms are present. 6.

Continuous, at 1 foot per minute.

7. In no way. Do not compensate for slowing of the rate by acceleration.

8. Proceed with the 285 minute table 6.

9. Compensate, halt ascent and hold depth

while ventilating chamber. Then proceed. 10. Prior to descent. Descent time is not counted as time at 60 feet.

MEDICAL NOTICE

General Information: A Medical Warning Tag has been placed in the Federal Supply System as FNS 6530-142-8775. It is made of anodized aluminum, is bright red in color, and is the same size and shape as the standard identification tag. Tags should be issued to persons subject to conditions of such a nature that if the individual were unable to give a history, otherwise indicated medical care might be dangerous or the proper treatment delayed. Decompression sickness fills the bill. Tags should be embossed with the warning DEEP SEA DIVER. See BuMedInst 6150.29 of 24 Feb 69 for details.

NEWS FROM NSDS

Fiscal Year 1969 has been a busy year at Naval School, Diving and Salvage. The pressure complexes were CASREPT in August as the result of engineering study findings. Wheels were set in motion to come up with first, the monies and then a shipyard with the expertise to do the job. Our parent command, BuPers, provided the funds and Portsmouth Naval Shipyard, Portsmouth, N.H., with their years of submarine building experience, had the know-how for the job. The first of April work began with great gusto. At present it is still underway, though fast drawing to a close, scheduled completion being June 15.

Salvage Project

Those of you who have graduated from this school during the past ten years probably remember the old LCI 1050 at Oxon Run Cove, Maryland. Well, the old LCI has been layed to rest in the muddy Potomac for the last time. Last fall NSDS procured the ex-USS STRENGTH AMS 309 from the Reserve Fleet in Orange, Texas. After a huge flap in getting rid of 56,000 gallons of fuel oil, 1500 gallons of lube oil, and a thorough cleaning to prevent law suits, we began to incorporate a few working projects into this vessel. Things like a realistic shoring project, de-watering by air of a compartment, lift pontoons etc. which we hope will improve training. The bulk of the projects incorporate some of the hard learned lessons HCU I has had in Republic of Viet Nam. The AMS 309, on close examination, revealed some interesting facts. She is constructed like a miniature battle wagon, without nowever, one major item, longitudinal bulkheads. During trial sinking and raising there were some tender moments indeed. The AMS 309 is sure to provide some interesting and challenging projects and up to date training for salvage officers and first class divers in the future.

The YF 336 has been around the diving navy almost as long as the Hark V hard hat. She was transferred to the Deep Sea Diving School when the Salvage School at Bayonne, New Jersey closed. Since that time she has been primarily used as our salvage craft here at NSDS. Presently she is undergoing modification to make her a more versatile diver training craft. This includes more berthing facilities, a new aluminum double lock recompression chamber, partial air conditioning and mixed gas diving capabilities.

The YFNX 9 has been surveyed and stricken from the Naval Register; this left NSDS without a diving training barge. After a long search we procured the YFNX 13, the former sonar test barge at the Naval Research Lab. The designation has been changed to YRST 5 and she is presently at the Coast Guard Shipyard at Curtis Bay, Maryland being refitted into a diver training barge. Plans include air conditioned class rooms and berthing facilities topside. Workshops, salvage machinery room, an open diving well on the lower deck. McCann chamber and screw



MAY 1969

PAGE EIGHT

FACEPLATE

MAY 1969

changing projects are incorporated. The YRST 5 will be a great asset to diver training at NSDS. The YRST 5 will be named the Thomas O'MALLEY in memorium. LT O'MALLEY lost his life in the salvage of the USS MONSON.

NEW BREAST INSIGNIA

On 15 April 1969 the Uniform Board authorized a divers breast insignia for Master Divers and Diving Officers.

The approved design pictured below is metallic in construction; silver for Master Divers and gold for Diving Officers.



Authorization of this breast insignia was made possible through the efforts of many people over the past years. However, the diving navy is particularly indebted to CDR. W.R. LEIBOLD and LCDR B.L. DELANOY whose untiring efforts and persistence resulted in its final acceptance by the Chief of Naval Personnel.

Eligibility requirements have not been officially promulgated by BuPers as of this date, but are expected to be as follows: Master Divers (NEC 5341) and Diving Officers General (NOC 9312) will be awarded the device by virtue of their designation, all other diving officers after one year of active supervision of diving operations and recommendation by their Commanding Officer, approved by the Chief of Naval Personnel.

The insignia should be available for distribution through Navy Uniform Shops in six to eight weeks.

OF INTEREST

Among the employees of Portsmouth Naval Ship yard sent to Naval School, Diving and Salvage for the repair work is a Mr. Arthur Cadorette of Haverbill, Mass. Mr. Cadorette enlisted in the U.S. Navy in May 1924, attended Deep Sea Divers School from July 1929 to December 1929. He was a member of the fourth class to graduate from the new school. Following graduation he was assigned to the China Fleet on the USS PIDGEON, an ASR and the USS CANOPUS. Below is a picture of the old China hand Coxswain Cadorette rigged for deep diving in 1930 and as he looks today.



It is extremely interesting to note that the diving equipment worn by Mr. Cadorette in his 1930 photograph is identical in all respects to the equipment worn by the Fleet diver to-day with the exception of the major breakthrough In diving hardware that was made in 1940. This witnessed the elimination of the earphones. Those old timers consulted that had worn the earphones were unanimous in stating that communications were better before the diving hardware break-through. However, in these days of nucleonic - supersonic - electronic Naval advancement, and rockets to the moon, we look forward with confidence to new diving hardware break-throughs that will give us, in all probability, more compact earphones to wear in our SQUALES proved equipment.

NEW SALVAGE MANUAL PROMULGATED

The first volume in a series of three, is now available, Theory of Strandings and The Use of Beach Gear, NAVSHIPS 0994-000-3010 Volumes to follow are in Towing and Salvage Machinery.

