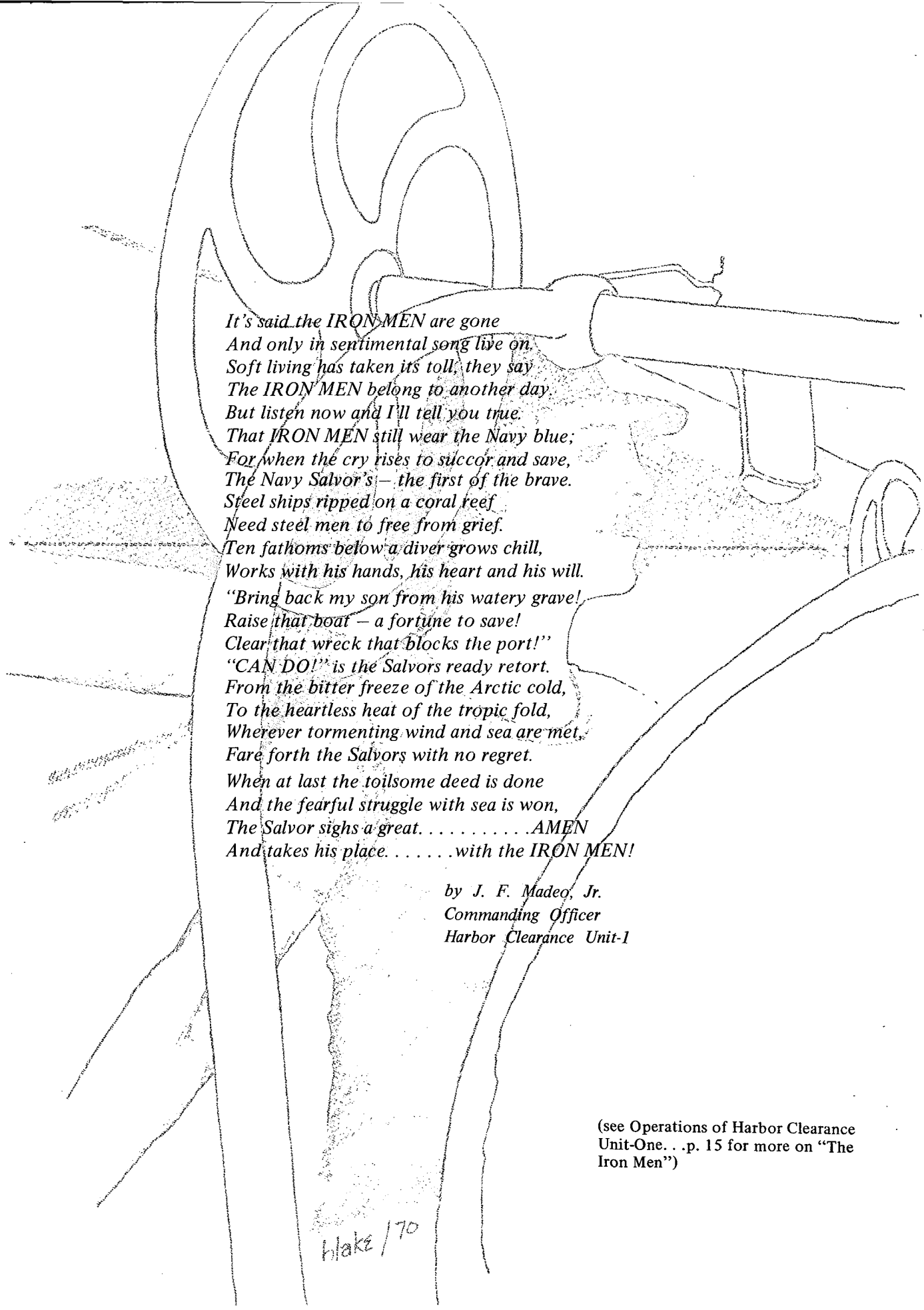
Faceplate

Winter 1970



It's said the IRON MEN are gone
And only in sentimental song live on.
Soft living has taken its toll, they say
The IRON MEN belong to another day.
But listen now and I'll tell you true.
That IRON MEN still wear the Navy blue;
For when the cry rises to succor and save,
The Navy Salvor's – the first of the brave.
Steel ships ripped on a coral reef
Need steel men to free from grief.
Ten fathoms below a diver grows chill,
Works with his hands, his heart and his will.
"Bring back my son from his watery grave!
Raise that boat – a fortune to save!
Clear that wreck that blocks the port!"
"CAN DO!" is the Salvors ready retort.
From the bitter freeze of the Arctic cold,
To the heartless heat of the tropic fold,
Wherever tormenting wind and sea are met,
Fare forth the Salvors with no regret.
When at last the toilsome deed is done
And the fearful struggle with sea is won,
The Salvor sighs a great. . . . . .AMEN
And takes his place. . . . . .with the IRON MEN!

by J. F. Madeo, Jr.
Commanding Officer
Harbor Clearance Unit-1

Blake / 70

(see Operations of Harbor Clearance Unit-One. . .p. 15 for more on "The Iron Men")

Faceplate

Vol. 1 No. 4

...the official magazine for the divers of the United States Navy.

FACEPLATE is published quarterly by the Supervisor of Diving to bring the latest and most informative news available to the Navy diving community. Articles are presented as information only, and should not be construed as regulations, orders, or directives. Discussions or illustrations of commercial products do not imply endorsement by the Supervisor of Diving or the U.S. Navy.

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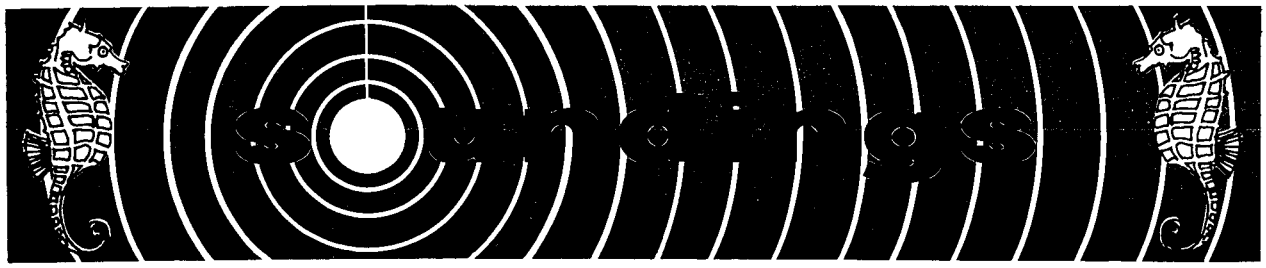
Contributions from *FACEPLATE* readers are welcome. The right to make editorial changes to the material without altering the intended meaning is reserved. Send to *FACEPLATE,* Supervisor of Diving, Naval Ship Systems Command, Washington, D.C. 20360.

Cover design by Joe Wisor and Dorothy Weintraub

Winter 1970



ANOTHER RECORD DIVE

In a field where records are broken regularly and new concepts are explored continually, the U.S. Navy seems to be taking the lion's share of the glory lately, especially where deep dives are concerned.

During October, 1970, Navy divers completed three dives to 850 feet in the open sea off the coast of California, 15 miles southwest of Port Hueneme.

Made from the Mark I Deep Dive System (Mk I DDS), the first dive was made by two saturated divers, S. E. Langdon (DCC) and G. W. Powell (GMGC) who wore the Mk II-Mod 0 Aquanaut Equipment System (AES). The Kirby Morgan KMB-8 Band Mask and open circuit hot water suit were also used.

The same equipment carried two additional divers, S. E. Huss (DC1) and R. J. Auen (EM1) to the 850 foot depth on the two subsequent dives. During the three days of diving, two hours and thirty minutes were spent outside the PTC (Personnel Transfer Capsule). Divers found clear water with no light other than the artifical light provided by the capsule while they performed their various work projects around the capsule.

The electrically heated PTC easily maintained a comfortable inside temperature of 90° F. throughout the dive. The divers were provided with 104° F. water for their suits, pumped from a boiler topside.

Heading up the communications involved throughout the dive was Master Diver J. J. Bates (EMC). Two-way communications were reported to be intelligible throughout the dive which was also monitored by closed-circuit t. v.

A repeat performance by the Mark 1 DDS was successfully completed during November and December which now closes the series of tests in deep water for the system. Diving in waters of 47°, the divers maintained a comfortable temperature for a superior showing of the system.

OOPS, WE GOOFED!!

In the Fall, 1970 issue of FACEPLATE we failed to mention the names of four divers involved in the deep dives conducted by the Navy's Mark I Deep Dive Team.

The divers involved were J. T. Brady from the Mark I; Peter Ruden, Fernando Lugo, and J. E. Langdon from the Submarine Development Group One.

REPORT ON CORROSION

In the fall issue of FACEPLATE, a discussion was presented on the examination of the 90-cubic-foot aluminum SCUBA cylinders. Since that report, a recently completed in-depth study of SCUBA cylinder corrosion has brought to light new facts concerning the problem of corrosion and rupture.

Tests show that corrosion is not a significant contributor to a possible rupture. However, visual inspection (as described in the fall issue) is still recommended. A solution of phosphic acid should be used when a residue is evident.

The report also recommended that after cleaning with phosphic acid, before reassembly, the cylinder must be flushed completely with fresh water and allowed to dry thoroughly.

In view of the thoroughness of the study and the reasonable certainty that corrosion itself is not a significant contributor to a possible rupture, no further action concerning SCUBA cylinder corrosion is contemplated at this time.

APPROVED SCUBA REGULATORS

FACEPLATE has been informed that numerous questions have arisen as to which Open-Circuit Demand SCUBA regulators have been approved by the Navy for fleet use. Those commercial regulators listed here have been tested at EDU and are on the Qualified Products List (QPL) 24169.

These regulators DO NOT MEET LOW MAGNETIC EFFECT REQUIREMENTS and are approved for use only when activities do not require use in proximity of magnetic influence ordnance. Listed below are the manufacturers and their respective designations:

SINGLE HOSE

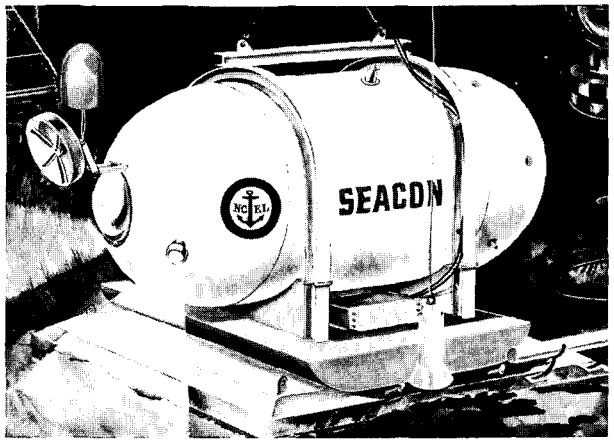
Scott Aviation (Div. of ATO Inc.), No. 800600; U.S. Divers Co., Conshelf VI; W. J. Voit Rubber Co., R-12-J, MR-12, R-12-NM; Dacor Corp., Olympic Model 100, Olympic Model 200, Olympic Model 400.

DOUBLE HOSE

U.S. Divers Co., Aquamaster U.S.C. No. 1010; Dacor Corp., C-3.

The program of test and evaluation is continuing at the Navy Experimental Diving Unit and as other SCUBA regulators are approved we will pass on the information to our readers.—Ed.

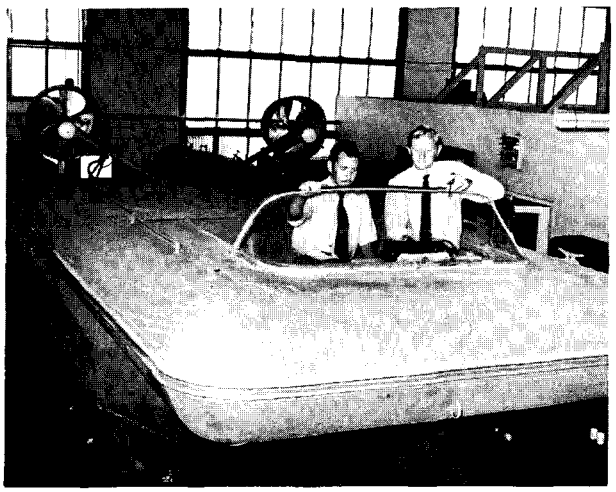
SEACON FOR SANTA BARBARA CHANNEL



The Navy plans to emplace a concrete unmanned habitat similar to the one shown above together with related systems on the seafloor of the Santa Barbara Channel in 600 feet of water during the next two years. The Naval Civil Engineering Laboratory, Port Hueneme, Calif., will carry out a series of interrelated deep ocean engineering experiments centering on the problems of seafloor construction beyond diver depths. Site survey work for the program, called SEACON (Seafloor Construction Experiment), is already completed. Emplacement of the concrete main structure is planned for May 1971.

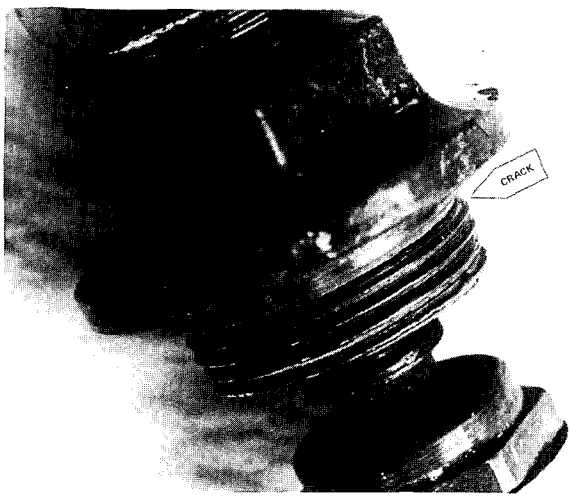
AN EXPERIMENTAL CRAFT

. . .has been developed, through the cooperation of NCEL and NAVFAC, to be used underwater to transport up to 2,000 pounds of cargo. The craft was given the name Construction Assistance Vehicle (CAV), and was designed to aid divers in construction work in the ocean bed. Powered electro-hydraulically, it has no movable rudders but is controlled on the surface by propeller speed and direction, and below the surface by propeller speed, direction and attitude. Stanley A. Black, project engineer, is shown on the right inspecting the instrument panel of the experimental CAV.

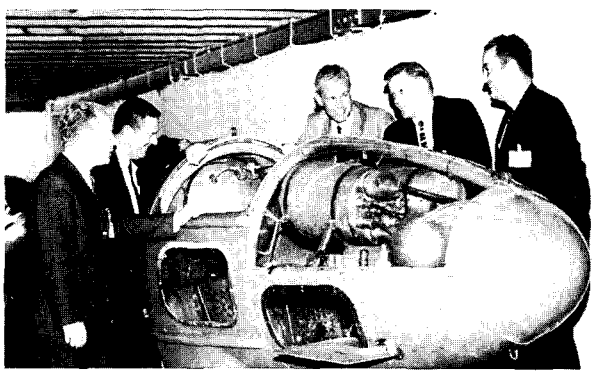


CRACKING GLOBE VALVES

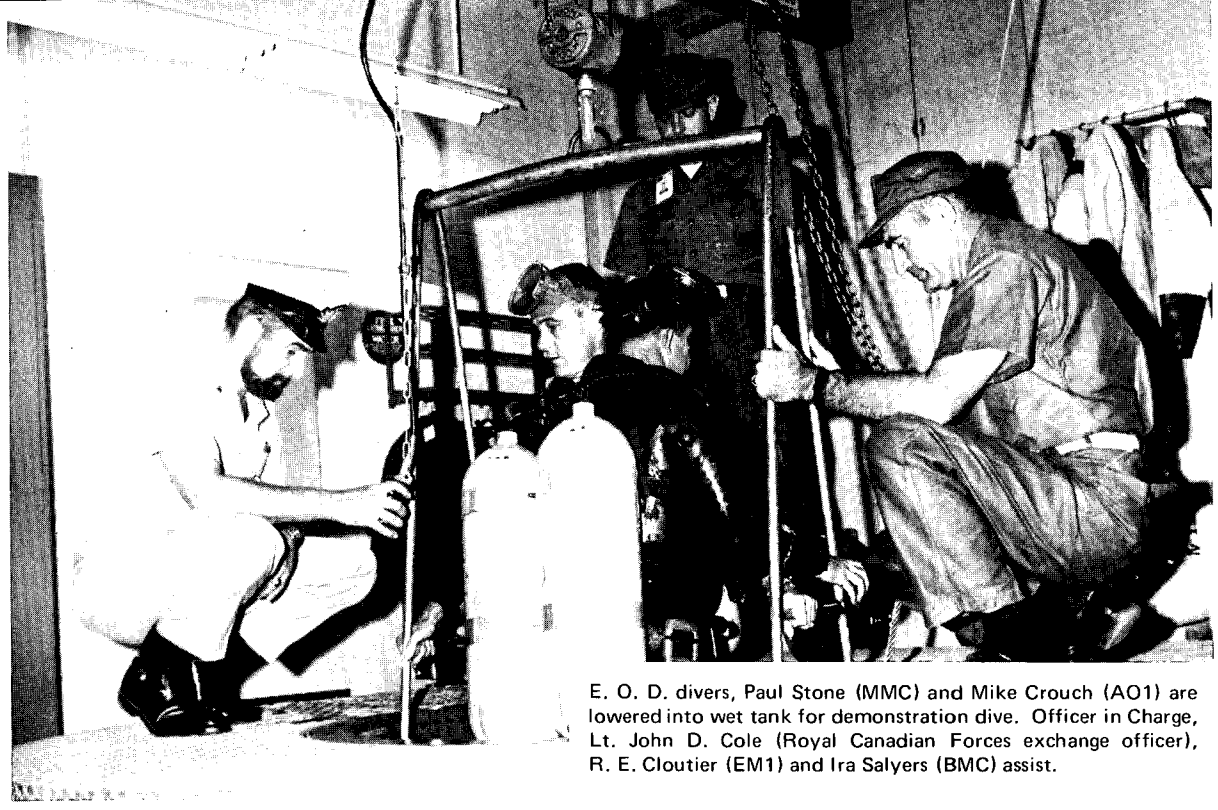
After definite evidence showed that metal fatigue has been occurring on the male section of the valve bonnets on one inch globe valves, metallographic and fractographic investigations were conducted. Analysis revealed that the progressive cracking, invariably located at the same spot, was probably due to the valve bonnet having been incorrectly torqued down with the stem in the extended position. The clarification of this point has been added to the list of assembly procedures to avoid further error in torquing.



DUTCH OFFICERS VISIT U.S.



Two Dutch diving officers paid a cordial visit to the U.S. recently under a weapons development data exchange agreement between our two nations. They brought with them a NEMBA (Netherlands Mixture Breathing Apparatus), a nonmagnetic, semi-closed apparatus which will be tested at EDU and NSRDL, two sites which were included in their tour. While at NSRDL, the officers were shown a swimmer delivery vehicle (see photo). Included in the picture are LCDR F. De'Bree RNN, Mr. Tom Odum of NSRDL, LCDR F. Goote RNN, CDR J.J. Beckham USN and LCDR W.I. Milwee Jr. USN.

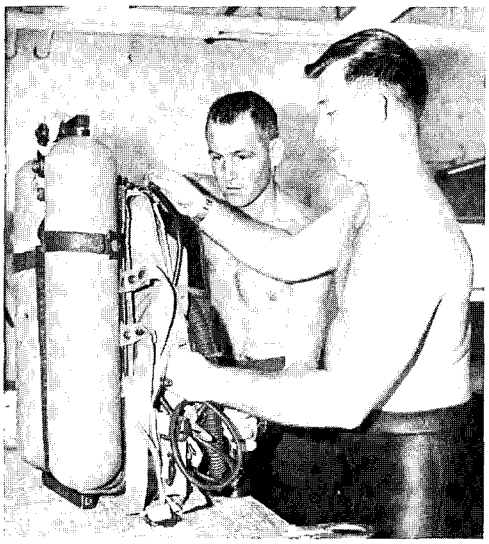


E. O. D. divers, Paul Stone (MMC) and Mike Crouch (AO1) are lowered into wet tank for demonstration dive. Officer in Charge, Lt. John D. Cole (Royal Canadian Forces exchange officer), R. E. Cloutier (EM1) and Ira Salyers (BMC) assist.

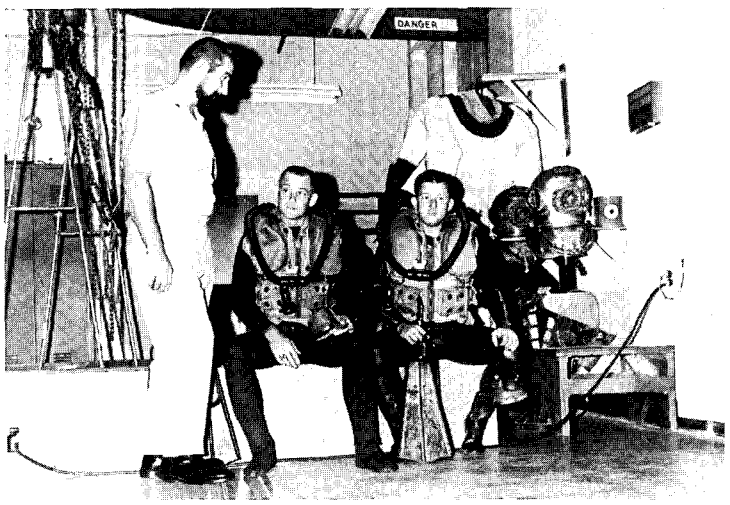
Men of NAVEODFAC — divers of distinction

NAVEODFAC diving locker houses offices plus wet tank and hyperbaric chamber. Oversize door with crane rail provides easy access for hoisting large pieces of ordnance into tank.

W. A. Bradfield (MN1) and CWO D. E. Gable secure gear for diver Stone.



Divers Stone and Crouch prepare equipment for demonstration dive into NAVEODFAC wet tank.



Right, Lt. Cole gives final instructions before dive.

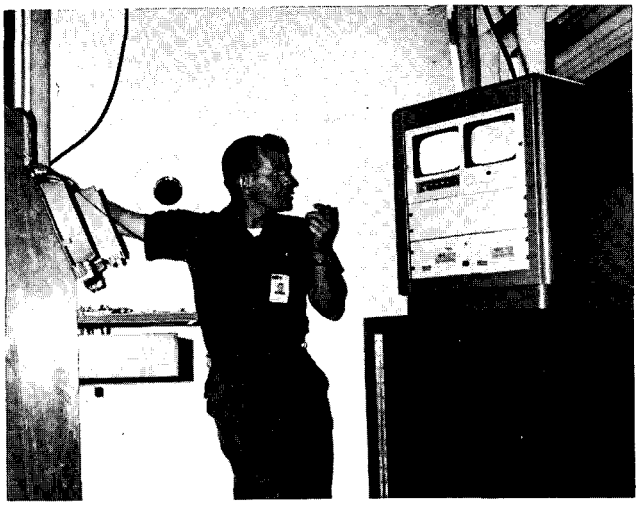
Indian Head, Maryland, a picturesque spot with a name to match, is the location of the U.S. Naval Explosive Ordnance Disposal Facility (NAVEODFAC). Commanded by Commander Bobby J. Brown, this Facility is the headquarters of a highly professional contingent of Navy divers who form the Diving Support Division, an integral part of the Technical Evaluation and Support Department.

One of the main tasks of the diving locker is the research, development, test and evaluation of various methods, tools and procedures for rendering safe explosive ordnance underwater. The locker also supervises requalification training for approximately thirty-seven divers assigned to NAVEODFAC and is available for project use by other commands upon request.

Requests are many and varied, and come from such activities as the Naval School, Explosive Ordnance Disposal, the Naval School of Diving and Salvage, the Navy Experimental Diving Unit, the Naval Oceanographic Office, the Coast Guard, as well as local and state police. These are only a few of the commands who have requested and received support from this unit.

The diving locker, unique in many ways, is one of the few in the country which can boast about its chilled wet tank. This externally lighted, 10 foot in diameter by 15 foot deep tank can be chilled to 40^{o} and heated to 170^{o} F. Tank filtration through a large swimming pool type filter can be completely blocked off, permitting pressurization of the tank down to a working depth of 450 feet. The locker hopes to add an igloo and lockout chamber to their present installation in the near future.

Divers in the wet pot are monitored by using a closed circuit television system equipped with a 10MM wide angle lens for complete tank coverage. A close-up lens is also available when inspection of equipment in the middle of the tank floor is desired. Diver communication is accomplished by a hydrophone system which allows the divers complete freedom from personal sound equipment. The diving locker is also equipped with a standard size hyperbaric chamber capable of accommodating three men on HeO_2 to a 450 foot working depth or several men on air to a 285 foot working depth. All chamber lighting is external and the only internal electrical connection is a 6 volt battery for internal communications. The hyperbaric chamber within the unit has never had to be used for a case of diver decompression sickness.



Communications with divers in the tank are by t. v. monitor and hydrophone system, A. O. Harrelson (HM1) handles equipment for demo dive.

To carry out the Diving Support Division's task of test and evaluation, approximately fifty percent of the testing is conducted in the unit's wet tank utilizing inert ordnance. The remainder of the testing is conducted from one of the diving boats in the Potomac River under "some of the worst diving conditions imaginable." Nil visibility and strong currents in the river are mainly responsible for the adverse conditions.

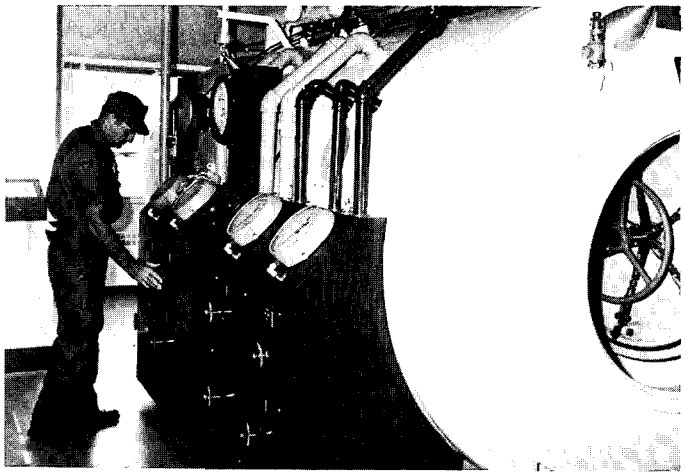
The largest craft assigned to the locker is a diving boat; a 50 foot, old MHU, converted for diving and equipped with navigational radar and multi-channel radio communications. Other craft include two Boston Whalers and several rubber boats.

During evaluations of EOD procedures, the locker utilizes many of the EOD qualified divers assigned to NAVEODFAC. When divers assigned to the Diving Support Division become too familiar with an item of equipment or procedure, other divers are called upon to ensure an impartial opinion. By doing this, assurance is given that any EOD team in the field can carry out a particular routine, and NAVEODFAC divers are kept up to date on new EOD procedures.

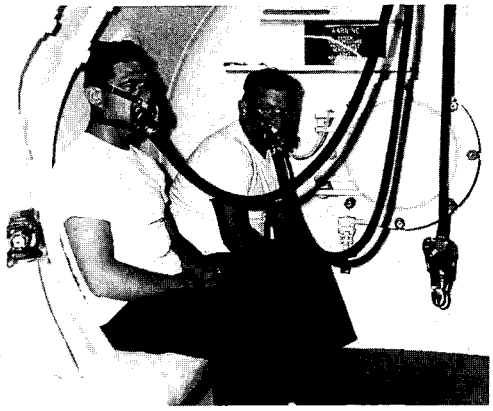
The divers of the locker have been very active in the field of research and development as well as their various other assignments. Numerous hours have been spent on cryogenics and recently a new EOD wet suit was developed in cooperation with a local wet suit manufacturer. The suit is desirable for any diver because it provides diver comfort and is 100% nonmagnetic. Based on a zipper concept to ensure a close fit, the suit (available to the fleet soon), will be produced in only four sizes: small, medium, large and extralarge. Within extreme size ranges, these suits will fit any diver, thus doing away with the need for tailor-made suits. Between dives or when topside tending, the diver simply unzips several zippers and gains complete freedom of movement without removing the suit.

The personnel of the Diving Support Division who conduct this vital test and evaluation function are LT John Cole, Canadian Armed Forces Exchange Officer, CWO Donnie Gable, Underwater Engineering Ordnance Technician, Mr. Eugene Sopchick (BMCM Ret.), Ira Salyers (BMC), Jack Crews (SFC), Charles Lateulere (EMC), Alvin Harrelson (HM1) and Wayne Bradfield (MN1).

Harrelson keeps tabs on divers via unique communications system.

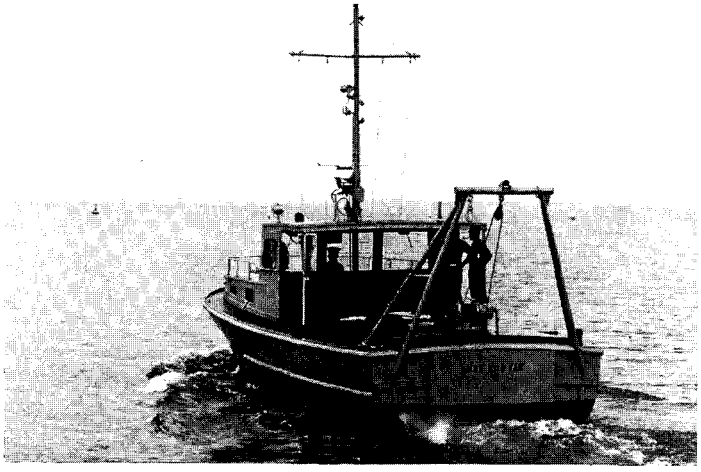


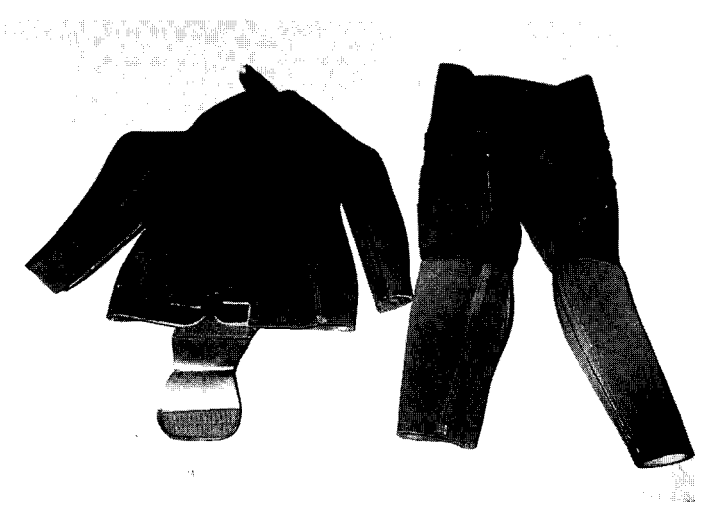
Ira Salyers at the controls of the NAVEODFAC hyperbaric chamber. Note external lighting.



R. E. Cloutier, left and W. A. Bradfield, right demonstrate facility's hyperbaric chamber.

A-frame hoist on stern of MHA diving boat provides effective tool for lifting ordnance from the bottom.





New wetsuit developed by NAVEODFAC and local manufacturer features zippers for comfort; Harrelson models in left photo.

THE MASTER DIVER: A SEASONED VETERAN

When a man devotes himself to his job, spends almost a lifetime of learning and teaching in it, he earns the respect and admiration of others. . .such men are the Master Divers of the U.S. Navy.

Only fifty-seven men currently serve in the capacity of Master Diver in various positions around the world. Their's is a close-knit fraternity. Even though separated by miles of oceans, most cross paths many times during their careers. Among fellow divers their position is one of prestige and respect for a man who is a true professional; the key supervisor of enlisted men on any dive.

FACEPLATE wishes to acknowledge these career men of the Navy who hold the title of Master Diver.

Ira Salyers, BMC
Explosive Ordnance Disposal Facility
Indian Head, Maryland

Jerry Kinnard, MMC
USS Skylark (ASR 20)

William Loudermilk, ENC
USS Coucal (ASR 8)

Dean Hawes, DCCS
USS Preserver (ARS 8)

LeRoy Brown, BMCS
Harbor Clearance Unit Two

Fredrich Bigger, BMCS
Ordnance Laboratory Test Facility
Solomons Island

Joseph Bates, EMC
Harbor Clearance Unit Two

Lomaye Hurley, DCCM
Submarine Development Group One
San Diego, California

Elbert Worthy, BMCS
USS Chanticleer (ARS 7)

James Sirotniak, BMC
Navy Safety Center, Norfolk, Va.

Regino Falcon, BMC
Navy Development and Training Center
San Diego, California

Donald Smith, SFC
School of Diving and Salvage
Washington, D.C.

Joseph Rizer, DCCS
USS Kittiwake (ASR 13)

William Lucree, MLCS
USS Coucal (ASR 8)

Roy McClanahan, DCCS
Navy Experimental Diving Unit
Washington, D.C.

Matthew Morris, BMCS
USS Escape (ARS 6)

Robert Johnson, BMCS
School of Diving and Salvage
Washington, D.C.

Raymond Shoaf, BMC
Underwater Weapons Research
and Engineering Station
Newport, Rhode Island

Okey Southers, BMC
USS Sperry (AS 12)

Donald Doxsee, BMC
School of Diving and Salvage
Washington, D.C.

Paul Davidson, ENC
USS Proteus (AS 29)

Donald Schmitt, MMC
Engineering/Hull Department
Service Schools Command
San Diego, California

Andrew Parfinsky, MMCS
USS Florikan (ASR 9)

Arthur Nelson, MMC
Undersea Research and Development Center,
Long Beach Division

Sammie Stockton, EMC
USS Recovery (ARS 43)

Nicholas Waters, DCCM
Ship Repair Facility
Subic Bay, P.I.

Frank Eissing, DCCM
Harbor Clearance Unit One

Richard Villasenor, BMCS
USS Reclaimer (ARS 42)

Donald Potter, BMCS
Naval Development and Training Center,
San Diego, California

Robert Dykes, SFC
Engineering/Hull Department
Service Schools Command

Marcus Hill, DCCS
Sub Development Group One

Walter Payne, DCCS
USS Edenton (ATS 1)

Fred Schunk, MMC
School of Diving and Salvage
Washington, D.C.

James Ernst, DCC
Harbor Clearance Unit Two YRST-1

James Payne, BMCS
Naval Air Station, North Island,
San Diego, California

William Martin, BMCS
Naval Ship Research and
Development Laboratory
Panama City, Florida

John Ortiz, DCCS
USS Deliver (ARS 23)

Charles Flynn, DCCS
Navy Safety Center
Norfolk, Va.

William Ribbeck, BMC
Naval Torpedo Station,
Keyport, Washington

Robert Schnepf, GMGC
USS Canopus (AS 34)

Virgil Hudson, DCC
USS Grasp (ARS 24)

Carl Brashear, BMCS
USS Hunley (AS 31)

Earl Bennett, DCCM
USS Opportune (ARS 41)

Robert Driscoll, DCCS
Submarine Base
New London, Conn.

Paul Keane, BMCM
Submarine Base, New London, Conn.

Dennis Morse, MRC
School of Diving and Salvage
Washington, D.C.

Robert Bosworth, DCCM
USS Tringa (ASR 16)

William Gholson, TMC
USS Chanticleer (ARS 7)

James Tolley, BMCM
Submarine Development Group One
San Diego, California

Clifford Buhl, DCCM
Fleet Submarine Training Facility
Pearl Harbor, Hawaii

Billy Kitchens, DCCS
USS Sunbird (ASR 15)

Charles Ranger, DCCS
USS Nereus (AS 17)

Kenneth Chaffin, SFC
School of Diving and Salvage
Washington, D.C.

Robert Mulally, DCC
USS Spear (AS 36)

Frank Josenhans, DCCM
Navy Experimental Diving Unit
Washington, D.C.

Wayne Sarratt, DCCS
Engineering/Hull Department
Service Schools Command
San Diego, California

Walter Philbrick, ENC
USS Fulton (AS 11)

UNDERWATER COMMUNICATIONS

for the military diver

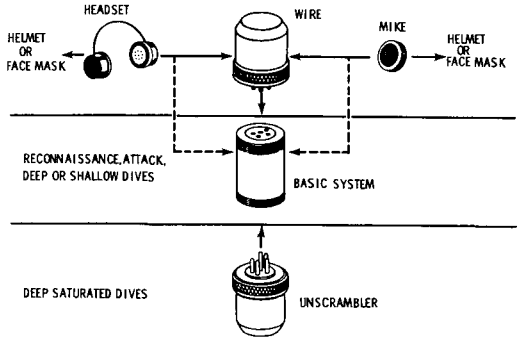
A two-year program to fulfill the Navy's needs in underwater communications, jointly sponsored by Naval Ship Systems Command, Supervisor of Salvage, and Office of Naval Research, has been assigned to the Naval Ship Research and Development Laboratory, Panama City, Florida.

This program will encompass the entire role of the Military Diver and will provide a means for obtaining modern state-of-the-art communications gear for the diver regardless of his mission.

Recent significant developments will be competitively evaluated in groups of three or more per category. The program is divided into the following eight categories: helmets; facemasks; earphones; microphones; acoustic systems; wire systems; helium speech unscramblers; and platform support equipment.

A recently completed development at NSRDL Panama City, forms the basic module into which all other components will be coupled. This equipment is being worn by a diver above. Some of the unique features of this communicator include voice-operated transmit switch (VOX), binaural hearing capability, and compactness. Each item of equipment in the eight categories must operate with equipment in the other categories as appropriate. Items will be evaluated first in a comprehensive series of controlled laboratory bench tests, followed by a series of sea tests in which the equipment will be subjected to the operational environment. Final evaluation will be in a series of simulated chamber dives to depths of 1,000 feet. All the equipment in this program will be diver worn except the platform support equipment.

MILITARY UNDERWATER COMMUNICATIONS (MODULAR CONCEPT)



Upon conclusion of the testing program, the data will be reduced and used as a basis for selecting the most satisfactory equipment configurations which will be modularized along the lines of the figure above.

AWARDS to the men of the diving world

It can only be described as an extreme honor to receive a citation verified and signed by the Commander in Chief, the President of the United States. Lt. Alfred B. Quist, USN (below right) was the recipient of such an award during ceremonies at the Experimental Diving Unit in Washington, D.C. It reflects on the entire U.S. Navy and divers in particular when such an award is bestowed upon one of their colleagues. Lt. Quist was awarded the Presidential Unit Citation for "exceptional meritorious and heroic service as a member of Seal Team Two during the period 1 July 1967 through 30 June 1969."

In addition to the coveted Presidential Unit Citation, Lt. Quist received a Third Bronze Star Medal and Gold Star for "meritorious service as Officer in Charge of Detachment ALFA, Seal Team Two, while conducting over two hundred and ninety combat missions in the Mekong Delta area of operations, Vietnam; from October 1969 to April 1970."

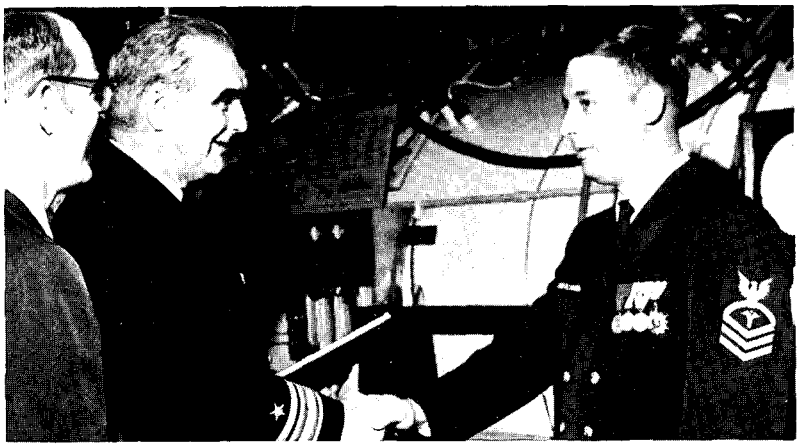
Among those honored during the EDU ceremonies was LTJG Richard Y. Iha (below left) who was awarded the Navy Achievement Medal (with combat device) for professional engineering achievement while serving as Public Works Officer of Logistics Support Base NHA BE, Vietnam; from August 1969 to August 1970.

Rear Admiral John W. Dolan, USN, of the Naval Ships System Command staff, who awarded the various medals and citations, also took time out to honor two civilian federal employees (not pictured) with longstanding records of service to the U.S. government. Mr. Michael J. Foran was awarded the Thirty Years Federal Service pin and certificate. With over six of his thirty years at the Experimental Diving Unit, Mr. Foran is the Assistant Head Engineer.

Mr. Thomas W. James received a Letter of Patent and Beneficial Suggestion award for a "Carbon Dioxide Absorber for Breathing Device" (a joint patent with Mr. Charles E. Michielsen and Doctor Maxwell Goodman). His award was in the form of a check for $100.

Lt. Alfred B. Quist

LTJG Richard Y. Iha



HMC (DV) Troy M. Brown

Due to recent success at the EDU Facility in their conducting of a 1,000 foot Experimental Dive (reported in the Fall issue of FACEPLATE) several of those involved were honored for their respective parts in the dive. Pictured above, CDR Huntley Boyd, Jr., USN, Officer in Charge of EDU looks on as HMC (DV) Troy M. Brown, USN, receives a certificate in honor of his work in the dive. Also cited for their work on the 1,000 foot dive were LCDR John Alexander (Medical Corps), USNR, (below left) and EN1 Thomas A. Guzicki (not pictured). Pictured below right, SF1 Larry E. Larimore, USN, receives a Navy Unit Commendation for Exceptionally Meritorious Service as a member of Harbor Clearance Unit-One, from 15 March 1967 to 1 July 1969; conducting combat Diving and Salvage Operations.

LCDR John Alexander

SF1 Larry E. Larimore

"Man-in-the-Sea"

...*THE SATURATION DIVER*

The term "man-in-the-sea" may not be a familiar one to all divers. However, if one should hear about the "saturation diver," you would be hearing about one and the same thing, because these two terms have the same meaning.

For those who may not have a complete understanding of saturation diving, here is a brief review: The U.S. Navy has established that a diver at a depth of 380 feet requires three hours of decompression time for only thirty minutes of useful work. This, of course, is not considered good business by the U.S. Navy. Therefore, in order to overcome this unfavorable comparison of decompression time to bottom time, the technique of saturation diving in the Navy is being used more and more.

In one example of saturation diving, two subjects can be pressurized to a known working depth on the surface in a diving device such as a Personnel Transfer Capsule (PTC). These subjects are then lowered to the working depth in the PTC, which is supported from the surface. In this situation, one diver can make excursion dives within range of the capsule using a back pack with a self-supporting breathing gas mixture. The other diver remains in the capsule to watch over the "man-in-the-sea." After sufficient exposure to the surrounding pressures, the divers acquire a gas saturation in their bodies which balances the water pressure. The divers are then considered to be in a "saturated condition."

Once saturated, say to a working depth of 300 feet, the decompression time for the divers is about two and one half days regardless of how long they stay at 300 feet. It could be one day or thirty and still require the same decompression time.

After each excursion dive from a PTC, the diver returns to the comforts of his dry capsule. When the mission is completed, the divers are raised to the surface in the PTC. Upon return to the surface, the PTC is fitted and secured to an Entrance Lock which provides access to two separate Deck Decompression Chambers, where the subjects are decompressed to normal atmospheric pressure.

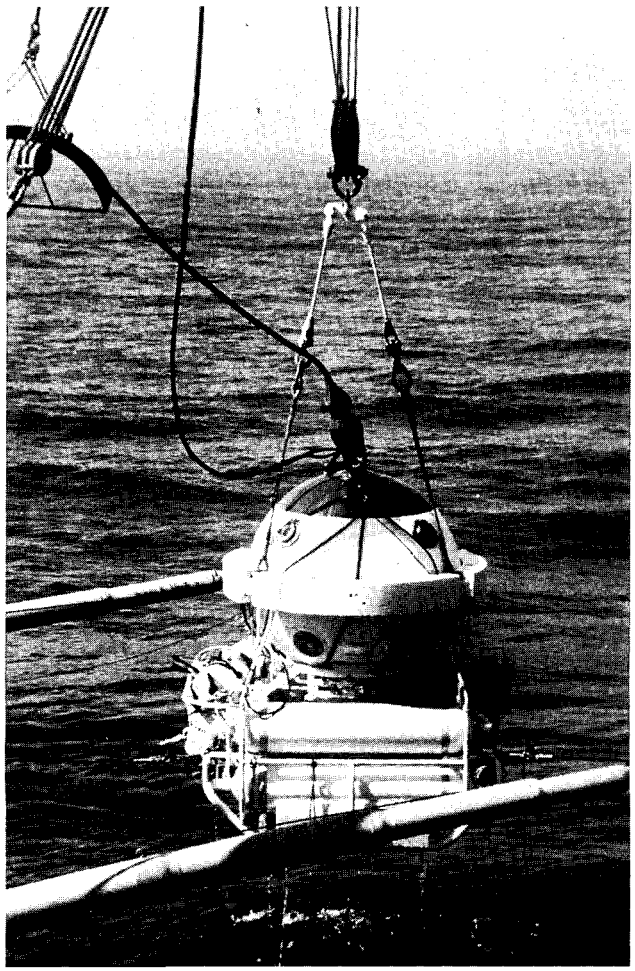
Did you know that the Navy has given this type of job a classification? The code number is 5311. You can find it in the Classification Manual under the job title, "man-in-the-sea."

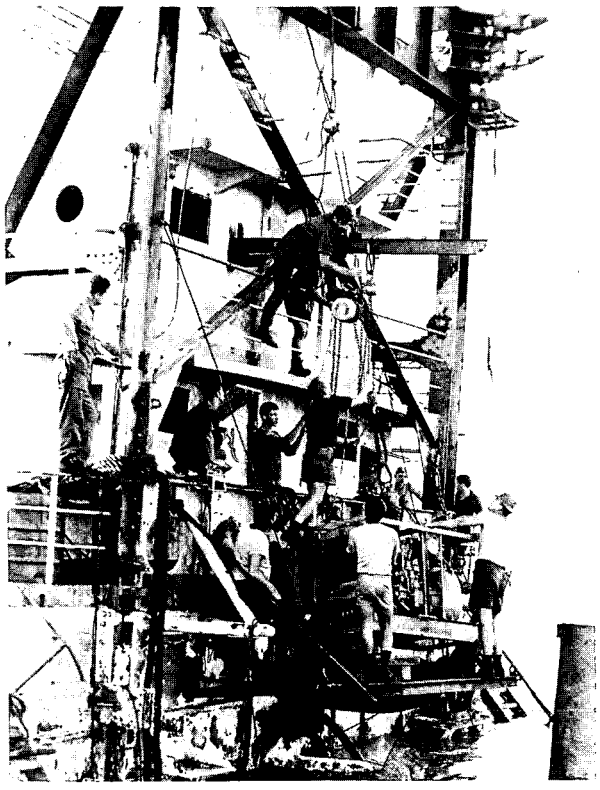
What are the eligibility requirements for NEC 5311? You must be at least a qualified First Class Diver with an NEC 5342. You must receive saturation training at EDU. Then you must be chosen, which is done automatically by EDU upon completion of your training.

Are you interested in saturation diving? If so, perhaps you should explore this NEC 5311 carefully.

Note: The PTC capability described in this article is identified with the Navy's new Mk I. Deep Dive System, which was explained in the Spring & Fall issues of FACEPLATE.

The U.S. Navy's Personnel Transfer Capsule brings up "saturation divers" from the deep.





OPERATIONS of HarborClearance Unit-One

the "Iron Men"

Even in the administration of incidental duties, teamwork is of the utmost importance. Here, on the sunken dredge "Sandpumper," a combined effort is necessary for the positioning of a six-inch pump.

Those "Iron Men" of the harbor clearance units are confronted with countless situations which they consider to be "all in a day's work."

HCU-ONE performs its duties in the western Pacific where it was commissioned in 1966. Not only does it maintain many roles, but HCU-ONE partakes additionally in such tasks as the repairing or removal of vessels and land construction, which expose it to missions of varying importance.

One mission of great importance was the salvaging of the merchant vessel Sea Raven early in the life of HCU-ONE. This operation was successfully undertaken in South Vietnam. This location also set the scene for another extraordinary display of ability for the HCU-ONE. Acting as a unit, it salvaged the SS Baton Rouge Victory and its cargo worth over $500,000. Another concerted effort of the entire unit led to the salvaging of the dredge, Jamaica Bay, again in South Vietnam.

However, as in any other job, such formidable accomplishments do not make up the daily routine of HCU-ONE. Rather than efforts stemming from the unit as a whole, subdivisions or "teams," usually go out on individual missions. These missions not only involve salvaging but also include such duties as changing and cleaning propellers, cleaning sea strainers, extinguishing fires, and repairing salvaged objects of almost infinite descriptions. The types of items include barges, tugboats, fragmented aircraft, destroyed bridges and various mechanical devices.

The importance of teams in the daily work of this elite corps has already been cited. Each team is comprised of men of all abilities, each highly competent in his specialized field and all varying in rank. This kind of "complete" make-up is preferred; enabling the team to function without outside assistance. The goal of each group is to succeed independently. This is also carried over to the individual member, thus developing each man in skill and character. After completion of an initial plan or approach to a task, each team exerts its independence by utilizing whatever supplies and labor can be mustered locally for the job.

There exists, nevertheless, a central location acting as the hub of all operations, YRST-1, which is a Repair Salvage Tender. The YRST-1 is styled to perform various roles including the repair of equipment, the production of salvage patches and the supply of electrical power. Its crew is also comprised of men of diversified ranks and skills.

To compliment the exceptional background of the men exists an equally commendable line-up of sea vessels

available to help them. The craft vary in size to accommodate any mission that could be encountered. Two Heavy-Lift Craft, constructed in Germany during World War II, and which are the largest of their kind in the world, could be termed the backbone of the unit. Their ability is tremendous, with a combined lift potential of 8,600,000 pounds. Despite their ruggedness, the vessels nevertheless provide ample comforts for their crews: air conditioning, excellent food and nightly movies.

Three Light-Lift Craft also join the line-up. Independent operation is their trade-mark, too, although they are indispensable when a major salvaging mission is to be undertaken in cooperation with the other craft. Their facilities include an A-frame derrick capable of lifting 25 tons, a ballast bow lift of 100 tons, and the equipment for welding, underwater digging, fire extinguishing, and logistic work.

Vessels of lesser magnitude are necessary because of numerous missions which occur not only in the larger bodies of water, but in narrow rivers or other "cramped" working conditions. Falling into this category are four Combat Salvage Boats, considered to be highly competent as backing for the Mobil Riverine Groups, and two Yard Diving Boats. Their maneuverability makes them a popular choice for many jobs.

Another piece of equipment HCU-ONE can be proud of is the Advanced Diving System FOUR (ADS IV) which is classified as the only fully operational deep diving system owned by the Navy. To a depth of 600 feet, it is very useful in searching and salvaging operations. Important, too, is the fact that it can be airlifted to any location in the world.

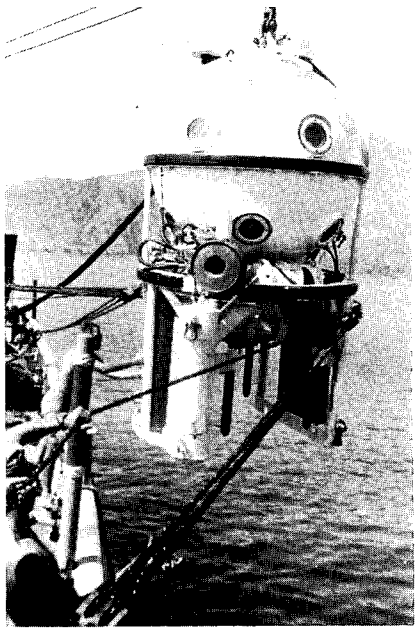
The courage, coordination and skill of the men, and the efficiency of the equipment are some of the reasons for the continued success of HCU-ONE. The word courage is not used lightly, either, since even a glance over the extensive list of medals awarded to the salvors is impressive. Their work can be termed arduous even in "normal" conditions, but the hazards confronted in the violent Vietnamese environment compounds the difficulty of each mission. The hardy salvors refuse to permit these circumstances to impede their work.

NOTE: CDR J. F. Madeo, Jr., of HCU-ONE, portrays explicitly the caliber of his men in his poem "Iron Men" found on the inside front cover of this issue.

Harbor Clearance Unit-Two will be featured in a future issue of FACEPLATE.

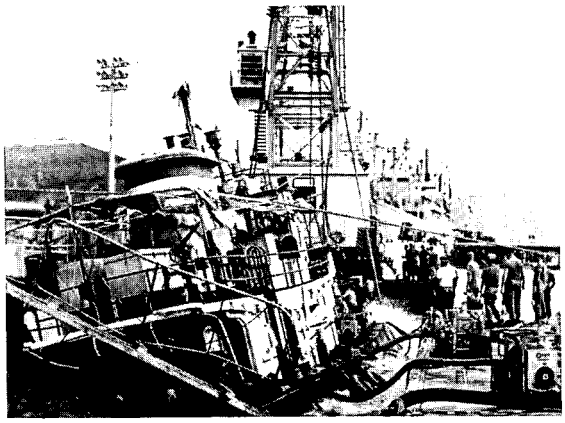
In action...

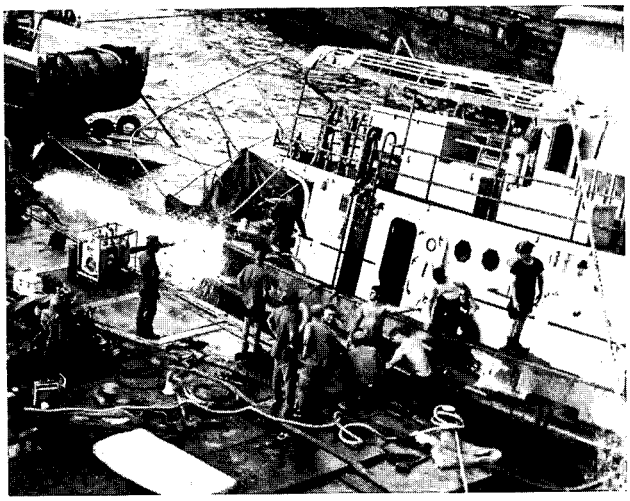
(SA) Gary A. Dahlbeck, USN of CSB-1, signals during the midnight removal of engines from an LCM-6, sunk near BenKeo, Vietnam. Spending as little time as possible in the "hot" area, the crews of the CSB-1 and YLLC-1 worked through the night on another HCU-One "Salvop."



Advanced Diving System Four (PTC), Personnel Transfer Capsule, being brought aboard ARS during trials off Subic Bay, P.I. by members of HCT02 of HCU-One.

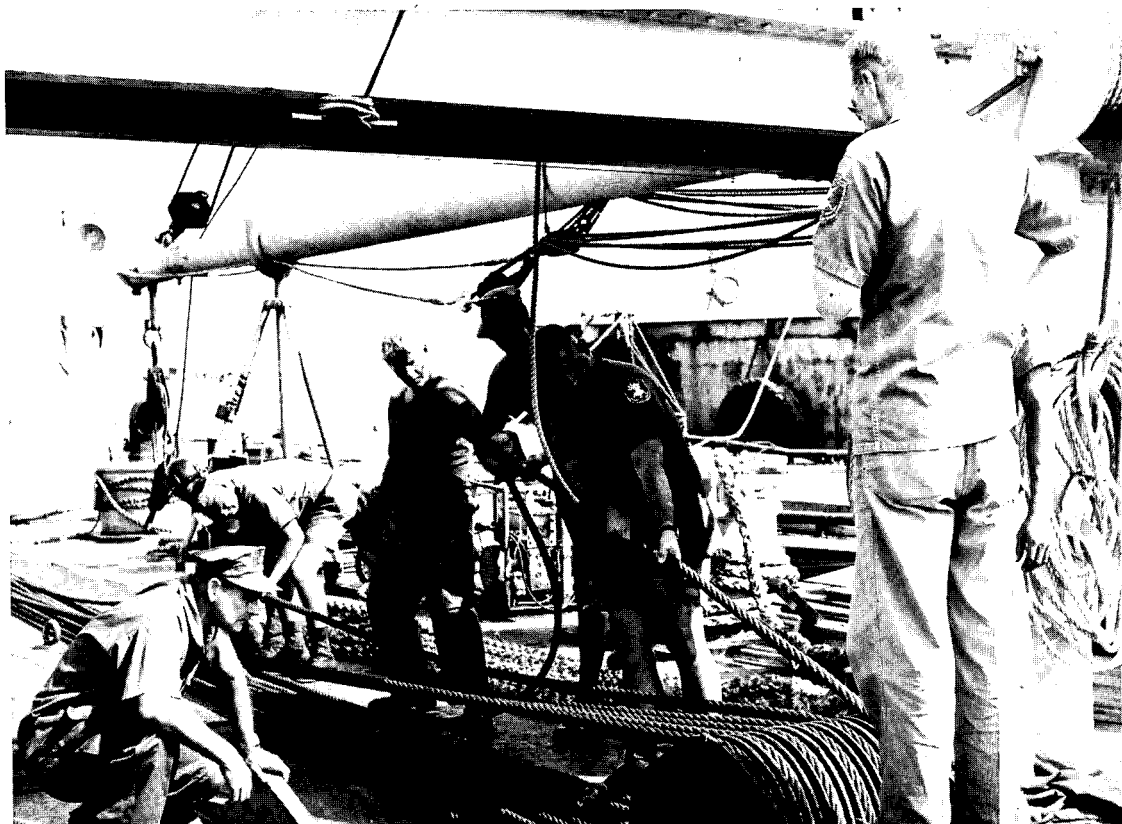
As Army tug at Qui Nhon, RVN breaks the surface, (photos left and right) men of the HCU-ONE immediately start pumping craft's interior.





around the globe

LCDR Harvey Stewart, (left) COMNAVFORV Salvage Officer, and Lt. Donn Thomas, HCU-One Rep. Vung Tau, look on as DCC Ernest instructs salvors in the "art" of rigging a six-fold purchase.



Chino–

A NEW

Experience

IN

Diving

by
W. R. Bergman
Office of the Supervisor of Diving

A plan of action began some time ago for a diving school – a school which would make divers out of unlikely candidates, namely, prison inmates.

At the California Institution for Men at Chino, California, an interest in diving began among inmates having various talents and backgrounds. Encouraged by enthusiastic prison officials and concerned private citizens, the men formed themselves into an avocational group called H. A. T. S. (Hydrospace Activities Technical Symposium).

H. A. T. S. met after regular working hours for discussions, lectures, reading programs, and hydrospace activities. Qualified professionals from universities, industry, and commercial diving companies gave freely of their time and lectured at Chino for this group of motivated prisoners. Following this, the program expanded to actual pool SCUBA training. The resulting enthusiasm of the men and their supervisors was infectious. More inmates became interested and joined the group.

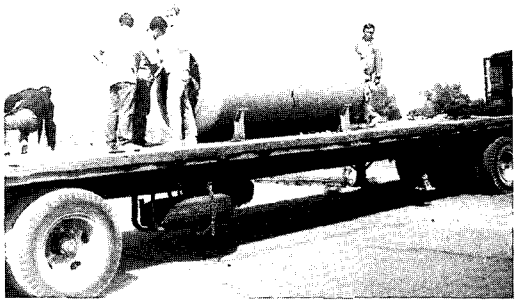
The revolutionary idea of preparing inmates for a career in the expanding commercial diving field was, at first, scoffed at as being impossible, and unadaptable to the penal institutional structure.

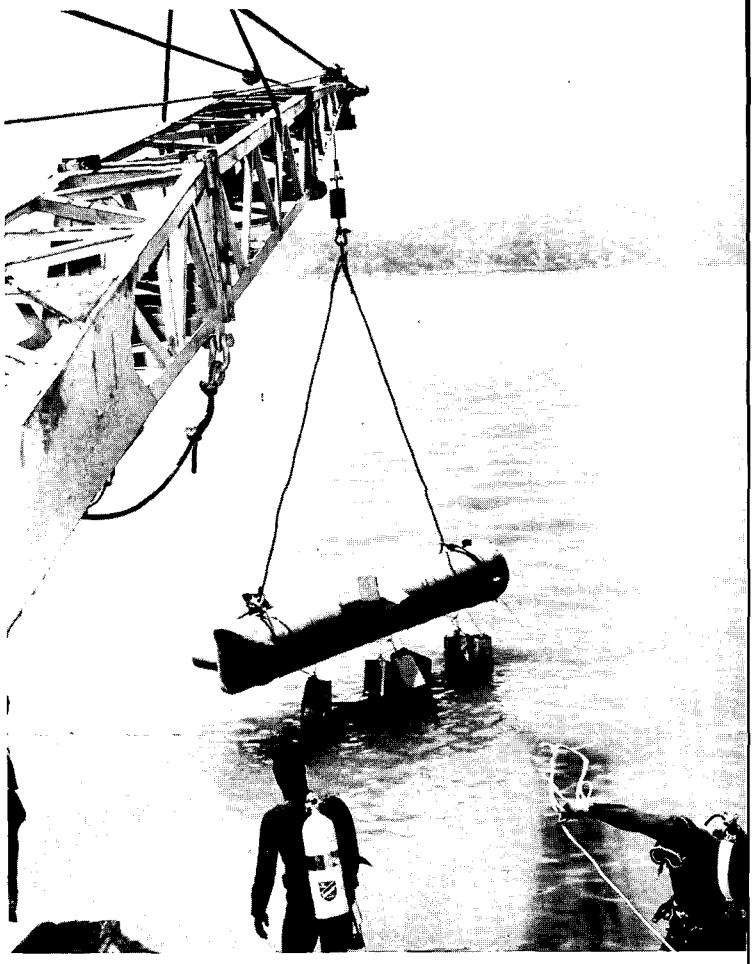
Perserverance by those interested in the project and the validity of the concept had led to the formation of H. A. T. S., the advocational group. While interest continued to run high, people outside continued to work for a regular school for the inmates.

While the program was still in the first stages of development, the U.S. Navy was asked to divert surplus diving equipment to Chino for use in the budding program. The Navy took a decided interest in this group. The belief, by not only the directors at Chino, but by civic parties as well, in the ability of the inmates to become both socially and vocationally rehabilitated through diving was inspirational. The sheer drive of these individuals was admirable. Their efforts to solicit funds and support from federal and state sources in hopes of attaining the goal they wanted was at last realized in a full time, forty hour per week school of diving at Chino.

Personnel from the Navy involved in this unique venture can attest to the value of the experiment and its success. "It would warm even the coldest boatswain's heart to see the men who recognize they have violated society's laws, and now have the opportunity to redeem themselves through a worthwhile program—one which can prepare them for an interesting and challenging profession."

The men of Chino are well informed about the rough world outside. It is a part of their rehabilitation to be able to cope with it. These particular men are not unaware of the keen competition in the world of divers. They do not delude themselves by presuming they will start off with high paying diving jobs after graduation from diving school. On the contrary, they are fully prepared to begin with an apprenticeship and then work their way up. They want only the chance to prove themselves and to rely solely on their own merit and performance.

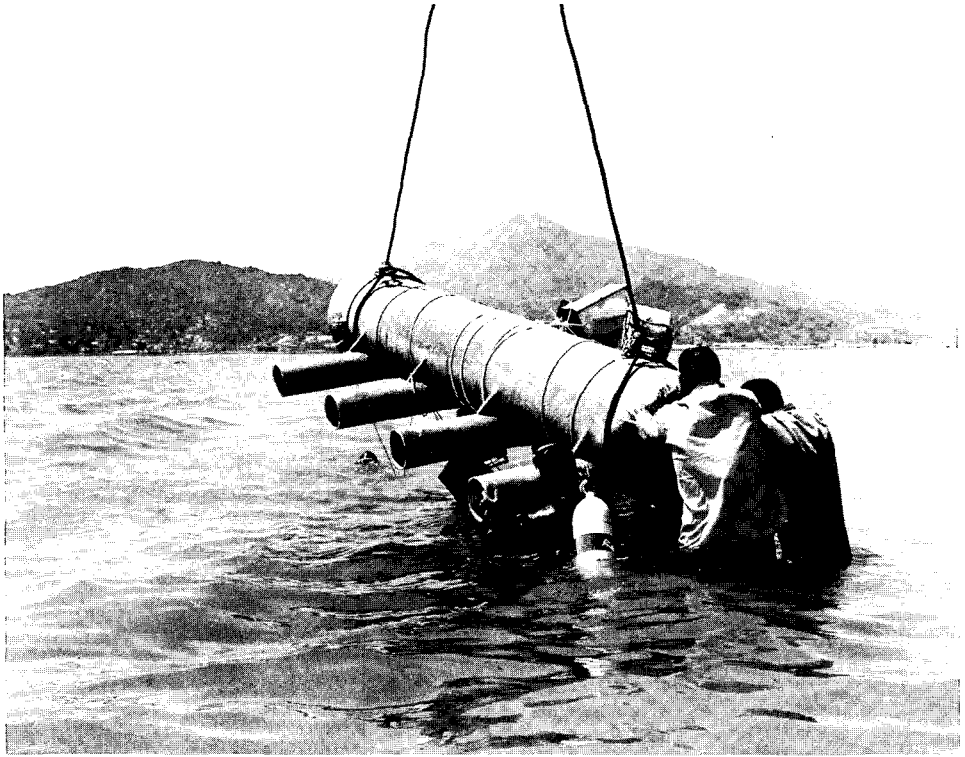




In right photo, two divers from Vocational Diver Training about to enter the water on pipeline repair job. This work was performed at San Quentin prison, at the request of the San Quentin Engineering Department, to repair a mechanical failure in an outfall system. A very real savings was effected in overall costs to the State by the professional competence and imagination displayed by these men.

Below, re-designed and repaired pipe section being guided for final lowering into place on the bottom.

Picture above: a very important day for the men of the Vocational Diver Training program; the delivery of the surplus U.S. Navy recompression chamber. This chamber, which has been provided to the program through the ongoing assistance of Capt. Mitchell and Mr. Bergman, has already been completely overhauled, repainted, replumbed, and is now fully operational at the Training facility at C.I.M.



"Faceplate" Match-up

Class 14-61 graduated 1 Dec. 1961
The Naval officer is LCDR Enwright, Asst. Officer in Charge of the school. Baker (MR), Branin (SF), Casteel (MM), Cane (EN), Chalk (EN), Frauenfelder (BU), Hearth (MM), Hekelnkalmper (IC), Humphrey (MM), Ortiz (SF), Plummer (BU), Philbrick (EN), Sarratt (SF).

Class 6-56 graduated 29 Oct. 1956
Boone (BM), Crieger (BM), Cuadra (ME), Dupuis (BM), Curry (BM), Fontana (BM), Jones (SF), Leonard (GM), Naquin (ME), Novello (BM), Reynolds (SF), Tallarico (GM), Tierno (BM).

Class 3-51 (B) graduated 11 June 1951
Ondis (ME), Rich (BM), Bell (BM), Mattox (ME), Whitaker (BM).

Ye Olde Grads

It seems safe to say that almost everyone enjoys reviewing graduation photos, whether the photos be from high school or from other types of learning institutions. Much of the nostalgia is derived from recognizing former acquaintances that you have not seen since, or that you may still know but have changed in status and/or appearance.

Recognizing this human trait, FACEPLATE has placed a few graduation photos in this issue for those interested in joining the pump of nostalgia. The institution from which these distinguished men graduated is the Navy's Deep Sea Diving School, which has been turning out high caliber men for many years. The photos date back ten to twenty years, so a bit of thought may have to go into your review.

In order to create greater interest, only the last names with the rates without pay grade have been supplied. The matching of the names to the faces has been left for you.

FACEPLATE is interested in your results of the "match-up." Write down your answers along with any anecdote you may know about your fellow divers. FACEPLATE will re-run the photos with the proper identification in a later issue.

letters

to the editor

"HOLA AMIGOS"

. . .or more plainly for all shipmates on the mainland, "HELLO" from the Diving Locker, Guantanamo Bay, Cuba. Personnel attached here are, LTJG Peter W. Symasko, SFC W. S. Staples, HMC K. W. Shahan, BM1 F. Bull, BM2 T. G. Nelson.

Our locker performs the characteristic working dives enjoyed by all Navy Diving Facilities, and occasionally we journey to the other islands for Temporary Additional Duty. Searching a 1,000,000 Gal. AVGAS tank for a small hole, (a needle in a haystack?) and lifting a Bay City crane which overenthusiastically ran off the bow ramp of an amphibious craft, were two of our more unusual jobs. Cleaning piping on our De-Salt Plant, fishing for autos which our civilian male guest misplaced in transit from the Ferry Boat to terra firma, and assisting the EOD Team are all diversions from the more important job of Ship Repair. Training and weekend dives in the CLEAR water outside the Bay greatly enhance the habitability of our environment.

Our locker is open for the entertainment of all Fleet Divers and we look forward to renewing old acquaintances and making new friends. We try to provide all with a sample of the water on a wreck diving expedition. So all you veterans of the "crystal clear" ANACOSTIA do stop for a cup of coffee. The welcome mat is always out.

Sincerely yours,
LTJG P. W. SYMASKO,
USNR

Gentlemen:

Coordinating training for ARS and ATF type ships, plus administration and PDI inspections on each ship are just a few of my responsibilities. We have an open tank for burning and welding exercises, so I would appreciate any suggestions from from your readers on its use.

We are in need of some new gear for our ARS type ships. The shallow water gear onboard presently is not the best for the jobs we have.

While looking for reference materials for our library, I realize that there are many valuable books we don't have, and they seem to be nearly unobtainable as well.

Therefore, I would appreciate current information from EDU and DSDS such as class convening dates, new gear, etc.

Respectfully,
BMCS R. Villasenor (MDV)

Ed. Note: Chief, the information is in the mail. Let the Supervisor of Diving know what instructions, books, etc. you need. Every effort will be made to get it for you. The KMB-8 Band Mask should be in the fleet this year to help your problem there.

Gentlemen:

Uncle Sam's ships may be "asleep" at the Inactive Ship Maintenance Facility in Portsmouth, Virginia, but with the accelerated inactivation and disposal of Navy ships, the personnel assigned to the Facility are far from being asleep.

The recent acquirement of underwater communications and underwater equipment has enabled the Facility's divers to remove sonar domes and propellers from ships which have been stricken from the Navy's Register. The equipment would also be utilized for removing underwater blanks during mobilization for rapid return of ships to duty. Other diving duties consist of bottom inspections and underwater blanking.

LT A.P. Willis, USN
By Direction,
Commanding Officer,
Naval Inactive Ship Maintenance Facility
Portsmouth, Virginia

Gentlemen:

After retiring from HCU-1, I now find myself in Comodoro, Argentina with Ocean Systems, Inc. We are working in 300 feet of water using the ADS-4 and hard hat gear. The ship I am on (Glomar Sirte) is doing drilling for several American and Italian oil companies.

We have more than two years of work here. While living conditions are not the best, my family is with me which helps.

I send greetings to all my buddies from HCU-1. Would appreciate hearing from any of them.

Yours truly,
Charlie Beckham
BMC MDV RET.
Ocean Systems,Inc.
C.C. 788
Comodoro Revadvia Argentina

Gentlemen:

The Fall issue of FACEPLATE just arrived and is, in my opinion, gorgeous! Someone will probably pass a law against it. . .it looks that good. Of course, I am slightly influenced by the nice article on NCEL, including front and back cover. Thanks a million.

Please let me know if we can help again.

Sincerely yours,
Phil Russell
Director of Information &
Presentations Division

Status Report: Saturation Diving

by

LCDR William I. Milwee, Jr.

In recent months a wealth of experience has been gained in saturation diving both from operations with the Mark I Deep Dive System and work at the Navy Experimental Diving Unit. This status report discusses activity underway and that planned in areas which support saturation diving; specifically: deep dive systems, life support systems, thermal protection and communications.

As has been previously reported, the Mark I Deep Dive System is currently undergoing operational evaluation. The operational evaluation, and the training and operations which preceded it have provided an unparalleled base of experience in both saturated and unsaturated deep diving operations. The feasibility of conducting such operations with specially trained Navy divers has been conclusively proven and impetus has been given to the development of support equipment.

One lesson learned from the operation of this system has been that simplification of Deep Dive Systems is possible. With this in mind, the Supervisor of Diving has initiated some efforts in feasibility studies, configuration studies and mission definition for a compact diving system. The product of such an effort would be a design for a diving system which would incorporate the lessons learned in the operations with the Mark I Deep Dive System and those limited operations which have been conducted with the Mark II System. Such a diving system is considered to be most practicable for Fleet operations.

Realizing that the Mark I DDS will not always be deployed aboard its primary support platform the ATS-1, a new home is currently being built for it in the form of a specially modified barge. This non-self-propelled barge will serve as an operational base for the Mark I and will provide a hitherto unavailable capability for in situ physiological and equipment testing as well as training for deep divers.

Breathing apparatus is the most important part of every life support system. The efforts of the Supervisor of Diving in breathing apparatus for deep diving have been directed toward a semiclosed apparatus and a closed cycle system. The Mark IX semiclosed circuit system effort has been terminated, since the success of the DSSP developed Mark 11. The development of the sensor controlled Mark 10 closed circuit system has gone ahead rapidly with extensive chamber testing partially completed; cold water chamber testing, followed by evaluation of this equipment is planned with completion of OPEVAL in 1971. This apparatus can be used interchangeably with the Mark II breathing apparatus and the ancillary equipment developed in support of the Mark II. An umbilical which provides for monitoring and communications functions as well as providing a safety tether is being designed.

The goal has been to provide a breathing apparatus which allows the diver to function effectively and safely while being economical and practical to operate. As such, the Mark 10 shows promise of being the heart of an integrated deep diving suit which offers the advantage of having undergone extensive Navy testing. Considerable work has been undertaken to provide more efficient methods of gas handling than has been previously available. The AIRCO mixmaker used at EDU has proved very successful and a production model is being procured for use with the Mark I System. Another project underway is a cryogenic gas storage system and an air helium reclamation system being installed at EDU. These systems, if workable, will serve as prototypes and test beds for systems which will provide DDS gas support. The goal here is efficient use of expensive helium and maximum flexibility of gas systems, and more importantly, the reduction of the logistic problem of supplying helium gas at remote diving operation sites.

Since our experience has shown diver heating to be absolutely necessary, the subject of thermal protection cannot be divorced from life support. The open circuit hot water suit has been successfully adapted by DSSP for deep diving. Dry suits offer advantages for deep diving. SUPDIVE has directed its efforts toward providing a dry suit system. The initial adaptation of the Apollo underwear to the Dunlop dry suit has shown feasibility of the approach. The second phase, utilization of the Sanders tubulated suit with the Dunlop suit, is now in progress.

The Sanders suit is the first such suit designed specifically for wear by divers and as such is more suitable than earlier tubulated suits. A third phase is being undertaken, almost concurrently, to provide an integrated suit which will be a tubulated suit covered by a noncompressible insulating material. This suit could form the basic garment for an integrated system for the deep diver.

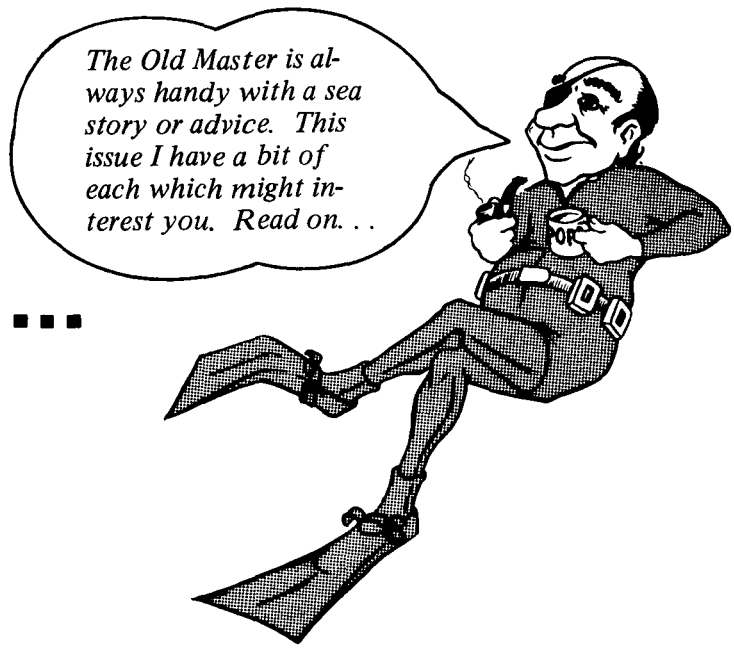
The goal in the heating effort is to provide a system of self-contained heater, suit and breathing gas heater which will permit the diver to work most effectively and encumber him the least.

Efforts have also been made to provide heaters which will be self-contained and carried by the diver. The first units have been delivered for laboratory testing before manned testing is planned. In addition, test units of a second type are to be procured before the end of the calendar year.

A most serious problem which limits the effectiveness of deep diving operations is the lack of an effective diver communications system which includes facilities for the processing of helium speech. An effort is underway at the Naval Ship Research and Development Laboratory, Panama City, to procure and evaluate comparatively existing components and system configurations of underwater communications equipment. This is to determine the optimum design and configuration of an underwater communication system. Considered will be terminal equipment, amplifiers, helium voice processing and other associated components. In setting up this program we have been making an effort to look at everything available. There has been particular interest in the British helium speech processing equipment which was used during the recent 1500 foot dive. This unit will not be available to us for about six months, but we are giving the unit special consideration in the program. The goal of this program is to provide a design and specification for an acoustic and hard wire communications systems that is within the existing state of the art. The system will be suitable for integration with a total diver equipment system.

A positive level of accomplishment in providing an advanced diving capability is certainly in evidence. When comparing past accomplishments to present-day procedures, it is clear that significant progress has been made. The U.S. Navy leads the world in saturation diving techniques and experience; our goal is to maintain that position.

The Old Master Says...



Divers are continually aware of hidden dangers in the deep. It gets to be a matter of habit to "expect the unexpected," especially in an open sea dive; there nature can fool even the most expert divers.

Where some divers tend to let down their guard is in their own "backyard," so to speak. Doing routine things, in familiar surroundings is sure to bring about a more casual attitude. This is probably true of anyone, in any job, not just divers.

Anyone can be caught in a freak accident. . .the one that happens "once in twenty years." And, although, it is unfortunate for the fellow that it happened to, it can be a good lesson for the rest of us. Let me tell you about one that I know of. . .

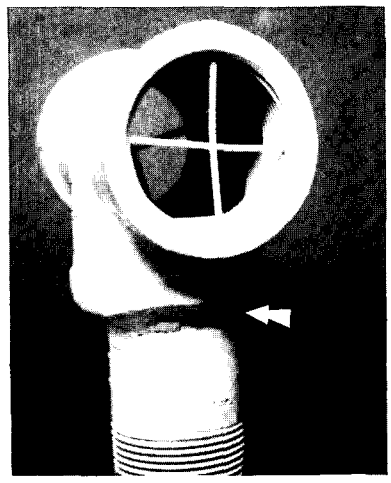
During a phase of rapid decompression from a deep saturation dive at the Navy Experimental Diving Unit in Washington, D.C., a diver who can boast of a lot of experience had his hand sucked up against the dry chamber exhaust line. Within seconds the inside exhaust hull valve was secured by another occupant and the suction was broken between the diver's hand and the exhaust line.

Despite this rapid reaction, however, an area the size of a silver dollar in the palm of the diver's hand was ripped up from the underlying structures. This formed a cavity in the palm which rapidly filled with blood. The pain in the palm was intense. And the diver soon found that he had lost feeling in all his fingers except his thumb.

Well, he was a lucky diver. With excellent medical help, no infection set in and the palm of his hand slowly healed itself and within a few weeks all feeling returned to his fingers.

From an incident of this type, a lesson can be learned. The lesson this time is to be aware of hidden dangers anywhere. He was lucky in another respect too – his friend in the chamber had an immediate reaction, and shut off the valve. Even when you're the man inside, you can save your fellow divers from real disaster.

Naturally, the people at the Experimental Diving Unit want to avoid such an accident again. You might want to know what they did–a pipe "t" with "cross bars" has been added to the chamber exhausts. A simple procedure, but it could save a diver's hand.



This is the way the chamber exhaust line looked after the pipe "T" with "cross bars" had been added. The area above the arrow is the addition.