The Official Newsletter for the Divers and Salvors of the United States Navy Volume 4, No. 3 / December 1999

> Cuba Gooding Jr. (L) portrays Carl

Brashear (R) in

Phillip V. Caruso/ SMPSP

"NAVY DIVER" Photo Credit:

FACEPLA1

SUPSALV Sends

Unfortunately, once again I am writing this in the middle of a major civilian aircraft salvage, the gravity of which makes it hard to express my pride in the professionalism and cando spirit displayed by our diving community. However, I would like to say a few words about all those involved in the EGYPTAIR 990 search and recovery operations. I appreciate that your absence from home and loved ones during the holiday season has been a hardship, but nothing compares to the suffering experienced by the family and friends of those that were lost. Your professionalism, dedication and sacrifice are an inspiration to all. Let me share with you the most gratifying feedback I received during the initial phase of the recovery effort. While briefing the family members of the crash victims on the work you were doing I received a heart felt compliment from a woman who had suffered a great personal loss. Her words were simple but powerful as she said, "What you are doing out there makes me proud to be an American". That compliment was meant for all the Sailors and civilians working on this salvage.

When the recovery is complete FACEPLATE will document the exceptional jobs GRAPPLE, MOHAWK and others did to resolve this tragedy.

FACEPLATE deals with our past, present and future. So, to celebrate our past this issue includes an article about "Swede Momsen" by Peter Maas. Also highlighted on the front



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SUPSALVSends(continued from page 1)page is the forth coming FOX film: "NAVYandDIVER" about MDV Carl Brashear USNis(Ret), starring Robert DeNiro and CubatheGooding Jr. I have had the distinct pleasure of meeting Carl recently and thoughout

any movie takes some literary license, he is one of our true heroes. In addition there is an assortment of articles keeping you abreast of what has been going on in our community. Take the time to read

about the MK 16 upgrades, VSW and salvage in WESTPAC.

Dive safe, see you all in PC for the Working Divers Conference.

Editor's Note: Since I have been associated with the office of the Supervisor of Salvage, practically every SUPSALV at one time has been center stage on a major salvage or search & recovery operation. Captain "Bill" Searle-Palomaris H-Bomb, Captain "Gene" Mitchell-Regulus, Hong Kong & Oriental Warrior, Jacksonville FL, Captain "Huntly" Boyd-Suez Canal Clearance, Captain "Bob" Moss-Sydney Smith Great Lakes, Captain "Colin" Jones-Air Florida 90, Potomac River, Captain "Chuck" Maclin-KAL 007, Captain "Black-Bart" Bartholomew-Challenger and Exxon Valdez oil spill, Captain "Dick" Fiske-Desert Storm, Captain "Chip" Mc Cord-TWA 800 and now Captain "Bert" Marsh-EGYPTAIR 990.

Jim Bladh

FACEPLATE is published by the Supervisor of Salvage and Diving to bring the latest and most informative news available to the Navy diving and salvage community. Discussions or illustrations of commercial products do not imply endorsement by the Supervisor of Salvage and Diving or the U.S. Navy.

Articles, letters, queries and comments should be directed to the Commander, Naval Sea Systems Command, NAVSEA 00C, 2531 Jefferson Davis Highway, Arlington, VA 22242-5160. (Attn: FACEPLATE). Visit our website at http://www.navsea.navy.mil/sea00c.

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Explosive Ordnance Disposal Group ONE Very Shallow Water Mine Countermeasures Detachment (VSW MCM DET)

By: ENCM(SW/MDV) Todd Rood

During the Iran-Iraq War, USS SAMUEL B. ROBERTS (FFG 58) nearly sank after detonating an Iranian contact mine. During the Persian Gulf War, USS TRIPOLI (LPH 10) struck an

Iraqi contact mine. A few hours later USS PRINCETON (CG 59) was nearly broken in half by an Italian made bottom mine. The presence of some 1,300 Iraqi mines and *continued on page 8*



BM1(SEAL) Ed Dambach (driver) and QM1(SEAL) Walter Dittmar (handler) operating with one of the four dolphins that make up the EX-8 Marine Mammal System Platoon off the coast of San Diego in the VSW minefield.

"Greatest Undersea Rescue" FACEPLATE



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et me take you back to a day in late May 1939, three months before the outbreak of World War II. America's newest sub, the Squalus, was on a test dive off Portsmouth N.H., when the sea suddenly surged into her compartments, and she plummeted to the North Atlantic floor. Miraculously, 33 of her crew remained alive. Their ultimate fate would depend on one man-Swede Momsen.

At that time, the mysteries of the ocean depths - our inner space - and how they affected man both physically and psychologically were as exotic as outer space. But everything that could possibly save a trapped submariner – new deepsea-diving techniques, artificial lungs and a great pear shaped rescue chamber - was a direct result of Momsen's pioneering



Swede Momsen

derring-do, his own life constantly on the line to prove them out. None, however, had yet been used in an actual undersea catastrophe. Now they would be, and under the worst possible circumstances - in fickle weather, the water frigid, the men beyond the reach of any previously imagined help.

The Navy was then run by battleship

admirals. "Who does this Momsen think he is, Jules Verne?" one of them asked. The fact was that, as a boy growing up in Minnesota, he had been enthralled by Verne's classic novel Twenty Thousand Leagues Under the Sea, which propelled him to enter the Naval Academy in the first place. To be in submarines, "to live within the ocean," as Verne wrote.

During Momsen's early years as a submariner, it was a given that if a sub went to the bottom - which they did with nerve-wracking regularity-her crew was doomed. He found this unacceptable. On his own, battling bureaucratic red tape and disbelieving naysayers, he first invented an escape lung for trapped crewmen to the surface and next a Rescue Chamber that could be lowered into ocean depths.

When the Squalus disaster occurred, he was developing a new breathing mixture of oxygen and helium so that deepsea divers could descend farther than anyone thought possible. (This same basic mixture is used for the scuba diving we now take for granted. During the height of the Cold War, it enabled Navy divers to tap vital Soviet undersea telephone cables.)

Swede Momsen's perilous mission to save the survivors of the Squalus remains to this day the greatest undersea rescue in history. While it was headline news, it was eclipsed by the outbreak of war.

During World War II, Momsen continued his death-defying exploits. When it was discovered that many of our torpedoes fired against the enemy were duds, he dived into the water to find and examine one. He had it retrieved and, with the possibility of being blown to bits, not only discovered what was wrong, but also fixed it.

After the war he left a lasting legacy.

When the Navy's Hyman Rickover began working with nuclear power, it would be tried out initially in a submarine as a matter of cost efficiency. If it proved successful, aircraft carrier admirals, now in control, foresaw much bigger atomic power plantsfor carriers and their escorts.

Momsen saw something entirely different. Submarines because of their dependency on battery power underwater, were actually surface ships that occasionally dipped beneath the waves. Yet with the advent

of nuclear power, a



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true submersible was within grasp, potentially the Navy's new backbone to the fleet.

To speak openly about what he privately envisioned would invite a fast ride to the booby hatch. So Momsen knowing the carrier admirals were concerned about sneak sub attacks, presented his proposal as a target for submarine hunter-killer groups to practice on. Funds were soon appropriated.

His creation, the Albacore, built in Portsmouth just as the Squalus had been, shaped like a fish with a cod's head and mackerel's tail, outran and outmaneuvered anything that went after her. She was so swift that her crew had to hang on to overhead straps like subway riders, and from her has evolved the design of all modern submarines.

After the Albacore, Momsen retired from the Navy and became a consultant to several companies interested in exploring and mining the rich possibilities that lay in the oceans. Throughout his naval career he had never indulged in the slightest bit of self-promotion. But hadn't the constant rebuffs he encountered hurt? I asked him once. "Sure," he replied, "but seeing the first survivor from the Squalus come out of the rescue chamber made it all worthwhile."

He died a hard death from cancer in 1967. It was heartbreaking to see this in-

MK 16 UBA Product Improvements

By: CWO4 Fennewald

I have been often asked the question, "is the MK 16 going away?" And the answer to that is an emphatic NO! Or at least not anytime in the near future. My primary focus for the last 3 ½ years here at NEDU has been the product improvement for the MK 16 MOD 0 UBA. We have tested and approved for use a variety of items to

make things better for the fleet user. These include an alternate O_2 sensor, a modified diaphragm shroud for the MK 24 Full Face Mask to reduce cracking pressure and chatter in the open mode circuit, and alternate Full Face Masks to the MK 24. Testing has also been done to find ways to improve the PPO₂ control of the UBA by replacing the oxygen regulator, which is an over bottom pressure (tracking) regulator as in a scuba regulator, with a fixed reference regulator that is not affected by pressure at depth. We also looked at an alternate oxygen injec-

tion point whereby 0_2 is injected into the center section on the exhalation side of the breathing loop. Again in an effort to improve the PPO₂ control of the rig, especially at depths below 200 fsw. Which brings us to the question of when will we see a 300 fsw capability for the MK 16.

First some background. For nearly four years the EOD Programs Office (PMS-EOD) has been working with Carleton Technologies to upgrade the MK 16 from a .75 PPO, UBA to a 1.3 PPO, UBA. With the goal of allowing our EOD Mine Counter Measures (MCM) forces to operate at depths deeper that 200 fsw and down to 300 fsw with as much as a 40% reduction in their decompression obligation by being on a 1.3 PPO₂ decompression profile. Carleton Technologies had modified the MK 16 Primary Electronics Assembly to switch from .75 to 1.3 as the diver descends. The 1.3 PPO2 Primary Electronics Assembly will operate in two different set-point modes. One is the .75 ATA mode for surface and shallow water and the other is 1.3 ATA set-point mode. The upgrade incorporates a depth sensor, which automatically switches the UBA between these modes. This switchover sensor serves to prevent gas loss at shallow depths where a 1.3 ATA set point can not be obtained. At initial start up the electronics are in the .75 set-point mode.



MK 16 MOD 0 UBA

On descent the electronics are designed to switch to 1.3 PO_2 set-point control at a depth of $10 \pm .73$ meters of seawater (33 fsw). This set point is maintained until the diver ascends above $4 \pm .60$ msw, (12 fsw) at which point, the electronics switch back to the .75 set-point mode.

The primary effort of all the upgrades is to meet the Fleet's requirement of reducing time on target and in-water decompression. Unmanned testing of the Carleton Primary Electronics Assembly was completed at NEDU in May of this year, with manned testing to 300 fsw completed in June. Decompression table validation is scheduled to commence in January 2000 for the 1.3 N₂O₂ tables, and September 2000 for 1.3 HeO₂ tables. The 1.3 Primary Electronics Assembly will also incorporate an On/Off switch in place of the bleed screw on the Primary Electronics cap. This will allow the operator to do his pre-dive set-up and then turn off the power to the Primary Electronics until he is ready to dive. The fleet users will not see

the Primary Electronics until the $1.3 N_2 O_2$ table development is complete and approved for use by NAVSEA.

NEDU is also conducting manned open water testing of an Integrated Dive Vest (IDV) for use with the MK 16 that would replace the MK 4 Life Vest. The vest would be attached to the lower housing

assembly and incorporate quick release weight pouches and have its own air source for inflation and buoyancy control. It will also be easily removable from the backpack for maintenance.

Other product upgrades being introduced by CODE 45 of the NAVEOD-TECHDIV include identifying and replacing high wear components, streamlining O&M/TRS procedures with a goal of 40% reduction in PMS. Implementing minor design changes to facilitate maintenance by re-clocking the center section bendix connectors,

changing tubing bends and re-routing the secondary display cable to come over the diver's left shoulder.

There are a number of developments for future product improvements being proposed and researched that many of us won't see for a few years down the road. However, what I have attempted to outline for you in this article is what is going on "right now" in an effort to make things better for guys out there in the "Little Rubber Boat." NEDU's mission statement is "We are the Diving Technical Experts for the United States Armed Forces". I stand behind that statement and will be glad to talk to anyone about any of the efforts and product upgrades mentioned above or any EOD diving related issue. I can be contacted at NEDU (850) 230-3156 or DSN 463-4651 ex 3165.

CWO4 Fennewald is a Master Explosive Ordnance Disposal Technician assigned to the Projects Department at NEDU as the EOD Projects Officer.

NEW FILM: "NAVY DIVER"

By: Commander Bruce Banks USN(Ret)

Fox 2000 has begun work on the production of a film "NAVY DIVER" which will chronicle the career of Master Diver Carl Brashear. Divers Institute of

of the few black sailors who struggled to gain entrance into diving shortly after the armed services were integrated. The film encompasses Carl's early childhood, his



Fictional Master Diver Billy Sunday portrayed by Robert DeNiro being tended by John "The Pig" Searcy, Bruce "Piggy" Banks, and Richard "Rag Man" Radeicki

Technology, a subsidiary of Jamestown Marine Services was commissioned by Fox to assist with the training of the cast in various aspects of Navy diving. The film is being directed by George Tillman, Jr. and produced by Robert Teitel and Bill Badalato, and is scheduled to be released next spring.

Master Diver Carl Brashear was one

decision to join the Navy in 1947 as a steward/cook, and his application and subsequent training at the Navy Salvage Diving School in Bayonne, New Jersey. It depicts the rigors of Carl's acceptance into dive school, his training in the MK 5 dive rig and his follow-on diving career. The script includes the accident on board USS HOIST (ARS 40) which took his leg in 1966. Carl was off the coast of Palomares, Spain during the recovery operations for an H-Bomb lost from a B-52 Bomber/ Tanker collision when the tragedy occurred. The movie continues with the drama and effort it took Carl to convince the Bureau of Medicine to allow him to continue his diving career and his eventual triumph of being selected Master Diver. The movie is authentic to its time period and provides a realistic look at our diving history.

The role of Carl Brashear is being played by Cuba Gooding Jr. with Robert DeNiro playing the role of the fictional Master Diver Billy Sunday, Carl's mentor, who assists him through training at the Navy Salvage Diving School and throughout his Navy career.

Commander Bruce Banks, USN(Ret), supported by Master Divers Richard Radeicki, USN(Ret) and John Searcy, USN(Ret) provided Navy diving indoctrination and training in Navy diving history, physics, medicine and MK 5 dressing and undressing for Cuba Gooding, Jr., Robert DeNiro and five supporting cast members. Training also included indoctrination dives both in MK 5 and the Superlite 17 diving rig. Divers institute also provided the diving station and props for the filming set at Rainier, Oregon.

Commander Bruce Banks's USN(Ret) diving background includes Commanding Officer of the Navy Diving and Salvage Training Center, Executive Officer of the U.S. Navy Experimental Diving Unit, Commanding Officer of USS RECLAIMER (ARS 42) and OIC of HCU ONE (Team 4).

00C Website

By: Paul McMurtrie

The following NAVSEA 00C4 publications and technical documents are now available on the 00C Website:

- Topside Tech Notes (Flasks) issued in September 1999.
- Topside Tech Notes (Moisture Separators) issued in November 1999.
- Continuation of Certification Handbook for U.S. Navy Diving Systems, 20 August 1999.
- Pre-Survey Outline Booklet (PSOB) for Surface Supplied Diving Systems, 20 August 1999.
- Pre-Survey Outline Booklet (PSOB) for Recompression Chamber Systems, 20 August 1999.
- System Certification Checklist, 20 August 1999.
- Diving and Hyperbaric System Certification Status Report October 1999.



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Your command can now download the above documents from the 00C website and print out for use. Commands should download a blank Surface Supplied Diving System PSOB and Recompression Chamber Systems PSOB saving them as "Microsoft Word" documents. The blank PSOBs can then be completed by your command for any specific diving system. *After completion, the PSOBs shall be forwarded to the SCA, prior to the upcoming system survey*. As of 31 December 1999, only the August 1999 version of the PSOBs will be acceptable for certification of diving systems. These documents will be periodically revised and updated on the 00C website. Commands should regularly visit our website to ensure they have the most current version.

In the spirit of cost reduction NAVSEA 00C4 will not be publishing and sending out printed copies of the above documents. Commands that do not have access to the 00C website can obtain printed copies of these documents by contacting NAVSEA 00C4, (703) 607-1570 or DSN 327-1570, POC Paul McMurtrie - mcmurtriepd@navsea.navy.mil.

ESSM Base Stockton Relocates to Better Serve the Fleet

he year is 1975, Bill Gates opens the doors on a small company called Microsoft, and on the other side of the world, the North Vietnamese take Saigon. The need to centralize the storage and repair of salvage, diving, and ship husbandry equipment results in the establishment of the Emergency Ship Salvage Material base at Stockton California. Due to fiscal and political considerations, ESSM Base Stockton closed forever on 30 September 1999. On 1 October 1999, the ESSM Base began operations at the Naval Construction Battalion Center, Port Hueneme, California. The new site, as did ESSM Base Stockton, will serve as an "anchor in the Pacific" supporting the Alaska, Hawaii, Singapore and Japanese facilities. Although the transfer marks the end of an era, it also creates a new beginning. In addition to providing critical support to these facilities, the Port Hueneme location gives ESSM added advantages. It is located at a deepwater port enabling fleet

By: Bert Upton

ships to anchor. In addition it is minutes from NAS Point Mugu, providing airlift capability for emergency missions. Located just two hours from San Diego, it provides a second line of defense for oil pollution response for all Southern California.

SUPSALV's west coast ESSM Base has grown from a staff of four, to an all time high of sixty-two in the 80s, and leveled off at the current requirement for thirty-six personnel. The monumental task of moving 225+ truckloads of equipment from Stockton to Port Hueneme began on July 19, 1999. The logistics to put a move of this magnitude in motion and continue to meet deadlines required great coordination and perseverance. The dedication and effort displayed by the Stockton personnel and the ESSM system in general demonstrates its strength as an organization to get the job done when called upon.

Current schedules call for renovations to ESSM buildings at Port Hueneme to be completed by 1 March 2000. Until that time, most of the ESSM equipment will be staged in outside storage area or other temporary facilities. Even though facility work is incomplete, ESSM Port Hueneme is fully operational and ready to perform any mission.

NAVSEA 00C POCs for equipment located at ESSM/PH are Joe Stavhovec-Pollution, Eric Glaubitz-Salvage, and Mike Dean-Underwater Ship Husbandry. They may be reached at (703) 607-2758. New telephone numbers for ESSM/PH are (805) 982-4463 and FAX (805) 982-4459.

Bert Upton is a Logistics Policy Officer in SEA 04L. He served as ESSM Base Manager for SEA 00C from 1980-1985, and is currently on detail to 00C. Mr. Upton coordinated/supervised the move of ESSM Base Stockton to Port Hueneme. In 04L, Mr. Upton played a major part in streamlining the NAVSEA logistic/acquisition process, as well as revitalizing the NAVSEA Logistic Intern Program.

The EOD Flyaway Recompression Chamber System (FARCC) MK 5 MOD 0 is the Last New System of the Decade to be Certified

By J.J. Fenwick

We are nearing the end of a decade chock full of new and safer diving systems. During this decade six new div-SIX Charleston, S.C. The MK 5 MOD 0

provides recom-

pression chamber

therapy for pressure

related diving inju-

ries. It is used in

support of EOD op-

erations in remote

locations and can

be transported by

land, air, or sea. Cur-

rently certified sys-

tems are located at

EODMU ELEVEN

Whidbey Island,

EODMU FIVE Gu-

am, EODMU EIGHT

Sigonella,

NAVSCOLEOD

Eglin AFB, EODMU



The LSS Skid Set up and Ready for Operation

ing systems and two new diving crafts have been certified for the fleet. The new systems are the MK 3 MOD 0/1 Lightweight Dive System (LWDS), MK 6 Mod 0/1 Transportable Recompression Chamber System (TRCS), Fly Away Diving System (FADS III) (Air/Mixed Gas), Underwater Ship Husbandry Diver Support Platform System (DRIVE/DIVE), Special Diver Air Support System (SDASS), and the MK 5 MOD 0 Flyaway Recompression Chamber (FARCC). The new diving craft are the Naval Diving and Salvage Training Center's (NDSTC) YTD 17 and 18. These additions give the fleet more flexibility to accomplish a variety of missions throughout the world. Also, many of the older shipboard systems have been decommissioned and standardization of systems has reduced maintenance costs of the new portable systems and significantly reduced the need to retrain divers when they change commands.

THREE San Diego, and two at EODMU SIX Charleston.

The FARCC was designed and built under the supervision of the Program Executive Office Mine Warfare in close cooperation with the NAVSEA System Certification Authority (SEA 00C4). It is the major component of the MK 1 MOD 0 Mobile Support Facility (MSF). Its major physical components are the Van, Life Support Skid, Primary Diesel Generator, and Auxiliary Equipment for the Basic Mobile Facility consisting of two Dolly Sets (Model M1022-A1 for transport of the Van and Model A/M - 32U - 17for transport of the Life Support Skid), and the associated lifting slings. An integral part of the MSF is the Flyaway Dive Locker (FADL), which is not within the Scope of Certification but provides a segregated, secure (in port or deployed) "oxygen safe" storage and work area to facilitate MK 16 UBA

certification, accountability, and cleanliness).

The Van is an insulated, environmentally controlled ISO container, which houses a double lock, 60-inch, 110 psi recompression chamber. This chamber supports two patients and one tender using Treatment Tables 1 through 6A and 8. The use of electronic gas monitoring instruments and environmental control systems significantly reduces both ventilation and compressed air storage requirements. The Life Support Skid is an aluminum structure that contains the equipment for the distribution of primary and emergency electrical power, air, oxygen, mixed gas and heating or cooling water to the FARCC Van's Environmental Conditioning Unit (ECU).

Teflon-lined, braided stainless steel hoses connect the Van and Life Support Skid. Blanking plugs are used on both units to prevent contamination and thread damage to the air, oxygen, and fluid bulkhead connections when not in use.

The Primary Diesel Generator provides power if shipboard or shore power is not available. It is a trailer mounted, 60 kW, 200 amp, 120/208 volt, 60 Hz, 3 phase,

Continued on page 9



Above Center forward is the LSS Skid, Left the Primary Diesel Generator, rear the FARCC Van with dolly set

HTC(EOD) Mark Olsen performs DIve Supervisor pre-dive inspections on a VSW Diver as RM2(SEAL) Mike Volk, BM1(EOD) Bobby Roberts, and SSGT (USMC RECON) Denzil Franklin await their inspection in preparation for a Full Mission Profile dive.



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complex obstacle/land mine barriers frustrated planned amphibious assaults and made it apparent that the Navy had a serious shortfall in dealing with mines/obstacles in the Very Shallow Water (VSW) zone (40 to 10 feet).

In January 1996, then Chief of Naval Operations, Admiral Boorda, directed Commander, Mine Warfare Command and Explosive Ordnance Disposal Group ONE to establish a VSW MCM Test Detachment to:

- 1. Develop tactics, techniques, and procedures for low-visibility mine reconnaissance and obstacle breaching in both daylight and night operations.
- 2. Identify requirements for achieving and sustaining a permanent core contingency response capability to conduct VSW MCM.
- 3. Evaluate prototype systems and equipment.

In early 1997, the VSW MCM Test DET was established with 25 selected EOD technicians, SEALs, and Reconnaissance Marines. Four Marine Mammals (dolphins) were added to the mix. The Detachment is to be fully operational by August 2000, with an expected manning of over 100 personnel by 2002.

Currently the Detachment has 64 personnel, including one Master Diver, two First Class Divers, and a small cadre of EOD, Marine Recon, SEAL, and SWCC personnel. All billets are sea duty. The organization of the detachment is similar to the old Underwater Demolition Teams (UDT).

When a situation arises that calls for VSW MCM the whole detachment deploys rather than just a platoon. Last April, the detachment deployed to a beach off the California coast to participate in Operation Kernel Blitz 99 and spent 3 weeks living in tents and sharing tactics with the Australian Clearance Diving Team. In October 1999, the detachment deployed to Korea on the USS JUNEAU (LPD 10) for Operation Foal Eagle '99'. The detachment currently has 6 Mobile Facilities (highspeed CONEX boxes) including a fish house for the dolphins, a Fly Away Dive Locker (FADL), and special boxes for computers that go with MCM.

The divers utilize sophisticated underwater navigation systems and mini global positioning systems to locate and record mines/obstacles in the VSW Zone. Marine Mammals, which can search an area much more quickly than divers, are first taken into the VSW zone to mark locations of mines and obstacles. The Diver Platoon, with multiple pairs of divers in the water, then verifies contacts and records hydrographic details of the site. The information collected is passed up the chain of command and, if necessary, the divers place neutralization charges.

Sounds easy. Except that:

- You are going into an enemy beach very close to shore, looking for mines which may be set off by either contact, remote control, or influence (seismic, pressure, acoustic or magnetic signature).
- You can't see the mines until they are within inches of your face
- The VSW zone most likely has heavy surge or surf.

It has proven to be quite a challenge!

The detachment is also a war fighting laboratory. We constantly test and evaluate equipment that may be useful to the VSW mission: underwater ROVs, mixed gas underwater breathing apparatus *continued on page 9*

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(UBA), underwater scooters, Combat Rubber Raiding Crafts, underwater navigation systems, sonar, guns, ammo, knives, watches, improved wet suits/dry suits and escape and evasion gear.

The mission of VSW MCM requires a

designs of CO_2 absorbent in conjunction with increased bottle pressure to 5,000 psi indicate that the underwater endurance of the SIVA VSW UBA can be extended.

The Detachment is also developing a training program to educate assigned per-



The Dive Platoon prepares to insert from their Combat Rubber Raiding Craft (CRRC) prior to a dive while the Marine Mammal System Low Observable Craft (LOC) goes by in the background during a recent exercise.

UBA with no surface bubbles, increased duration/depth capability (40 feet for 4 hours), lightweight hydrodynamic shape for diving in heavy surge/surf, and a low acoustic/magnetic signature. With the assistance of NEDU and the EOD program office, we looked at 10 off-the-shelf UBAs and narrowed the field to two mixed gas semi-closed rebreathers, Drager Pathfinder and Fullerton Sherwood SIVA 55. After over 400 manned test dives, the Fullerton Sherwood SIVA 55 was selected. With modifications to the hydrodynamic features, weight distribution and life preserver, it has been renamed the SIVA "Viper" by Fullerton Sherwood or the SIVA VSW by the Navy. Production of 30 complete SIVA VSW UBAs began in October 1999 with expected delivery in January 2000.

To support the SIVA VSW UBA a state of the art air/mixed gas charging system has been installed in the dive locker. Designed by ENCM (SW/MDV) Rood, ENC (SW/DV) Hartman, BMC (EOD/SW/AW) Brower and EM1 (SW/DV) Malone with the assistance of NAVFAC, the system allows mixed gas and air charging to 5000 psi. New sonnel in all aspects of our mission. An EOD or Fleet diver has as little experience in reconnaissance/escape and evasion as a SEAL or Recon Marine does in mine field discipline. Each specialty brings unique experience to the development of sound tactics and procedures for current and future VSW MCM personnel.

For a fleet diver the job is varied and very fast paced. The PT is tough, organized and 5 times a week. If you're a fleet diver and considering a tour at VSW, you better be prepared to go hard or go home.

ENCM(SW/MDV) Todd Rood is currently serving as Master Diver at Explosive Ordinance Disposal Group ONE VSW MCM Detachment.

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new lessons in courage. Of his cancer he said, "There are some things you can't do anything about." He shrugged slightly. "Just like the fog at sea," he said.

I wrote him then. The time could not have been worse. The nation was exploding in turmoil over the Vietnam War. The last thing anyone was interested in was a long-forgotten submarine and a military man.

But times have changed. So I decided to research further the events of his life and what he meant to us. In pursuit of this, I returned to Portsmouth, where embedded in concrete, is the superstructure and part of the deck of the *Squalus*. With it now, since Swede Momsen's death, is the slender, rakish tower of the *Albecore*. They are monuments, of course, to what they stood for and to the men who served on them.

They also stand as mute tributes to a true hero.

Peter Maas's most recent number-one bestseller was Underboss. His other notable bestsellers include The Valachi Papers, Serpico, Manhunt, and In a Child's Name.

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Wye-configured, diesel-driven generator with an integral 100-gallon fuel tank.

The Auxiliary Equipment consists of two Dolly Sets, one for the FARCC Van and one for the Life Support Skid. These Dolly Sets provide mobility (50 miles per hour (mph) on hard surfaces and 15 mph on rough terrain). Both Dolly Sets can ford hard-bottom water crossings. The Lifting Sling Assembly has a maximum rated working load of 20,000 pounds and is designed to lift the FARCC Van or the Life Support Skid without their respective Dolly Sets. The Auxiliary Equipment is not within the scope of certification.

J.J. Fenwick has over 35 years of diving experience as both an enlisted and as an officer serving on various diving platforms and shore commands. He retired in 1985 as Executive Officer, Naval School of Deep Diving Systems. In 1990 he joined the U.S. Navy Office of the Director of Ocean Engineering and Supervisor of Salvage and Diving (NAVSEA 00C) Certification Division.



During this past Summer MDSU TWO Detachment Bravo participated in Baltic Salvex 99, which is an exercise to develop good will and camaraderie through training Baltic divers in U.S. Navy salvage techniques and assisting in port restoration. The detachment conducted ton, 120-foot by 34-foot cement hull barge which had been damaged and sunk in 1991 in 24-30 FSW in the harbor of Tallinn, Estonia. During Baltic Salvex 98, MDSU TWO Detachment Alfa had removed the two-story deckhouse and debris from the barge's main deck. To make the barge's



Final dewattering in process along side the quay wall in the harbor of Tallin, Estonia

training covering surface supplied diving systems, use of MK 20 and 21 diving hats, basic diving medicine, USN decompression tables, Transportable Recompression Chamber Systems (TRCS), Light Weight Diving Systems (LWDS), operational and emergency procedures, and salvage operations.

With breakup of the USSR, many of the Baltic states ports were left with derelict vessels that blocked berths and harbors. As part of Baltic Salvex 99, the detachment assisted in the raising of a 350nine compartments air and water tight Detachment Bravo installed 28 patches, 75 DC plugs, 20 wedges, 2 gallons of Sea Going Epoxy and 8 quarts of Devcon in the holes, cracks, piping and ventilation systems prior to attempting to raise the barge.

The entire barge was dewatered and moved along the pier toward the beach until only one to three feet of water was under her keel. A typical workday normally ran from 0700 to 2300, resulting in over 3600 man-hours of work to complete. U.S. Divers made 203 dives with a total

By: CWO3 (7201), Chuck Hulsizer

bottom time of over 403 hours.

Baltic Salvex 99 was covered in local newspapers and TV stations and brought positive notice to all participating navies and countries. Even with the busy schedule, U.S. Divers managed to find time to give a tour of the dive site to a group of underprivileged children. Basic diving physics and the importance of an education were explained. The children were given Polaroid photos of themselves dressed out in U.S. Diving equipment along with MDSU Command stickers and pins from the U.S. Embassy. McDonalds provided lunch free of charge for the children. Media coverage was high for this event and in the future a local children's TV station will be showing a segment of the tour.

Tallinn is a great city with friendly people and a friendly atmosphere. The restaurants have a variety of delicious foods at inexpensive prices. You can feast on wild boar, elk, smoked salmon, quail and quail eggs, and large mugs of ale at a restaurant with medieval surroundings. If the above menu does not whet your appetite, there is always pizza and McDonalds. It was a great pleasure for the entire detachment to visit Estonia and work with the divers from Estonia and Latvia.

CWO3 (7201), Chuck Hulsizer is currently serving as OIC of Detachment Bravo at Mobile Diving and Salvage Unit TWO. Chuck's previous billets include, Escape Training Tank Groton CT, USS RECLAIMER, USS GRASP, USS PRESERVER, USS HOIST, USS ORTOLAN, and HMCS CORMORANT. He completed two Mediterranean Deployments onboard the USNS POWHATAN and APACHE while serving at MDSU TWO.

"Big Changes Coming"

PMS Corner "Service to the Fleet"

There are a lot of changes to PMS as a result of Surface Ship Maintenance Efficiency Review (SURFMER) Cycle 23 in April and the latest Diving Equipment and System Maintenance Efficiency Review (DIVEMER/SURFMER Cycle 25) in October. SURFMER Cycle 23 looked at 25 MIPs involving AS and ARS 50 Class diving systems maintenance resulting in a 39% reduction in manhours. DIVEMER looked at all 5921, H-012, and diving equipment related EOD MIPs that yielded a 30% reduction in manhours. During DIVEMER, 38 MIPs were deleted. Most of these deletions were due to equipment that is no longer in service or that has listed no users. Some deletions were due to MIP consolidation. It is important that each command check its LOEP to ensure the new MIP replacing the deleted MIP is identified. Most of these changes will probably come out in FR 00-1.

The following is a list of deleted MIPs:

5921/016	5921/017	5921/040	5921/041	5921/044	5921/047
5921/053	5921/058	5921/064	5921/150	5921/160	5921/163
H-012/005	H-012/018	H-012/032	H-012/033	H-012/036	H-012/046
H-012-059	H-012-62	H-012-079	H-012/085	H-012/088	H-012/091
H-012/100	H-012/101	H-012/102	H-012/103	H-012/104	H-012/106
H-012/107	H-012/109	H-012/110	H-012/111	H-012/116	H-012/118
H-012/140	H-012/149				

Most every existing MIP will have changes implemented. These changes were caused by NAVSEA 04M1 (the guys that own the PMS system) continuous improvement program using the Backfit Reliability Centered Analysis Process. This process is simply to validate existing maintenance requirements using basic maintenance principles and applying operational experience. The assumptions to this approach are 1) age degradation - hardware reliability degrades with age (calendar time, operating hours or cycles), 2) applicability - something can be done to restore or maintain original reliability, and 3) effectiveness - the maintenance pays for itself (reduces probability of failure, risk of failure, or cost of repair plus loss of capability). When these changes are issued in FR 00-1, some MRCs will be deleted because they did not meet the above criteria, while other will have a change in periodicity.

Other changes in maintenance include the requirement to remove and test all relief valves every three years and the deletion of annual relief valve testing. Also, NAVSEA 04M1 is promising the distribution of PMS SKED 2.4 in December. This new version will allow commands to electronically send TFBR to the ISEA (NEDU) via the commodity specialist (FTSCPAC). This should greatly reduce TFBR response time.

Points of Contact:

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BMCS(SW/DV) Duffy, NAVXDIVINGU Code 0311 Comm:(850) 230-3162, DSN: 436-4351, E-mail: duffy_kerry@nedu.org

Production in the Pacific (Guam USA)

The COMNAVMARIANAS (CNM) Dive Locker, Guam provides many important services to the Navy and the communities of the Federated States of Micronesia. From salvage operations to hyperbaric chamber treatments, this Dive Locker does it all.

Under the supervision of ENCM (SW/MDV) Davidson, the Dive Locker salvaged a 318-foot power barge (YFP 14)



A NAVY utility tug, sunk by Supertyphoon Paka in December 1997, rises to the surface during a successful salvage operation conducted by the ComNavMarianas Dive Locker. U.S. Navy photo by PH3 Marjorie R. McMillen

from the ocean floor. On May 8,1998 while moored at Polaris Point awaiting proper destruction it could wait no longer. Its corroded walls sprung leaks leaving it under 40 feet of water. Within a few days a preliminary salvage plan was completed, and the

By: MDV Holliday

eight-man dive locker assisted by three ESSM personnel began salvage efforts. The barge needed a lot of work to bring it up and many people said, "it couldn't be done". The divers spent over 222 hours underwater assessing and patching the barge. One hundred and fifty patches were used, as well as 500-damage control plugs. Once 21 pumps with the combined pumping capacity of 15,000 gpm were set in place, MDV Davidson gave the order to commence pumping. Twenty seven hours later the YFP 14 was once again afloat at Polaris Point.

On June 17, 1999 under the supervision of MMCS(MDV) Holliday, the Dive Locker reclaimed another vessel from the sea. Forty feet beneath the ocean's waves in zero visibility sat a former SRF tug since being swamped by Super Typhoon Paka. The tug sank stern first, burying the stern 10 feet into the mud and silt. An inspection dive was conducted to assess the condition and attitude of the tug and a salvage plan was developed. To bring it back to the surface two slings were attached to the forward end and two were placed on the aft end. Teamwork was the order of the day for the dive locker's members, as everyone from the Master Diver to the diver in the water worked to get the slings connected to the crane. The slings were then attached to a floating crane, which rocked the tug back and forth to break it loose from the bottom. Once the tug was raised to the surface, the dive locker crew began pumping the water out so it could stay afloat on its own. One pump had been placed on the tug at the same time as the slings, the other was brought out and hooked up after the tug was surfaced. After 16 hours of work, including planning, inspection dives, rigging, and pumping the tug floated on its own. "The job went smoothly, The tug came right up and nobody got hurt. It was a successful mission."

In July 1999 the Dive Locker teamed up with MDSU One Reserve Detachment 419, led by LCDR Rasmussen, OIC, and LCDR Olds, AOIC, to conduct one of the most successful Typhoon mooring buoy/ Mediterranean moor inspection/repairs ever accomplished on Guam. It consisted of over 175 dives in depths exceeding 120 FSW. The professionalism, expertise, and leadership of Detachment 419 accomplished the job weeks ahead of schedule and saved the Navy over \$300,000.

We operate one of the busiest recompression chamber facilities in the Navy. Under the medical supervision of LT Rob Howard, CNM DMO, the Dive Locker is responsible for responding to all diving related illnesses, military and civilian, in the Federated States of Micronesia. The Dive Locker treats an average of 50 people per year suffering from either DCS or AGE. This requires all Dive Locker personnel to be on 24 hour recall, 365 days a year. On numerous occasions the patients that are treated require the DMO to perform a variety of surgical and life saving acts such as: insertion of chest tubes, urinary catheters, endotracheal tubes with respirator hook up, IV Lines, myringotomies, CPR and Advanced Cardiac Life Support. The DMOs on Guam are not only dedicated, but are among the best in the business.

Master Diver Holliday reported to COMNAVMARIANAS Dive Locker on May 8, 1999. He is serving as COMNAVMARIANAS Master Diver, Department Head for N02DV and Diving and Salvage Officer.

Report on new YDT Class

By: LTJG Thompson, USNR

This is an update of "Training Center Develops New Craft for the Twenty First Century", that appeared in Faceplate, Volume 3, No. 2 / Winter 1998.

he Naval Diving and Salvage Training Center has recently replaced its diving training vessels, or Yard Diving Tenders (YDTs). Now NAVDIVESALVTRACEN is home to NEPTUNE (YDT 17) and POSEIDON (YDT 18), two very new and very well engineered diving craft. The vessels have assumed the same mission as the older craft - to train diving students in open waters in support of fleet and DOD diving operations to including personnel from all branches of the armed forces, other government agencies and foreign military personnel. Training evolutions on the craft still involve surface supplied diving, salvage and recovery, diving medicine and Master Diver evaluation. However, one

distinct advantage of the new craft is their mixed gas diving capabilities.

NEPTUNE and POSEIDON boast an extremely well engineered gas system. Constructed to imitate a Fly Away Diving System (FADS) as utilized by MDSUs and salvage ships, the new craft have a Diver Life Support System (DLSS). Each DLSS provides both air and mixed gas capabilities for diver training. They also include a recompression chamber, a recharging capability from shore supply and a Control Console Assembly, which resembles FADS. The onboard mixed gas capabilities of the new YDTs are perhaps their best asset for training; it is more efficient than loading mixed gas systems onboard when gas training is required. Other improvements are the two Allied Marine Hydraulic cranes on each craft and increased space for personnel. From early feedback, approximately twenty-five students, seven instructors and eight crew members can operate comfortably. From students and staff, the accommodations and equipment spaces are considered very well laid out and more than adequate for training. Furthermore, the new YDTs are capable of transiting to operations within 540 nautical miles at a speed of 15 knots, which cuts down transit time to 'deep' water in the gulf.



A new addition to the Diving School, The YDT 17 Yard Diving Tender



The following excerpt is from Chapter 12 of 20,000 Jobs Under the Sea, by Torrence R. Parker, published by Sub-Sea Archives, Palos Verdes, CA, 1997.

Two Navy Divers' Contribution to Diving

Like underwater burning, much of America's early diving development was the result of U.S. Naval diving operations. An example of Naval divers and their contributions to diving is the work of Master Diver Frank W. Crilley. Crilley made record air dives to depths over 300 feet during the 1915 salvage operations on the sunken submarine F-4. President Calvin Coolidge awarded Criley the Medal of Honor for his heroism in rescuing fellow diver William F. Loughman when he became entangled in the steel sweep wires during operations to salvage the F-4. Loughman survived, but suffered permanent paralysis from the bends.

Another Navy diver who helped develop modern diving methods was Garland Suggs. Suggs, designated a Master Diver in 1928, participated in the Navy's early oxy-helium diving test work, and eventually served as chief instructor at the Navy's Diving and Salvage School in Washington D.C. Once, on special assignment by the Navy, Suggs salvaged Howard Hughes' record breaking aircraft (not the Spruce Goose) from Lake Mead's deep water. Impressed with Suggs, Hughes offered him a job upon retirement from the service. Suggs accepted, and worked the remainder of his life for Hughes after retiring from diving.

COMMENT FROM THE DIVING DETAILER

By: MDV Barry Burgess

Being a Navy Diver has many rewards:

- Dive Pay
- Special Duty Assignment Pay (SDAP)
- High Selective Reenlistment Bonuses (SRB)
- Two points toward advancement to E-4 through E-6
- The satisfaction of being one of the Navy's finest.

To be successful as a Navy Diver you must be involved in your career choices. After every advancement cycle and E-7 through E-9 board, I get calls from individuals who did not advance and want to know what they can or should do to make it the next time around. I know it's harder to advance these days, but it is done in every cycle and on every board by hard charging individuals who have gone the extra mile.

When up for orders, pursue the most challenging billets:

• If you are up for sea duty, try to get one of the few ships available to divers and get qualified as U/W OOD, EOOW, and ESWS.

• If you are up for shore duty and haven't done a tour as an Instructor, jump on one of those billets and get your Master Training Specialist designation.

• Do at least one overseas tour.

All of these things will help round out your "resume" for advancement.

1. Since divers rarely work in their rate, to do well on rating exams you have to study, study and study some more.

2. Finally, there is no substitute for sustained superior performance. You must perform well in the billet you are in to advance successfully.

We are a small community and the perception is that we don't advance well. The truth is that we are competitive with Fleet advancement numbers. Stay involved in the decisions that affect your future. Hard work, challenging assignments and pride in your community will put you on the path to a rewarding career as a Navy Deep Sea Diver. Stay wet and dive safe.

Master Diver Barry Burgess is currently assigned as our Diving Detailer at the Bureau of Naval Personnel.



By: ENCM (MDV) Dave Davidson

I was disheartened recently to find that from a field of 212 Chief and Senior Chief First Class and Saturation Divers, only 9 Master Diver packages were submitted. Further investigation revealed that 19 had submitted packages for Chief Warrant Officer Diver. I asked the fleet why, with 15 Master Diver vacancies in the next year, aren't we getting flooded with motivated divers begging for an opportunity to attend MDV eval's? I also had to ask why twice as many divers were applying for Warrant Diver rather than MDV? Here are some of the comments I received:

- 1. Master Diver doesn't receive the esteem it once did.
- 2. It is easier to make Warrant than Master Diver.
- 3. If you make Master Diver, you have to go to sea or overseas.
- Becoming a Master Diver doesn't help you make rate as it once did. For these and many other reasons

why "I don't have a package in for MDV evals", I decided to focus this article on becoming a Master Diver. A Master Diver has the same training as every other First Class or Saturation Diver on the side. He isn't armed with new information that is only issued at the end of evaluation week. He doesn't have higher ASVAB scores than the Second Class Diver who is backup tender on a Scuba dive. He probably struggled through Physics and Medicine in Second Class dive school like most everyone else. A Master Diver is a diver with strong motivation and commitment to excel at the top of his field. He believes, and has demonstrated, that he is the most qualified to make life and death decisions affecting his fellow divers. He knows he must constantly be in the books, because everyone from the CO to the most junior Seaman looks to him for answers. He is a proud and disciplined Navy Diver who isn't satisfied to follow the pack, but must

lead it.

First, I would like to address the fleet input on the present esteem of a Navy Master Diver. Navy Master Divers hold the same, if not higher, esteem now as they ever did. If you don't believe it, ask your CO if he would trade the command's MDV billet for a non-MDV of equal pay grade. Or would he mind if the MDV went on leave during a major salvage operation. Take

my word for it, the Master Diver still has the loudest voice in the command on diving issues and a gapped billet gets much attention, especially from a Supervisor of Diving perspective.

The second comment is correct. Statistics do show that it is easier to make CWO Diver than Master Diver. I do not denigrate present or future CWO Divers who choose this route over Master Diver, but I firmly believe that Master Diver should be a required stepping stone to CWO Diver. It not only enhances one's credibility, but also gives a strong voice on Master Diver issues that affect the entire diving community.

The third comment confuses me because there are more 1st class diver billets at sea and overseas than Master Diver billets. In any case, sea duty and overseas duty provide some of the most challenging jobs which give a Master Diver the opportunity to make a name for himself.

The fourth comment should not be an issue for much longer. Master Divers will soon make rate faster than non-Master Divers. We are currently working with the Community Manager's office to get our own selection board panel for E-7 through



Master Diver Dave Davidson

E-9. This means that sharp E-6 Divers who are performing as diving supervisors and LPOs of diving lockers will be the ones promoted to Chief. Chief and Senior Chief Master Divers who are running the diving lockers will be the ones promoted before the non-MDVs who work for them.

I would like to close by saying that I personally know that the majority of our Chief and Senior Chief First Class and Saturation Divers are ready to be Master Divers now. Many are already serving as Acting Master Divers in gapped billets and are an evaluation away from getting paid for it. Regardless of what you have heard, probably from someone who didn't make it, the evaluation process is fair. There is no secret recipe for becoming a Master Diver. All you need is preparation, dedication, and application. Good Luck and Welcome Aboard Y2K MDVs!

Master Diver Dave Davidson is currently assigned at the Naval Sea Systems Command, Supervisor of Salvage and Diving as special assistant to the Supervisor of Diving.



It's great to be aboard NAVSEA 00C as the Supervisor of Diving for the world's greatest divers. I came here with the intent to assist the diving community wherever and whenever I can. To support this effort, my office and I will personally visit as many dive lockers as possible to meet divers and to listen how we can assist in making improvements in the diving world. CAPT Marsh has and will continue to do the same to support the US Navy Diver. He is a strong advocate and is listening and making things happen.

Diving Salvage Warfare Specialists (DSWS)

DSWS is the new name for the Diving Operations Specialist (DOS). The name was changed to be more descriptive of the diving and salvage community and to be more in line with the other enlisted warfare specialists. We are currently awaiting resource sponsor's signature and then off to the CNO. Our goal is to have the DSWS approved during the 2nd quarter of this year. It's not a done deal, but it is moving forward. We know how critical this warfare specialty is with the large reduction in afloat opportunities to the fleet diver to qualify as an ESWS.

Master Diver

Pre-Screening

MDSU TWO completed a very success-

ful MDV pre-screening at Solomons Island, MD. I was able to observe (and dive) and was very impressed with the set up and pre-screening process that is now in use. MDSU TWO dove off of their LCU using the Fly-Away Mixed Gas System (FMGS). MDSU ONE is about to start theirs as of this writing. For all of you potential MDVs, contact MDSU ONE or TWO now and get ready for the next prescreening. The goal is to have MDV candidates 100% ready and confident when they show up at Panama City.

MMCM (EOD) Brooks Assistant Enlisted Community Manager

I would like to thank MMCM (EOD) Brooks for all his help as the Assistant Enlisted Community Manager. This man was of great help pushing forward several fleet diver initiatives. MMCM-(EOD) Brooks has just recently transferred to NAV-SCOLEOD in Eglin, Fla. as Command Master Chief.

Dive Manual Rev 4 Interim Change One

Rev 4 Interim Change One is on the street. There is no pride in ownership here, so let us know if you have any questions, corrections, improvements or additions. Change One will come out on CD in the spring time frame.

Working Divers Conference 2000 January 25-27

The WDC is scheduled for Panama City, Fla. at the Bay Point Marriott. See our Website and get signed up now. We are looking for a very productive conference so get your point papers in now also. Remember, the more point papers we receive, the less time you have to sit and listen to speeches. See you there.



Capt. Chris Murray (Supervisor of Diving) is pinned with eagles by his Master Divers during his advancement ceremony on 1 Nov 99. His son Danny stands proudly with Dad at the ceremony.

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