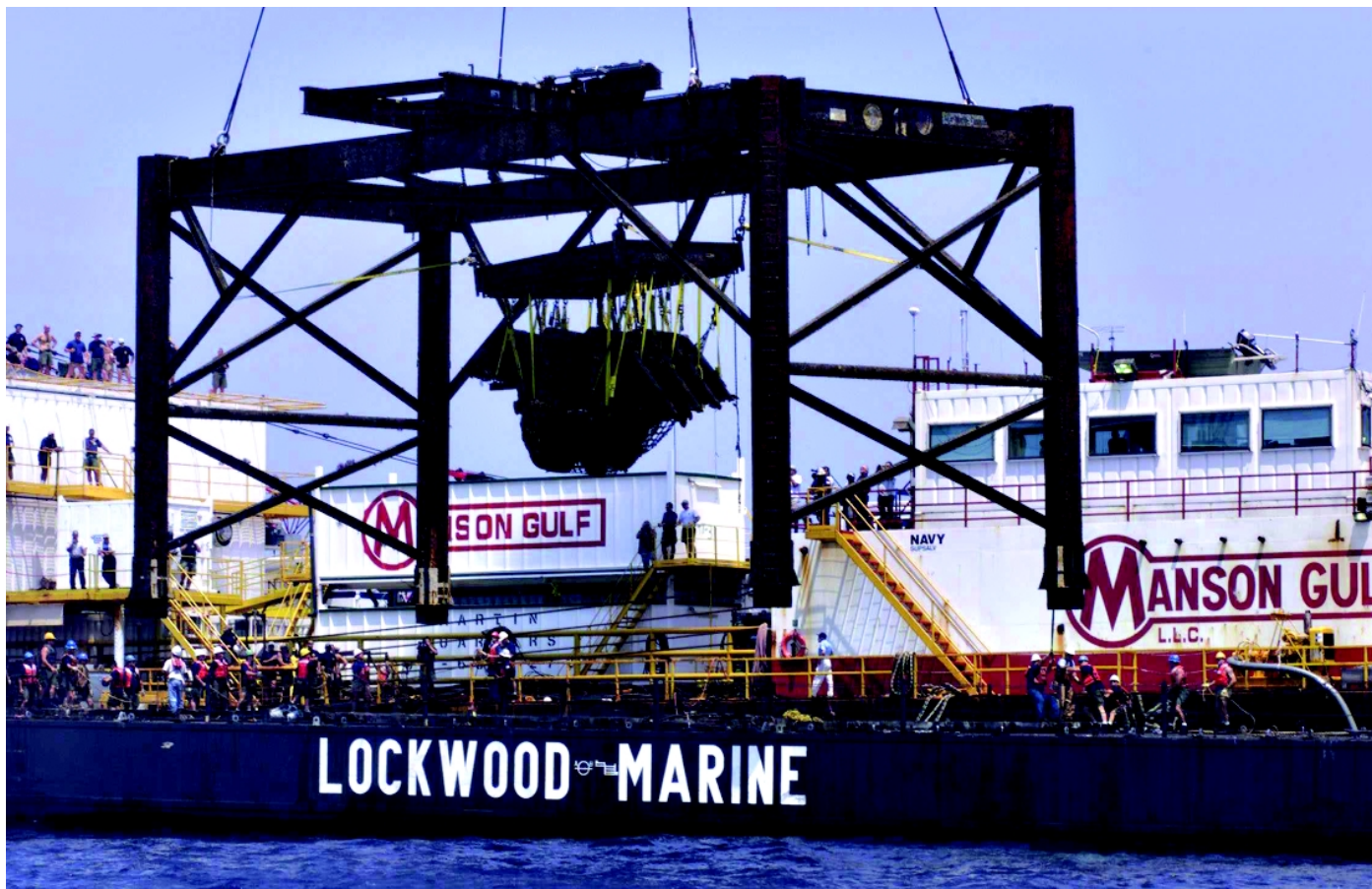




FACEPLATE

The Official Newsletter for the Divers and Salvors of the United States Navy
Volume 5, No. 4 / September, 2001



Approximately 70,000 lbs of MONITOR Engine Being Lifted Aboard the Derrick Barge Wotan.

From the Supervisor of Diving . . .

This summer has been a hectic one for this office and Navy Divers with the MONITOR, EHIME MARU, emergent ship repairs and remote salvage operations. The USS MONITOR Mission for this year was a tremendous success. Not just from the engine recovery aspect, but more importantly due to the safe conduct of diving and the operational

experience that was gained and shared by 24 separate commands and approximately 150 Navy Divers. One of the main players that made this summer a success were the men and women of Mobile Diving and Salvage Unit TWO. After six months of exhaustive planning, MDSU TWO had to load out on a derrick barge nearly 1000 miles from home to commence this opera-

tion. This was a major task in itself and MDSU TWO excelled. I cannot thank MDSU TWO enough for their tremendous leadership, support and execution. I would like to mention the DoD Legacy Program for the bulk of funding for this mission and the tremendous support that Navy diving has received from

(continued on page 2)

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Senator Warner (R-VA). Without his support and the funding from Legacy, this mission could not have happened. Another major player in making this mission a reality with saturation diving was OPNAV N773 who supported the saturation effort from start to finish. Finally, the personnel that made the saturation diving happen at the deck plate level were MDV Young and Rob Warren and his 00C4 team that did an exhaustive evaluation of the civilian saturation system that was used this summer.

This summer was not all success. The tragic diving accident on the USS SAFEGUARD emphasizes the fact that diving is an inherently dangerous business. We cannot get complacent in the

execution of diving procedures. As divers, supervisors, and leaders, we must always keep this in mind and ensure that risk management is a way of life.

Diving Manual, Revision 4, Change A

Change A is on the street. We have already received comments on the change and a couple of recommended changes for consideration. We are always open to comments on the manual. Our plan is to issue changes once a year, if required, unless they are safety related. In that case, a diving AIG will be released with a pen and ink change.

World Wide Chamber Locator

The world wide chamber locator system

is being worked with Diver's Alert Network (DAN). DAN is in the process of adding military chambers to their data base. Access by Navy diving commands is expected by late fall and procedures will be promulgated via a diving AIG when it is in place and ready for use. This will give all diving commands access to this data base to assist in planning for a diving operation out of homeport. The Diving Supervisor can use this information to contact the chamber and verify that it meets the needs of the specific diving operation in accordance with the Diving Manual.

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, 1333 Isaac Hull Ave. SE Stop 1070, Washington Navy Yard, DC 20376-1070. (Attn: FACEPLATE). Visit our website at <http://www.supsalv.org>

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UNDERWATER SHIP HUSBANDRY ADVISORY

Diving Around Co-Biocide Antifouling Hull Coatings

By: Tom McCue



Left: USS RENTZ serves as a test platform for co-biocide antifouling hull coatings.

Below: Co-Biocide test patches applied on the side of USS RENTZ.



The next generation of antifouling hull coating systems is currently under development and is reaching test patch scale application on various USN and USCG vessels. Divers should be aware of these coatings and should take the necessary precautions. Material Safety Data Sheets (MSDS) for these products typically address the storage, handling and safety precautions for the uncured (wet) materials and the precautions to be taken to prevent exposure during drydock application. The MSDS do not specifically address the cured (dry) state of the coating once applied to a hull and the resultant exposure incurred by divers performing underwater inspections and repairs. The co-biocide antifouling hull coatings appear to be less toxic than

the current ablative antifouling coatings found on most Navy ships. There are presently no indications that the removal of a cured co-biocide coating through abrasion with equipment, persons, and UWSH actions has an adverse effect on the surrounding water, equipment or persons.

(Continued on page 3)

BY: LT. LESLIE HULL-RYDE

Like most college students, she packs up at the end of the summer to head back to school, but she just needs a bag – a sea bag.

When she goes to class this fall, Sarah E. Turse will fill her sea bag with things she needs for school and her naval uniform.

Between football games and class projects, she'll have uniform inspections. That's because this Penn State junior from Swedesboro, N.J., pulls double duty at school and in the Navy. She's a college student who's also a midshipman in the Reserve Officer Training Corps on campus.

Turse and her ROTC shipmates do more than work toward their degrees. They're training to lead Sailors serving in the U.S. Navy.

"I have a full college experience," Turse says. "I go to school, wear what I want, go out when I want. But I have to balance my college life with my professional life."

Before moving back into the dorm, Turse spent the summer on board USS SAFEGUARD (ARS 50). This salvage and rescue ship took her to the Philippines and Thailand in support of a naval exercise known as COOPERATION AFLOAT READINESS AND TRAINING: (CARAT).

"I've never been out of the country. I can't believe I was in Japan, the Philippines and now Thailand."

While in Southeast Asia for CARAT, Turse went scuba diving, patched holes in ships and lowered divers from SAFE-

GUARD into the water – all of it as part of her job.

"This cruise I was fully integrated with the crew, and I saw what diving and salvage is all about," says this Navy diver hopeful.

Penn State's ROTC program introduces Turse and her fellow future officers to the variety of jobs available in the Navy. As a midshipman, she has served aboard surface ships and submarines.

But Turse says this summer's cruise helped her chart her Navy course. Her SAFEGUARD experiences helped her decide she wants to be a Navy diver and an EOD officer.

She's determined to do just that. "I've set my goal, and I'm going to do everything it takes to get there," says the journalism major.

"She has exceptional drive and enthusiasm which you can't teach. You either have it or you don't," says LCDR John G. Gray, Jr., SAFEGUARD's commanding officer.

The EOD program is one of the most competitive – physically and mentally – Turse explains. She believes Penn State's ROTC program is helping her prepare for

her Navy career in this field. "It's helped me mature a lot. They let the students run the unit, so it's a lot of responsibility. We train in leadership and ethics, and they



Midn. 2/C Sarah Turse, left, works with a Sailor aboard USS Safeguard (ARS 50) as they get a diver's equipment ready.

give us responsibility. I'm in charge of 30 other students, and I'm accountable for their actions," she says.

The EOD community attracts her because she believes she can be in charge as a junior officer.

Lt. Leslie Hull-Ryde enlisted in the Navy, February 1995 as a Navy journalist. She attended officer candidate school in Pensacola, Fla. and then went on to the U.S. Naval Academy in Annapolis, Md., where she served in the public affairs office for four years. She is now the public affairs officer, Logistics Group, Western Pacific, Singapore.

(Co-Biocide continued from page 2)

Some basic precautions should be taken when diving in the proximity of hulls painted with co-biocide antifouling hull cleanings:

- A protective layer of clothing, either thermal protection (wet suit, boots and gloves) or cotton coveralls and gloves, should be sufficient.
- Breathing apparatus is at the discretion of the Diving Supervisor and should be based on the requirements of the task.
- All diving equipment, breathing

apparatus, and clothing should be washed down with fresh water and approved detergents. Divers should be washed down with fresh water and soap upon completion of the dive.

The following ships have co-biocide coatings applied on the underwater hull:

- USS RENTZ (FFG 46)
- USCGC MATINICUS (WPB 1315)

If any adverse physical reactions occur, immediately seek medical attention. Send an incident report NAVSEA 00C. Re-

port shall contain command name, point of contact, ship name, date and duration of dive, type of dive operation conducted, type of breathing apparatus, type of personal protection equipment, description of and extent of reaction. These reports can be sent via naval message addressed to COMNAVSEASYS COM WASHINGTON DC//00C5// or via email.

For additional information contact Mr. Tom McCue (00C55) at (202) 781-0742, DSN 326-0742, or via email: mccuetp@navsea.navy.mil.



PRIMARY COLORS KEY WHEN DIVING

By: JO2 Kenny Ragland

GM2(DV) Brandon Pevear, right, from San Diego, Calif., with Mobile Diving Salvage Unit One (MDSU ONE), and LCDR Rosli Talib, a Royal Malaysian Navy diver, during orientation dive.

LAMUT, Malaysia — Water splashed poolside when Malaysian divers jumped in during the annual Cooperation Afloat Readiness and Training exercise here.

“Red diver in the water,” called the U.S. Navy Dive Supervisor. “Green diver to the water’s edge,” he added as the Malaysian diver struggled with the full weight of the equipment and several hoses dragging behind.

The color scheme made up diving exercises as part of Cooperation Afloat Readiness and Training (CARAT) diving exercises. Members of Mobile Diving and Salvage Unit One, Detachment 7, from Pearl Harbor, Hawaii suited up with their Malaysian counterparts as CARAT aims to increase interoperability among six Southeast Asian countries.

When diving, it’s an accepted Navy practice to use colors to distinguish each diver — and his equipment. This helps eliminate confusion on who’s doing what and with what equipment. A loudspeaker

system allows all divers to hear the commands — and every word uttered by those below the surface.

CARAT gave divers from both countries a chance to become familiar with each other’s equipment. Malaysian divers anxiously awaited their turn to strap on an emergency gas system air tank and don the bright yellow MK-21 dive helmet. Color-coded hoses provide the diver with surface-supplied air and communications with the surface. Divers then took their places on respective red or green benches — then waited for their orders.

“Getting used to the new equipment is the best part of this training,” said LCDR Muhammed Sobri, the first Malaysian to dive into the water.

“We first go over surface supplied dive training,” said CWO Eric MacDonald, officer in charge of the U.S. team. “The MK-21 helmets also allow us to use helium and oxygen so we can go to greater depths.”

The divers also discuss and practice

underwater cutting and welding, use of underwater hydraulic tools, and battle damage assessment and repair.

The Americans brought a transportable recompression chamber system, (TRCS), used to treat divers suffering from decompression sickness. It also allows divers to decompress out of the water after a particularly long or deep dive. The Malaysian divers received training and practical experience in the U.S. Navy’s transportable chamber.

The American divers got to see the Russian chamber used by the Malaysians.

“The TRCS system is the way to go,” said MacDonald. “The new TRCS system would be a lot more practical for them.”

Before CARAT Malaysia, the U.S. divers made stops in Indonesia, Thailand and Singapore. In the Philippines, they worked with their counterparts to help community and local fishermen impacted by a destroyer that sank during a typhoon

(Continued on page 5)

(Primary Colors continued from page 4)

and now currently blocking a pier.

"The Philippine command wanted specialized training in salvage," said MacDonald. "We showed them how to prepare a sunken ship to be re-floated."

It has to be done properly or fuel still in the sunken ship could seep into the waters, contaminating them. It would certainly affect the fishermen and the families in the area who get much of their livelihood — and protein — from fish in surrounding waters.

"We had all the holes patched and were ready to start pumping (pumping out the water)." "If they had had the proper pump equipment we could have raised that ship," said MacDonald. He expects the Filipinos to finish the job.

This U.S. Navy diving team has participated in large underwater recovery projects such as the TWA flight 800 crash and the John F. Kennedy Jr. plane crash recovery. "We're heading straight from CARAT to work on the Japanese ship Ehime Maru recovery," said MacDonald.



BM1(DSW/SW) Rod Smith, from Spokane, Wash., with Mobile Diving Salvage Unit One (MDSU ONE) shows the Royal Malaysian Navy divers a Built In Breathing System (BIBS) inside their Transportable Recompression Chamber System (TRCS).

CARAT is a series of annual bilateral exercises that take place throughout Southeast Asia.

JO2 Kenneth G. Ragland wrote the accompanying article while on his two week annual active duty for training. He has been a member of the Naval Reserve for the past thirteen years.

PMS Corner

"Service to the Fleet"

- Non Ionic Detergent (SPMIG 0366) will continue to be authorized for cleaning provided it is prepared and mixed as per current instructions.
- Recent issue with the filter assemblies on the Volume Tank Assembly (VTA) used with the MK3 MOD 0 LWDS. O-ring part number for VTA serial numbers 024 and higher is M83248/1-242. The gasket part number for VTA serial numbers 001 though 023 is VBH131001D16, CAGE 94875.
- Recent problem reported on purification housings. If exposed to the weather, the tool post screws that retain the cover plate on top of housing may become corroded and fail. Updated guidance is contained on MRCs 5921/036 S-2R and 5921/063 S-1R. If applicable submit TFBR for issue.
- Hydrostatic test requirements for stainless steel flasks, filter housings, moisture separators, volume tanks and aluminum filter/purification housings are a thing of the past. FR 2-01 (various MIPS) contains new inspection criteria. The maintenance contains an internal and external inspection followed by ultrasonic inspection if damage is suspected. The periodicities have been tailored to make the transition and scheduling easier. Hydros for DOT cylinders as well as inspection requirements for MIL-F-22606 steel flasks and moisture separators remain the same.
- Part numbers for the gasket on the in line filters for the TRCS have changed. The new part number is SS-8TF-K2. Additionally, the torque spec and wrench has been added to MRCs 18M-1R, 18M-2R, 18M-3R.
- Commands having custody of FADS II Double Lock chambers are reminded that the correct part number for chamber door spider wheel stuffing boxes/door dogs is: Garlock Inc No. 5888 which is a Teflon filament material and meets MIL-P-24396. (Reference: Diving Advisory 88-06)

Points of contact:

Mr. Kerry Duffy/ISEA 059 Comm: 850-230-3100, DSN 436-4351 or email: duffykp@nedu.navsea.navy.mil.

HTCM(MDV) Young, NAVSEA 00C36, comm: (202) 781-0960, DSN: 326-0960, or email: youngch@navsea.navy.mil

Technical questions, logistics problems, supply requests, personnel issue? Call or contact ANCHOR DESK at 1-877-4-1-TOUCH.

In Memory

HMC (FMF/SW/DV)
Pedro J. Gonzales was tragically killed April 7, 2001 in Quang Binh, Vietnam while serving with the Joint Task Force for Recovery (JTFR) of MIAs from the Vietnam War.



Whether in the field with the Fleet Marine Force, on-site with a saturation dive team, or acting as an independent duty corpsman, Doc Gonzo gave you his best. He set the standard for others to emulate. He was, in fact,

an instructor and mentor for many of the young Diving Medical Technicians who are deployed worldwide with the various diving commands.



Dive Students to Receive Associates Degree Upon Graduation



By: EMCS(MDV) Edward Dryden

The Naval Diving and Salvage Training Center, in partnership with the Florida Key's Community College (FKCC), is now offering an Associate in Science degree in Diving Business and Technology. FKCC is an accredited college by the Commission of Colleges of the Southern Association of Colleges and Schools. Beginning with a new Second Class Diver class in May of this year, students will have the option of signing up for this unique opportunity to receive a degree at the end of some diver training courses. According to CDR Mark T. Helmkamp, Commanding Officer of NDSTC, "This provides a more substantive recognition for the accomplishment of becoming a Navy 1st and 2nd Class diver and better prepares each graduate for the future. This effort took over a year and was well worth it."

The program is designed to provide prospective diver candidates with an additional educational benefit, over and above the qualifications received in diving school. After class graduation, the student will receive either an Associate in Science degree or a Certificate of Technical Proficiency based on past academic achievement. In other words, if a student has already completed the college level "core" work required for a degree (math, English, social science, etc.) he or she will be awarded an Associate degree upon graduation. If they have not completed this "core", further education will be required to receive the degree.

I know, you are reading this and wondering what the "catch" is. There are some requirements for the student to meet. First off, they have to sign up for this pro-

gram during the first few days of training, then they have to graduate. That's IT! A representative from FKCC will brief each class, help them fill out the appropriate forms and submit them to the college. This includes all tuition assistance forms to detract some of the costs involved. FKCC will even, at no cost to the student, get their transcripts and evaluate them after the initial sign up. All transfer credits will be accepted as long as they apply to the degree or "core" requirements.

Costs are minimal compared to average tuition at a community college. The student will receive 32 college credits for completing the course. In Florida, the average college course costs 62 dollars per credit hour. Students participating in this program will pay, on average, 62 dollars for the whole thing. That's a good deal in my book.

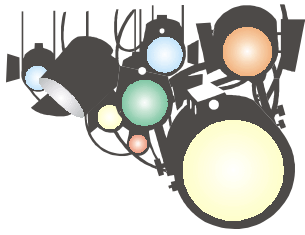
After the completion of diver training, if the student has not received an Associate degree because they are lacking the "core" courses required, they can elect to complete these requirements in a variety of ways. First off, ACE recommended credit for Navy Occupations and Experience will be accepted as applicable to the degree. Additionally, CLEP, DANTES, PEP and Credit-By-Institutional Examination may be used to complete the core requirements or the student may elect to attend college at another institution.

The dive school has also worked out an agreement with the Association of Diving Contractors International for recognition of our diving curriculums and the Florida Aquatic & Marine Institute has begun issuing NAUI dive cards to gradu-

ating students. Additionally, negotiations are underway for recognition of NDSTC curriculum by the National Board of Diving and Hyperbaric Medical Technology. This recognition will qualify students graduating from certain courses as Certified Hyperbaric Technologists. Each of these certificates requires a small fee to the issuing organization but is well worth the price.

These programs are organized and setup so that there is no impact on the students training here at NDSTC. It couldn't be any easier, Signup and Graduate. As long as the student does these two things, they get an AS degree to hang on the "I Love Me Wall" and possibly a couple more certifications to boot. Plus it looks good on a resume. Add these new programs to your recruiting tool box and hopefully it'll help us keep the cupboard stocked with fresh bodies. Dive Safe.

MDV Edward Dryden completed Second Class Dive Training at Panama City, Fla in 1984 and First Class Dive Training in 1986. He became a Master Diver in 1997 and currently serves at the Naval Diving & Salvage Training Center in Fleet Diving Division.



Command in the Spotlight

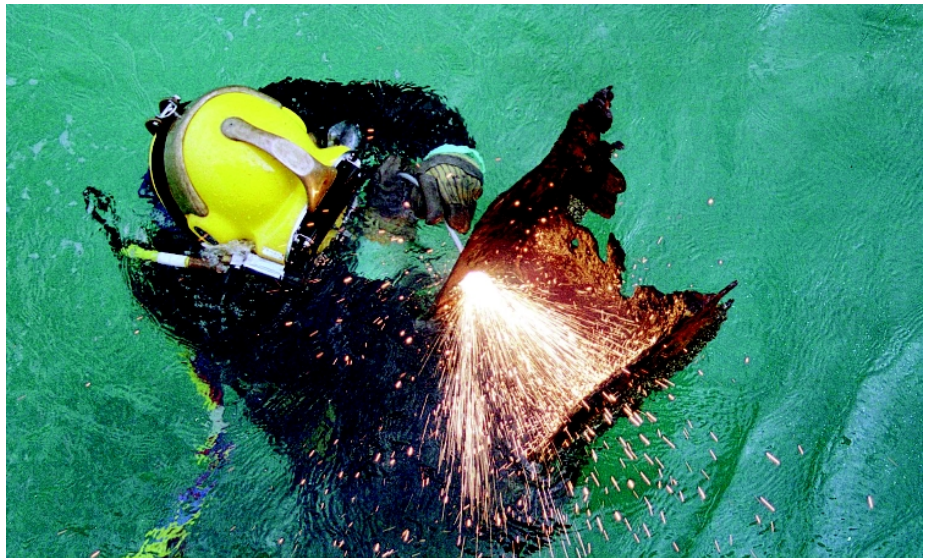
MDSU TWO DET 101 FLIES SOUTH FOR “OPERATION BIRDCAGE”

By: LCDR Dan Daglio

During January 2001, the New England based Naval Reserve Mobile Diving & Salvage Unit TWO Detachment 101 (MDSU TWO Det 101), augmented by personnel from MDSU TWO, performed a variety of underwater operations for the USCG Group, Miami, FL. The majority of the work involved the underwater cutting, removal and replacement of damaged navigational aids. The evolution was lightheartedly code-named “Operation Birdcage” as a reference to the Robin Williams movie that was filmed in the area.

The intercoastal waterway in and around Miami is well known for its large yachts and inexperienced skippers who regularly drive their boats into the local navigational aids. Largely as a result of this damage to their aids over the years, the Coast Guard Aids to Navigation Team Miami tasked MDSU TWO to provide a dive team with underwater cutting skills to help them replace and upgrade the structures. MDSU TWO Det 101 was activated and spent two weeks using its MK III Lightweight Diving System and the MK 21 deep sea diving rig to complete the task.

The dive team was equipped with, and had experience using the BROCO exothermic cutting system. However, upon the recommendation of Master Diver Brown of MDSU TWO and through the Emergency Ships Salvage Material (ESSM) system the detachment acquired a Kerrie Cable Cutting Assembly. The divers found the Kerrie Cable system fairly easy to operate, though difficult to spell. The detachment used both 6 and 9 mm cable. They had the most success with the wider diameter stock as it cut significantly thicker and faster. However, the 9 mm cable did



EQCM (DV) Mark Johnston cuts a hole, using Kerrie Cable, in an H beam in preparation for attaching a shackle and sling for removal.

burn roughly twice as much oxygen as the 6 mm cable.

The process to remove and replace the steel H beam navigational aids involved the following:

- Pulling alongside the aid and setting the SPUD mooring system onboard the USCGC HUDSON (WLIC 801),
- Cutting a hole in the aid at the waterline with topside personnel and then attaching a shackle to take a strain from the Hudson’s boom,
- Deploying the divers to cut the aid at the mud line (typically 15 FSW) while positioning themselves on the side away from the strain,
- Completing the cut and recovering the divers, and
- Removing the damaged aid and subsequently replacing it with a new one using a shipboard mechanism.

The WLIC (Inland Construction Tender) class of USCG vessel proved to be a very capable platform for intercoastal waterway surface supplied diving operations. These 160 foot vessels have a 70 ft boom (rated to 16,000 lbs), a draft of approximately 6 ft, and a SPUD type mooring system enabling the craft to establish a four point moor in under a minute.

Altogether the divers replaced 23 aids between Ft. Lauderdale and Key Biscayne, FL. Simultaneously, the detachment deployed SCUBA divers to complete a pier survey, various ship husbandry tasks, and an emergent law enforcement survey for Coast Guard Station Miami.

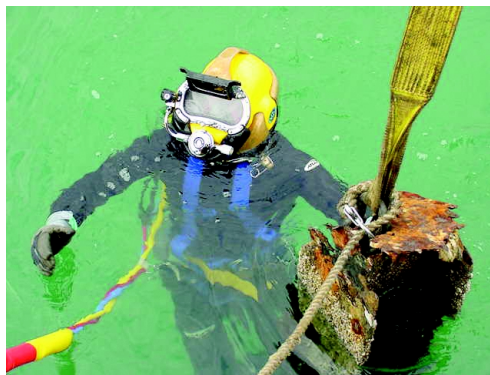
“Operation Birdcage” was a good example of different groups integrating effectively to accomplish a common goal. Active duty MDSU TWO personnel (CDR

(Continued on page 8)

(MDSU 2 Continued from page 7)

Scholley, HTCM/MDV Mallet and BMC/DV Finger) provided technical expertise in support of their reserve counterparts. The ESSM system provided seamless support to the operation. Navy Divers worked in conjunction with the USCG to provide superior Peacetime Contributory Support.

MR2(DV) Edgar Carey prepares to leave the surface to begin underwater cutting operations.



LCDR Daglio graduated from the Basic Diving Officer and Surface Warfare Officer courses in 1991. He then spent three years on board the USS CONSERVER (ARS 39) as the ships Diving and Operations Officer. He is currently the Officer-in-Charge of Mobile Diving & Salvage Unit TWO Detachment 101. MDSU TWO Det 101 is presently located in Portland, ME but is in the process of moving to Newport, RI effective 1 October 2001. The reserve detachment is always looking for motivated deep sea divers and diving officers.

Historical Notes

THE WALL

By: EMCS(MDV) Edward D. Dryden

History is the witness that testifies to the passing of time. It sparks our memories and gives us our only real possession, the remembrances of those past, the accomplishments and failures of those who have gone before. The only real impact or influence a man has is his image in the memories of others, and being remembered, with fondness or with dread, ensures immortality for us all, if only for a little while, until our bones are dust and the memories of our successful endeavors and errors fade from the present consciousness of humanity.

Before the advent of stone memorials, the names of those who served were recorded in scrolls of parchment to memorialize their sacrifices to the society from which they came. In keeping with this tradition, the Naval Diving and Salvage Training Center has constructed the Master Diver Roll Call Wall memorial.

The "Wall", as I will refer to it, was the brainchild of MMCM(MDV) John Schnoering, Command Master Chief of the Naval Diving and Salvage Training Center. Located in a secluded patio adjacent to the quarterdeck at NDSTC, the wall is constructed of concrete and stucco covered

with wooden planks. When completed it will bear the names and decade of service for all U.S. Navy Master Divers, past and present.

According to Schnoering, "We've had a difficult time recovering all the records. We pretty much have everybody back to 1960, but from there it gets a little hazy. Apparently there was some sort of fire that destroyed all the records prior to that. We are basically taking people's word that they were qualified, so by word of mouth, microfiche and other sources we are constructing the list. There is going to be plenty of room for growth, so if we miss someone, just let us know."

The support for construction of the wall has been provided by NDSTC and its Commanding Officer, CAPT(sel) M.T. Helmkamp. CAPT(sel) Helmkamp, one of the staunchest supporters of the Master Diver Community and the man responsible for the new MDV certificates you all have hanging on your wall, was supportive of the project from the start.

"The Master Divers are the backbone of the diving community and as such, should be recognized and remembered for their dedication and achieve-

ments," said CAPT (sel) Helmkamp.

Completed on 1 May 2001, just in time for the MDV/CWO Conference, the "Wall" is open to all visitors to NDSTC. The next time you are in Panama City, stop by the schoolhouse and take a look. Webster's Dictionary defines "roll call" as a check on attendance, by calling out the names of those expected to be present, with each of those present responding. As we are reminded at every Master Diver Reunion, not all of those called will respond. As you stand and read off the names of your old mentors and friends who are no longer with us, remember them and their accomplishments. In this way, they will live forever.

MDV Edward Dryden completed Second Class Dive Training at Panama City, Fla in 1984 and First Class Dive Training in 1986. He became a Master Diver in 1997 and currently serves at the Naval Diving & Salvage Training Center in Fleet Diving Division.

Using both his technical salvage skills and his linguistic abilities, EM1 (SW) Anantaporn Fields epitomizes the first word of the annual naval exercise here: co-operation.

Born in Bangkok, Fields returned home this summer for Cooperation Afloat Readiness and Training exercises. CARAT strives to blend two cultures into a cohesive, effective unit during surface, air and subsurface phases of the exercises.

"My family is living here, and I am anxious to visit my wife and take my family home to the United States," said Fields. "I hadn't seen my son in a year and a half."

With his unit, Mobile Diving and Salvage Unit One, Detachment 7, Fields traveled from Pearl Harbor, Hawaii, to Sattahip to participate in training evolutions with Thai divers.

"I like to travel and see the world and hoped someday to come back to Thailand and do what I am doing now," said the 20-year Navy veteran.

Fields' duties normally include salvage support operations and maintenance of gear such as the compressors, life support systems and dive communications systems. Responsible for all electrical machinery, Fields works intricately with both the hardware and the people of his unit.

Colleagues from both countries say his translation skills make Fields invaluable to CARAT.

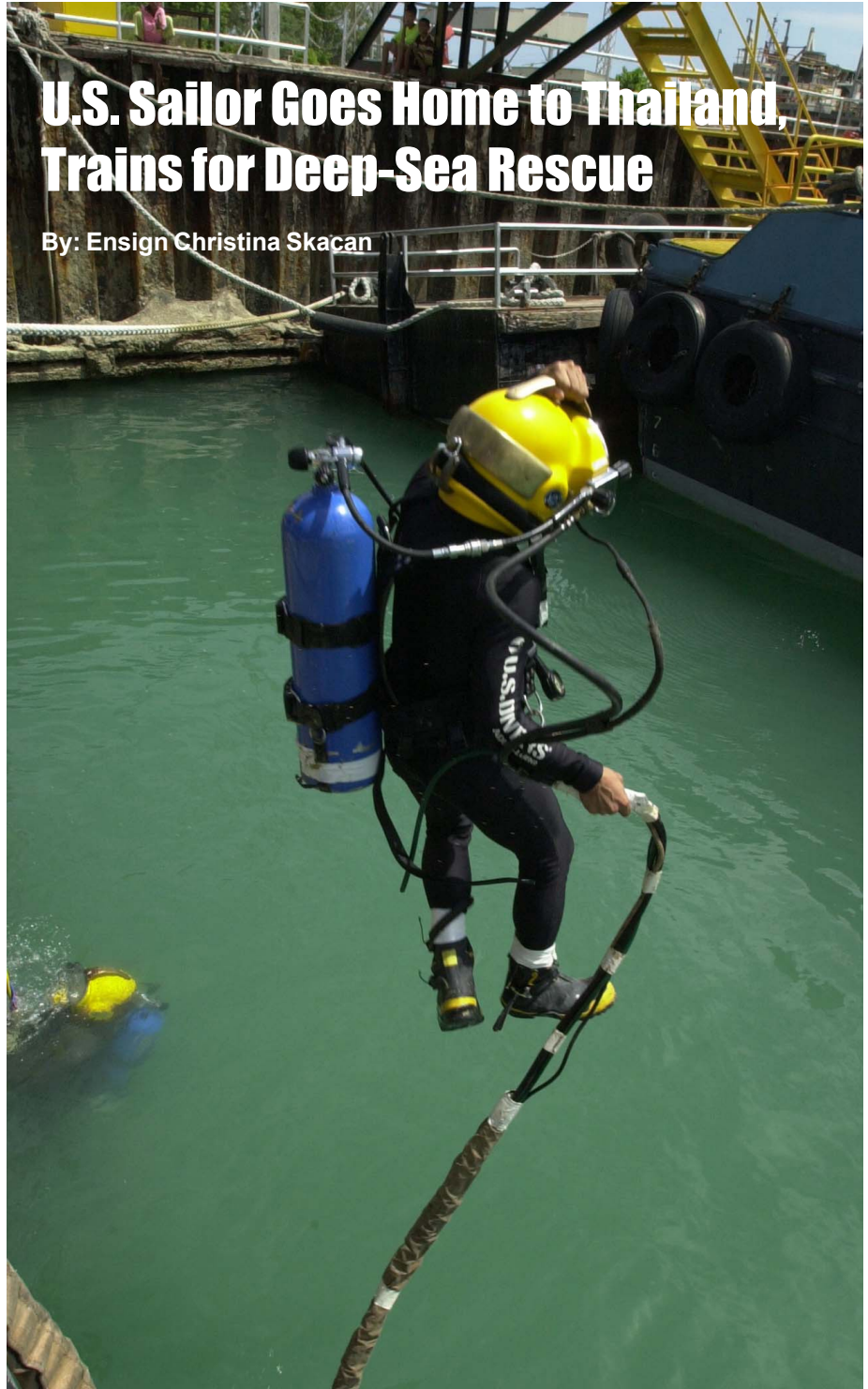
"They're quite surprised when I speak fluent Thai," Fields said. "I am happy to work with the Thai divers. The main objective is how we interact. They consider this a golden opportunity to learn."

Fields pulls double duty working with the salvage equipment and translating as 14 Thai divers experiment with the transportable recompression chamber and transfer lock and complete familiarization dives with the USN MK-21 dive helmet and umbilical cord.

Fields' expertise with the equipment not only aids the Thais in the technical operations of the training evolution, but he can translate their reactions to the American divers for future training purposes. When his Southeast Asian counterparts use hydraulic tools to cut and weld under-

U.S. Sailor Goes Home to Thailand, Trains for Deep-Sea Rescue

By: Ensign Christina Skacan



A Thai Sailor jumps off the pier to train with divers from Mobile Diving Salvage Unit One (MDSU ONE) while participating in the Cooperation Afloat Readiness and Training (CARAT) 2001 exercise.

water, Fields can offer technical expertise in Thai as to how the divers can best utilize the technology in the future.

"The laws of safety have often been

mentioned throughout the dives," said Petty Officer First Class Tanet Suankaew of the Royal Thai Navy. "I learned new techniques from the U.S.

(Continued on page 10)

Navy Diving Researcher Named to the Women Divers Hall of Fame

By: Doris Ryan



Navy members of the Womens Divers Hall of Fame who attended the 2001 Beneath the Sea Conference; (left to right) Mary Bonnin, CDR Karen Kohanowich, CDR Bobbie Scholley, CAPT Karin Lynn and Dr. Susan Kayar.

What happens to a sixteen year old girl who gets hooked on diving – she grows up to be a biologist, teacher, science writer, life-long student of natural history, researcher and an inductee into the Women Divers Hall of Fame.

When Susan R. Kayar, Ph.D. received the award she became a member of an elite group that includes the most no-

table women leaders and innovators in the diving community. These women have established milestones in the many diverse fields of diving. Dr. Kayar has spent the past 10 years in the Environmental Physiology Department of the US Naval Medical Research Center where she is currently Head of the Decompression Sickness Research Program.

Describing what she does for a living, Dr. Kayar said, “I am a research physiologist, and study decompression sickness models using simulated ultra-deep dives to 2000 feet. The award acknowledges my work in biochemical decompression which will hopefully lead to a pill to prevent decompression sickness.” The idea of biochemical decompression is to use bacteria, resident in the intestine, to remove gas from a diver’s body. The bacteria act as a biochemical scrubber unit. Using laboratory models, Dr. Kayar and her research team have proven that biochemical decompression will lower the total amount of gas being carried in the diver’s tissues during a dive and lower the risk of decompression sickness during the return to the surface from a deep dive.

Dr. Kayar added, “There is still a lot of work to do, and it will take ten more years of research and a collaboration with a pharmaceutical company to make the pill a reality.”

Her current studies focus on hydrogen metabolizing bacteria for deep diving, but future plans are to extend the approach to shallow water diving, using bacteria that metabolize nitrogen. Dr. Kayar is working on other projects in decompression sickness as well, includ-

(Hall of Fame continued on page 11)

(U.S. Sailor continued from page 9)

divers. The techniques of pre and post dives are different because the Thai divers never check - they just jump in.”

Diving and salvage work appeals to Fields because of the ingenuity required to complete the highly intricate operations. Fields notes the need to share techniques through exercises like CARAT.

“Salvage work is not something you learn from a textbook. To salvage a ship relies on so many factors - you have to make it work.”

CARAT diving exercises aim to increase interoperability between American and Thai diving and salvage operations. Fields’ ability to speak to the Thai divers,

while they work underwater with American technology, prepares them to work hand-in-hand with U.S. divers should emergency situations occur in the future.

With six months remaining before retirement, Fields plans to pursue a bachelor’s degree and career as an industrial electrician, and notes his participation in CARAT may be the most rewarding experience of his career.

“My father passed away 100 days ago,” Fields said who moved to the United States 27 years ago. “I never attended his funeral, but since I got here, I attended his cremation. It’s a sad story, but a good one.”

Fields and MDSU ONE face a daunting task when they complete CARAT and return to Pearl Harbor.

“We look forward to salvaging the Ehime Maru, but right here, right now is the highlight of my career.”

ENS Christina Skacan, USNR is the Assistant Public Affairs Officer for CARAT. She is attached to Staff of Commander, Destroyer Squadron One embarked on USS Rushmore (LSD 47) for bilateral exercises with Thailand, Singapore, Malaysia and Brunei. Her current unit is NR Navy Office of Information West, Det 119.

FACEPLATE

(Hall of Fame continued from page 10)

ing drug intervention using off the shelf medications. These drugs are currently used for illnesses similar to decompression sickness such as stroke and neurological damage from a spinal crush injury. She is also looking at the possibility of links between temperature exposure during and after a dive as risk factors for decompression sickness.

The Women Divers Hall of Fame is sponsored by *Beneath the Sea* (a trade organization for divers), the Underwater Society of America, the Women Scuba Association and Women Underwater, LTD (a publication for women divers). For more information on research conducted at the Naval Medical Research Center visit the web site www.nmrc.navy.mil/.

Of the 103 members of the Women Divers Hall of Fame, Dr. Kayar joins six other women recognized for their dedication to Navy diving. (Bios provided by *Beneath the Sea*)

HT2 (DV) Donna M. Tobias was the first woman to become a US Navy Deep Sea (hard hat) Diver in 1975. She worked on search and salvage operations, underwater repairs of surface ships and submarines, and on the conversion of two YFN (barges) into diving and salvage liftcraft. She also served as a submarine escape instructor, hyperbaric chamber operator and a SCUBA instructor at a Navy SCUBA diving school. In the late 1970's she participated in leading-edge hyperbaric treatments for medical purposes and the evaluation of one-person portable recompression chambers.

Mary J. Bonnin, with a career that spans 24 years, currently holds the position of

Master Chief Petty Officer in the US Navy (Retired). After graduating at the top of her class (in both air and mixed gas diving), she went on to become the only woman in the US Navy to qualify as Master Diver. She has trained over 1,000 military divers and worked in ship husbandry, salvage, and rescue. During her last tour she served as the leading Naval Diving Safety Authority. The Naval Undersea Museum in Keyport, WA has dedicated their meeting room as the Mary Bonnin room.

CDR Karen Kohanowich, as a Navy midshipman, supported 1000 FSW saturation dives at the Navy Experimental Diving Unit. After completing Navy Salvage and HeO₂ Diving School in 1983, she served

policy and diving issues.

CDR Bobbie Scholley has been a US Navy Diving Salvage Officer since 1983. She was the Commanding Officer of a US Navy diving and salvage ship (USS BOLSTER ARS 38). Bobbie was the Diving Officer assigned to the TWA Flight 800 recovery operation (1996) and the first woman to be the US Navy Supervisor of Diving. She is currently the Commanding Officer of Mobile Diving and Salvage Unit TWO, leading over 140 sailors providing diving and salvage support to COMSECONDFLT, COMSIXTHFLT and COMFIFTHFLT. As PCO of MDSU 2 CDR Scholley led the emergency diving support for the USS Cole in Yemen.

CAPT Marie E. Knafelc entered the Navy in 1980. Since then she has been responsible for the diagnosis and treatment of diving related illnesses, evaluating diving and life support systems, planning compression and decompression schedules for saturation divers and demonstrating a working knowledge of submarines and their related medical and psychological aspects. She is an Undersea Medical Officer with the Navy Experimental Diving Unit and qualified in scuba, mixed gas and saturation diving.

CAPT Karin Lynn joined the US Navy's Civil Engineer Corps in 1977. In 1983 she graduated from the Navy's deep-sea diving school and went on to specialize in diving and underwater systems. She has an ME in Ocean Engineering and she is head of the Navy's Ocean Facilities Program – overseeing about 250 professional military divers and ocean engineers worldwide. CAPT Lynn is an active member of the Women's Aquatic Network, the Marine Technological Society and related professional associations.

Doris Ryan writes about the accomplishments of the Navy's biomedical laboratories, including Diving and Submarine Medicine. Doris started with the Naval Medical Research and Development Command in Bethesda, Maryland and currently works at the Navy's Bureau of Medicine and Surgery, Naval Medical Research and Development division, Washington, DC.



Dr. Susan Kayar, in her element.

onboard USN and Canadian diving ships in the West Pacific, Caribbean, and North Atlantic. She became a NAUI instructor in 1989, and qualified as a pilot of the "Pisces IV" submersible in 1993. As an Oceanographer, she is the Navy's liaison to the National Oceanic and Atmospheric Administration and coordinates ocean

Divers Assist In Anacostia River Cleanup

By: LCDR Walt Rickert, USNR



Engine of the submerged dredge in the Anacostia River, Washington, DC.

A cooperative effort between the DC Government, Naval District Washington, Army Corps of Engineers, and the Naval Reserve Diving and Salvage Community to remove a sunken dredge from the Anacostia River, just upstream of the Washington Navy Yard, was conducted 10-17 August. The wreck removal mission, part of a larger initiative to renew and revitalize the Anacostia area, required a short but intensive period of operations stressing Army-Navy teamwork in partnership with private industry.

LCDR Chip Chase, OIC of Mobile Diving and Salvage Unit Two Detachment 507 (MDSU TWO Det 507) out of Norfolk, headed up the Navy Dive Team which included divers from reserve units as far away as Maine and Texas as well as members of NAVSEA's own dive unit which

supports the Supervisor of Salvage (00C). "It is an aggressive undertaking to remove such a large hulk with the limited time and resources available" said LCDR Chase as the project began "but we have the capability and experience to make it happen."

To remove the dredge the divers initially concentrated on cutting away topside structure and dismounting the heavy equipment internal to the hulk to lighten the dredge. The material was lifted clear of the wreck by a civilian crane and loaded on a barge provided by the Army Corps of Engineers for disposal. By the end of the week long operation, the heavy equipment, including a massive diesel engine, A-frame, and dredge head, had been removed with all structure above the waterline eliminated. The remaining hull structure was then patched and fitted with a cofferdam to allow the dredge to be refloated with the aid of lifting barges and salvage pumps and towed from the site by the contractor when conditions are right.

Sponsored by NAVSEA, which provided the heavy equipment and administrative support, the operation was an exceptional training opportunity for the divers. "Salvage operations, like this one, provide the best train-

ing possible for our mission. There is no substitute for the real thing."

This kind of dynamic win-win approach in which all have a stake and achieve positive results leads to an improved bond between the Navy and the local community and is a very positive trend in the Naval Reserve. "In this case we benefit, the Command benefits, and the Community benefits," notes LCDR Chase "It doesn't get any better than that."



QMC(DV) Ralph Spear tended by MR2(DV) Ed Carey while BMC(DV) Don Thrush supervises the side.

LCDR Walt Rickert is the Operations Officer for Naval Reserve Mobile Diving and Salvage Unit Two Detachment 507. A qualified Engineering Duty and Diving & Salvage Officer in the Naval Reserve, Mr. Rickert is also a civilian engineer in the Program Executive Office for Theater Surface Combatants where he is the Senior Ship/Availability Manager for the surface combatants in San Diego.



Naval Reservists brave the heat on the Anocostia River.

MONITOR 2001

By: LCDR Edward W. Eidson
and CAPT Chris Murray

USS MONITOR Expedition 2001 was the second year of a three year program funded by the DoD Legacy Program to accomplish selective recovery of the MONITOR while gaining invaluable operational diving experience under very challenging conditions for the US Navy. Again, Navy and NOAA teamed up to complete a very successful mission.

USS MONITOR Expedition 2001 Goals

This year's goals can be grouped into two categories, archeological and Navy diving. The archeological goals were the successful recovery and documentation of the MONITOR's 35-ton engine, recovery of surrounding artifacts in the immediate area, and exploratory excavation in and around the turret in preparation for recovery in 2002. The goals for Navy diving were to gain operational diving experience under challenging conditions and proof of

concept of using a civilian saturation diving system with Navy divers.

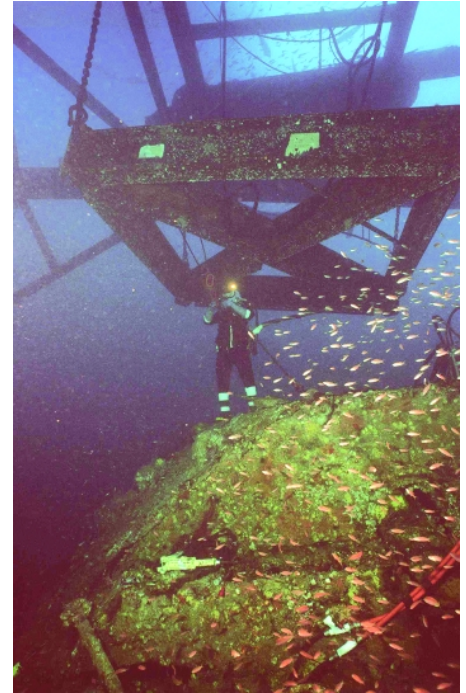
Phase I - USS GRAPPLE April-May 2001

The USS GRAPPLE departed Little Creek for the MONITOR Marine Sanctuary in April 2001 to initiate USS MONITOR Expedition 2001 Phase I. GRAPPLE succeeded in positioning the spreader and surveying the wreckage site for settling and bottom shift compared to the previous year. After installing the hydraulic ram assemblies that control the raising and lowering of the engine lifting frame (ELF), they noticed that the hydraulic control valve assembly that was critical to the safe operation of the system was experiencing an extremely rapid oxidation reaction with the salt water environment. After consulting Mr. Curtis Peterson, the curator from the Mariner's Museum, it was determined that the corrosion was a result of the unprotected aluminum acting as an anode to the metal structure of the bridge frame assembly. The rams were subsequently removed and the valves replaced preventing a potential catastrophe and possibly endangering the life of a diver. Following removal of the rams, the USS GRAPPLE began replacing the chain legs that would be used to raise the ELF once the engine was attached.

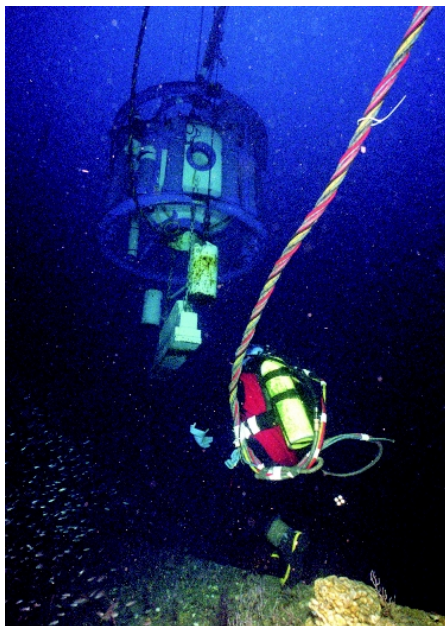
Saturation diving proof of concept using a civilian SAT system by Navy Divers

This year's mission called for the careful cutting, excavating and rigging of this 137-year-old engine. After thorough evaluation of what had to be accomplished and the amount of time that it would take, it was very obvious that saturation diving would be the key to giving this mission the best chance for success. Navy divers would have to remove tons of debris to include coal, deck plates, and fallen metal supporting beams just to get to the engine that was inverted. All diving would also be accomplished under the watchful eye of the Monitor Marine Sanctuary director, Dr John Broadwater and his staff. Every dive would be recorded by several video cameras as work progressed on the underwater archeological site.

With this mission in mind, and the re-



Electronics technician Chief Petty Officer (DV) Terry J. Breaux rigs a chain fall from the wreck site of the USS MONITOR.



Working under the guidance of the National Oceanic and Atmospheric Administration (NOAA) archaeologists and divers from Mobile Diving and Salvage Unit Two and 24 other Navy diving commands raised the steam engine of the USS MONITOR.

cent accident of the KURSK in waters deeper than fleet salvage capabilities, NAVSEA aggressively pursued the options for use of a civilian saturation diving system by Navy divers. The proof of concept was to see how the Navy could team with civilian industry in providing an affordable and efficient deep-sea diving capability without compromising safety. With the support of OPNAV N773, Diving Program Sponsor, NAVSEA's 00C Supervisor of Diving and 00C's saturation expert, Master Diver Chuck Young, we set out to research and make recommendations for use of a civilian SAT system. There are currently 110 qualified Navy saturation divers in the Navy. There is a training pipeline functional and in place. With the experience that the Navy currently has, the time was right to look at an innovative way to recapture a deep water salvage capability or submarine recovery capability while supporting this mission. To accomplish this, would be a major step in a new direction for the Navy.

The first step was to locate a SAT system. This was no easy task in itself. The system that was chosen was based

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ENCM(MDV) David L. Davidson, Naval Sea Systems Command, gives a pre-dive brief on the tasks that are assigned for the divers (CWO4 Rick Armstrong, CDU and DC1 James Barker, MDSU TWO) before they descend to the wreck site of the USS MONITOR some 240 feet below the surface.

on its availability, affordability, and, most importantly, its projected successful evaluation by a Navy team to conduct safe diving. The SAT system chosen was the Global Industries 1504. The next step was to establish an evaluation system that would make the recommendation to OPNAV N773 if the system would be safe to dive with acceptable risk. The evaluation team was lead by 00C4, Rob Warren, who was teamed with 00C3, NAVSEA 395, NAVSEA 05L, NEDU and the Diving and Salvage Training Center. The task was not to certify the system, but to look at the civilian certification that a system was currently under and verify that it met its own standards. It was then to compare each element that differed from the Navy's own certification and analyze that difference and what it meant to the overall safety of the diver. An exhaustive hazard analysis was completed for each element as part of this process. The SAT system would then be used along side Mobile Diving and Salvage Unit TWO's surface supplied diving teams.

Diving Concept of OPS

The concept for diving operations involved two surface supplied teams that would work 12 - hour shifts. Each team would routinely complete 3 to 5 sets of dives a shift, using up to a 240/40 schedule. This would provide between 6 to 9 hours of good working bottom time a day for surface supplied diving. On the SAT side that was located 50 feet from the surface supplied side, SAT divers would complete two two-man bell runs per day. Each bell run used two divers for up to five hours bottom time for each diver. In a 24-hour period the SAT divers would often complete more than 18 hours of bottom time in a day using the two runs and four

divers. Under the best conditions, total bottom times including all divers exceeded 26 hours in a day.

Phase II June-July 2001

A ten-month planning process involving 24 separate commands, federal agencies, and civilian contractors culminated with the execution of Phase II. A 299-foot civilian contracted barge from Manson Gulf, with a 500-ton crane was loaded in Houma, Louisiana with the contracted Global Saturation system and all of the required diving and salvage equipment needed to complete the mission. A combined crew from Mobile Diving and Salvage Unit TWO (MDSU TWO), NAVSEA, Phoenix International, Global Industries, and Manson Gulf conducted the loading and rigging of all the equipment prior to the barge's departure from Houma. The barge was configured to support simultaneous saturation and surface supplied diving operations with two available chambers for surface supplied decompression from the anticipated 238-foot dives. To assist the divers there are two hydraulic articulated cranes that handled the diver stages. The barge was also outfitted with the Navy's Mini Rover 2. Berthing was added to support the crew of 104 people. Seven semi truck loads of diving and salvage equipment, a complete saturation complex, support equipment and one-third of the available helium supply in the United States completed the loading. Transiting the barge was like walking through a labyrinth of passages and diesel engines stacked three stories high. This was home to the Salvors that came to the rescue of the USS MONITOR.

Following the preparation of the barge, the Arapaho Eagle mated up and took it under tow from Houma to

Moorhead City where diverting from a storm caused a two day delay but allowed the embarkation of the remaining diving crew. The saturation team and selected NAVSEA Certification personnel had ridden the barge during its transit to complete final checks and conduct training so the saturation system would be ready upon arrival at the site. Once the storm no longer posed a threat, the barge under tow proceeded to the wreckage site and arrived on the 17th of June. Diving operations began immediately and the remaining chain legs were replaced, the rams re-installed and the ELF lowered into position for engine recovery.

The basic concept was to clear the bottom sediment and concretion from in and around the engine to allow the engine bed frame to be rigged to the ELF from six points around the center of gravity of the



Hospital Corpsman Chief Petty Officer (FMF/DV) Mike Cockril of Long Beach, CA, assigned to Mobile Diving and Salvage Unit-TWO, descends to the wreck site of the USS MONITOR.

system. Simple enough in concept, it proved more difficult in practice. The first step for the surface supplied divers was to remove the condenser to gain better access under the engine. After almost three weeks, it was determined that the condenser was a more formidable piece of metal than anticipated. The decision was made to proceed with the condenser in

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The Old Master

By: HTCM(MDV) Gary L. Furr

Training is all good! It's the lack of it that's not good. I don't think there is a diver that has complained about diver training at NDSTC. It was the best time of my life.

The opportunity to become a better diver depends on training. There was a time everyone cringed at the thought of salvage training. Nowadays you're lucky if you can get to a command that has the assets to support salvage training.

Think of training as your air supply. Without it you don't leave the surface. Each and every diver should plan their career path, so they can receive all the different kinds of training that will enable them to be the best they can be. As a second class diver I started with the salvage side first (USS EDENTON ATS 1). There I was able to get all those qualifications and ship board experience to be a good sailor, not to mention salvage and mixed gas training that would be very helpful during First Class diver / supervisor training. Along with successful training comes more responsibility.

As a Second Class Petty Officer and First Class diver onboard EMORY S LAND (AS 39) I spent many hours under and in submarines. I remember having the chamber guard and being the only dive supervisor onboard when an ambulance arrived with a patient who had embolized (AGE). You talk about the dog shaking and razor blades, you should have seen my watches when we left surface pressing the chamber to 165 feet. Once the patient was stable and improving the Master Diver and Chief

showed up. Thanks guys.

Stationed at SIMA Little Creek, I continued my training in the underwater ship husbandry arena to include advanced certified underwater welding procedures. BMCM (MDV) Radecki (Rags) kept us plenty busy and I have to say the training we received was tough and very effective. I remember Rags saying if you want to be a Chief you need to get back to the salvage ships. My next set of orders would further develop my diver know-how.

Onboard USS GRAPPLE (ARS 53) Captain Bob Honey felt I could best serve as the Damage Control Assistant. So much for the diving. I did make Chief and training once again played an essential role. This time I was the one most responsible for it. If your goal in the Navy is to make chief, take advantage of the qualifications you can achieve (CDO, OOD, JOOD, DCA, EOWW, MPA etc.). Get the training and do it. I learned a lot on those salvage ships, unfortunately there aren't many left these days. Before leaving GRAPPLE, I was given two choices for duty. La Madalena or MDV evaluations. You can't hunt white tail deer or wild turkeys in La Madalena.

Training pays off! Being a Master Diver is rewarding in many ways. To be an effective Master Diver you must have advanced diving knowledge in all fields of Navy diving (SALVAGE, UWSH, SPECWAR and EOD), a good understand-



ing of how the Navy's diving program is managed and funded at all levels and must train others to do your job as those who trained you to do theirs. If you are a motivated Navy deep sea diver looking for a great job, plan your career path and get the training that is required. Experience the best job in the Navy, Master Diver. I assure you it is one of the most honorable positions in today's Navy.

MDV Gary Furr Joined the Navy in July of 1982. He was Selected Master Diver in April of 1992 and his current Command is EODMU TWO (Master Diver). His past Commands include Naval Special Warfare Group Two (Master Diver), USS Puget Sound AD 38 (Master Diver), NDSTC (MDV evals), USS Grapple ARS 53 (1st Class Diver), SIMA Little Creek (1st Class Diver), USS Emory S Land AS 39 (1st Class Diver), NDSTC (1st Class Diver Training), USS Edenton ATS 1 (2nd Class Diver), and Pearl Harbor, Hawaii (2nd Class Diver Training).

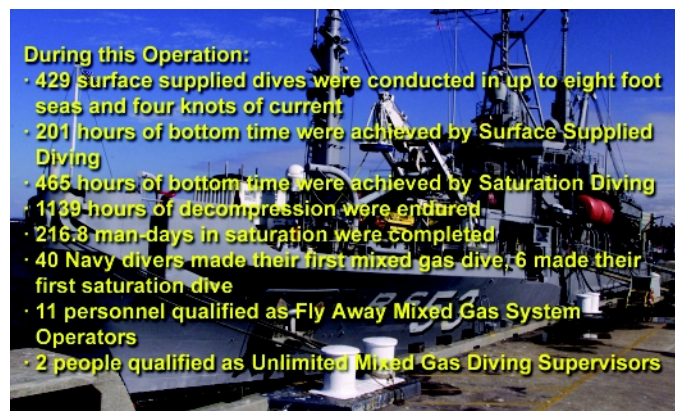
(Monitor 2001 continued from page 14)

place. The saturation team's initial task was to remove deck plates to gain access to the engine from above and begin connecting the lifting points to the ELF. Once the bottom plating was removed, the first

allow lifting of the engine.

Special tools and techniques were developed to accomplish many of the required tasks. An eductor setup with an excavation nozzle was designed and fabri-

cated by the NAVSEA ESSM Base and MDSU TWO. This was used to remove sand and silt without removing artifacts. A hydroblaster was used to remove concretion and coal deposits and prepare metal for cutting. A hydraulic tool manifold was employed allowing multiple



During this Operation:

- 429 surface supplied dives were conducted in up to eight foot seas and four knots of current
- 201 hours of bottom time were achieved by Surface Supplied Diving
- 465 hours of bottom time were achieved by Saturation Diving
- 1139 hours of decompression were endured
- 216.8 man-days in saturation were completed
- 40 Navy divers made their first mixed gas dive; 6 made their first saturation dive
- 11 personnel qualified as Fly Away Mixed Gas System Operators
- 2 people qualified as Unlimited Mixed Gas Diving Supervisors

four attachments were achieved after five days of hand chiseling coal covering the engine bed frame. The final two attachments, which were the critical points because the first four were on one side of the center of gravity, proved to be more challenging. It was thought that access to the after part of the engine could be achieved to cinch a strap around the bed frame. The coal that was in the engine room when the USS MONITOR sank had reacted with the iron of the wreck and created a concretion around the engine that was as hard as rock. Since access had been gained under the engine bed frame on the forward side of the aft engine bulkhead, two holes, approximately ten inches in diameter, were cut through the two-inch solid wrought iron bed frame on either side of the engine. These holes were used to connect a shackle to a padeye that had been welded to a section of I-beam and placed under each side of the engine bed frame. From these padeyes, a shackle and turnbuckle were connected to the ELF to

tools to be operated from the same hydraulic power unit. Umbilical management techniques, diver handling systems, and manned portable davits were used to allow the divers to operate beyond the normal sea state and current limits of surface supplied diving.

This process provided the requisite number of lifting points and the engine was raised from the wreckage just over three weeks after the divers arrived on site. Once free from the wreckage, slings were connected to the entire bridge frame assembly, and the 120-ton assembly with the engine suspended underneath began its 238-foot transit to the surface. After surfacing, it was placed on a Lockwood Marine barge and transported to Newport News Shipbuilding where it was prepared for further transfer to the Mariner's Museum. It arrived at the Mariner's Museum on the 7th of August and will remain in a desalination tank for the next ten years before it can be restored and put on display.

CDR Bobbie Scholley, Commanding Officer of MDSU TWO, stated, "MONITOR Expedition 2001 was a huge success from both archeological and Navy training perspectives. The training and experience provided to 148 Navy Divers from 24 different commands this year will pay big dividends for Navy Diving. We also showed that we can safely and successfully conduct a large scale, real world operation using a commercial saturation system with US Navy Divers. This provides a tremendous amount of flexibility for future cooperation between the military and commercial diving communities and gives us added capability to handle any contingency. This operation proved to be a wonderful retention and recruitment tool!"

In the final analysis, the procedures developed, refined, trained, and practiced this year, and in years past, near the limits of surface supplied diving, current, and sea states have produced refined and innovative techniques that will become standard operating procedures for years to come. Throughout this arduous operation, in less than optimal conditions, and while operating around the clock, the only diving related injury that required treatment was one case of type II DCS.

LCDR Eidson was commissioned in 1988 from the University of Kansas with a degree in mechanical engineering. Following Surface Warfare Officers School and Diving and Salvage Training, he was assigned to the rescue and salvage ship USS HOIST (ARS 40). While assigned to the USS HOIST, Lcdr Eidson served as Diving and Salvage Officer. Following graduation from the War College, Lcdr Eidson was assigned as Executive Officer, Mobile Diving and Salvage Unit TWO. Lcdr Eidson has expertise in air and mixed gas Diving, Salvage, explosive ordnance operations throughout South East Asia, Special Operations Forces support, and is a Naval Parachutist.

ATTENTION

If you are experiencing a problem reaching a department or person within the Supervisor of Salvage office, try calling the central number at 202-781-1731 then follow the instructions.

FACEPLATE