FACEPLATE

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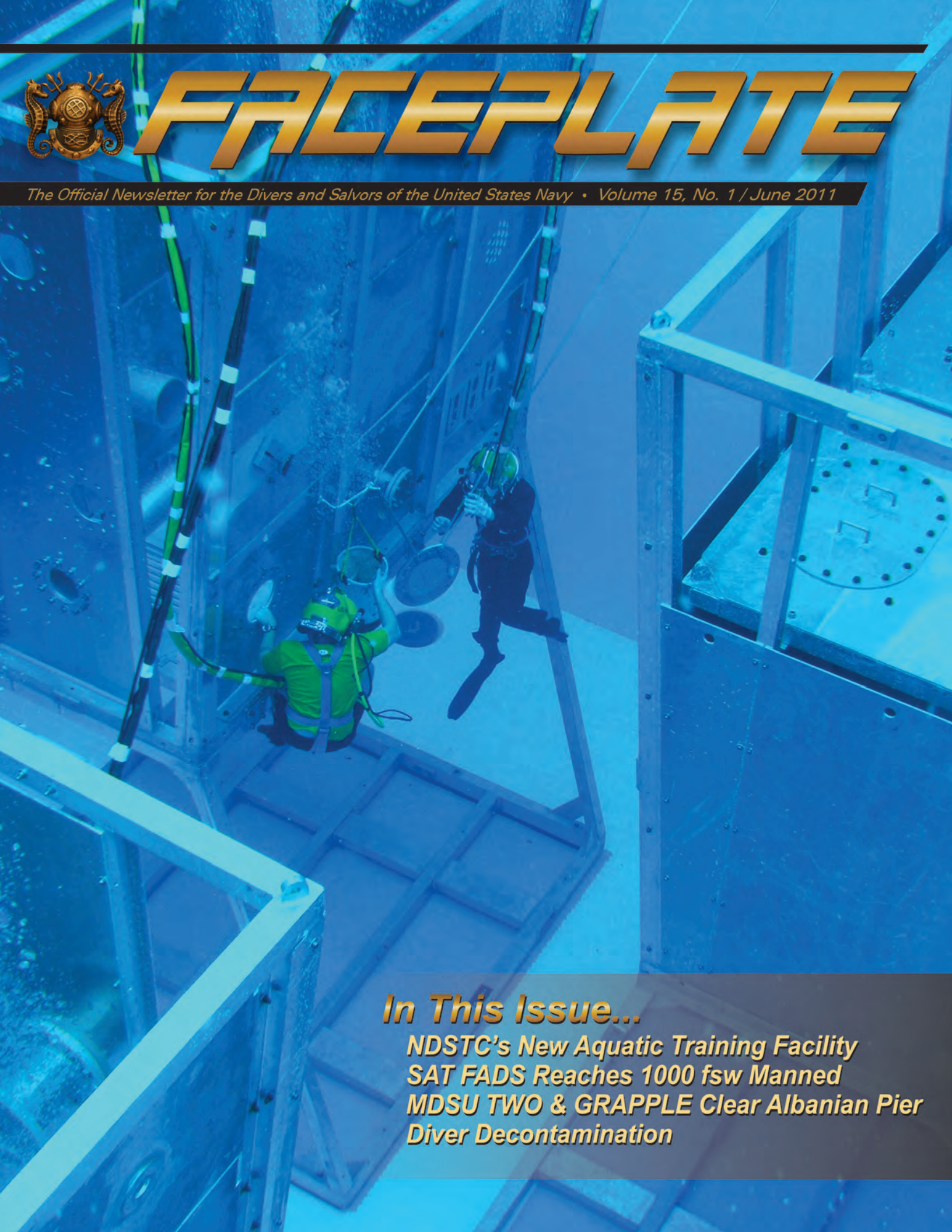

In This Issue...

FACEPLATE

FACEPLATE is published by the Supervisor of Salvage and Diving to make 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.

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Editorial Staff

In This Issue

Cover

A student at Naval Diving and Salvage Training Center (NDSTC) at Panama City, FL in class 11-30-2C is being trained and evaluated underwater by an instructor utilizing the new Multi-Project Modules (MPM) inside the new 40-foot deep Aquatic Training Facility.

SUPSALV SENDS...CAPT Pat Keenan

In public forums such as the Divers Working Group (DWG), fleet Divers have asked me how the Supervisor of Salvage and Diving (SUPSALV) fits into the overall Navy salvage mission. Are our technical personnel and the contractors we manage trying to take work away from the fleet? The answer is no. Numbered Fleet commanders are responsible for the conduct of salvage operations in their respective theaters. If the required mission is within fleet capability (salvage in 300 fsw or less) fleet assets (primarily MDSU Divers and MSC salvage ships) do the work. Such has been the case multiple times in the last few years for major salvage evolutions (i.e. USS Hartford – USS New Orleans collision and harbor clearance and surveys in Port Au Prince, Haiti and Talcahuano, Chile). It was true again during the recent port clearance operations in Japan following the devastating earthquake and subsequent tsunami that struck that nation on 11 March. The salvage work performed as part of Operation Tomodachi was handled completely by fleet units. Specifically; MDSU ONE, EODMU FIVE, UCT TWO, COMLOG WESTPAC, and USNS SAFEGUARD. These commands surveyed and removed debris from three Japanese ports, thereby significantly improving the speed at which humanitarian supplies and fuel reached the Japanese people. They surveyed 10,000 square meters of ocean bottom with side-scan sonar, logged 20 hours in the water with remotely operated vehicles (ROVs) and 30 hours of diving bottom time while removing 15 tons of debris and marking other targets for future removal by Japanese commercial salvors. In addition to providing direct assistance to people in need, their work generated much good will with the Japanese government, an important U.S. ally. Everyone involved in this project is to be commended for a job well done.

Engineering expertise, contractor access, and Emergency Ship Salvage Material (ESSM) are resident in the

Captain Patrick Keenan, USN
Supervisor of Salvage and Diving

SUPSALV organization to augment fleet salvage forces, or perform specific missions that exceed fleet capability, such as open ocean search and recovery in depths greater than 300 feet. Current examples of this type of work are our mobilization of salvage pumps from ESSM bases in Sasebo, Japan and Singapore to assist with cooling damaged nuclear reactors at the Fukushima Daiichi facility, and deployment of search equipment onboard USNS CATAWBA to locate an AV-8B Harrier that crashed in approximately 8,000 fsw in the Gulf of Aden.

The 300 foot operational navy diving depth limit that I mentioned in the first paragraph may change soon. In April, a Navy Experimental Diving Unit (NEDU) – SUPSALV team satisfactorily tested a new saturation fly-away diving system (SAT FADS) pier-side to 1,000 fsw. Six NEDU Divers were compressed to an equivalent dry depth of 1,000 feet, performed system checks at depth and then underwent ten days of saturation decompression. All went well. Our next challenge is to take SAT FADS to sea.

The principal barrier to getting SAT FADS to sea is not technical, it is financial. The fiscal problems that our Navy and government now face are substantial and they will be with us for a long time. Funding for a seaborne test of SAT FADS has not yet been identified. Lack of funds is also the reason we have cancelled the 2011 Divers Working Group. While I certainly value meetings like DWG, we must make choices about our expenditures as budgets shrink. In this case it is clear, operations and direct fleet support come first. By not paying to hold a DWG, we will be able to continue to fund the diving system air testing program for the remainder of fiscal year 2011.

Keep diving!

Post-tsunami port clearance operations in Japan conducted by U.S. Navy Divers aboard USNS Safeguard.

Liberia:
Rebuilding a Nation From the Seafloor Up

By: IT3 Orin Shulte and CM2 Tory Madsen (SCW/DV)

"We have been asked by our task force to deploy to the West Coast of Africa and construct a boat ramp and floating pier for the Liberian Coast Guard, developing overall international relationships between the Liberian government and the United States. We have a lot of hard, technical work ahead of us. Much of your time and effort has gone into getting us this far. This will be the crown jewel of our deployment so let's finish strong." As the words of SWC Daniel Lowry (SCW/DV) resonated through the warehouse on Camp Mitchell, Underwater Construction Team (UCT) Construction Dive Detachment (CDD) CHARLIE prepared to embark on their final construction job for their deployment cycle. They had already had a successful deployment completing international Divers training in Odessa, Ukraine, constructing a floating pier for the Cameroon Rapid Intervention Battalion, and restoring port security barrier sections for the Royal Spanish Navy in Rota, Spain. Constructing the boat ramp and floating pier for the developing Liberian Coast Guard would be the culmination of the Seabee Divers' six-month deployment. With pinpoint focus and unwavering determination, the first chalk of Seabee Divers made the transit to the air terminal, loaded their gear, and set off for Monrovia, Liberia.

For the developing Liberian government, the construction of a floating pier and small watercraft boat ramp would play a critical role in combating narcotics trafficking and terrorism. Liberia's burgeoning Coast Guard has no current operational port to conduct training or real world missions to contest these threats. With the installation of the pier and boat ramp the Liberian Coast Guard will be able to provide the security and safety that the country has been working toward since 2003.

Completing the mission in Liberia would be a huge undertaking. Dive Det CHARLIE would be totally self-sufficient, having the majority of materials and gear flown in on three C-130 chalks from Rota, Spain. The pier materials would be making the voyage via ship across the Atlantic from UCT ONE headquarters based in Joint Expeditionary Base - Little Creek. The pier materials were scheduled to arrive a week and a half after the project started. Having no support from any adjacent units operating in country, all the construction, diving, mechanical operations and maintenance, excavating, and surveying would rest solely on CDD/CHARLIE.

Touching down at the air terminal, work began immediately. Gear was unloaded and then transported to the Liberian Coast Guard Freeport Station where Dive Det CHARLIE began the initial preparations for project material storage. Several CONEX boxes had to be moved to support UCT ONE's future diving operations near the water. The recompression chamber was assembled in one of the CONEX boxes and the MK-3 surface supplied diving system was placed directly in front of the chamber. The set-up gave the Seabee Divers an optimum work environment. Seabee Divers would be suited up and hatted right on the beach where they would walk directly to the pier project site to complete their underwater cutting and welding objectives.

Sitting on dive station, staring at the murky waters of the African Atlantic, Seabee Divers submerged themselves beneath the sea and began the initial execution of the pier project. They began jetting and scrubbing operations to prepare the piles for cutting. While the Seabee Divers worked relentlessly underneath the surface, members from CDD/CHARLIE tackled the prefabrication of the Geoweb® which would form the concrete boat ramp.

Having already started on underwa-

ter cutting and welding operations and construction of the boat ramp, piecing together the pier sections would be one of the last major obstacles for the Det. Piece by piece, bolt by bolt, pontoon by pontoon, the 6 sections of the pier were constructed. The sections were then finished with a wooden deck and placed on the beach in preparation for installation.

Each morning as the African sun began to rise across the horizon, development on the project was more than noticeable. Within a week all the pier sections were splashed into the water and connected between their hinge plates, all piles had been cut and were awaiting friction collars, and concrete pouring had begun with the boat ramp. Using pumps to pour the concrete became a tiresome and strenuous ordeal for Dive Det CHARLIE mainly due to the hose becoming compacted with aggregate. Requiring several replacement parts and a lot of ingenuity the boat ramp was constructed over several days. The ocean tides were another hindrance to completion. Washout was a daily occurrence forcing the crew to due daily inspections of the boat ramp. Finally two days before the ribbon cutting ceremony, the concrete lay solid on the bottom of the seafloor.

Now that all major construction was accomplished, a gangway had to be mounted and Sea-Flex anchors installed from the mooring tubes to the friction collars. The forklift contractors were utilized to lower the gangway into place and mount it from the quay wall to the deck of the pier sections. The process was swift and unobstructed, taking less than a day. The installation of the Sea-Flex anchors was another story. Taking a few days to eye splice the line being used and attaching the anchors to the friction collars, the pier was finally secured and the project completed. The efforts of many days of intensive labor and countless dives, plus fabrication, construction, and exhaustion had finally come to completion. This was exceedingly prevalent at the ribbon cutting ceremony when the Liberian Minister of Defense, the Liberian Coast Guard, and the U.S. Embassy commended CDD/CHARLIE on the exceptional achievement that they had accomplished in such a short time frame.

The U.S. Ambassador, Linda Thomas-Green field explained, "I would like to thank you for the work you accomplished in completing the pier and boat ramp for the Liberian Coast Guard. The completion of this project is a major contribution to the goals of this mission which is to help Liberia rebuild after more than 15 years of conflict." She continued to state, "more important than the completion of this project is the manner in which you accomplished the job. It is always difficult to take over a project in its final stages but you handled the job with professionalism, pragmatism, and perseverance, solving seemingly insurmountable challenges in a difficult working environment while maintaining an upbeat attitude. You are a model to your Liberian colleagues and you have made the United States proud. You have upheld the Seabee "can do" flame and I personally congratulate you on behalf of the entire U.S. Embassy for a job extremely well done."

Over the course of a month a nation's security was strengthened tenfold. Liberia now possessed the capabilities to efficiently train and play their role in counter-terrorism and counter-narcotic trafficking that has plagued its waters for decades. The Liberian Coast Guard has been attacking their training with new fervor and hopes to begin real world missions in the up-coming year. As for Dive Det CHARLIE, they take pride in knowing that they provided a critical puzzle piece for the developing nation's security and that their underwater construction mission was an overall success.

Photo captions top to bottom: Liberian Coast Guard helping Det CHARLIE move the Geoweb® into place; Liberians and Americans tour the new floating pier just after the ribbon cutting ceremony; The U.S. Ambassador, Linda Thomas-Green, and the Colonel of the Liberian Coast Guard walk on the floating pier just after the ribbon cutting ceremony. Photo credits: EAC Christopher Munch (SCW/DV)

IT3 Orin Shulte served as Communications Petty Officer for Construction Dive Detachment CHARLIE during deployment to Monrovia, Liberia. CM2 Tory Madsen (SCW/DV) served as Work Center Supervisor for Construction Dive Detachment CHARLIE during deployment to Monrovia, Liberia. Photographer EAC Christopher Munch (SCW/DV) served as Assistant Officer in Charge for Construction Dive Detachment CHARLIE during deployment to Monrovia, Liberia.

Multinational Divers Take to the Water During Sea Breeze 2010

By: Mass Communication Specialist 1st Class (SW) Gary Keen, Commander, U.S. Naval Forces Europe-Africa/U.S. 6th Fleet Public Affairs

Danish, Ukrainian, and U.S. Navy Divers took to the water for one of many dive evolutions during the multinational exercise Sea Breeze 2010 at the Ukrainian Western Naval Base in Odessa, Ukraine, July 14.

Divers familiarized themselves with each other's equipment, diving techniques, and procedures, gaining from each other's experience.

"It's excellent working with different nations," said Chief Steel Worker (SCW/DV) Daniel Lowery, officer-in-charge of Underwater Construction Team One (UCT ONE). "We are here to become proficient in our job, work with other countries and develop a relationship. All military services travel, so to go and be able to operate with each other is definitely better."

Members from the Danish Navy Dive Academy, Copenhagen; Ukrainian dive team from the Search and Rescue Center of the Ukrainian Navy, Sevastopol; UCT ONE, from Joint Expeditionary Base Little Creek-Fort Story, Va.; and Explosive Ordnance Disposal Mobile Unit Eight (EODMU EIGHT), from Sigonella, Italy, trained together daily in controlled environments both in port and at sea.

"Today we are going to dive with some of the guys from Ukraine who have never used or tested dive helmets before," said Thomas Frederiksen, exercise participant and diver from the Royal Danish Navy Dive Academy. "Over the next couple of days we will continue training with the Ukraine Divers, and we'll do some underwater welding as well."

Ukrainian Senior Diver Tkachenko Mihaylo jumps in the water to accompany Steel Worker 2nd Class Jesse Hamblin, assigned to Underwater Construction Team (UCT) ONE. (U.S. Navy photo by Mass Communication Specialist 1st Class Gary Keen/Released)

Surface supplied diving techniques, equipment familiarization, under water welding, salvage operations, ordnance identification and disposal, and side scan sonar operations are a few of the events that were covered during various diving phases of Sea Breeze.

"The training was very interesting," said Ukrainian Navy Senior Diver Tkachenko Mihaylo. "We have many of the same procedures as the other nations, but our equipment is different and it is nice to learn about the different equipment."

Sea Breeze is an invitational combined and joint maritime exercise in the Black Sea with the goals of enhancing Black Sea national maritime security capabilities and improving Black Sea theater security cooperation strategies.

Sea Breeze is the largest exercise this year in the Black Sea including 20 ships, 13 aircraft and more than 1,600 military members from Azerbaijan, Austria, Belgium, Denmark, Georgia, Germany, Greece, Moldova, Sweden, Turkey, Ukraine, and the United States.

For more news from Commander, U.S. Naval Forces Europe -U.S. Naval Forces Africa/U.S. 6th Fleet, visit www.navy.mil/local/naveur/.

Title Cover Photo: UCT ONE prepare for one of many joint dive evolutions with Danish and Ukrainian Navy Divers.

SAT FADS Reaches 1000 fsw Manned

By: Mr. Marty Russell

NEDU, Panama City, Fla. The Navy recently completed a series of milestone test events for the new Saturation Flyaway Diving System (SAT FADS) at Naval Experimental Diving Unit (NEDU), Panama City Fla. This testing included both a 250 and 1000 feet of sea water (fsw) manned dry saturation dive pier side.

In June of 2010 the decision was made for the Navy to take custodial control of SAT FADS and the system was subsequently loaded and shipped from Phoenix Internal in Largo, MD to NEDU in Panama City Beach Fla. With NAVSEA 00C SAT FADS Program Office oversight, NEDU SAT FADS Division, led by Saturation Master Diver Kent Johnson, was tasked with the accomplishment of the remaining hydraulic, mechanical and electrical prerequisite testing and all system integration testing. This decision resulted in an extraordinary cumulative improvement in reducing total certification cost, logistical support and achievement of critical certification timelines.

Following the successful completion of the first 250 fsw manned dry saturation dive pier side that surfaced on April 8th 2011, the Navy commenced a 12-day manned 1,000 feet sea water (fsw) dry saturation dive on April 18th 2011. This dive included staged systems integration testing and evaluations at the systems' maximum operational depth. The staged integration testing which was accomplished at 250', 500', 750' and 1,000 fsw, was performed to verify that all systems and subsystems could be operated concurrently, as designed. This testing was also used to verify that the system operating procedures can be used to operate the system safely and provide operating procedure validation.

ND1 Jeremiah Ruddell - HM3 Javier Lopez
NDCS Somsack Phanthavong - ND1 Jeremy Post
ND1 Charles Bass - ND1 Jad Graves

This test is the last step prior to going to sea for manned at sea testing, which includes open water excursions to 1000 fsw. This event marks a major milestone towards achieving a critical saturation diving capability to support Navy salvage and recovery operations around the world.

The SAT FADS system is designed to support six divers working on the bottom of the ocean for a period of 21 days, with an additional nine days of decompression. This asset greatly increases the Navy's salvage capabilities allowing us to put United States Navy Saturation Divers to greater ocean depths than previously attainable, as well as provide a one of a kind training platform for future Navy Saturation Divers. The system will replace two decommissioned Pigeon-Class submarine rescue vessels, which operated to 850 fsw. SAT FADS not only provides the increased mobility and depth capability, but retains a vital operational salvage and recovery resource at a substantial cost reduction to the Navy with its focus on total cost ownership.

The entire SAT FADS system has a footprint measuring 40 feet x 90 feet and includes the main deck decompression chamber, manned dive bell, bell handling system, command and control center, and two auxiliary support equipment containers, bulk helium and oxygen storage racks. Living quarters are located in the deck decompression chamber.

Mr. Marty Russell, NUWC Keyport is the SAT FADS Test Director and Deputy Program Manager. Naval Experimental Diving Unit is a field activity of Naval Sea Systems Command.

What is next for the system?
Next for the system is to conduct pierside training dives for fleet divers maintaining current saturation proficiency levels and building up the cadre of qualified saturation divers available to support a SAT FADS Salvage missions.

Estimated time for fleet availability/service?
Based on the availability of a Vessel of Opportunity (VOO), we anticipate taking the system to sea for at sea certification dives either fall 2011 or spring 2012. The system will be available for fleet service upon the completion of manned at sea dives.

The civil service crew of Military Sealift Command rescue and salvage ship USNS GRAPPLE and 16 embarked Navy Divers from Mobile Diving and Salvage Unit Two cleared 700 feet of Albanian Coast Guard pier space in August, removing seven sunken patrol boats that had been hazards to navigation for years.

The three-week salvage operation was a partnership between U.S. 6th Fleet's Commander Task Force 68, Sealift Logistics Command Europe, the U.S. Embassy in Albania, and the government of Albania.

In September, GRAPPLE completed its five-month deployment to the U.S. 6th Fleet area of responsibility, where on board personnel conducted theater security cooperation events in Georgia, Israel, Turkey, Spain, and Albania.

The patrol craft had been grounded in the shallow water of the Bay of Sarande 13 years ago, creating a hazard to navigation. The vessels prevented access to the pier by commercial interests. The freed-up pier space is expected to help improve the local economy.

"There were three torpedo boats, two gunboats, one Coast Guard patrol boat and one other small boat sunk in the harbor ranging from 75 to 137 feet long," said Navy Chief Warrant Officer Coy Everage, Commander of MDSU Two Five company. "Now, fishing vessels can use the piers. The salvage operation also created a deep water port for the [Albanian] Coast Guard."

Clearing the port area of the sunken vessels presented a welcome challenge.

"Our specialty is combat harbor clearance, and we only get to salvage one vessel every few years," said Everage. "For us to salvage seven vessels in one spot, giving us the opportunity to use multiple techniques – you couldn't pay the training dollars."

The first step in the salvage operation was an evaluation of the site, which had already been completed prior to GRAPPLE's deployment, but still required fine-tuning.

"I contributed to patching and plugging holes on every one of the wrecks. Then, we did something we've never done before and used the ship's workboat to bring a hydraulic power unit to the salvage site," said Navy Diver Ryan Kirby. "We used it to run the hydraulic hoses and to pump water out of the boats to float them."

Floating wrecks may sound simple, but it is a dangerous evolution that requires experienced mariners.

"A lot of things could happen when raising boats from the bottom," said GRAPPLE Able Seaman Henry Nguyen. "If the boat being lifted goes down and we don't cut the line right away, we could

Left: Three patrol craft block access to the Coast Guard pier at the port of Sarande, Albania. Middle: USNS GRASP and MDSU2 monitor sinking patrol craft that had been relocated from the Coast Guard pier at the port of Sarande, Albania. It was sunk in a location where it can be used as an attraction for recreational divers. Right: USNS GRASP and MDSU2 prepare to float and relocate a patrol craft partially submerged at the Coast Guard pier at the port of Sarande, Albania.

USNS GRAPPLE & MDSU TWO Clear Albanian Pier

By: Ms. Kim Dixon

go down with the boat because our boat is smaller. Staying safe is our top priority. We have someone driving the boat. We have people looking around, and we have people standing by to cut the mooring lines."

Once the ships were floated, they had to be moved to another location. An Albanian Coast Guard ship towed four of them, and the GRAPPLE/MDSU crew towed the remaining two boats that were able to be towed with their 35-foot workboat.

No matter who was towing the wrecks, it was still up to the GRAPPLE/MDSU team to keep the vessels afloat during the tow.

"We used the ship's workboat and kept it next to the towed vessels, continuing to pump water out of the vessels during the tow," said Kirby. "We ran the boats hip-to-hip, which enabled everything to be done safely during the six-mile transit to the sink location." Six of the ships were sunk near each other in water depths ranging from 60 to 110 feet, creating an ideal attraction for recreational divers. The seventh wreck could not be made tow-worthy, so divers floated it and pushed it away from the pier into an unused area of the port.

The physical part of raising, towing, and re-sinking the wrecks was only part of what was required to make this salvage operation work. The mission was a challenge from the start because the crew did not know how the vessels had been sunk. Crew members could not be certain what equipment would be needed to raise the vessels.

Fortunately, GRAPPLE brought the right mix of crew members to meet those challenges, particularly with civil service mariner deck engineer machinist Abe Kritz, known around the ship as 'DEMACH'. In charge of everything engineering-wise on deck, Kritz also does all the fabrication and repair work for GRAPPLE.

"We had no way of getting any supplies because of the remote location," said Kritz. "If I have the stock, I can make anything. Because of this, I was able to keep the boats running in direct support of the mission."

"Our DEMACH is good at making the one-of-a-kind things needed to make the mission run smoothly," said GRAPPLE's civil service mariner first engineer Scotty Robinson. "He helped the divers make special parts and tools."

The salvage mission was the first time at least one of the embarked divers had worked in such a unique environment.

"This has been my first time in dealing with hand-to-hand coordination between civil service mariners and the military side. It's been a great training and learning experience," said Chief Navy Diver Shade Holder. "They [the CIVMARs] provided great support, and they're up to date on what needs to go on out here and what we needed. They gave us a different look on how to approach things and how to attack the problems at hand."

The crew of GRAPPLE presented a plaque to Albanian officials during a press conference held to announce the end of harbor-clearance operations. GRAPPLE welcomed the U.S. Embassy Charge d'Affairs Deby Jones, the Albanian minister of culture, the chief of the Albanian Navy, and the mayor of Sarande at the event. GRAPPLE's Albanian salvage operation was the ship's last mission in the deployment.

GRAPPLE's crew emphasized the importance of MSC ship participation in military-to-military theater security cooperation events.

"More and more noncombatant ships are being run by MSC," said GRAPPLE's First Engineer Scotty Robinson. "So, we're right out there with all the militaries. It's a good idea to interact with them – to share ideas and to learn."

Military Sealift Command operates approximately 110 non-combatant, merchant mariner-crewed ships that replenish U.S. Navy ships, conduct specialized missions, strategically preposition combat cargo at sea around the world and move military cargo and supplies used by deployed U.S. forces and coalition partners.

Ms. Kim Dixon is the public affairs office for Commander, Sealift Logistics Command, Europe, in Naples, Italy. COMSEALOGEUR is the U.S. Navy's single at-sea logistics and strategic sealift provider in Europe and Africa. Photos: U.S. Navy Photo

FOOTSTEPS

By: MDV Bill Costin

Not too long ago there was an email circulating about the children of Navy Divers joining the various military branches. This is not really a surprise as there have been multiple members of the same family in our community for a long time. One of those families in the "business" is the Stewart brothers, both Master Divers (I wonder who is passing who the gravy during that Thanksgiving dinner?). The topic of children following their parents into military service surfaced again about the same time when my son asked me about joining the Navy. Recently I spoke to a few dads and their sons regarding their views and opinions on this matter.

Like any father in a trade, I was proud that my son thought enough of what I did to want to do it as well. As NDCM MDV (ret) Eric Frank said, "I think most dads have hopes that their sons would want to follow in their footsteps (especially for a job that he enjoyed so much). However, I wasn't going to push them in that direction. So when Troy came to me the first time questioning about the diving community I was somewhat surprised and got very excited. I told him that he was going to be a perfect fit for our community and to go for it."

I look back through my life and think about the men who I admired and the qualities that made them who they were. One of those qualities was that they strove to be the best at what they did. This requires a lifetime commitment to one's craft - to become a part of an organization to the point it would be a part of your identity. NDCM MDV (ret) John Reiss is one of these people and is one of the reasons for this article. MDV Reiss has two sons serving, one in the Marine Corps and one in the Army, and he has great pride when he speaks or writes of either of his sons. NDCM (MDV) Bill Crider has served for over 29 years and his feeling for the community has a changed little since his son became a Navy Diver. "My love for this community has actually deepened. Listening to Ryan talk about the mentorship he received at SMRMC and is currently receiving at EODMU EIGHT has confirmed for me that we are on the right track as a community". Our own Master Chief of the Navy's son successfully completed Navy Dive School. When asked his thoughts on Navy Divers and his son becoming a Navy Diver, MCPON West said, "My thoughts of Navy Divers have not changed, they just become more clear and in line with what I've always thought of them. I'm personally glad he chose this path… it's a special group and certainly not for everyone. They work hard and ensure the Navy is fit to fight."

ND3 Costin, NSSF Groton, CT and Proud Dad

There are many families who have multiple members serving in the armed forces. In my own family the past four generations have served. Currently I have two brothers and a son who serve. The generation before me was my stepfather (USMC) who served for 22 years, and my uncle, who was killed while flying as an Army CWO helicopter pilot, both serving in the Vietnam War. Some fathers who served during the era would rather see their children do anything else than be exposed to what they were exposed to as a military service member. That was a dark time for our military in regards to the public perception as it was expressed in the media. In the past few decades an effort has been made to ask these Vietnam veterans for their forgiveness for turning our collective backs to them when all they did is do what was asked of them – fight for our country.

Today men and women have pride in their children and grandchildren for following them into the military. I do not know if saying "following" is an accurate statement because that denotes that someone is being led. These men and women who join go into the unknown trusting they will come out changed on the other side. There are challenges for everyone who joins, and for the sons or daughters who want to be "Deep Sea" – well, let's just say they will have a few more wrinkles to overcome. ND2 Troy Frank said, "One of the biggest challenges I have to deal with everyday is how I am going to compete against my dad's reputation. I have to deal with people working on the assumption that I use my dad as an advantage and I carry myself as if I am MDV quality already and that is not the case. I am and will

always be the son of a highly respected Master Diver, but the last time I checked my name is not Eric Frank, and people will see if they give me a chance that I am out here to have fun, make friends, and make my own name for myself."

I could go down a list of Who's Who in the Navy Diver community of brothers' and sisters' children who have come into the military. The lifestyle and arduous tasks set before our young military is not one for the meek or mild. Our kids see this life and for the most part they have lived this life their whole lives. Every one of the men I have spoken to exemplify the Core Values. I would even go as far as to say that the Core Values are a cornerstone of being a successful dad. So when one of our kids joins and leaves mom and dad's house, they are merely moving towards like-minded people who are merely part of their extended family. ND2 Ryan Crider added, "I remember all the times I would go to Diver BBQs with my dad and notice how tight everyone seemed. They were always laughing and messing with each other. It reminded me of how I noticed brothers act towards one another. I never had that personally and it's something I wanted to experience."

Why would anyone join the military and become a Navy Diver? Those who dare have a spirit that has carried our nation from the beginning - the spirit of adventure to explore the world and the unknown. ND3 Costin stated, "The advice I would give to my children if they joined any branch of service would be plain and simple. Do something you want to do, don't let other people decide for you. Always work hard and always stay motivated no matter how hard it is."

I guess he was listening to his old man.

MDV Bill Costin is a Command Master Diver at NAVSEA 00C.

NAVSEA 00C4 Certification Division Changes

In November 2009 after 10 years as the Diving Systems Certification Authority (SCA), Rob Warren handed the side over to Mike Frey. Rob remains in 00C4 as the Submarine Rescue Diving Recompression System (SRDRS) and Deep Submergence Hyperbaric Safety Engineer. Rob will continue to provide 00C with his vast depth of technical knowledge and years of experience to help keep us on track.

Mike started his career in the Navy as an HT on board the USS Yellowstone (AD 41) as a Plank Owner. He graduated from Second Class Dive School in 1981 from Harbor Clearance Unit TWO, Little Creek and returned to the Yellowstone. After his active duty enlistment ended he joined the Navy Reserve, serving at EODGRU TWO, MDSU TWO and EODMU TEN from 1983 to 1996. Mike also completed First Class Dive School and EOD Apprentice School during this period. He was selected for the Limited Duty Officer Program, Civil Engineer Corps in 1996. He completed a variety of tours within the Seabees, including OIC UCT ONE Reserve DET and Executive Officer, of CBMU 202. After 32 years of active and reserve service he is still serving in the Navy Reserve.

In his civilian career, after his active duty enlistment ended, he worked for two years as a commercial diver before attending Old Dominion University where he earned an Engineering degree. He worked in the Environmental Engineering field for ten years prior to coming to 00C. For the past ten years in 00C he has been responsible for all UBA programs, USMC, U.S. Army, and Air Force SOF diving systems; foreign dive systems; and engineering support on multiple DLSS.

We want to take this opportunity to welcome Brian Borchardt to the 00C4 Certification Division. Brian will assume the duties previously held by Mike Frey as the UBA Certification Engineer responsible for USMC, US Army, and US Air Force diving programs.

Brian is a former U.S. Navy Diving and EOD Officer. His tours include: EOD and SEAL assistant Detailer; USS GRASP (ARS 51) where he served as a Diving Officer; EODGRU TWO, Assistant Operations and Planning Officer; EODMU TWO DET 22 OIC and Executive Officer at EODOSU TEN.

Prior to joining 00C4 Brian was in the NAVSEA Engineer In Training Program completing tours throughout NAVSEA, including 00C3 where he supported the SAT FADS Program.

Brian graduated from Virginia Tech with degrees in Aerospace and Ocean Engineering, completed a Masters in Public Administration from Troy State University and is currently enrolled at the Naval Postgraduate School working on a Masters in Systems Engineering. With his 14 years of experience in the diving field and personal experience as a Navy Diver he is a welcome addition to the Supervisor of Salvage and Diving team.

USS RONALD REAGAN Stave Bearing Waterborne Replacement

By: NDCS(DSW/SW) Richard Holtkamp

South West Regional Maintenance Center (SWRMC), Puget Sound Naval Shipyard (PSNSY) and Phoenix International Divers recently completed the first ever waterborne replacement of stave bearings on a CVN 68 class aircraft carrier, the USS RONALD REAGAN (CVN 76). Led by SWRMC Master Divers, Brian Pratschner and Justin Scarbrough, they worked port and starboard shifts around the clock utilizing dive teams made of SWRMC and PSNSY personnel to complete this rigging intensive repair in eight days allowing the USS REAGAN to meet all operational commitments and saved COMNAVAIR (CNAF) over 10 million dollars in emergent dry docking fees.

With NAVSEA 00C5 engineer (Justin Pollack) providing the Formal Work Procedure and acting as a liaison between COMNAVAIRFOR, SWRMC, PSNSY, Phoenix International Divers and NAVSEA 00C5, this diverse team of divers partnered to conduct some of the most technically challenging waterborne repairs devised in the Underwater Ship Husbandry (UWSH) repair business.

Damage of the RONALD REAGAN's number one shaft main strut stave bearing was discovered during routine intermediate hull cleaning by the NAVSEA 00C hull cleaning contractor Seaward Marine Services. SWRMC Divers conducted follow on waterborne inspections, cleaning the staves with a 10,000 psi hydro-lance and bore scoping the number one main strut stave bearing which revealed extensive damage to the bearing material at the six o'clock position.

SWRMC Divers were tasked to inspect all REAGAN stave bearings to ensure no additional damage had occurred. This required extensive cleaning of all stave channels and bore scoping with an outland U/W camera system to document the condition of all main, intermediate and stern tube stave bearing material. No additional damage was noted.

Alexander Grun and PSNSY Diver Dave Adams inspect the rigging as the crane prepares to lift the strut bearing shell off the support barge to divers waiting in the water.

CNAF, NAVSEA and PSNSY engineers made the call to repair the damaged stave bearing on number one shaft waterborne by removing the main strut fairwater and rope guard and tasked NAVSEA 00C5 to develop a waterborne procedure to safely remove the damaged stave bearing shells from the main strut, refurbish the stave shells and reinstall in a timely manner so the REAGAN could sail on schedule.

Within hours NAVSEA UWSH equipment was loaded by GPC mechanics and trucked from various ESSM warehouses to NAVBASE Coronado, Naval Air Station North Island in order to support this complex waterborne UWSH repair. Two Dive teams from SWRMC (Alpha led by dive supervisors ND1 Ron Naperala and Delta lead by ND1 Ken McCollum) were stood up to support a 24 hour 7 day a week dive plan. Phoenix International Divers were mobilized under the direction of Justin Pollack to support the wet cutting and welding aspect of this repair effort. Phoenix Dive supervisor, Mr. Mike Stralzko, led the PHNX Dive effort, removing and reinstalling the number one shaft rope guard, fairwater, and welding three lifting pad eyes to support rigging to successfully accomplishing this task. They partnered with SWRMC and PSNSY Divers who had surged to San Diego to support this repair effort and were led by Mr. Rob Miller from Code 760. With heavy NAV-

SEA rigging gear installed and the stave bearing shell retaining ring removed, the upper stave shell was pulled out using a unique rigging configuration developed by Justin Pollack. Two 50-ton hydraulic chain falls were then rigged into the ships propeller lifting tunnels and calculations developed to safely lift the 35 ton propeller and shaft off the main strut barrel housing to loosen the lower stave shell allowing installed rigging to pull and rotate the lower stave shell to the 12 o'clock position for removal to the surface.

Once both stave bearing shells were brought up to the surface, they were delivered to PSNSY for refurbishment. Upon completion of the stave shell inspection and installation of new bearings, SWRMC and PSNSY Divers commenced reinstallation of the lower and upper stave shells back into the main strut barrel housing. This was accomplished by the night crew, who reinstalled the retaining ring, fasteners, lock wired and de-rigged the work area in preparation for Phoenix Divers to wet weld the rope guard and fairwater back onto the strut barrel housing. Northrop Grumman mechanics machined the fairwater with a metal ring for divers to wet weld to the main strut barrel housing and manufactured a new rope guard which Phoenix welders made ready for a waterborne wet weld installation.

SWRMC, PSNSY, and Phoenix Divers began demobilizing NAVSEA equipment. In all, this first ever waterborne repair of the USS RONALD REAGAN stave bearings took eight days from start to finish and is a testament to the teamwork of multiple Navy diving commands and contractors to come together in rapid fashion to fix a nuclear powered air craft carrier bound for wartime deployment in support of this country and the global war on terrorism.

Article Cover Photo - Divers ND1(DSW)Spenser Puett and Justin Pollack (NAVSEA, SEA OOC) stand-by to receive the new bearing shell for installation.

NDCS(DSW/SW) Richard Holtkamp is Dive Team Alpha's LCPO. Alpha Team conducts diving operations in support of maintenance and repairs on U. S. Navy Aircraft Carriers' home ported at Naval Air Station North Island, San Diego.

DIVE SCHOOL GRADUATES 11-30-2C

HM2 Sawyer, ND1 Cox, ND3 Harding, ND3 Hulbert, ND3 Martel, NDC Laube, ND1 Gaston, NDC Reno, ND3 Burby, ND3 McGuinness, ND3 Wagner, ND3 Leonard, ND3 Smith, NDC Cook, ND3 Milliken, ND2 Johansen, ND3 Ziemba, ND3 Hawkins, ND3 Riess, ND3 Costin, ND3 Dargie

To submit a graduating class for publication in Faceplate, please contact us at webdiver@supsalv.org

U.S. Navy Diver Harold S. Sears Jr. WWII Memoirs

Harold S. Sears Jr. was born in Rockland, Massachusetts on July 28th 1921, the first son in a family of seven children. Upon graduating high school in 1938 during the "Great Depression" Harold was the only one in his class able to get a job, obtaining his union carpenter's license working as a cabinet maker. Harold received his journeyman's license in October 1940, and moved to Hopewell, VA for a period of time doing carpentry work at Fort Lee before joining the U.S. Navy.

After my 21st birthday, I headed for Boston to the Navy Enlistment Facility. I met with a Lieutenant Commander who checked my credentials and said, "I have a spot for you. With all the construction experience you have I will give you a Carpenter's Mate 1st Class right now; we need you in the Seabees. You will be promoted to Chief Petty Officer in probably less than a year". I replied, "Sir, I don't mean to be disrespectful, but I have been driving nails since I was eight years old and I really do not want to be a Seabee." He turned to me after thumbing through a book and asked me if I would like to go to diving school. ''There is an opening for you at the Salvage Diving School in New York at Pier 88. A large liner NORMANDY has sunk at the Pier and they are looking for qualified young men to learn to be hard hat salvage divers". I said that I would like to try out and he sent me to see a doctor. The doctor examined me then said, "You have one more test to pass. Breathe normally, and then hold your breath for two minutes". Two minutes is a long time the first time you try it, but I passed and went back to the Commander with the note from the doctor. The Commander said, "I cannot give you first class, but I can give you third class carpenter's mate with a ticket to New York for 1000 tomorrow. You will have individual orders to the diving school, there shall be no boot camp, train to Grand Central Station, taxi to Pier 88, and you are now in the U.S. Navy. You shall draw all your necessary gear at the Pier upon arrival. You are now Petty Officer 3rd Class, USN".

Going to Dive School was indeed an honor; I was the 35th person to attend. I loved it from day one. The first day, we were in groups of 10 men and were taken to the recompression chamber to see if we could stand the pressure at 100 feet. If you had pain in your ears during descent, you would raise your hand and the instructor would close the air valve until the student could clear his ears. The process was repeated, if a sailor continued to have problems he could not qualify, and was sent back to the fleet for regular duty.

Chief Warrant Officer Orson Crandal, 1st Class Diver, was my Seamanship Instructor at Pier 88. We learned to weld and burn steel under water using hydrogen, oxygen, and compressed air in the torch. We had to build a box under water using wood, put various valves together correctly, and other hard hat diver training. We used Mark V helmet, breastplate, suit, gloves (detachable), shoes, weight belt, and diving knife. The total weight of this gear was 185 lbs, my weight was 121 lbs.

After completing classes in seamanship, we learned all about the diving gear, how to dress a diver, tend a diver while he was under water, etc. New divers were taken in a fifty-foot motor launch up river, under the George Washington Bridge and, one at a time, would drop down on a descending line 120 feet deep to the river floor. You had to pick up a handful of gravel from the bottom to prove that you'd reached the bottom.

Upon completion of the diving school, you were then qualified as a U.S. Navy Salvage Hard Hat Diver and went to work on the sunken ship NORMANDY at $5.00 per hour. All dives were four hours long, and consisted of burning and cleaning out debris to cut this down to the boat deck in order to bring it up to even keel so it could be pumped out and floated. The whole process took about 18 months.

About the middle of January 1943, I was told we were shipping out to Dellys, Africa. The convoy assembled in Hampton Roads, VA and when we finally went to sea, we were escorted by 14 destroyers and the cruiser SAVANNAH. We felt well protected while at sea and wondered how much high brass there was in the convoy of ships. We knew that there were German submarines operating in that area of the Atlantic, and several times on our zigzag course a couple of destroyers would break course and head off in a different direction. Depth charges were heard, and soon after the destroyers would return to the convoy. We were out 28 days before sighting Gibraltar, the entrance to the Mediterranean.

Our troopship broke out of convoy with one destroyer and proceeded to a little port called Tizzi-Arzew, west of Oran. I was surprised by the clarity of the water inside the harbor. You could see the bottom at 40 feet, crystal clear. Quite a contrast with the water we were diving in the North River in New York. That was an open sewer. Upon surfacing from working on the NORMANDY, we would be washed down with a fire hose before getting undressed out of our diving gear.

On June 1, 1943 I was transferred to the fleet tug USS NARRAGANSETT #88 as one of two qualified divers onboard. Docked in Algiers, along with several other U.S. Navy ships, the Germans visited with an unsuccessful air raid. Ma-

jor damage was only caused to German planes. The same day we left Algiers for Bizerte. While there, we took on all needed supplies for the invasion of Sicily.

Invasion of Sicily - July 10, 1943

The salvage crew's job during the invasion of Sicily was to get the landing craft off the beach after they were unloaded. If they couldn't be floated due to the surf, we would blow up the engines using blocks of TNT. We went in with the first wave, in a heavy sea. We had to give our boat to General Patton and his entourage, so we spent the night in a cave on the beach until our boat came back the next afternoon. The second wave met stiff resistance and suffered heavy casualties. After the landings, the naval forces were subjected to intense German air attack for three days. We were about ¼ mile from the U.S. Navy destroyer USS MADDOX when it was blown up and sank. We picked up survivors, many casualties. We returned to base about July 20, 1943 once we got the landing craft off the beaches, and back to the mother ships.

The next operation was in Palermo, Sicily clearing the harbor of sunken ships and other debris so that U.S. ships could get into port. Our diving officer was Gunner Conga, lst Class Diver, Regular Navy. We had a diving barge with large outboard motor, air compressor, burning tanks and torches, and all the necessary diving gear. An Italian crew ran a crane barge that could lift about 40 tons. We were in business. We also had two steel pontoons that were about 12 feet long and 6 feet in diameter. We used the pontoons to raise the smaller sunken barges and small craft.

We worked about a month on harbor clearance. The small craft we raised we would tow out of the harbor and sink them in deep water. We found out one of the sunken ships lying on the bottom of the harbor had a quantity of Plexiglas in the cargo. There were a dozen fighter planes at Palermo Airport with windows shot out, so we salvaged the Plexiglas and it was used to get them back in the air. A section of the granite keyway to the dry dock was blown out and needed to be repaired. I was the only diver in our crew that had a lot of experience building concrete forms, so I volunteered to build it and set it up. We poured the replacement block with concrete and when completed, allowed the shipyard workers to set the caisson and put the dry dock in operation. There were at least two ships sunk in the dry dock that could be salvaged now that the dry dock could be pumped out.

Harold Sears in diving gear standing on sunken ship, which he later helped raise in Palermo, Sicily.

August 19, 1943

The fleet tug USS NARRAGANSETT docked in Palermo Harbor and I knew something was going on. The ship came in to pick us up, as we were the only two divers for another invasion.

We reported to the ship the next day and were welcomed aboard by the Chief Boatswain Mate Shistler. I was the only Petty Officer on board except him that could splice wire cable. Because of that we became fast friends. He asked me who taught me to splice wire and I smiled and told him it was a Warrant Boatsman named Orson Cramdall, a Master Diver who won the Medal of Honor diving on the submarine SQUALUS, to rescue 33 crew members and raise the SQUALUS under the direction of Swede Momsen. We went below decks to check, clean, and disinfect all the diving gear and valves. Our equipment was all in order.

On August 23, 1943 about 0430, the bells and horn sounded for general quarters. I had just hit my bunk after 2400 - 0400 watch. I had brought my mattress and pillow on the searchlight platform over the flying bridge where it was cool because there was a hot spell. The German bombers had dropped flares and it was like daylight, then all hell broke loose. There were 3 sub chasers docked across the pier from us. One got underway and backed out into the harbor. There was a liberty ship across from us. There was a masonry building on the dock between the liberty ship and where we were tied up. Every ship in the harbor, including our ship, was firing at the aircraft.

The liberty ship was on fire. The two remaining sub chasers were hit and killed all hands but two. A 500 lb. bomb hit and demolished the masonry building. We had a firefighting crew aboard our ship that was dragging fire hoses across the dock to put out the fires on the liberty ship when the bomb went off and they just vanished. I hit the deck under two big iron bollards. Debris was flying everywhere. I ran to the galley that was our sick bay during raids and helped

Diver Herald S. Sears with Chief Warrant Officer Gunner Conga (back center) and fellow shipmates.

the Chief Pharmacist take care of the wounded as they were brought aboard. Our casualties aboard the NARRAGANSETT were eight men killed and twenty-four wounded. Afterwards, I went up to the searchlight platform where my bunk was three hours before. My mattress was torn to ribbons. The entire area around the searchlight was a mass of glass and feathers. I am glad I was awakened that morning.

The Captain asked me to break out the diving gear and check the sunken sub chasers. We set the gear up with a DeVillbus compressor and I went over the side and climbed around the stern and counted depth charges. The number that I counted determined that it was not the depth charges that caused the explosion on the ships, but the bombs dropped by German aircraft that sunk #694 and #696 sub chasers.

Invasion of Salerno, Italy
September 9, 1943

Five hundred British and U.S. ships hove into the Gulf of Salerno in the early hours of September 9th for an assault on Italy. The Germans were waiting for us. All hell broke loose. There was an "88" German gun on the side of the mountain just waiting for us. The first shot was over us. The second was short. The third splashed in the ocean just to our stern. He had us bracketed, but the cruiser SAVANNAH had him and blew that 88 off the mountain. The NAUSET, our sister ship, was hit and sunk by a German plane. We picked up the survivors. Most of the wounded went down with their ship. Our armies would have been driven back to the sea if not for our destroyers, cruisers and battleships fire power. After a couple of weeks, Salerno beachhead was established.

Germans had a new radio-controlled flying bomb during the Salerno campaign. One missed a ship offshore and we were ordered to find it, inspect it and buoy it off. I found the bomb in about sixty feet of water. It was approximately 8-10 feet long with two pneumatic tires made by Goodyear Tire & Rubber Co. I walked around to inspect the bomb as there were no specs on it at the time. It had not exploded, so I was very careful. I attached a harness to the wheels of the bomb and a line from the buoy.

On our way in with the invasion fleet we lost our anchor and the Captain asked me to salvage it.

After about four hours underwater, I found the anchor and dragged and shackled a cable back to it, then proceeded to make the cable fast to the anchor, then I passed out. When I passed out a pocket of air built up in my diving suit and I blew to the surface. I was unconscious due to carbon monoxide. It started to rain while I was searching for the anchor and the motor-mac put a canvas over the compressor sending the exhaust down to me. They got me up into the boat, stripped off my diving gear, and then got me aboard the U.S. Army hospital ship SHAMROCK, saving my life. The doctors and nurses on board kept me on oxygen for six hours before I regained consciousness.

After a few days I made it back to my ship, USS NARRAGANSETT. I climbed aboard, saluted colors and saluted the OD who informed me that the Captain would see me on the bridge. He shook hands, gave me a hug, and told me that we had not recovered our anchor yet, and asked if I was ready for another dive. I replied, "yes, sir". He said, "0800 tomorrow morning". I saluted him and replied again with "yes, sir". I was elated. I went over the side the next morning. It was a beautiful day and the water was clear as crystal and calm. It took me about two hours to complete the dive with the anchor back on ship, job complete.

Approximately three weeks after my near fatal exposure to carbon-monoxide a Navy Diving Doctor was sent over from Washington, D.C. to examine me. He suspected the length of exposure to carbon-monoxide may have caused damage to my brain and advised me to take a medical discharge with a pension for life. He wanted to fly me back to the states for testing and said, "Exposure to carbon-monoxide is bad stuff and that its damage could show up later". I told the doctor, "I don't mean to be argumentative, but I signed up for the duration of the war and I feel very strongly about what I am doing". I explained I had already complet-

Herald S. Sears in full diving rig, Don Davis assisting.

ed several dives and felt fine, and I really wanted to stay until the war was over. He said, "If you feel that strongly I'll let you stay, but if you have any problems you must come back to the states".

The Invasion of Southern France August 15th, 1944

Southern France was a different operation because the U.S. had control of the sea and air. I was transferred to the salvage ship USS TACKLE, which was a true salvage ship with twelve divers aboard. We were ordered to Port De Bouc where there was a large tugboat blocking the main entrance to the port. The waters were heavily mined, but we went to work and removed the tug, which opened up the Port for Allied operation. We tied off mines and vessels, and a French crane picked them up as well as other debris. At one point our salvage ship, USS TACKLE, backed into a mine while I was diving. Fortunately I was protected by a peninsula of land, but it still felt like I was hit in the chest by Joe Lewis. Clearing the harbor in Port De Bouc opened up the only available oil dock in southern France at that time. For my part in the operation, I was promoted to First Class Carpenter's Mate Diver Salvage, awarded the Bronze Star, and authorized to wear the "Combat V".

After clearing Port De Bouc, we went to Toulon to set up operations then back to home base, in Dellys, Africa for transfer back to the diving school at Pier 88, New York. After two years in Europe and Africa and four invasions, fourteen of us went back to the diving school with orders which read 30 days leave, brush up on the latest in underwater demolition, and further transfer to the southwest Pacific.

I reported back to Pier 88, New York Diving School after 30 days of leave. The refresher course was a piece of cake and I finished first in the class. About a week later I was told that I was not to be transferred, but to stay at the school as a classroom Instructor.

Classroom Instructor

As an Instructor, I was in charge of all new arrivals at the school. Applicants came from various ships and naval stations around the world. Some applied just to get back to the States, while others were serious to become U.S. Navy hard hat divers. The first thing I did was to pick out a sailor and give him four dozen pencils with instructions to take them to the Carpenters shop and give them to the carpenter's mate. He would take the boxes of pencils to the band saw and cut off the erasers, then bring them back and distribute them to the class. Within five minutes, someone would ask the reason for cutting off the erasers. Point given. In this business, you learn not to make mistakes. One mistake may be your last.

I would then take them to the recompression chamber to see if they could stand the pressure under which they would be exposed while diving. Air pressure at sea level is 14.7 pounds per square inch. Water pressure at 100 feet equals 44 pounds per square inch. So working in water 100 feet deep, the pressure on your body would be equal to three atmospheres, or 44 pounds per square inch. Between ear problems and sinus problems, we would eliminate an average of seven men who would be returned to sea duty. The remaining men would return to the classroom. I showed them how to rig beach gear and what it was for, what pontoons were and how they were rigged, including the lifting capacity of a pontoon depending on its size.

We had a small decompression chamber that was built by the school to demonstrate what happened by improper decompression when returning to the surface from a deep dive using guinea pigs. I would have five or six men quit the class after the demonstration. Diving was not quite as glamorous as they perceived it to be.

When all the classroom studies were over, the remaining men would proceed to the welding shop to learn to weld and burn underwater. From there, they went to the float where the instructors suited them up and they started their actual diving education. A full suit weighed about 185 pounds; shoes 17½ pounds each, helmet and breast plate, divers knife, lead weights, control valves, exhaust valves, overalls, straps and harness. I have seen rugged football-type fellows sitting on the stool getting suited up and, when the helmet was put over his head and locked in place, would yell "get me out of this

Harold Sears and wife Jean Sears

rig" from claustrophobia. He would be sweating and had to be restrained just so he could be undressed and out of the rig. Another student heading back to sea duty. Of the original 35 men that started in my classroom and continued on through the entire school, we would end up with an average of 8 qualified divers.

I was honorably discharged on September 25, 1945. My experiences as a U.S. Navy Salvage Diver were the most memorable and rewarding of my life. I went back to carpentry work, first as a foreman, then superintendent, and eventually business owner. I married my wife Jean in 1968, and I became the proud Dad to her four children ages 2 to 14 – one boy and three girls. We now have seven grandchildren and six great grandchildren.

World War II (6 medals, 4 battle stars):

Bronze Star

Good Conduct Medal

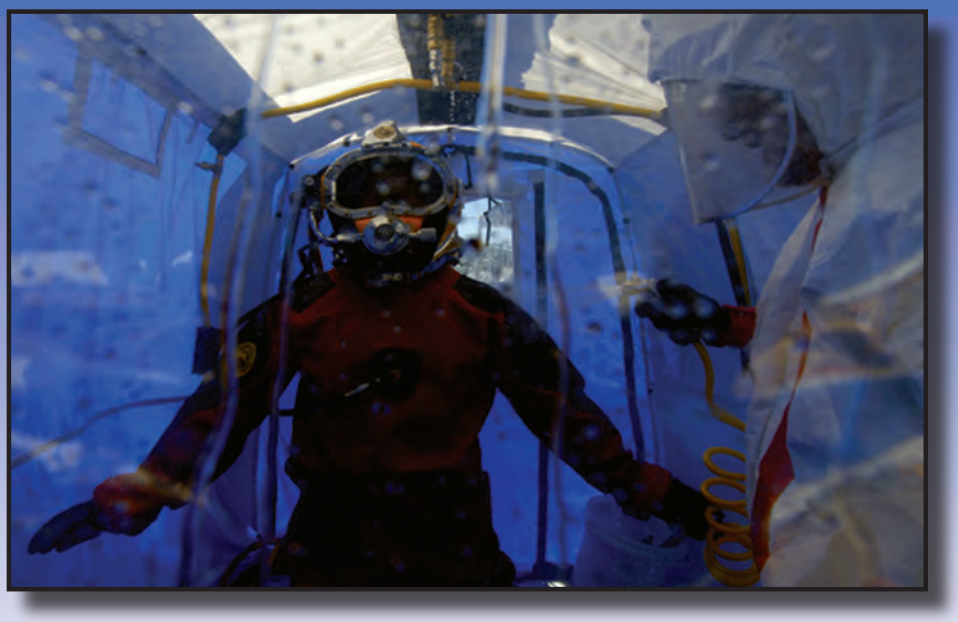
European Theater of War Medal w/4 battle stars: African Campaign, Invasion of Sicily, Invasion of Italy, Invasion of Southern France (Port De Bouc)

Combat V Medal

Victory Medal

American Theater of War Medal

DIVER DECON



Considerations when PLANNING CONTAMINATED WATER DIVES:

- Identify major toxins at the planned dive site – lean on local knowledge if no testing available.
- Protect diver to ONE LEVEL HIGHER than foreseen exposure calls for.
- Protection versus comfort in hot weather is sometimes diametrically opposed – DO NOT RISK divers' health by reducing protection, always reduce bottom time instead.
- In warm environments, set up the dive to keep divers and equipment cool during dress out and brief. This maximizes the actual working time of divers before onset of heat exhaustion and/or dehydration.
- Ensure all parties are completely briefed on the Decontamination Procedures BEFORE commencing dives.
- In oily water, boom off the diver entry/ exit area and clear the surface using small oil skimmers or sorbents.
- Remember the 5 P's – PRIOR PLANNING PREVENTS POOR PERFORMANCE

In light of recent operations like Japan Disaster Relief, Deepwater Horizon Oil Spill Response, and even Hurricanes Katrina and Rita Recovery, all involving contaminates in the water, it inevitably raises the topic of "Diver Decontamination." Included here are some ideas to keep in mind when getting involved in these types of diving operations.

Considerations for SETTING UP DECONTAMINATION STATIONS:

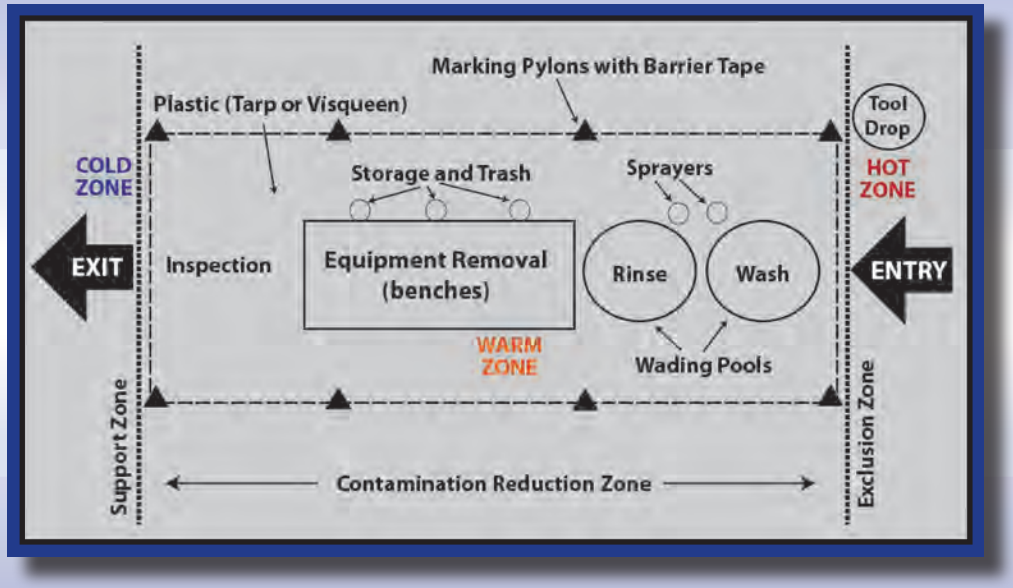
- Close proximity to vital services (running water, electricity) is extremely beneficial.
- Size station depending on expected exposure (i.e. is there a need for "hot, warm, and cold" zones? (see figure 1)
- Choose appropriate decontamination solution – clean, fresh water and antimicrobial soap are very effective in most situations.
- Choose proper tools (i.e. brushes, hoses, sprayers, sorbent pads, containment pools)
- TENDERS NEED TO BE PROTECTED when decontaminating the diver especially because they must keep hands on the diver at all times– standard practice during any serious contaminated water operations should be full Tyvek suits, rubber boots w/ tread, rubber gloves and face shields.
- Consider the transition area, if there's a stage, how will you decontaminate the cable as it comes up? What about the umblicals?
- Establish a primary decontamination wash (wading pool) and rinse (wading pool) as the first step in the "Hot Zone" after the tool drop, to wash the most significant contamination off the diver.
- Sorbents can also be used for wiping off contaminated areas of clothing or equipment. Wiping should mainly be done in the secondary wash after the heaviest contamination has been removed.
- Water used during decontamination procedures must be carefully controlled and kept to a minimum. Water generated from decontamination procedures should be treated as hazardous waste.

TAMINATION

By: Stephanie Brown

AVAILABLE RESOURCES:

- Information on thousands of hazardous chemicals, health hazards, recommended protective clothing, and chemical properties. Also, see what additional hazards might occur if chemicals you select are mixed together. http://cameochemicals.noaa.gov/
- NOAA offers helpful Contaminated Water Diving reports at http://www.ndc.noaa.gov/rp_cwd.html
- OSHA's Hazardous Waste Operations and Emergency Response regulations (29 CFR 1910.120) at http://www.osha.gov under Regulations > 29 CFR
- Also check out SUPSALV's "Guidance for Diving in Contaminated Waters" and other resources at http://www.supsalv.org under 00C3 > Contaminated Water Diving.
- NAVSEA 00C Diving Division has a limited supply of containment pools, an inflatable shower tent and a sprayer unit meant for equipping a decontamination station in the event that no other resources are available to a dive team.



The most important decontamination solution is potable water. A plentiful supply of potable water, preferably from a low pressure hose hooked up to a municipal water supply, large water tank or ship's stores, is the first and last step of all decontamination procedures. If a hose to a supply is not available, smaller containers (e.g., 5-gallon buckets, collapsible plastic containers, Hudson sprayers) of potable water could be used. The water should not be under pressure any higher than typical municipal water pressure of 40-70 psi. High pressure hoses, like pressure washers, may damage the diver's suit, force contaminants into seams or contaminate nearby surface support personnel. In some instances a thorough rinse with potable water is all the decontamination the diver needs.

Figure 1: It is important to incorporate a non-skid mat in the bottom of containment pools used in a decon station to reduce slip hazards

A strong solution of antimicrobial soap (dish soap typically has more surfactant than hand soap) is the next most commonly used decontamination solution. Soap's surfactant action will remove most organic contamination, and scrubbing with soap water will remove sediment-associated inorganics (i.e. metals). Soap will also wash away biological contaminants.

- U.S. EPA ENVIRONMENTAL RESPONSE TEAM DIVER DECONTAMINATION SOLUTIONS

SUDS

Soldiers Undertaking Disabled SCUBA

Just Say "Thanks"

By: John Thompson, Carla Chatterton, and Jane Spencer

Saying "thanks," sounds easy but too often we let those opportunities pass us by. We see our men and women in the military at airports and throughout the community and they are most often always willing to help each other and lend a helping hand. The military community is fiercely committed to taking care of one another and this extraordinary feeling of community has been exemplified over and over again at the Naval Base at Guantanamo Bay, Cuba (GTMO).

This is our opportunity to say "Thank You" to the hundreds of volunteers at GTMO who have helped to support Soldiers Undertaking Disabled Scuba (SUDS) over the past few years.

The SUDS mission is to help improve the lives of injured veterans returning from Iraq and Afghanistan, to facilitate their rehabilitation and promote mobility through the sport of SCUBA diving. The accomplishment of that mission is evident from the very first day of certification dives when the wounded veterans can barely hold their second stages in their mouths because they are grinning so broadly. These amazing young men and women are engaged and excited and fully invested in the SCUBA experience. The initial training and pool work is offered at Walter Reed Army Medical Center (WRAMC) and the open water certification trips, like those to GTMO, take place throughout the year to a warm water location. It is rewarding to all of us involved, knowing that the pain of injury, the emotional scars, the worry for the future is set aside, if only for a little while, and the men and women are reminded that cool challenges and exciting adventures continue to be a part of their future. The rehabilitation manifests itself both physically and psychologically. That part of the mission is a "no-brainer" to see and experience.

There is another very special blessing that is experienced by all those who have the opportunity to go on one of the trips to GTMO, and that is the overwhelming spirit of volunteerism, of helping one's brother, of honoring our National heroes.

Those that have had the privilege to go to GTMO can't say enough about the support. Shane Heath was injured in Iraq and was introduced to SUDS during his rehabilitation at WRAMC. Shane has had the opportunity to participate on two GTMO dive trips. This is what he had to say:

"GTMO trips easily stand out as two of the best dive trips, both the military and dive community are extremely supportive. They welcome us with open arms, and do everything they can to make sure we are comfortable and taken care of during the trip. They also understand that for a lot of us, these trips are very important for helping to restore confidence in ourselves and our abilities. The GTMO volunteers are content to let us try and do things ourselves, but as soon as one of us needs help with something, there's a person by our side ready to give us a hand (pun intended). They don't baby us, and they don't pity us because of our injuries. Instead, they treat us like equals. And when it comes to helping wounded soldiers restore our self-confidence…that is the biggest gift of all."

Today, Shane is working on his Divemaster certification and has aspirations to one day become an instructor. Shane is an inspiration to everyone he meets in and out of the water.

Since the inception of SUDS in 2007, there have been six dive trips to GTMO. John Thompson, President and SUDS founder, says of the most recent trip:

"We can't say enough about how much we appreciate all the support from the folks at GTMO both on the Civilian and Military side. This is our signature trip, the one that everyone wants to go on and we feel honored to have the opportunity… it just keeps getting better… by now it is a well oiled machine with a cadre of excellent staff and volunteers."

The February 2011 trip included seven injured veterans; five were completing their open water certificate and two were working on their advanced open water certification. In addition to the SUDS participates, the brother-in- law of Rear

2011 trip to GTMO, left to right:Tyler Anderson, David Gaffney, Matt White, Joe Yantz, John Rice, Stefanie Mason, Eric Cowin seated: Dan Muldoon

Admiral Jeffrey Harbeson, Commander, Joint Task Force Guantanamo joined us. He is a paraplegic from an injury received in an accident a number of years ago.

The eight participants received individualized training from SUDS instructors tailored to their injuries and specific needs. The initial training that they receive is so good that by the time they get to open water the certification dives are a breeze.

At GTMO, we were fortunate to be granted access to some of the restricted areas where the diving is pristine. Hidden Beach and Blue Bleach were amazing shore dives, complete with that Caribbean blue water that you dream about; and all the usual underwater characters making an appearance. SUDS Divers got to interact with stingrays, turtles, lionfish, VERY large Groupers and Dog Snappers in addition to the many reef fishes and coral gardens. As expected the diving was great, the weather perfect and the support from both the military and civilian on GTMO was outstanding.

In addition to the great diving, our evenings were packed full of great food and fun. There was a barbeque of some "serious" ribs prepared by the Jamaican nationals who service the GTMO Fire department. The Chief Petty Officers of Guantanamo hosted a buffet dinner at the Goat Locker. We were treated to a very special evening at the home of Admiral Harleton's and his wife where the Admiral presented Commanders Coins and certificates to all the participants. Another night was dedicated to a beach party at Cable Beach sponsored by our dive hosts Jessie and Bill Keenan of Ocean Enterprises. All the SUDS vets are presented with their SCUBA certification card and a bonfire blazed in their honor. Our last evening was spent at CAPT Mary Nutley's beautiful home for a Cuba inspired dinner on the terrace overlooking Guantanamo Bay. During the days when not diving, the group was offered several optional tours; the Navy Dive Locker with its recompression chamber reinforced the importance of being a safe diver. A very informative visit to the North East Gate, which is the gateway of the border of Cuba, helped to explain why the United States continues to maintain an active military base in a Communist country. And, of course, a trip to GTMO would not be complete without a shopping trip to Ocean Enterprises dive shop for some t-shirts and souvenirs.

Jane Spencer, SUDS instructor was part of the last trip and has this to say:

"Before the trip I was sent an itinerary…I laughed out loud when I opened the document, it was 13 pages long and described every moment from the time we were expected to hit the deck until lights out. You gotta love military precision! Included in the itinerary were long lists of people who had volunteered for each step of our five day visit. Several people might be designated to provide breakfast at 0730 and without a hitch breakfast would arrive on schedule, "Have a good dive!" and the volunteer

2008 trip to GTMO left to right: Joseph Crossno, Chris Koning, Kevin Brown, Michael Blair, Shane Heath Kneeling:Gilberto Correr-Ruiz

would fade away. In the meantime ten other volunteers were at the dock, loading gear, getting drinks iced down, filling tanks and receiving the day's lunch from yet another contingent of volunteers. Not for the glory, not for recognition, not for the chance to meet the SUDS Divers…but because it is the right thing to do and because the military community is fiercely committed to taking care of one another. This scenario played itself out in many, many ways throughout our stay."

One special moment for Carla was on Blue Beach. She said:

"I had readied myself and was in the water facing the shoreline, chest deep, waiting for my two students. Each of them had a team of three volunteers helping to steady them through the surf and get fins and mask in place. Looking left, the same scenario was playing out with another instructor and his students. On the shore line an even larger contingent of helpers were preparing to lift a paraplegic diver from his wheelchair and gently put him in the water to gear up. Other groups of helpers were standing by with clipboards checking divers and staff in and out of the water. A large group of big guys were erecting a tent to provide shade and a long line of sherpas were moving tanks from trucks to a central location on the beach. In all, it would not be an exaggeration to say that 100 people were on that beach helping and making the dives happen. And among these sherpas was the Admiral…hauling tanks and helping out, right along with everyone else. The Admiral was leading by example, doing the right thing, taking care of his military family along with everyone else. That was a powerful image that will stay with me."

Jane says that she gets much more out of her participation in SUDS than she can ever give:

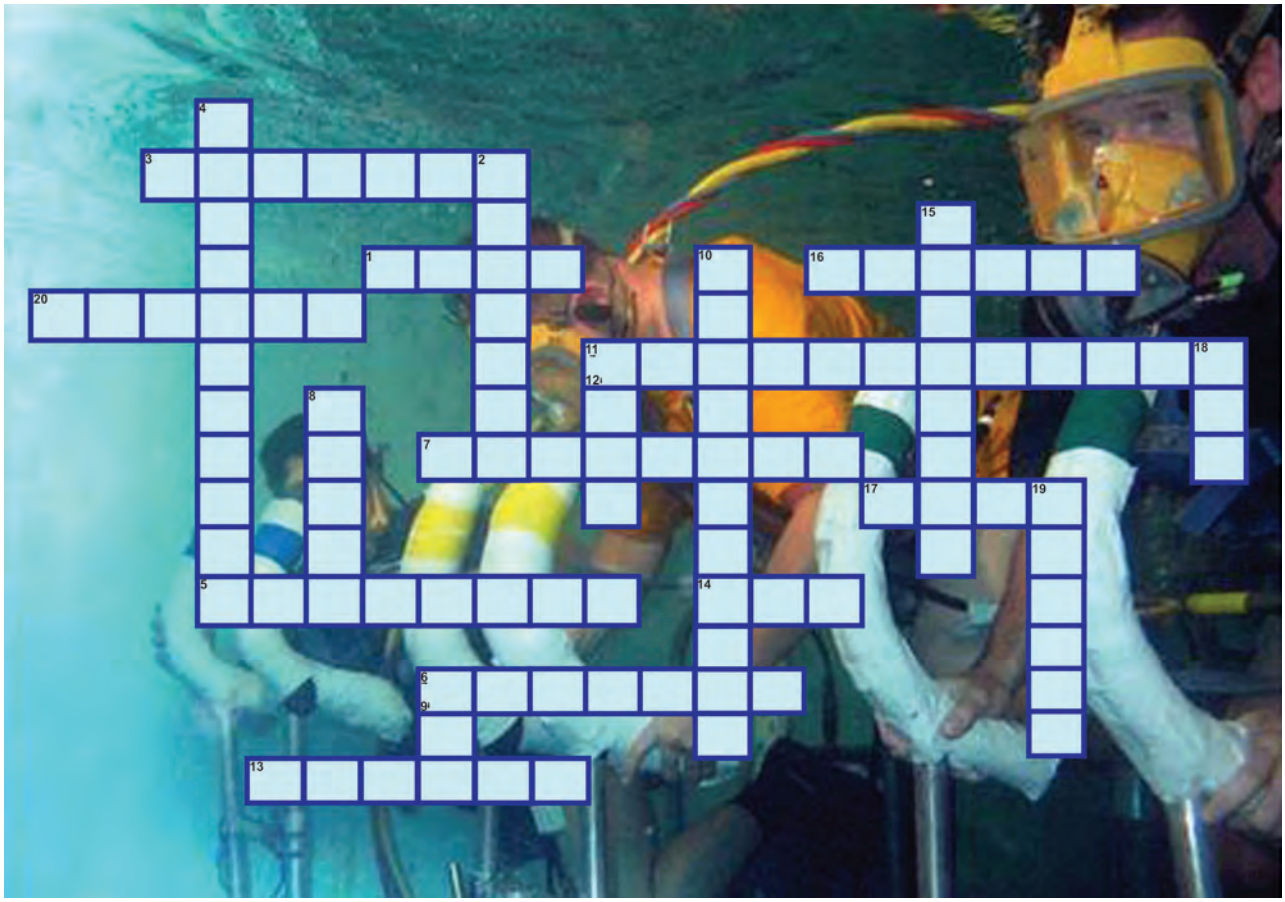
"I am able to take my passion for diving and teaching and use it for a good and noble purpose. And so one of the things I can do to pay it forward is to make certain that I also encourage others to be proactive about saying "thanks" to the wounded men and women and to those whose wounds may not be evident but who have also put their lives on hold to fight for a world free of terrorism. I watch people in the airports… the military community will approach our guys and offer a hand and a word. Civilians do not… some may want to, but they do not. I tell everyone I meet that all it takes is to make eye contact and say "thanks." It means a lot. Buy the soldier in line behind you at Starbucks a cup of coffee, or the Marine at the bar beside you a beer. Volunteer and contribute to the many projects that help veterans and their families. Say thank you for serving."

The military community of GTMO sets an example to all of us to express thanks to our National heroes and to show appreciation for their sacrifice in any way we can.

Above and background photo: Tom Davis during GTMO trip 2010.

John Thompson, President and founder of SUDS, Jan Spencer SUDS dive instructor and Carla Chatterton all share a passion for supporting our war heroes and the dive community and all agree that they get far more then they give in volunteering to help with the SUDS program.

U.S Navy Dive Manual
Chapter 3: Underwater Physiology and Diving Disorders



ACROSS

1. The average human body contains approximately _____liters of blood.
3. _____ is an abnormal deficiency of oxygen in the arterial blood.
5. _____ will occur when there is no gas to breathe.
6. The eardrum does not have to rupture for _____ vertigo to occur.
7. Hearing loss and ringing in the ears is known as _____?
11. _____is a raising of the core temperature of the body.
13. _____ is the colorless, watery portion of the blood.
14. _____ is the total amount of air moved in or out of the lungs in one minute.
16. One symptom of carbon monoxide poisoning is _____?
17. For a squeeze to occur during descent _____ conditions must be met.
20. _____ law states the amount of gas that dissolves in a liquid is almost directly proportional to the partial pressure of the gas.

DOWN

2. The lungs contain millions of small expandable air sacs called_____?
4. _____ is an abnormally high level of carbon dioxide in the blood and body tissues.
8. A fold in the sinus-lining membrane, a cyst or an outgrowth of the sinus membrane is called a _____?
9. The two types of oxygen toxicity experienced by divers are pulmonary and _____Oxygen toxicity.
10. _____ is a lowering of the core tempera ture of the body.
12. _____ is a derangement of central nervous system function that occurs during deep HEO_2 dives, particularly saturation dives.
15. One symptom of Hypoxia is _____?
18. _____ is caused by the expansion of gas taken into the lungs while breathing under pressure and held in the lungs during ascent.
19. Arterial bubbles can act as _____ blocking the blood supply of almost any tissue leading to hypoxia, cell injury or death.

Crossword answers on pg.29

Navy Reserve Surgemain

By:CDR R.D. Clovis, NR SUPSALV Community Manager

The Surgemain Program has now added the Navy Diver rating to the mix of enlisted ratings that support the third largest enlisted program within the Navy Reserve. The 1,400+ Surgemain sailors support our nation's public shipyards, regional maintenance centers, and other commands by providing the right skills at the right place at the right time. Recently, the Surgemain Program established two Reserve Surgemain Dive Units; one at the Norfolk Naval Shipyard and the other at the Naval Undersea Warfare Center in Newport, R.I. Reserve Navy Divers also provide support for other commands such as the Navy Experimental Dive Unit Panama City, Florida, the USS EMORY S. LAND (AS 39) in Guam and the Deep Submergence Unit in San Diego, CA.

With public shipyards and regional maintenance centers under constant fiscal pressure, the Surgemain Program provides some budgetary relief by tapping into the skill sets of Navy Reserve sailors to assist in the workload. Many Surgemain sailors are typically prior active duty personnel with years of fleet experience and training. These fine sailors left active duty to pursue college education or other worthwhile civilian career endeavors. Navy Divers are no exception to this path. However, while pursuing a civilian career, a Reserve Navy Diver can continue to support the U.S. Navy in the Surgemain Dive Program. This is a "win-win" for our nation and the Diver, because as a Reserve Navy Diver we continue to see a return on investment of all the training they received while on active duty while they now pursue other interests. Therefore, each Navy Diver is a "national asset" being well-employed by the Reserve Dive Programs.

ND1 Paul Ford enters the water for a hull inspection of the EX-COBIA in Wisconsin. Photo credit: Richard Boettcher

Reserve Navy Divers with NR SURGEMAIN Dive Newport primarily support the Naval Undersea Warfare Center Newport Division (NUWC Newport) by seamlessly integrating with NUWC Newport's Engineering & Diving Support Unit (EDSU). The Unit was designed to have twenty Navy Divers and two Engineering Duty Diving Officers support NUWC's test and evaluation mission with diving and small boat operations. Recent operations have included recompression chamber training, retrieval of experimental biological electrodes, compass swims for swimmer defense testing, NUWC submarine maintenance diving in Groton, CT and special projects in support of the Department of Homeland Security. One unit member successfully cross-rated from Sonar Technician to Navy Diver in FY10.

Reserve Navy Divers with NR SURGEMAIN Norfolk support the NNSY Dive Locker. Most of the dive work is on vessels in dock at Naval Station Norfolk; although, work is also performed on vessels at NNSY. The Dive Locker primarily performs surface supplied diving, although, a small SCUBA capability exists including the new DP-2 (XLWDS – Extreme Light Weight Dive System (LWDS)) system. Dive systems include the Fly-Away Dive System III (FADS-III) and the LWDS: (Alpha – FADS-III; Bravo – LWDS; Charlie – LWDS; Delta – FADS-III; Echo – FADS-III; Foxtrot – LWDS). Helmets include the Mk-20, including underwater (UW) video recording and lighting capabilities. The Dive Locker also has one DP-2 (XLWDS – Extreme LWDS) for the Hull Inspection Team (comprised of personnel from the teams) as required for Quality Assurance (QA). Examples

For more information about a rewarding career in the Navy Reserve Surgemain Dive Program, contact:
CAPT Gunzel (C: 360-340-5174)
CDR Clovis (W: 505-844-1419)

Dive Program

of work include cofferdam installation; propeller repair and replacement; hull inspections; rudder repair, removal, and installation; sonar repair and replacement; secondary propulsion motor troubleshooting, removal, and replacement; towed array winch work; anchor work; etc.

Reserve Navy Divers with NR EXPERIMENTAL DIVING SUPPORT UNIT (Great Lakes, IL) focus on supporting the Navy Experimental Diving Unit (NEDU Panama City, Florida). The Reserve Unit also provides regional diving support to Great Lakes, NTC and SURGEMAIN Units. The Unit recently worked with SURGEMAIN Green Bay providing a diving inspection on the X-COBIA (WWII Museum submarine) supporting NAVSEA's Ships Inspection Program. The Unit also provides diving requalification support to other regional units such as the Center of Excellence EOD detachment and the NSW DET. The reserve Unit is composed of one EOD Officer, 13 Navy Divers (NDs), and SCUBA qualified Sailors.

Combined Dive team from NR NAVEXPDIVESUP and EOD OSU10 prepare to do tire recovery during pier cleanup operations in Fort Lauderdale, FL. Photo credits: ND1 Paul Ford

While serving in these Navy Reserve Dive Units, Navy Divers continue to pursue their civilian interests as firefighters, diving medical technicians, police officers, commercial divers, engineers, contractors, attorneys, engineers, college students and more while receiving benefits such as TRICARE, earning time toward a Reserve military retirement, promotion, etc.

CDR Clovis is a community manager in the Navy Reserve NAVSEA 00C SUPSALV Unit. His Navy service spans 28 years of both active and reserve duty as an Electricians Mate and Engineering Duty Officer.

MK-28 UBA Evaluation

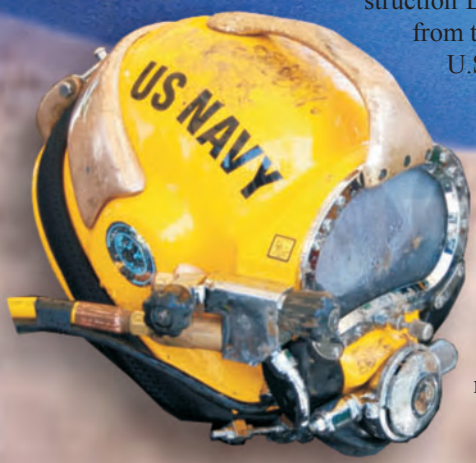
NEDU continues evaluation of the MK-28 UBA for progression toward an interim certification. The MK 28 is the commercially available Megalodon closed circuit rebreather manufactured by Innerspace Corporation, Centralia, WA. An interim certification is planned for one year to evaluate reliability, durability, cost, maintenance and logistics for possible integration into the fleet. Pictured on left are the first Navy open-water test dives conducted in late March 2011 off the coast of Panama City, FL. The divers are Steve Smith, 00C44, BMCM/MDV (ret) and ND1 Wayne Johnson. The tender is NDC Gabe Harlander.

Rendering

Christian J. Lambertsen, M.D., D.Sc. (Hon) passed away on February 11, 2011. He received a B.S. Degree from Rutgers University in 1938 and a M.D. Degree from the University of Pennsylvania in 1943. During his medical school period, he invented and first used forms of the initial U.S. self-contained closed circuit oxygen rebreathing apparatus, for neutral buoyancy underwater swimming and diving. As a student, he aided the early Office of Strategic Services (O.S.S.) in establishing the first cadres of U.S. military operational combat swimmers. Dr. Lambertsen became a U.S. Army medical officer on graduation from medical school in early 1943, and immediately joined the O.S.S. Maritime Unit on active duty throughout World War II. He joined the University of Pennsylvania Medical Faculty in 1946, and became Professor of Pharmacology in 1952. While a faculty member he combined diving research and further underwater rebreathing equipment developments for the Army and Navy. In 1967 he served as Founding President of the Undersea Medical Society (now Undersea and Hyperbaric Medical Society.) Dr. Lambertsen is recognized by the Naval Special Warfare community as "The Father of U.S. Combat Swimming." His hand has touched every aspect of military and commercial diving. Dr. Lambertsen's active contributions to diving began during WWII and became even more progressive in the post-war period through the evolutions of the U.S. Navy Deep Submergence and Naval Special Warfare developmental programs. Source: National Navy SEAL Museum - www.navysealmuseum.com

Captain David Michael Balk, 53, passed away Dec. 2, 2010 in Virginia Beach, VA. CAPT Balk enlisted in the Navy in November 1979, where he was one of the first under the Civil Engineer Corps Collegiate Program. In June 1980, he received a B.S. in Architectural Engineering from California Polytechnic State University at San Luis Obispo, CA, and an M.E. in Ocean Engineering from Texas A&M in December 1986. He served as the Environmental Department Head of the Naval Facilities Engineering Service Center, and Commanding Officer of Underwater Construction Team TWO before starting his Seabee career as Officer in Charge at Amphibious Construction Battalion (PHIBCB) ONE A3-80 and Naval Beach Group ONE onboard the USS SCHENECTADY (LST 1185). He was then stationed in the middle east as Resident Officer in Charge of Construction, leading an all Seabee Public Works Department in the largest construction and maintenance to date at Administrative Support Unit Bahrain.

Folding his love of the ocean with his professional career, he volunteered and was selected for the Ocean Facilities Program as the Facilities and Hyperbaric Engineer at the Naval Medical Research Institute. As the senior diver of 50 Saturation Divers, he participated in several diving experiments, including a 1,000-foot of seawater deep open water saturation dive. CAPT Balk's next assignment was to Naval Sea Systems Command 00C, where he served as an Underwater Ship Husbandry Project Manager. This tour was interrupted by his special assignment to Operation Desert Shield and Operation Desert Storm. While there, he provided on-scene engineering support for harbor recovery, underwater ships husbandry, and diving and salvage evaluations. Upon his return, he was transferred to Naval Construction Training Center Port Hueneme as the Executive Officer, where he laid the groundwork for the new Interservice engineering training for all engineering ratings (MOS's) of the Army, Marine Corps, Navy, and Air Force. CAPT Balk also served as Director, Ocean Facilities Program and FIRST Naval Construction Division Diving Officer, with well over 250,000 minutes of bottom time. CAPT Balk retired from the Navy Expeditionary Combat Command (NECC) in Little Creek after serving 30 years in the U.S. Naval Civil Engineer Corps (Seabees).



CAPT Balk was a member of the Department of Defense Professional Acquisition Work Force as a certified Level III Contracting Officer and obtained several qualifications, including: Seabee Combat Warfare Officer; Surface Warfare Officer; Saturation and Salvage Diving Officer (Navy Aquanaut), as well as a qualified Parachutist. Throughout his Navy career, CAPT Balk received (4) Meritorious Service Medals, (4) Navy Commendation Medals with combat V, Navy Achievement Medal, Combat Action Ribbon, and several other unit and campaign awards. His enthusiasm and passion for engineering, ocean sciences, and anything to do with the ocean was surpassed only by his love of family. Capt. Balk is survived by his wife of 30 years, Juanita Paula; his son, 1st Lt. Alexander Sean; his daughter, Meghan Anne; and his mother, Melvina Lee of Tucson, Arizona. *Written by: Karin Lynn*

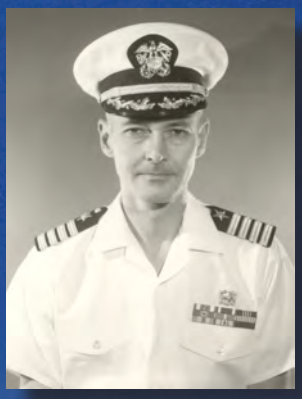
Honors

Darrell Williams passed away on August 1, 2010 after a long period of fighting bone and lung cancer. Darrell joined the Navy December 1959, and was first stationed on the USS BENNINGTON as a boatswains mate. He became a First Class Diver in May 1965, and transferred to the Fleet Submarine Escape Facility. In 1969, he was assigned a Vietnam tour of duty aboard the USS VESUVIUS and suffered combat injuries. Darrell had a break in service until 1975 when he re-enlisted and was stationed on the USS GILMORE in La Maddalena. In 1976 he was stationed aboard USS SIMON LAKE, and in 1979 Darrell was stationed at the Naval Submarine Base in Kings Bay, GA. Later that year he qualified as a USN Master Diver and eventually transferred to the USS ASKARI in Little Creek, VA. He had a short tour at Solomon's Island, Maryland Naval Base, and in 1982 he transferred to the Trident base in Bangor Washington. Darrell spent his last active duty tour at the Naval Diving School Panama City, Florida 1983-1985, retiring as BMCS(MDV).

In 1986, Darrell joined NAVSEA 00C4 (Diving System Safety Certification) as a civilian. His extensive diving experience and love of working with and helping all the USN Divers was a perfect match. Before he retired from 00C4 in 1998, he came up with a number of innovations including the concept of teaching the young Navy Divers about their Diving Systems, how they operate, and why we have various maintenance requirements. This philosophy and passion culminated in the development of the 00C Top Side Tech Notes. Today Navy Dive Lockers use these publications for plain language essential knowledge needed to maintain their diving systems. In September 1995 Darrell retired from SEA 00C and moved to Morganton, NC where he refined his woodworking skills in building furniture.

Always caring about his passion, Navy Divers, he worked hard to make all of our lives better. If you actually had the benefit of meeting, or better yet getting to know him, you knew Darrell was a man you could count on, as a mentor and a friend. He was one of those few very special people who have a lasting positive influence on all who met him. He was that true "Renaissance Man" that all of us have heard stories about, but few have met. A Navy Master Diver, a Warrior, a Peace Officer, a Catfish Farmer, a furniture maker, a golfer, a cartoonist, a teller of very tall tails, a consummate prankster and most of all a real family man whose wife, Pat, and two daughters, Tammy and Rachel, were always in his thoughts. He had a passion for life, and doing things right and safely that was infectious. He was one of our best. We all will deeply miss him.

Written by: Gary Crawford and Robert Warren



Robert B. Moss CAPT. USNR (Retired) passed away in January 2009 at the age of 79. Bob Moss graduated from Washington State College in 1952 with an engineering degree, and enrolled in OCS in Newport, RI. Upon commissioning he attended the US Naval School of Diving and Salvage in Bayonne NJ. He served aboard the USS Mender (ARS(D) 2) from 1953 to 1955 engaging in salvage operations in Korea and the nuclear tests at Bikini Atoll. From 1955 to 1957 he was on the staff of the Commander Pacific Reserve Fleet. Bob was released to the inactive reserve from 1957 to 1967 and during this period he worked as a test lab engineer for General Dynamics and as the head of the Naval Architecture branch of the Supervisor of Ship Building, San Diego. In 1967 he was recalled to active duty and posted to the Naval Repair Facility Subic Bay, PI as Repair Officer. In 1970 he reported to the Naval Sea Systems Command in the office of the Supervisor of Salvage where he served as Deputy Supervisor of Salvage, becoming the Director of Ocean Engineering in May of 1976 and serving in that capacity until June 1979. During this period he participated in the salvage of the Great Lakes Freighter Sydney E. Smith near Port Huron, MI in June 1972. Captain Moss recognized the untapped resources available to the salvage force from the Naval Reserve. His successful efforts to bring the Reserves fully on board resulted in the establishment of the Reserve Salvage and Diving Units which now support the Supervisor of Salvage. His work in defining the declining Salvage posture of the US Navy to his superiors and the Chief of Naval Operations Executive Board resulted in program development and funding which greatly improved Navy Salvage capability. In August of 1973 the Pisces III manned submersible operated by Vickers Oceanics Limited sank in 1,600 feet of water off the coast of Ireland. Captain Moss, as the Supervisor of Salvage on-site representative, was a key figure in the rescue of the crew and the recovery of the submersible.

In 1975 he was one of the principals in the operation to clear the Suez Canal. Following his tour as Supervisor of Salvage, Captain Moss assumed the duties of Inspector General of the Naval Sea System Command retiring from the Naval Service in 1985. *Written by: Captain William N. Klorig*

NDSTC Stands Up its New ATF Named in Honor of CWO Robert (Bob) A. Barth

By: Dave Sullivan, Ed Delanoy, and Jim Halwachs

On October 1, 2009, the Naval Diving and Salvage Training Center completed the final System Certification of its new Aquatic Training Facility (ATF). The ATF was a project almost ten years in the making. The original plan initiated in 1999 was to acquire a second training pool to help break the frequent training log jams resulting from the limited capacity of the existing pool. From early 1999 thru late 2006 the need to dramatically increase student throughput at NDSTC produced headway on the planning for the new pool facility and the funding was finally approved.

The new ATF pool is 40 ft wide, 75 ft long, 40 ft deep, and contains 900,000 gallons of fresh water. The pool can be heated for year-round operations and has a large gantry crane which can travel the length of the pool to lift projects in and out of the water. The cranes large hook (60 ton Safe Working Load) and Small Hook (5 ton Safe Working Load) capably handle even the largest project loads for use in diver training. The pool has a 15,000 gallon surge tank to accommodate overflow water when large objects are placed in the pool. The ATF also has a new Lock-out Trunk (LOT) located at the west end with the ability to lock-out 9 divers into the pool at the 35 ft depth level. Additionally, there are four Divers Life Support System (DLSS) Pool Panels, one located at each corner of the pool. Each panel can be flex-hose connected to a FADS III Air Control Console Assembly (ACCA) to support concurrent training missions involving up to 12 divers. There is also a new MK-16 classroom/lab co-located on the pool deck which is fully equipped and certified to maintain and set up MK-16 UBA training for up to 25 students at the same time.

Construction of the ATF Pool was performed by Harry Pepper & Associates; the DLSS panels and LOT were designed by Mr. Alin Schmutz, NAVFAC Diving System Design Engineer, built by the Panama City TECNICO office and certified by Mr. Rob Smith, NAVFAC Dive System Certification Authority (SCA).

NDSTC flexed their in-house facility management and dive system operations and maintenance expertise to closely coordinate the complex design, fabrication, testing, and delivery of this nearly $18 million project. The NDSTC engineering effort was and still is orchestrated by the Engineering Department Head, Mr. Dave Sullivan. Mr. Sullivan was capably supported by his "hand picked" civilian staff of former Navy members to ensure the successful outcome of the project. Sullivan's staff include: Mr. Ray Davis (Facilities Manager), Mr. Ed Delanoy (Hyperbaric's Division Officer), Mr. Dave Thompson (QA Officer), Mr. P.T. Moore (Crane/Weight Handling Division Officer) and a host of other staff members.

The certification dive for the LOT was performed by NDSTC Commanding Officer, CDR Tim Richardt and CWO3 Donovan Motley, NDSTC Assistant Engineering Department Head. The dive was supervised by a lock-out qualified Master Diver, NDCM Tim Hall, NDSTC Training Department. CDR Richardt and Master Diver Hall both remarked that the certification of this new training facility will provide a wide range of training possibilities and capabilities for the both the near and distant future.

Left: CWO Robert (Bob) A. Barth addresses attendees at the NDSTC dedication ceremony. Right: CDR Tim Richardt, CO of NDSTC at the time of dedication ceremony.

On September 15, 2010, NDSTC officially dedicated/christened this remarkable new facility as the CWO Robert A. Barth Aquatic Training Facility. This event represented the successful culmination of nearly three years of

an endeavor initiated to obtain the Chief of Naval Operations (CNO) approval to name the ATF in honor of a living person. Naming a Naval building in honor of a living person is extremely rare; however, there is a provision to allow it in the case of a uniquely appropriate living candidate. Robert A. "Bob" Barth is just such a uniquely appropriate living candidate.

Bob Barth is known, respected, and even revered by virtually all U.S. Navy Divers since the early 1950's. Beyond his cited achievements, Bob has always availed himself to train, mentor, and guide all divers at any level and to assist them with any need. As astronaut/aquanaut Scott Carpenter attests, "Bob is not forthcoming with self-acclaim for his lifetime of myriad notable contributions to the advancement of diving capability and the betterment of divers. He has, however, surreptitiously but indelibly left his footprint in the beginning and the history of saturation and closed-circuit mixed gas diving and in the fond memories of all who have had the privilege of meeting him". There is no other US Navy Diver, past or present more deserving of the honor of having the new Navy Aquatic Training Facility named after them.

Bob has had a direct and significant influence on past, present and future Navy diving operations, policies and procedures. In particular, his unique diving and diving support career includes serving as the first ever U.S. Navy (or civilian) saturation diver nearly 50 years ago. In addition, after concluding a distinguished naval career of 22 years, he further engaged his extensive diving expertise in the civil service as the Navy's Diving Apparatus Mishap Investigator. Throughout his military and civil service career, his too-numerous-to-count contributions to Navy and other military diving programs were monumental toward the enhancement of safe diving and the advancement of the diving state of the art. This is significant, in that our future Navy Divers, the great majority enlisted, will receive their diver training in the ATF. It is only fitting that this superb 21st century state of the art aquatic training facility be named in honor of such a great American hero, whose individual efforts toward the advancement of safe and effective Navy diving contributed so profoundly to that cause.

Pictured above: Swimmer Delivery Vehicle (SDV) from the SDV School House being lifted and placed in our 40 ft deep training tank by the Engineering Dept. of NDSTC. This tank will provide clear water for the SDV Instructors to train in and plenty of depth for the SDV in open water.

Dave Sullivan is a retired Navy Saturation Diver following 20 years of service. Currently the Engineering Officer at NDSTC since 1999. Ed Delanoy is a retired Naval Diving Warrant CWO4 following 26 years of service. Currently the Hyperbaric's Division Officer at NDSTC since 2003. CDR Jim Halwachs, USN (Ret.) served 20 years in CEC and ED diving and shipyard submarine repair positions, retiring from active duty as CO NEDU. He was most recently the commercial program manager for certification of USN ADS and for design, fabrication and certification of the USN Submarine Rescue System, SRDRS/RCS.

Crossword Puzzle Answers

ACROSS:	DOWN:
1. Five	2. Alveoli
3. Hypoxia	4. Hypercapnia
5. Asphyxia	8. Polyp
6. Caloric	9. CNS
7. Tinnitus	10. Hypothermia
11. Hyperthermia	12. HPNS
13. Plasma	15. Euphoria
14. RMV	18. AGE
16. Nausea	19. Emboli
17. Five	
20. Henry's	

Unusual Diving Casualty Treated at Mobile Diving and

When divers leave surface they subject themselves to the dangers of a hyperbaric environment and by default its corresponding inherent ailments. The U. S. Navy Diving Manual describes in great detail the recognition and treatment of the common disorders either caused or exacerbated by a hyperbaric environment. It is the bible for all U.S. Navy Divers and the gold standard reference for all other divers worldwide. A quandary occurs, however, when a diver presents with physical findings, symptomatology, and a profile that does not correspond exactly with the disease descriptions in the Diving Manual. When this occurs, the treatment team must ensure that they perform a thorough physical examination, develop an expansive differential diagnosis, and remain open to all suggestions. They must accomplish such an assessment in an expeditious manner. The following case study illustrates such a situation.

Divers: ND1 Joe Jenkins (Chamber Supervisor), ND1 Brandon Holt, ND2 Richard Slinger, ND2 Greg Cuchens, ND3 Devon Headley, ND3 Shaun Krall

The patient was a 46-year old male, civilian diver who surfaced without issue after an uneventful MK20 working dive in a ballast tank at 1500 with a dive profile of 23 feet for 171 minutes. He had no prior dives that day or the day before and reported that he was in normal health prior to leaving surface. Twenty minutes after surfacing, the patient stated his left ear felt "full", and after several minutes started developing dizziness and nausea. The nausea quickly led to profuse intractable vomiting. At this point the diving supervisor contacted the duty chamber for evaluation of a possible diving casualty. The patient was transported via EMS ambulance on oxygen to the MDSU TWO recompression chamber. Prior to arriving at 1630 the patient had an IV access secured and was given aspirin.

Upon arriving, the patient was met by the MDSU TWO duty chamber team where he was experiencing balance difficulties, vertigo, nausea, and vomiting. He stated that these symptoms did get "a little bit better" after having been on the oxygen in the ambulance, but his left ear "fullness" had now progressed to a slight "muffled" hearing loss on the same side. He denied head and sinus congestion, lightheadedness, headache, visual disturbances, tinnitus (ringing in the ears), ear pain, syncope (loss of consciousness), problems clearing at any point during the dive (including having to forcefully valsalva on descent), recent illness, chest pain, shortness of breath, palpitations (sensation of an abnormal heart beat), weakness, and distal sensory disturbances. He reported no significant medical problems with exception of sporadic low back pain which was relieved with an occasional Motrin. He denied taking any other medications or supplements.

The physical exam was significant for the following: The patient was hypertensive with a blood pressure of 155/91. His left tympanic membrane was intact although hazy in appearance and with reduced mobility on valsalva when compared to the right. No fluid or hemorrhage was noted. Neurological examination revealed a sensorineural hearing loss on the left. The Rhomberg and tandem gait tests were both abnormal as the patient demonstrated left-sided unsteadiness. All other aspects of the physical exam were within normal limits.

The differential diagnosis at this point in the evaluation included: Type II Inner Ear DCS, delayed onset AGE, inner ear barotrauma (IEB), and stroke. Stroke was highly unlikely due to the fact that the patient did not have medical history to suggest arterial disease. IEB as a diagnosis was thought to be unlikely because the highly experienced diver denied problems with clearing at any point in the dive. Even though the patient's dive profile was well within no decompression limits (No D) as his maximum depth was only 23 fsw, one cannot rule out that the dive either caused or at least exacerbated the patient's condition because he was in normal health before leaving surface. Since Type II Inner Ear DCS or delayed onset AGE could not be definitively ruled out, the decision was made to treat the patient

Salvage Unit Two

By: LT Richard Goodrich and CDR Illy Dominitz

with a Treatment Table Six (TT6).

After reaching 60 feet in the chamber and completing the first O_2 period, the patient did not show any improvement of his symptoms. He continued feeling a "fullness" in his left ear and his nausea persisted to the point that he vomited twice in the chamber requiring Zofran (anti-nausea medication) to just get through the second O_2 period (The MDSU TWO chamber uses BIBS requiring the dive supervisor to keep stopping O_2 treatment to allow the patient to vomit). The nausea improved with the Zofran. With still no symptomatic improvement after the second O_2 period, the two Dive Medical Officers (DMOs) on station made the call to continue and complete the TT6 and subsequently transport the patient to the local Emergency Room for further evaluation. The patient's ear "fullness" and muffled hearing, vertigo, and nystagmus remained the same throughout the rest of the TT6. The neurological examination after reaching surface was improved in that the patient could walk without falling, Rhomberg test was normal, but the he still was experiencing vertigo. He was immediately transported via EMS to the local ER after the post-treatment neurological examination to rule out a stroke and inner ear pathology.

At the hospital the patient received a full-stroke workup (to include an MRI/MRA) which was normal and was feeling better the next morning when he saw the Ear Nose and Throat (ENT) physician. The ENT physician made the final diagnosis of a perilymph fistula (inner ear injury). This final diagnosis was given despite not having any middle ear barotrauma or history of difficulty clearing. One day post incident, the patient's symptoms had rapidly dissolved, his hearing was back to his normal (per audiogram), but he still had some residual vertigo (he was not nauseated and was able to eat food). After re-questioning, he again denied history of difficulty clearing and reiterated that he has never even had to hold his nose in order to clear to include the day of the dive or while in the recompression chamber.

A perilymph fistula (PLF) is an abnormal connection of the fluid filled inner ear and the air filled middle ear. Usually it is caused by a tear or defect in the thin membranes of either the oval and round window. Symptoms include dizziness, vertigo, imbalance, nausea, and vomiting. Barometric pressure changes that occur in the middle ear normally do not affect the inner ear, but when a PLF is present, changes in middle ear pressure directly affect the inner ear. This causes abnormal stimulation of the balance and/or hearing structures within the inner ear.

Head trauma is the most common cause of PLFs, usually involving a direct blow to the ear. Fistulas may also develop following rapid or profound changes in intracranial or atmospheric pressure, such as may occur with SCUBA diving, from straining, or even due to pressure changes while diving into a swimming pool. They can also result from just straining resulting in changes in inner ear pressure.

PLF can be diagnosed with a fistula test, which entails the recording of eye movements while pressurizing each ear canal with a rubber bulb. It is done by a skilled ENT physician and not at the dive side. The ENT physician may only see a very slight nystagmus in a positive test. PLFs are unlikely to be seen on an MRI/MRA because of their small size. Of note, the MRI/MRA of the above described patient did not show evidence of a PLF, even after retrospective radiologist review. In many cases, a PLF will heal itself if activity is restricted for a one week to allow the fistula to spontaneously close. Thankfully, that was the outcome in this case.

The most important lesson learned for everyone involved in the treatment was to be open to the thoughts of others. Treating a diving casualty with recompression therapy is a team effort. When a fellow diver is injured and requires our help we must not be so overconfident that we fail to listen to another's opinion and insight. We are not mindless computers, therefore we should look at every treatment case from a humanistic standpoint rather than as a concrete algorithm.

Another lesson is that we must always rule out our differential diagnoses in the order from most to least detrimental while erring on the side of conservatism. The three most dangerous diagnoses were stroke, Delayed Onset AGE, and Type II Inner Ear DCS. Stroke was highly unlikely considering the patient's symptomatology and lack of positive risk factors; therefore, the treatment team erred on the side of conservatism and initiated a TT6. A myringotomy kit was taken into the chamber at the start of the treatment, for hyperbaric recompression usually worsens PLF symptoms.

We would like to thank that entire MDSU TWO Recompression Chamber Guard Team. Master Divers, NDCM Mariano and NDCS Jones were invaluable assets with respect to their experience and as subject matter experts. Additionally, HMC Waldorf (IDC/DMT) and HM2 Kilgore (DMT) provided superb corpsman support as inside tender medical providers. Finally, all the MDSU TWO Navy Divers that provided support as recompression chamber supervisor (ND1 Jenkins) and operators performed their duties with the utmost competency and professionalism. Without this team effort, this emergent diving incident would not have transpired so expeditiously and successfully.

LT Richard Goodrich is Underwater Construction Team One's Dive Medical Officer. CDR Illy Dominitz is Mobile Diving Salvage Unit TWO's Dive Medical Officer.

USS HARPERS FERRY

21 Controllable Pitch Propellor Blades Removed and Reinstalled in 50 Days

By: NDC Timothy Canup

On 17 January 2011, the Dive Locker of Japan DET Sasebo, SRF-JRMC Yokosuka, began the grueling process of replacing 6 O-rings within the hub to blade palm connection point on all 10 CPP blades of the USS HARPERS FERRY (LSD 49). Despite little to no experience in removing blades from an LSD Class ship, the Dive Locker was up for the challenge. The 10 blade O-ring replacement was necessary because the ship noticed an oil sheen coming from the aft end while moored. On the day of notification, SRF Divers tagged out the ship to conduct an inspection of the running gear to determine where the oil was coming from. The inspection revealed hydraulic fluid leaking around the blade palm of 2 blades on the starboard side and 1 blade on the port side. MDV Anthony Pierick coordinated with NAVSEA OOC5 to provide the LSD class blade O-ring replacement kit and prepared a time line for the repair on station. Based on the overall inspection and life expectance, NAVSEA OOC5 determined that all 10 CPP blades needed to be removed, new O-rings installed, and the blades reinstalled IAW UWSH Manual Chapter 12, Controllable Pitch Propellers.

An O-ring change out can be an arduous task under the best of circumstances. Sasebo Dive Locker is manned by 10 Divers and 1 DMT. After 3 days using MK-21 and Hot Water suits, working bottom times of 12 to 16 hours a day in 38 degree water with air temperatures well below freezing, divers were starting to get burned out. More days and more divers were going to be needed for the job. After a phone call to Yokosuka Dive Locker, NDCM (MDV) Mike Miller flew additional Japanese and American Divers to augment the side (In all, 10 different divers from Yokosuka supported Sasebo during this 50 day period).

To start this job, divers had to secure any possible means of oil seeping into the ocean while conducting repairs. The CPP system with all associated hydraulics systems was danger tagged and the CPP blades were set in the zero pitch position to facilitate removal of the blades from the hub. The hub was then rotated to place the 5E blade (starboard side) at the 12 o'clock position. Divers then started removing two thread savers per blade for the installation of the head clamp fixture used to remove the blades. The next step was to untorque and remove the 8 bolts holding the 5E blade onto the hub. Divers then rigged the lifting fixture in place using the overhead lifting tunnels. The blade had to be lifted and then yard and stayed to the aft lifting tunnel so the empty blade position could be rotated to the 6 o'clock position to facilitate overhaul. This step is necessary to avoid contaminating the system with saltwater or draining the 107 gallons of oil in the hub. The lifting tunnel to hang a chain fall directly over the blade was not positioned directly overhead, so extra chain falls were added. In total there were chain falls in the forward, middle, and aft tunnels. These tunnels being out of the anticipated position made lifting the blade very difficult when only having two thousands of an inch clearance between the dowel pins and the blade palm. Once the blade port had been rotated down to the 6 o'clock position divers were then able to lower the 64-lb port cover, take 20 micrometer measurements, and lower the blade seal base ring (BSBR). The BSBR, once removed, was brought topside for inspection and removal of calcium build up. After being cleaned up and inspected, it was sent back to the divers for reinstallation. Initially this reinstallation was exceptionally challenging. However, an ingenious diver came up with an installation BSBR supporting tool to facilitate installing the Blade Seal Base Ring. This new tool (the Pierick Cross) saved hours on installation. Next divers replaced the O-rings, 15 springs, and with the 20 internal measurements determined if we needed a replacement shim. All of this was done prior to running up the 64-lb. port cover hanging on all thread and wing nuts. Once the blade port cover was run up, divers had the ship rotate the open hub position to the 12 o'clock location. Divers yard and stayed the blade back onto the port cover. These blades weigh a little over 2,300 lbs and the lifting fixture weighs about 300 lbs fully assembled.

On the port side of the USS HARPERS FERRY, the anti-rotational pins kept falling out when the port cover was taken apart in the six o'clock position. These anti-rotational pins are supposed to be machined to a tolerance that doesn't allow for them to drop out without assistance. New pins needed to be made on site so that they could be re-inserted and not fall out. The time for manufacturing caused 1A blade to be taken off twice. In order to keep making progress while the pins were being manufactured, the blade was temporarily re-installed and the hub rotated to the next blade. In the end, this situation

(LSD 49) & USS TORTUGA (LSD 46)

caused the locker to have to rework 1A making this job an 11 blade seal change.

In all, eighteen straight days of diving were used to complete the repairs to HARPERS FERRY. In the process we overcame a steep learning curve, adverse weather conditions, shortage of personnel, and anti-rotational pins inappropriately dropping out.

Eleven days later after completing the HARPERS FERRY job, divers were conducting a Visual Technical Inspection (VTI) on the USS TORTUGA (LSD 46) when they discovered oil leaking from 4 blades requiring the same repairs that had just been completed on the HARPERS FERRY. This time the Dive Locker also had to remove the 230-lb hub cone cover because oil was seeping out between the hub and hub cone. The repair plan for this was to remove the cone cover and tighten the bolts that hold the hub main body to the hub cone. A total of 20 hub cone cover cap screws were tack welded on and needed the welds ground off prior to removal. Half of the screws holding the hub cone cover on had to be either drilled through or the heads ground off in order to be removed with an easy out. Five days were needed to remove the cover and torque the 25 bolts underneath the hub cone to 1,110 ft-lbs. In dry dock this cone cover is normally removed with heat and pullers. Being in the freezing cold water SRF Divers again had to design tools to aid the removal of the cover. In true Deep Sea fashion this part of the tasking was accomplished in less than 5 days!

The next obstacle to conquer was the removal of 20 1-inch over staked thread savers located in the blade palms to enable the installation of the head clamp lifting fixture on the blades. Divers tried hand tools, pneumatic tools, grinding off the top thread, drilling, easy outs and reverse threaded bolts. Nothing worked! Tools kept breaking and the thread savers didn't budge. To lift the blades off the hub the divers had to develop a lifting fixture that didn't need to use the filled thread saver holes. The divers designed a lifting fixture that allowed them to lift the blades without the use of the 300-lb head clamp.

During a 50 day span SRF-JRMC Yokosuka, Japan DET Sasebo Dive Locker removed and reinstalled 21 blades, 168 blade bolts, installed 126 O-rings, 378 springs, removed one 230-lb hub cone cover, tighten 25 hub cone bolts, designed the Pierick Cross, improved the BSBR ring removal process with hex head jacking stubs, and created a lifting sling. These dives resulted in over 30 days of bottom time (743 hours). These actions saved the Navy from putting two ships into dry dock and disrupting the planned dry docking maintenance schedules. This saved PACFLT well over $750,000 in dry dock expenses.

USS TORTUGA was scheduled to be completed by March 14th. The Dive Locker completed the work 4 days early. Within 48 hours after divers completed repairs on TORTUGA, orders were issued for her to get underway. TORTUGA was underway within 6 hours after the deadly earthquake and tsunami that struck Northern Japan. TORTUGA provided humanitarian relief for the stricken area. Without the Dive Locker's ingenuity and ability to "think out of the box", TORTUGA would not have been able to provide support to the Japanese victims of the earthquake and resulting tsunami.

These jobs were planned and coordinated by NDC (MDV) Anthony Pierick. Supervised by NDC Timothy Canup, ND1 Ryan Steinkamp, ND1 Brandon Persinger and ND1 Devin Wilhelms. Technical oversight from Scott Heineman and LCDR John Bauer. ESSM Mechanical assistance was provided by Matthew Mayes. The following dive "TEAM MEMBERS" were essential in completing this arduous task: ND1 Andrew Strause, HM1 Charles Geiger, ND2 Mark Larribas, ND2 Michael Laux, ND2 Richard Maness, HM2 Matthew Schneider, ND2 Kristoph Carey. Yokosuka Divers - NDCM (MDV) Mike Miller, ND2 Zachary Hanson, ND3 Shawn Bourguet, Japanese MLC Divers, Mr. Masaru Suzuki, Mr. Chihiro Yamazaki, Mr. Norio Shimizu, Mr. Souichirou Yoshizaki, Mr. Hitoshi Tashiro, Mr. Norihisa Nishimura, Mr. Shuhei Komatsu.

Photo captions left to right: ND1 Persinger ensures the blade is clear to the surface as the crane takes up on one of the Port Blades on USS TORTUGA; Using a Hot Water suit, steam surrounds ND1 Strause as he waits for Supervisor Checks, on USS HARPERS FERRY; Sasebo Divers using the Righting Fixture; USS TORTUGA port propeller blade 1 damage; SRF-JRMC Sasebo Dive Locker.

NDC Timothy Canup is the Leading Chief Petty Officer (LCPO) SRF-JRMC Det Sasebo.

The Old Master

It is time for this old Copper Hat to decompress from Navy life. But, as with all old Master Divers who are long in the tooth, I can't leave without saying more than a simple good-bye. I've thoroughly enjoyed my time as a Navy Diver and it has gone by way too fast. Primarily I will miss the camaraderie of the good Sailors I've had the pleasure of serving with, but I suspect I will also miss those late nights changing out ASW or TDU flanges with a bunch of slap happy divers and submariners. First enlisting in1974, it seems like yesterday when I was a 130 lb kid wearing a 290 lb MK-5 gas rig, or diving Jack Browne with an O_2 hose married to 21 thread (glad that topside couldn't talk to me while working), excited to dive the new KMB-8 when it came out, breathing air from the shipyard's pier or a salvage air compressor filtered through a Lufer sponge filter, or using the system that the divers built with piping cumshawed from various tender shops with a can of Navy issued coffee or some captured sea life. I can still feel the bite of the double 90 straps and remember the double hose regulator that required the diver to "suck" on descent but free flowed on ascent. I enjoyed the simplicity of the UDT and MK-III life jackets and the "Shrink to fit" UDT shorts and Coral Booties that only divers wore. Weaned on Volley Brawl (Jungle Rules) and singing songs about "Black Shoes" while running down Navy piers, I was able to ply my trade at a time when there were close to 50 ships with divers attached, when "Diver" was the harshest curse word an Officer could utter, when my first name wasn't Dan but Damn (Divers), when the Diving sup built his own patch and developed the FWP in his head as he went, and when "Join the Navy and see the world" meant exactly that.

NDCM(DSW/SW/MDV)
D.R. Briggs, USN, Retired

I've seen the best and worst of Sailors, both inside the dive locker and out. I've served with the self absorbed, druggies, and the seditious. Conversely, I've proudly served with the heroes, the selfless who put dive locker, mission and others ahead of self, liberty and career. I've proudly served with a special culture of men who bleed blue and gold, whose only "Race" is "Diver". This has always been one of our strongest assets.

As I depart I'd like to repeat some great intel passed down from my predecessors. I'm sure you've already heard it, but it is worth repeating. The Bible says "Steel sharpens steel", so I offer this to keep us sharp. First to the Navy's greatest diving leaders NDCM/NDCS/NDC, and ultimately to those who will follow in their footsteps. These norms not only made Dive Lockers strong, but all "Shops".

The Master Diver/Chief runs the locker. No one, not a Chief from another division nor any officer would dare to get between the Master Diver or Chief and his Divers. The Chief knows considerably more about his shop and divers than ANYONE. He handles problems at his level and briefs the chain if/when it is above his level.

The Chiefs run the ship. They decide what needs to be done in their respective areas and drive the requirements up and down the chain. The Chief is the proactive one. The officers depend on his foresight and experience to tell them what needs to be done and when.

Chiefs work with and build up other Chiefs throughout the command. They have the back of all other Chiefs. Chiefs are the conduit for accomplishing the mission through other shops.

Ultimately, I believe the best pass down I can promote to MDVs and Chiefs…the leaders of Navy Diving… is as follows. "PRINT YOUR JOB REQUIREMENTS (LISTED IN BUPERS NEC MANUAL) AND POST THEM ON THE WALL WHERE THEY CAN BE READ DAILY. DRIVE EACH AND EVERY ONE OF THOSE RESPONSIBILITIES/DUTIES FROM THE MDV'S CHAIR. DON'T ALLOW ANYONE TO DO THEM FOR YOU OR INSTEAD OF YOU, EVEN WHEN YOU DELEGATE OTHERS TO WORK THEM FOR YOU. YOU ARE DEFINED BY THE NAVY AS THE MILITARY'S MOST EXPERIENCED, BEST TRAINED, AND HIGHEST QUALIFIED DIVER. IF YOU ALLOW SOMEONE ELSE TO TAKE YOUR RESPONSIBILITY THEN YOU ARE GIVING YOUR COMMAND, YOUR DIVERS, YOUR LOCKER, AND YOUR NAVY SECOND BEST"

I will always remember the great Divers, the great Sailors that shared my love for Navy Diving, for the Mission, for the Locker… the selfless ones. For those of you who took the time to challenge me personally I hold your faithfulness as especially valuable. You have made me stronger and I hope I have done the same for you. I have spent more time with many of you than my natural family and it has been worth it. I am thrilled whenever I read of your successes and I look forward to seeing more. Good luck, and God bless (as you do what is right).

Continue to "Leave the locker in better condition than when you took it" and remember, "Don't go past the bottom, and don't breathe more air than you have in your tanks".

HOOYAH DEEP SEA!

Topside Decompression Monitor and Navy Dive Planner

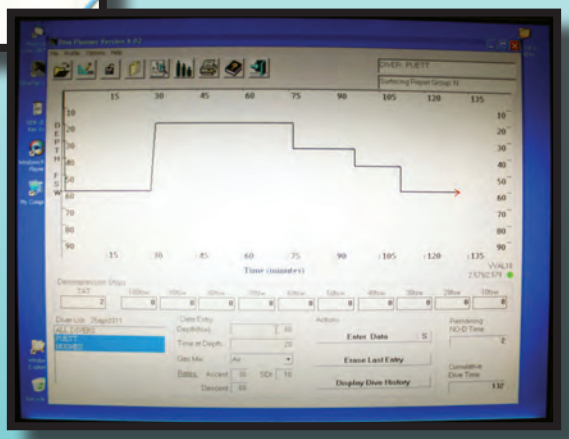
By: ND1(DSW/SS) Wayne Shearer and ND2(DSW/SS/SW) Kristoffer Ilagan

For as long as most of us have been in the Diving Navy, we have had to conform to the "No D" Tables and the Air/O_2 Decompression tables to plan for the jobs at hand. Recently, the divers at Naval Experimental Diving Unit (NEDU) and the divers at Southwest Regional Maintenance Center (SWRMC) have been testing new dive technology that has maximized waterborne production and kept the safety aspects of proven Navy Diving Decompression tables. The basic concept behind the Topside Decompression Monitor (TDM) and Navy Dive Planner (NDP) is the ability to continuously track a diver's depth and bottom time and provide a 'real time' RNT utilizing the VVAL-18 Algorithm. In May 2010, personnel from NEDU traveled to San Diego in order to initiate the testing process with SWRMC Alpha Dive team. The level of knowledge and training given by NDC David Martin, ND1 Ryan Pollard, ND1 Chad Starek, and Technical Engineer Keith Gault of NEDU was instrumental in implementing the TDM and NDP with SWRMC Alpha dive team's daily diving operations on nuclear powered carriers of the Pacific Fleet.

In September 2010, the divers at SWRMC (CODE 360A) were granted continued permission, under an OPNAV waiver, for further testing of the TDM and NDP. The waiver gave SWRMC Divers the ability to utilize TDM and NDP assets as the primary and secondary means of tracking dive profiles. Previously, during Underwater Ship Husbandry (UWSH) repair conducted at Naval Air Station North Island (NASNI), SWRMC Divers needed to swap out divers frequently due the draft of the Aircraft Carrier hulls and the UWSH repair work conducted at these drafts. A typical table and schedule used would be 50/92 No Decompression dive. With the use of the TDM, diver bottom time is greatly enhanced allowing divers to perform essential maintenance in a timely manner, allowing the COMPACFLT carriers to meet their operational commitments on schedule. The last two shaft re-lamination repairs on the USS CARL VINSON (CVN 70) and USS RONALD REAGAN (CVN 76) were completed within the time allowed. Utilizing the TDM, SWRMC Divers were able to add a total of 1,721 MINUTES to the traditional U.S. Navy Diving Manual No Decompression Table during these critical repairs. This allowed divers to remain at working depth longer in order to complete the repair task well within the time allotted for safe dive decompression.

SWRMC diving supervisors responsible for this testing protocol were ND1 Ronald Naperala and ND1 Kenneth McCollum. The traditional way of supervising dives during the in-water phase of ship's husbandry was tested daily with the new TDM. In case of total failure of the system (both the TDM and NDP), supervisors were to revert back to the U.S. Navy Dive Manual for proper decompression tables and schedules traditionally utilized. Many dives conducted as No Decompression dives in accordance with the TDM would have easily been exceptional exposure dives in accordance with current dive manual procedures.

Further testing and implementation will ensure the continued Fleet use of the TDM and NDP. The feedback that the TDM has attained during the evaluation phase at SWRMC Code 360 Dive Division is being addressed by the Technical Engineers at NEDU. Other than minor glitches, the TDM and the NDP have been a valuable asset for SWRMC Dive Supervisors and divers. The ten minutes it takes to set up the TDM is well worth the hours of decompression it saves. With the increased bottom times, not only has waterborne production been improved, On-The-Job training has been enhanced as well. Divers at SWRMC were pleased with the fact that more production, extensive training, and maximum bottom time were attainable with the help of the new TDM and NDP. The implementation of the new TDM and NDP in the Navy Diving community will enhance Navy "DEEP SEA" dive operations for years to come.



ND1 (DSW/SS) Wayne Shearer is currently assigned to Alpha Dive Team at Southwest Region Maintenance Center (SWMRC) San Diego, CA. ND2(DSW/SW/SS) KRISTOFFER RYAN ILAGAN is attached to Southwest Region Maintenance Center (SWMRC) San Diego, CA.

Navy Diver 1st Class (DSW/SS) Fredrick B. Robinson Named NAVSEA's Sailor of the Year

WASHINGTON — Navy Diver 1st Class (DSW/SS) Fredrick B. Robinson and Electronics Technician 1st Class (SW) Sabrina L. Duffield Navy Reserve, were selected as Naval Sea Systems Command (NAVSEA) 2010 Sailors of the Year (SOY).

The honor of being selected NAVSEA Sailor of the Year demonstrates the ability to lead and inspire a group of people and to improve and expand the capabilities of their respective field activities while supporting the command's mission of developing, delivering, and maintaining ships systems on time, on cost for the U.S. Navy.

"As NAVSEA continues to build, deliver and maintain the world's most cutting-edge and highly-capable ships, we look to dedicated individuals like you to get things done," said NAVSEA Commander Vice Adm. Kevin McCoy. "All of NAVSEA's sailor of the year candidates exemplify the Navy core values and embody the institutional and technical expertise, professionalism, and character that make this command successful."

Robinson, NAVSEA's active duty SOY, is currently stationed at Naval Undersea Warfare Center, Keyport. Robinson graduated from First Class Dive School in July 2010.

Duffield served eleven years on active duty before leaving in 2003. She returned the Navy as a reservist in 2007, and is currently stationed at NAVSEA SURGEMAIN Albuquerque.

Robinson will represent NAVSEA at the Vice Chief of Naval Operations' Shore Sailor of the Year competition. Duffield will continue on to represent NAVSEA Reserve Component at the Office of the Chief of Navy Reserve SOY competition.

NAVSEA's other SOY candidates were Electronics Technician (ET) 1st Class (SW/AW) Shredreka S. Cooper, Norfolk Naval Shipyard; ET1 (SS) John J. Garcia, Naval Shipyard and Intermediate Maintenance Facility Pearl Harbor; Engineman 1st Class Howell Jordan, NAVSEA SURGEMAIN, New York City; Electricians Mate 1st Class (SW) Frederick A. Hasting, Navy Operational Support Center Columbus; Mass Communications Specialist 1st Class (EXW/AW) William H. Townsend, Naval Explosive Ordinance Disposal Technology Division; and Missile Technician 1st Class (SS) Sean C. Bauch, NAVSEA Systems Command.