



DEPARTMENT OF THE ARMY

544th ENGINEER DIVE TEAM
BLDG 858A MONROE AVENUE
FORT EUSTIS, VIRGINIA 23604

REPLY TO
ATTENTION OF:

AFDR-NAA-FC

02 OCT 09

MEMORANDUM FOR RECORD

SUBJECT: After Action Report for Derelict Tire Removal Mission in Fort Lauderdale, FL

1. MISSION. The 544th EN TM (DIVE) deploys to Fort Lauderdale, FL, 15 JUL 09 – 26 AUG 09, to train on port opening and harbor clearance by removing an artificial reef of derelict tires in support of Broward County, FL, and IRT.
2. PERSONNEL.

Headquarters

1LT Robert Meyer	Mission OIC
SFC William Vaughan	Mission MDV
SSG John Williams	Mission NCOIC
SSG Donald Lester	Platoon Sergeant

1st Squad Personnel:

SSG Sherrod	Diving Supervisor
SGT Sears	Lead Diver
SGT Byerle	Lead Diver
SPC Weber	Diver
PV2 Bevelle	Diver
SGT Bailey	Diver

2nd Squad Personnel:

SSG Knoop	Diving Supervisor
SGT Dangelo	Lead Diver
SPC Winter	Diver
SPC Mackey	Diver
PFC Schofield	Diver
SGT Cavenaghi	Diver
SGT Palmer	

3rd Squad Personnel:

SSG Henderson	Squad Leader
SGT Miltenberger	Lead Diver
SGT Kuhn	Lead Diver
PFC Giagnocavo	Diver
PV2 Schiltz	Diver
PV2 Odonaghue	Diver
SPC Navarro	Medic

4th Squad Personnel:

SSG Webb	Squad Leader
SPC Compton	Worker
SPC Corum	Worker
SPC Mosley	Worker
SPC Mckay	Worker
CPT Martin	Diver
SPC Ramirez	Diver

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Navy Personnel:

LCDR Sword	NDSC Capps	CMCS Abbit
NDC Laws	NDC Bailey	NDC Adley
GM1 Ernst	ND1 Ford	ND1 Vandenoever
HM2 Herrli	ND3 Koleck	ND3 Back
LT Grant	NDCS Vanderbush	HM2 Ashworth
NDCS Uzzi	GM1 Smith	CDR Bevevino
MR2 Huston	WO Bennett	

3. EQUIPMENT. Primary mission equipment included a complete recompression chamber, side scan sonar equipment, 15 4000lb lift bags, 15 60ft 3/8" wire rope slings, SCUBA equipment, marine-band radios, five zodiacs, five outboard motors, underwater photo/video sets, personal dive gear and dive supervisor equipment. Equipment provided by Navy EOD OSU10 was three 21' Boston Whalers and one 7m rigid hull inflatable boat (RHIB).

4. MISSION DETAILS.

General:

a. From 15JUL09-26AUG09, the 544th Engineer Dive Team deployed to Fort Lauderdale, FL, in order to retrieve derelict tires forming an artificial reef in the Atlantic Ocean. An ADVON party departed on 13JUL09 via two rental trucks to Fort Lauderdale to start face-to-face coordinations prior to the main element's arrival on 15JUL09. The ADVON drove 10hrs on the 13th stopping in Jacksonville, FL for the night. On the 14th they drove the final 5 hours to Fort Lauderdale. On 14JUL09 the main element departed via 4 rental vans/SUVs from Fort Eustis, VA, and took the same driving route and stops as the ADVON party, arriving in Fort Lauderdale on 15AUG09. The LCU was previously tasked to support a NASA shuttle launch which had been delayed due to weather, so the team had a couple extra days before any tire salvaging could begin. During this time the team investigated repair shops in the local area and made final purchases necessary for the mission. The LCU arrived on 19JUL09. The team loaded the LCU for diving operations and began diving on 22JUL09. Navy divers arrived and started work on 21JUL09. Due to lack of alternative LCU support, our LCU was required to travel back to Cape Canaveral to support another NASA shuttle launch from 18AUG-26AUG. And, as a reaction to that information, Navy EOD OSU-10 decided to recall all of their divers and small boat support NLT 24AUG09, even though the LCU was slated to return to Fort Lauderdale to complete the tire mission following their NASA support mission. As a result of all of these issues, the team redeployed via rental vehicles to FEVA on 26AUG09, just short of the mission ending time frame. A line haul arrived at 0900 on 28AUG and returned all gear to FEVA by 29 AUG 09.

Daily SITREPS:

b. 13 JUL 09: 1LT Meyer, SSG Lester, SSG Williams, and SGT Sears all departed from FEVA and drove 10hrs to Jacksonville, FL. Both teams made it safely. SFC Vaughan drove his POV making his own stops on the way down.

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c. 14 JUL 09: ADVON arrives in Fort Lauderdale and checks into the Candlewood Suites. Contact is made with the JAG enterprises personnel who will be doing the contracted rooms. All details are discussed prior to main element's arrival. The main element (20 divers) departs FEVA and travels safely to Jacksonville, FL. Only issue is a flat tire on a rental van which is easily replaced.

d. 15 JUL 09: Main element arrives in Fort Lauderdale. They get checked in and all extra paperwork is filled out. Everyone seems happy with their rooms. I give everyone the day to get settled, buy food, and to get to know the area. I also give a brief on expectations and personal conduct before releasing everyone.

e. 16 JUL 09: I hold formation at 1000. I task different teams with going out to different locations in Fort Lauderdale to find maintenance support for all of our equipment. It was more or less a scavenger hunt around the area for shops specialized in compressor maintenance, engine maintenance, sling and bridle fabrication, diving equipment replacement/maintenance, etc. Once each team turned in a 'report' that was satisfactory they were released for the day.

f. 17 JUL 09: Only other issues that need addressing involve the leadership, so I give everyone the day off. Leadership work to get keys at the port, get vehicle passes for all vehicles, meet and greet port personnel, make physical contact with the CG base, and continue to pursue a definite time of arrival for the LCU.

g. 18 JUL 09: Formation is at 1000 to release everyone for the weekend. A short brief is given and a few safety items are discussed, then everyone is on their own. Work starts Monday.

h. 19 JUL 09: None, weekend activities. Gym memberships through Gold's Gym were acquired, only about 10 are partaking in it. \$74 for 2 months isn't bad.

i. 20 JUL 09: LCU arrived at Port Everglades, crane off-loaded all equipment onto flat bed tractor trailers and was moved to the Coast Guard Station, crane and 2 trailers were loaded onto the LCU, appendix D was done on the chamber, all gear was organized, 4 RHIBs showed up with operators, LCU dive sides were prepped, and all personnel learned driving directions to/from Port Everglades and the Coast Guard Station.

j. 21 JUL 09: Formation at 0600, one team traveled to the CG station for chamber start ups and to meet-up with boat drivers. The rest of the team went to the LCU. Dive station was set up and the boat arrived on the tire reef at 0730. First dive of the day was to place 3 marker buoys for each dive team in the future which will act as ascent/descent lines. Next we conducted a full dive brief on how the operation will run. Afterwards we put one team in the water to lift tires just to get an idea how it would work. I also sent divers in at the same time to take photos of the area before working. After the tires were lifted into the trailer we made some adjustments to the operation to make it a little smoother, and then sent divers in for another load of tires. After that load

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was lifted we conducted a casualty evacuation drill to test our emergency response time/systems. An unconscious diver hit the surface, was rushed via RHIB to the CG station, placed in the chamber and dropped to 40FSW. Total time from diver on surface to 40FSW in the chamber was 21min. Cleanup ensued after that scenario.

k. 22 JUL 09: Today we did PT @ 0600 and then everyone met in front of the hotel for departure to the LCU/Coast Guard Station. Dive station set up was complete and the first divers were in the water at 1000. Total tire count for the day was 755. Our divers learned how to drive the RHIB boats, and everyone has had a chance to rotate through all the stations. Things are getting smoother.

l. 23 JUL 09: Morning formation was at 0630, the LCU departed at 0715, first divers were in the water by 0830, and the first dive bag was on surface by 0850. Today we worked very well with two dive sides and many divers were able to hook up 2 lift packages during their dive. One RHIB lost engine power which required us to reduce to one dive side, drastically slowing us down. We only pulled 804 tires out when we could have pulled out over 1100 if the boat had been working. We're still ahead of schedule though.

m. 24 JUL 09: Morning formation was at 0630, the LCU departed at 0715, first divers were in the water by 0845, and the first dive bag was on surface by 0900. Three RHIBs were working, so we used them all day allowing us to pull 1391 tires out of the ocean for the day. This crushed our goal of 1000. Everyone worked really well and we were glad to have enough boats to support our mission. Our first Navy diver showed up from NEDU to help out. He did fine. I also held a meeting for all the Navy personnel at the Holiday Inn Express to brief them on the mission and my expectations of them. They seem motivated and ready to work.

n. 25 JUL 09: Had the team break down into groups and go out to get maintenance done on different pieces of equipment. Some had to go to Miami Cordage for sling parts, West Marine for boat/bridal parts, outboard repair shop for a Honda outboard, medical store for some supplies, etc. After each group fixed or purchased what they were required to, they were released for weekend activities.

o. 26 JUL 09: Everyone has Sunday off.

p. 27 JUL 09: Formation was at 0630, the Navy personnel were present to get a quick brief. All personnel were at the dive site by 0800, a short dive brief and E-bill was published, then diving operations began at 0830. One of the first lift bags lost air and sank before a RHIB could catch it, and we spent an hour looking for it, so we have to side scan later to try and find it. Should be a good chance to do more training. The Navy personnel meshed well with the mission (after they stopped trying to change things) and soon we were 'firing on all cylinders.' Bad weather came in around 1200 so we had to cease diving, but we still retrieved almost 600 tires, even with all the problems with the first dive and the short amount of time.

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q. 28 JUL 09: Formation was at 0630. CAPT Gray met us at the hotel, we said our greetings, and then departed for the CG Base/Port Everglades. Lightning was already visible in the distance so SSG Williams and I took a fast boat out to the dive site to inspect the sea state and the oncoming weather. We decided to cancel diving for the day due to the weather report and the obvious storms on the horizon. The sea state was poor and only getting worse. I gave CAPT Gray and MDV Rubow a tour of the LCU and described our operation to their satisfaction. They were bummed not to dive but were understanding about the weather. We talked a little about future IRT joint missions and a PAO visit. They depart tomorrow. The team conducted maintenance on the lift bags, outboard motors, air hoses, and zodiacs. Once that was complete everyone was released for the day.

r. 29 JUL 09: Formation was at 0630. Teams arrived on site at 0745 and were diving by 0900. Wind delayed us because our anchors slipped in moor. Today we had all four RHIBs up and operational, so we maxed out our resources to run 3 dive sides at once. It worked well given it was the first day. This is the way the plan was supposed to work, so we're glad to be at this stage now. The team hauled over 1100 tires up.

s. 30 JUL 09: Formation was at 0630. Teams arrived on site at 0745 and were diving by 0900. Bad weather stopped us at 1130, so we called it for the day. Tire count was 1084.

t. 31 JUL 09: Formation was at 0630. Teams arrived on site at 0745 and were diving by 0900. Weather was perfect and we worked until both trailers were totally full. Diving ended around 1330 and everyone was released for the weekend. The minimal maintenance required was conducted by the team assisting in unloading the trailers. Total tires lifted was about 1700.

u. 1 AUG 09: Weekend Activities

v. 2 AUG 09: Weekend Activities

w. 3 AUG 09: There was only one trailer on the LCU due to the layouts scheduled for Tuesday, so we broke the team in half to work today since everyone wasn't necessary to fill one trailer. We worked until 1300 and had the trailer easily filled. The team returned to Port Everglades and loaded two trailers for tomorrow. The NASA launch was delayed until 19AUG, so we will work a normal week.

x. 4 AUG 09: The group met up at 0630 then departed for the LCU/Coast Guard Station. The LCU was on station by 0800 and the first divers were in the water by 0850. There are only a couple notable events. We had our first experience with bad gas (I was the diver who experienced it, sadly). I felt fine on the bottom, but once I ascended and reached the surface I experienced nausea and a headache. After breathing fresh air for about an hour I felt much better. SPC Weber investigated the intake location and determined that exhaust gas was capable of being jammed into the tanks. The problem was easily fixed and we notified all divers/supervisors of the possibility of bad gas. No

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other bad gas problems were reported. Another interesting portion of the day was when one of the Boston Whalers capsized. One of the tire bundles was slung to the back of the whaler when the bag deflated rapidly. Before the team on board could release the load the boat started taking on water and quickly flipped over. Everyone jumped off and no one was hurt. The only equipment lost was a pair of fins, a mask, a few dollars in a wallet, and maybe a couple little items. After releasing the sling package from the boat, another whaler easily flipped the capsized boat upright. The boat was quickly de-watered and then towed over to the LCU. We completed the diving day with only 3 small boats and towed the disabled whaler back to the Coast Guard Station for maintenance.

y. 5 AUG 09: It was a downer of a day today. Everyone was on time and the boat departed right on time. Again, once arriving at the dive site, a civilian boat was blocking the LCU's approach for mooring up correctly, so an hour was wasted getting him to move his craft and having the LCU reposition itself to drop anchors. Once that was all complete everyone prepared the dive side for work. We only have 2 tow boats and one chase boat now (due to yesterday's incident), but we also had a large number of divers. To account for this change we created 4 dive sides to maximize dive time while only having 2 of the sides actually lift bags. This ensured that most divers got bottom time while also not over committing the tow boats with too many packages. Once the 3rd bag was to be lifted heavy current and slipping moor caused dangerous conditions for our surface swimmer and also all personnel working around the crane. The crane also malfunctioned on this load due to the heavy current causing the wire spool to foul up and need to be untangled. This took another hour of the day away. Finally I decided the wind and sea state were too severe to work safely in the trailers, so no more lift bags were brought to the surface. So, to stay productive, I had all supervisors send down their divers and have them sling tires and shackle them into the decent lines. All slings were left on the bottom allowing us to quickly and easily lift packages tomorrow without any time wasted on slings. If the weather is good tomorrow it ought to be a great day with a high tire count.

z. 6 AUG 09: Today was another day of bad weather. Only 4 tire bundles were lifted before we determined it too dangerous for crane operation. Again I had all sling packages staged on the bottom ready for lifting tomorrow, but there was nothing further we could do. If the weather would cooperate one day then we'd have no problem filling both trailers. All the hard work is already done; all the tires just need to be lifted by the crane into the trailers. Hopefully tomorrow brings better weather. Only notable occurrence today was when a Navy Diver exceeded his No-D limits by exceeding 70FSW (his depth gauge read 75FSW) for a time of 48min. SSG Knoop was his supervisor and quickly reacted and sent him and his buddy down to 20FSW for 15min. Standby also deployed to keep an eye on the divers. MDV Vaughan multiplied the decompression stop by 1.5 to account for the rough sea state. His dive buddy was SPC Weber. Both divers are fine after the dive and nothing more came of the situation.

aa. 7 AUG 09: Today was a great day (finally). The LCU was on station before 0815, divers were in the water by 0845. Both trailers were completely full by the end of the day and all but maybe 5 divers were not able to dive. Work was complete by

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1330 and both trailers were replaced with empty ones. The only real problem for the day was dealing with an outboard motor's pull cord breaking and also not being able to pinpoint the location of two slung packages which were left from yesterday. But both trailers were filled to the brim, so those problems really didn't affect the day's success.

bb. 8 AUG 09: Only a couple divers worked on patching a couple zodiacs due to leaks that occurred on Friday. A majority of the team has the weekend off. The plan is to dive next week and through the weekend up until the NASA mission takes off. This is so we can minimize the overtime Broward County has to pay for the crane operator and trailer movers on the weekends.

cc. 9 AUG 09: Sunday activities

dd. 10 AUG 09: Today was a good and bad day at the same time. The weather was perfect for diving and crane operations. All teams were working well and there were no problems up until 1130. At that point we had two divers surface with tightness across their foreheads and also a little nausea. As a result we set aside all their gear and marked it. All divers were recalled and brought back to the LCU. The affected divers were put on O2 and given full neurological exams. Later they were sent to the chamber to breathe more O2 at the recompression chamber. All SCUBA bottles were bled down and will be re-jammed tomorrow. After taking off the full trailer the second 18cfm compressor was put on the LCU to replace the one possibly providing bad air. This is to remove the compressor as a possible reason for bad gas.

Also, one of the personnel (HM2 Ashworth) was getting off of the RHIB when heading back from work and bumped his head. He was bleeding pretty badly and was sent to the hospital immediately. He received 6 staples and will recover easily.

Finally, to add to the days' challenges, the port bow thruster on the LCU was malfunctioning when arriving back in port. We hope it will be working before tomorrow, or else diving will not be a possibility.

ee. 11 AUG 09: Today was a great day of diving. Both trailers were successfully filled by the end of the day and there were no issues. The team worked well together and no problems came up. We finally had a perfect day.

ff. 12 AUG 09: Today the team was able to fill both trailers again, this time an hour earlier than yesterday. Also, today's VIP visit was successful and all parties involved enjoyed an hour of getting questions answered and becoming familiar with the mission. The PAOs seemed to enjoy all the photo opportunities also.

gg. 13 AUG 09: Today the current on surface and at 60ft was much more substantial and the sea state was a little more choppy. After filling one trailer completely the starboard engine of one tow boat completely stopped working and the current became too much for the single tow boat to keep up with all the lift bags. Also, divers were having trouble slinging tires in the difficult conditions. As a result we cancelled diving for the rest of the day. Also, a compressor on the LCU malfunctioned and is causing a large hazard for the safe operation of the vessel. The boat crew will have to work

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tomorrow (Friday) to fix the problem. The dive team will conduct some much needed maintenance on gear during this time. We plan to work over the weekend.

hh. 14 AUG 09: Today the team met up at 1000 to do maintenance on zodiacs, regulators, and lift bags. The rest of the day was off while we waited for the LCU crew to fix the air compressor. At 2100 I received word from the Skipper that the crew “accidentally” bought the wrong parts for the compressor, so they couldn’t do the required maintenance. And, of course, the compressor store is only open on weekdays so they can’t get the correct parts until Monday. This means that we can’t dive tomorrow (Saturday) and most likely not on Monday also. Thus, we will only have time to unload the trailers and crane on Monday and send all of our equipment back to the Coast Guard Base. We will have a formation tomorrow morning to give a safety brief and get everyone up to speed.

ii. 15 AUG 09: Today the weather report estimated 4-6 ft. swells and heavy winds. This made it an obvious decision to cancel diving for the day. In any case, the LCU was unable to locate the required parts for their air compressor, making the LCU inoperable anyway.

jj. 16 AUG 09: Sunday activities. Today was another day of rough weather. Again, the LCU personnel were unable to locate the required parts for the LCU, making the vessel NMC.

kk. 17 AUG 09: Today the LCU personnel were still unable to repair their compressor. They ordered the necessary parts and the compressor will be fixed by 0900 tomorrow. In spite of the LCU’s inactive status, the dive team still unloaded all dive gear from the boat, cleaned it, and moved it over to the Coast Guard Station. All that has to happen tomorrow is to unload the trailers, crane, and 18cfm compressor and the LCU will be ready to sail to Cape Canaveral (given the air compressor is repaired).

ll. 18 AUG 09: Today a team went out to Side Scan the tire field area for Broward County records. The sea state was too rough, though, so the team had to come in before they all died of sea sickness. The rest of the team worked at the Coast Guard Base cleaning up equipment. They also set up the deep sea gear to check for missing equipment and faulty parts. All the equipment is working well and no parts are missing. All gear is ready for Deep Blue. The team cleaned up all the gear which concluded the day’s work. Also, the LCU air compressor is finally fixed (as of 2100 tonight) and will be ready to off load trailers/crane at 0900 tomorrow and will sail for Cape Canaveral in the early afternoon.

mm. 19 AUG 09: The team met up at 0900. 8 personnel went to the CG Station to conduct scenarios for SSG Knoop and SSG Sherrod. Another group went to the LCU to offload trailers, crane, and the 18cfm compressor. Everything went well.

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nn. 20 AUG 09: The team met up at 0900. 7 personnel went to the CG Station to conduct scenarios for SSG Knoop and SSG Sherrod. Everyone else had the day off. Awards were completed and are ready for turn in.

oo. 21 AUG09: At 0900 myself, SSG Lester, and SSG Williams met up with Pat Quinn, Ken Banks, and Joe Ligas from Broward County Environmental Protection and had a quick AAR for the mission. Many points were covered and some great ideas for improvements in the future were discussed. At the same time SFC Vaughan was at the CG Station with SSG Knoop, SSG Sherrod and a small dive team conducting scenarios. Scenarios were complete by 1230. Today marked the second day of fighting to keep the small boats from departing, but still no progress was made. After discussing the ramifications of departing early to LCDR Ebbert (Operations Officer at OSU10), he still wanted to pull out early. With no luck calling CDR Brown (Navy IRT) I decided to write an email stating our situation so all IRT "higher-ups" would understand why we can't work on the tires anymore.

pp. 22 AUG 09: The fight to keep small boat support continues. We conducted more scenarios for the supervisors. I worked with Broward County to get some boat support to help move artificial reefs.

qq. 23 AUG 09: The fight to keep small boat support continues. We conducted more scenarios for the supervisors. I worked with Broward County to get some boat support to help move artificial reefs. Tomorrow I make a decision on whether to fight on with the mission or to redeploy back to Fort Eustis.

rr. 24 AUG 09: I received final word that the small boats were officially leaving. I also found out that the LCU had no idea they were supposed to be coming back down to Fort Lauderdale to support another week of tire salvaging. I had 8 personnel conduct diving scenarios while the rest of the team worked on cleaning up equipment and loading the 20' container and Penske truck for the trip back to VA.

ss. 25 AUG 09: The team departed Fort Lauderdale at 0600 and drove straight through to VA. It was about a 15 hour drive. Everyone made it back to Fort Eustis NLT 2200.

tt. 26 AUG 09: The team took the morning off to rest from the previous day's drive. At 1300 everyone showed up to conduct an AAR and begin equipment recovery.

5. RECOMMENDATIONS FOR FUTURE OPERATIONS.

Mission Planning/Cost Estimates

Issue: Cost of Crane Operator and LCU Dumpster should be accounted for on IRT Cost Estimate

Discussion: Broward County only has limited funding to help support this mission, and the cost of the Crane Operator and dumpster for the LCU are two things that can be

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included in the IRT cost estimate during the early planning stages. With these costs covered, Broward County will have more flexibility to support the mission in other ways because they will not be financially constrained to support those two mission necessities.

Recommendation: Include the crane operator wage and dumpster fee on the IRT cost estimate for all future years.

Mission

Issue: Navy divers need to lend a hand

Discussion: During the duration of the mission it was clear that Army personnel were putting in their time doing all the jobs on the dive side to include working compressors, working the tire trailers, moving the crane, loading new dive gear, etc. The Navy divers didn't seem to share the same work mentality though. This is absolutely not true of every individual, but is true for enough people that it needs to be addressed.

Recommendation: Enforce an "everyone does every job" work mentality on the boat so everyone knows what is expected of them. I understand there were more people than there were jobs, but it seemed like the exact same people were not working and standing in the back of the boat every day. Everyone from Army privates to Navy Senior Chiefs needs to be pitching in.

Issue: Camaraderie between Reserve Navy, Active Navy and Active Army was lacking

Discussion: Along the same lines as the not sharing work issue, there seemed to be a divide between the different units involved with the mission. Again, this isn't true of every person and there absolutely are exceptions, but all in all there seemed to be a lack of camaraderie between everyone. Perhaps some scheduled social events early on in the mission would have alleviated this problem. The issue did not transpire onto the dive side, but team work might have been a little better if everyone was more comfortable with each other.

Recommendation: Schedule some team building and social events early on in the mission so everyone knows each other. Find some commonality between the units so everyone is comfortable working with each other.

Issue: Navy Personnel need to bring their personal gear

Discussion: For some reason none of the Navy personnel brought regulators or BCs to Fort Lauderdale. When I told everyone to bring their personal dive bags, I assumed they had the same set-up the Army does which includes BC's and regulators. In the future all divers need to bring their own regulators at the very least, because over the course of 1.5 months all the Army regulators were pretty used and abused. It would have been nice to trade them out every week or so with other regulators.

Recommendation: Ensure more than just the Army brings BC's and regulators, they will be needed.

Issue: No continuity of Navy personnel participating in the mission

Discussion: This is something that has been an issue in past years, and this year was no exception. I understand that many Navy personnel are reservists and they have permanent jobs which only allow them to take certain time off, but the constant change of personnel on a daily basis made planning a nightmare. A more consistent schedule of

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personnel entering and exiting the mission should be attained. This year's changing personnel roster required us to adapt with a very fluid dive bill which worked, but was not optimal.

Recommendation: Get personnel to show up for at least a 2 week timeframe, because it's impossible for anyone to keep up with a dive bill when people are popping in and out every other day.

Issue: Lack of command and control of Navy personnel

Discussion: Something that did not seem to exist within the Navy side was a single leader who assisted the Army leadership in disseminating information. Even though certain individuals may have been designated to be leadership, there was never a time when I or the other Army key leaders felt comfortable and certain that all information would be put out. Mission critical information was withheld from the Army OIC/NCOIC, and that is flat out unsatisfactory and disappointing.

Recommendation: There needs to be a proactive individual in charge of the entire Navy side who is intent on keeping all Army and Navy personnel informed of relevant and important mission information.

Issue: The tow boat support received was much less than optimal

Discussion: The same type of tow boat support has been used for the last couple years and it needs to change. The Boston Whalers are not made to act as towing vessels, and that is evident given their poor performance during this mission. What is needed is a boat with more towing capacity.

Recommendation: Find some other boats from the Navy, Army, or Coast Guard that have more towing power and are built for the abuse they will receive by towing tires around. Building motor guards on a Boston Whaler and making it into a towing vessel is the wrong answer. Find a vessel that has the torque/HP and towing hooks necessary to effectively and safely pull 80+ tires through the water.

Issue: Mares regulators bleeding by and getting damaged

Discussion: The Mares regulators were not built to be used and abused as they were during this mission. Any regulator would have a difficult time holding up under the difficult work conditions these Mares were in, but it seemed that there were even more problems with these regulators than would have been experienced if we had used the older Conshelf regulators. Routine and consistent maintenance was not enough to save these regulators.

Recommendation: Use a more durable regulator that is trusted to be dependable in the dive field.

Issue: Buoy anchors drifted and moved too easily

Discussion: The buoys were simply anchored by a small concrete clump and perhaps a small anchor. Given the heavy current, the pull of zodiacs tied off to the buoys, constant wave action, and the use of the line as an ascent/descent line for divers and sling packages, the anchors and clumps were not close to strong/heavy enough to hold the buoy in place. This is especially true given the clumps were situated on tires and not in sand or mud.

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Recommendation: Utilize a 100lb clump on each buoy. Better yet, install manta ray anchor systems throughout the tire field which can be used as buoy attachment points. The manta ray system, though more time intensive to install, would provide the most stable buoy attachment to the ocean floor. I recommend taking a week or so prior to salvaging tires to use surface supplied divers to install 15 manta ray anchor systems throughout the priority area of the tire field for easy buoy tie off throughout the mission. As one area becomes clear of tires, the team can quickly disconnect the buoy and move it to another anchor, then begin work again. This way no time is wasted having divers manually move the excessively heavy clumps, but rather they can quickly disconnect and reconnect a carabineer to different anchor systems. This also allows for divers to train on surface supplied diving techniques which increases unit readiness.

Issue: Zodiacs getting damaged on the bow ramp

Discussion: The bow ramp of the LCU was the only source of zodiac deployment and its construction was not made for sliding zodiacs on and off multiple times every day. The bottoms of zodiacs were getting damaged from the surface of the bow ramp, and wave action and current were pushing the zodiacs into the chains holding the bow ramp in place. These issues created holes and unnecessary wear on the entire body of the zodiacs.

Recommendation: Use carpet or some other type of material to cushion the top of the zodiac ramp for easy sliding. Care needs to be taken when choosing a material, though, because something that is slippery will have major issues for anyone carrying the zodiacs or dive gear on the slanted bow ramp. Also, some sort of covering over the bow ramp chains would help provide a little protection if the zodiacs are getting tossed side to side (which will no doubt happen).

Issue: Inadequate equipment for trailer workers

Discussion: The gloves purchased for the trailer workers were cheap and flimsy causing blisters and difficult work conditions. They also only lasted a day or so before needing to be discarded.

Recommendation: Spend the extra money to get some nice work gloves that are tight fitting and comfortable.

Issue: Lack of vehicle security at the Candlewood Suites

Discussion: During the mission there were at least three occurrences of people's cars being broken into. Either the window was broken or the thief used another means to break into the car.

Recommendation: This is a common occurrence, evidently, in Fort Lauderdale. Ensure that all incidents are reported to the police and try to pick a hotel that is in a nicer area of Fort Lauderdale. See if the parking lot is well lit, and also try and park the vehicles on the side of the building where you can see them from your window. Finally, ensure all valuable items are very well hidden inside the vehicle. Obviously seeing a GPS charger on your windshield means that a GPS is in the car, so take everything down that gives any hint that something valuable is inside.

Issue: Hotel not within walking distance of decent activities/restaurants

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Discussion: Another thing to improve is the hotel location. Though they gave a great price and had fine amenities for the two month mission, the location left something to be desired. Having a hotel in a nicer part of town with more within walking distance would drastically improve soldier morale. It was necessary to drive in a car to get to any type of restaurants or activities, which added logistical and safety concerns throughout the mission.

Recommendation: Recon hotels that are closer to the heart of Fort Lauderdale where there are ample things to do within walking distance. Proximity to a grocery store is key, also, for restocking refrigerators and pantries.

Issue: Difficulty receiving invoices for hotel costs post mission

Discussion: There were no major issues with the hotel until this. The team has been back from the mission for over a month and still there has been no word from any person at JAG enterprises. Calls have been made, emails sent, and every contact exhausted, and still no person has contacted us to even tell us they are alive. Any military person knows how important receipts are for completing travel vouchers for reimbursement, but JAG has been trouble ever since the mission started. For some reason they would not allow us to receive receipts from the hotel, so we had to get them through email with one individual.

Recommendation: JAG Enterprises has not been the easiest group to work with. They do not communicate how they are charging people and they do not always follow through on their promises. I would suggest going through another vendor for hotel contracts who doesn't make you jump through hoops to get such simple information.

Issue: Dive watches would be very beneficial

Discussion: No member of the dive team had dive watches. These would have been very helpful in keeping bottom time and depth more accurately throughout the dives. Many of the depth gauges would give false readings during dives due to being bumped and overly used, so dive watches would help divers recognize if there is equipment error/malfunction. They would act, essentially, as backup bottom time and depth devices.

Recommendation: Get dive watches for everyone.

Issue: No shore power at the CG Station

Discussion: The chamber requires a power source so the team used a 15K generator. If the Coast Guard Station had a shore power hookup then doing chamber operations would be easier.

Recommendation: Talk to the CG Station about getting shore power (440V) for the chamber.

Issue: Leave full wire slings on bottom for the next day

Discussion: The first dive of every day was spent taking wire slings to the bottom and slinging tires. There could have been faster turnaround on tire packages being lifted into the trailers if slung packages were already prepared on the bottom for the next day. By doing this, it is potentially possible that three to nine sling packages (approximately 630 tires) could be in the trailers by 0930. And, because weather usually gets worse later in

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the day, getting ½ a trailer full by that early in the morning would be a great boost to productivity.

Recommendation: After all the trailers are full for the day, send down one more dive team on each buoy to sling tires for the next day. This makes lifting tires a quick process the next morning.

Issue: Too much dive gear on the LCU

Discussion: Every person brought their entire dive bag onto the LCU when only small parts of the bag were necessary for daily diving operations. This took up an unnecessary amount of space on the LCU.

Recommendation: Issue out mesh back packs or bags and have individuals only bring the dive gear they need for the day (mask, booties, fins, knife, chafing gear, etc.). Mark everything so personal gear does not get lost.

Issue: LCU mooring location should be consistent daily

Discussion: Throughout the mission the LCU would drop its anchors in different locations along the edge of the reef. Many times the LCU was so far from the dive buoys that towing the tires was taking an exorbitant amount of time. There needs to be a way to constantly moor up in the same location daily to optimize towing and dive operations.

Recommendation: Establish exact coordinates for mooring up daily. It is also possible to use the same manta ray anchor system as stated in an earlier discussion.

Issue: Too many divers

Discussion: As stated in an earlier discussion, there were too many divers on the dive side and not enough jobs to do. The guidance I was given when organizing this mission was to take as many divers as possible. After having over 50 divers on the side at a time, it became abundantly clear that the optimal number of divers and workers is 40. This includes trailer workers, compressor workers, etc. This allows for 15 personnel in the zodiacs diving, 9 tow boat workers, 2 chase boat drivers, 3 trailer workers, 3 leadership, 2 compressor and tank workers, 2 crane operators, 1 surface swimmer, and 3 extras to help prep dive gear.

Recommendation: Limit the number of people on any given day to 40.

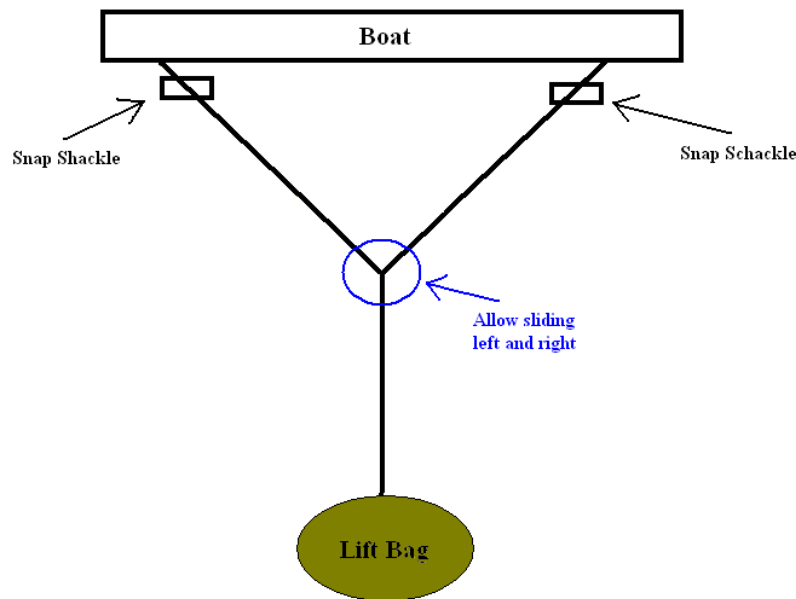
Issue: 7man zodiacs are too small for comfortable operations

Discussion: Diving out of the 7man zodiacs was very cumbersome and difficult given there were 5 personnel, 3 lift packages, 3 sets of dive gear, 2 tending lines, supervisor materials, a gas can, and personal dive gear going out on each dive. 15man zodiacs were much more effective and roomy.

Recommendation: Bring at least four 15man zodiacs in case one of them has maintenance issues. Bring a couple 7mans as backups.

Issue: Towing bridals need to be re-vamped

Discussion: The towing bridals were ineffective and dangerous in a couple different ways. First, there needs to be a quick disconnect snap shackle on each side of the bridal for easy release if the lift bag deflates. This will keep the boat from capsizing. Also, ensure that the cable attached to the lift bag can slide along the bridal attached to the boat.



Recommendation: Include snap shackles and sliding bridal attachment. See picture above.

Issue: Time period for diving was not optimal

Discussion: The weather for diving from July-August was not good. The water was choppy most days with winds above 10knots. As a result the crane could not operate.

Recommendation: Conducting the mission from June-July would be best for diving operations. The crane is the limiting factor, so the calmer the seas the better the chance of being successful.

Issue: Workers are getting lots of little cuts making MRSA a possible problem

Discussion: Working around the tires and all the equipment on board leaves everyone susceptible to getting cuts. These open wounds can become infected possibly allowing MRSA to set in.

Recommendation: Ensure plenty of antibiotics are on board and that the medic is well supplied with the necessary medications and bandages to treat everyone on the boat.

Issue: Lift bags being dragged over the middle reef when towing back to the LCU

Discussion: When hooking up the lift bags to the towing bridals on the tow boats the lift bags are drifting over the middle reef, causing possible damage to coral and sea life on the bottom.

Recommendation: Ensure the tow boats hook up the lift bags while already facing the LCU to minimize the chance of towing over the reef. Also, tie off drifting lift bags to zodiacs or the chase boat if no tow boats are available to intercept it.

Issue: Divers becoming sick and sharing regulators

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Discussion: When divers become sick and share regulators without cleaning them in-between dives it allows the possibility for sickness to spread amongst everyone.

Recommendation: Clean the regulators after each dive using beta-dine to minimize the chance of sickness spreading amongst all the divers.

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