

ADMAT Newsletter



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Anglo-Danish Maritime Archaeological Team (ADMAT) & ADMAT USA & ADMAT-FRANCE

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The 5th Newsletter –A Decade Later

By Dr. Simon Q. Spooner

President ADMAT, ADMAT-FRANCE & ADMAT USA

I am delighted to introduce you to the latest issue of our newsletter and to thank all of you who kindly commented on how much you liked the last issues. Since our last newsletter a number of exciting developments have occurred, which are mentioned in this newsletter. From French national TV film crews following our work, to new wreck sites; from articles and publications to ground breaking research; from initial student study to desires for undertaking marine archaeological PhD, all has taken place.



ADMAT's 10 years anniversary came and went almost un-noticed, as all the Team were busy getting things done. Christine and I started ADMAT on the 17th July 2001 when ADMAT was officially registered, even though we had started running things since 2000. Christine is now working on other projects in Denmark and we wish her well for the future. When I look back now and think of all the adventures, all the wreck sites and historic artefacts, the research and discoveries, I know we have achieved a lot during this time. We have protected the underwater cultural heritage of the Caribbean, fighting the treasure hunters and looters. In the process, the team has grown over the years, and our work has positively affected many thousands of people all over the world.

The web page has been very beneficial and at one point was being looked at by over 52 countries and around 48,000 hits per month. The "ADMAT Excavation Shipwreck Lecture Series" was also very popular and has been given in the

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Photograph 1: Anne-Corinne Moraine, "Grand Reporter" of Thalassa France 3, filming the Team at ADMAT's Maritime Archaeological Centre in Monte Cristi, Dominican Republic (© ADMAT).

ADMAT is a Non Profit Organisation, based in the UK.

ADMAT USA is an American Charity (Section 501 (c) 3), based in Columbus, Ohio, USA.

ADMAT-FRANCE is a non profit organisation based at the Institut de Paléontologie Humaine, Muséum National d'Histoire Naturelle, Paris.

ADMAT USA & ADMAT-FRANCE are sub divisions of the Anglo ~ Danish Maritime Archaeological Team.

Caribbean, The Atlantic, The South Atlantic and the Far East. I have been asked what I regard as our great successes over the last decade and so here is the list in no specific order:

- The survey of *The White House Bay Wreck* in St. Kitts.
- Creating the first maritime project in St Kitts.
- Creating a forensic “CSI” policy to analysing shipwrecks, teaching the taphonomic breakdown and the need to determine the macro and micro “shipscapes” of each wreck site.
- The creation of two subdivisions, ADMAT USA and ADMAT-FRANCE.
- Identifying *Le Casimir* from the archaeological clues.
- Teaching the wrecking process and getting students to understand the importance of the “Shipscape”.
- Identifying *Le Dragon* from the clues on ship construction and finding the historic story of the courageous Captain de L’Espine du Puy and the battle for the secret documents.
- Addressed the UNESCO First Meeting of State Parties to the Convention on the Protection of the Underwater Cultural heritage, in Paris.
- The survey and understanding of the wreck called *The Button Wreck* in the shallows off the Florida Keys. This work was conducted with the assistance of local volunteers and was undertaken for NOAA.
- Raising the millions of dollars necessary to start the Dominican Republic Project.
- Locating all the clues to enable us to date the sinking of *The Tile Wreck*, and soon we will have the name of the ship.
- ADMAT’s **Excavating Shipwrecks Lecture Series**, which has been shown on the QE2, QM2, Seabourn Legend, Seabourn Pride and the Seabourn Sprit cruise ships. The lectures have been given from as far away as the Falklands Islands to China, and from the Caribbean to the Mediterranean via the Atlantic.
- The use of AGLAE laboratory. AGLAE is a highly complex nuclear iron beam generator which analysed the lead crystal perfume bottles from *Le Casimir*. AGLAE probe is in the Research Department of the Centre de Recherche et de Restauration des Musees de France (C2RMF), located in the basement of the Louvre Museum in Paris. The Department is a research unit of the French Ministry of Culture and CNRS.
- Providing maritime archaeological education to all age groups.
- TV and Film. ZIZ, HTV, El Informe, Thalassa France 3 National TV and Caribbean Wreck Heaven film..

So I know we all look forward to the achievements over the next 10 years and the exciting projects which are just around the corner.



Photograph 2: Some of the press clippings from the St. Kitts Project (© ADMAT).

Latest Laser Technology Analyses ADMAT’s Artefacts

By Jason Gillham – Director of Operations 2G Robotics.

High detail underwater measurements are critical for underwater archaeologists when documenting history. These measurements help archaeologists date artefacts, helping them to determine the age and origin of a ship wreck and ultimately determine the name of the ship. In order to completely understand artefacts geometry, many measurements are required taking hours for the archaeologists to collect and there is still the potential that measurements can be missed. The ULS-100 Underwater Laser Scanner captures thousands of measurements per second of any underwater structure or object. These measurements create a complete 3D model of the item being scanned, digitally preserving the artefact for measurements to be taken virtually at any time and even allowing replicas to be accurately manufactured.

2G Robotics teamed up with Dr. Simon Spooner, President and Principal Investigator for the non-profit Anglo-Danish Maritime Archaeological Team (ADMAT), to demonstrate the capability of this technology for artefact modelling. Maritime archaeologists from the Team have been using the laser scan to produce highly accurate rendered 3D models of the concretions.



Photograph 3: One of the concreted Adzes from *The Tile Wreck* being analysed in Toronto (© ADMAT).

Concretions are iron objects which have been under water and have formed a “concrete” like shell around the artefact as a result of the chemical reaction of iron and sea water. The “concrete” concretion masks the artefact and has to be removed by electrolysis which takes a long time. Therefore a scaled 3D model of the concretion prior to the removal of the concretion is extremely useful, as it records in minute detail what the artefact was like before the conservation work was started.

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Working & Learning on The 1690's French Armed Merchantman -*The Tile Wreck*

By Jennifer Chow BA, MA. – Student University of Toronto

In September 2009, Dr. Simon Spooner walked into my classroom at the University of Toronto BA archaeology class, as a guest lecturer on Maritime Archaeology, an area that was highly unfamiliar to me. He left with the contacts of a handful of students who were interested in learning how to do artefacts handling; I was amongst the lucky handful, a decision which would change my educational direction. Dr. Spooner was arranging an artefact handling class to be held in Toronto over the winter months.

The first session was an eye-opener, after a quick introduction to the wreck and some coffee, Dr. Spooner began the process of explaining each work area, analyzing, and cataloging, photographing, and minor conservation. Having gone through a land-based field school the previous year, I was eager to learn about how laboratory work differs for maritime materials. To my general surprise, it was the same in all areas but one; these materials had to go through a conservation period of 3-4 years before they could be analyzed post conservation.

We started working on French faienceware sherds from the 1690's French armed merchantman which had already been conserved. The salts had been removed over 4 years of desalination process. Our task was to record and document the artefacts. First, the artefact has to be numbered, then measured and its information entered into the main database. Photo of the artefact is then taken, preferably four, this would most likely cover most areas of interest.



Photograph 4: Part of a French faienceware bowl with the yellow and green solanee and blue and yellow tulip flowers design from *The Tile Wreck* (© ADMAT).



Photograph 5 Left: Jennifer Chow examining the pile of ballast bricks on *Le Casimir* wreck site which were scattered by looters.



Photograph 6 Right: Jennifer with the only intact wine bottle from *Le Casimir* wreck site (© ADMAT).



Photograph 7: May Loo and Jennifer Chow working on the artefacts in ADMAT's Maritime Archaeological Centre (© ADMAT).

Three hours later, it was the end of the first session, and I was already anticipating the next session. We continued to work on the artefacts, meticulously going through them, ensuring that we had all the information we could before packing them away. Finding connecting pieces were always a great joy, however, for me, the greatest sense of achievement comes in the form of conservation work.

This was one area where I was allowed to work on, only after many months of working with the artefacts; as any wrong move and I may cause irreparable or irreversible damage to a piece that may otherwise be important. Around January, I was finally able to learn how to conserve pipe stems and pottery sherds. Pipe stems require the understanding of how a cylindrical piece should look like, while pottery sherds were a much more complicated challenge. Imagine a 3D puzzle with no complete picture as a guideline. The pieces that need to be fitted together are around 1-2mm in size, and they all generally look the same. After many hours of labour, these tiny pieces would begin to come together start looking more identifiable. Many a times, an intricate pattern that forms part of an image would begin to show.

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Photograph 8 Left: "Captain Jennifer" on route to *The Tile Wreck*
 Photograph 9 Right: The Team conducting a "piece to camera" measuring cannon 3 from *The Tile Wreck* (© ADMAT).

I learnt how to properly instruct others, in addition to learning how to conserve a greater variation of materials found on *The Tile Wreck*.

I cannot express how grateful I am to have had the chance for this highly rewarding experience with ADMAT. I learnt more than proper archaeological procedures underwater, and in the laboratory. I learnt of the importance of teamwork, especially underwater, and the appreciation of the submerged environment that can change without warning. It is my hope to continue working with ADMAT and its wonderful staff in the future.

The great sense of satisfaction I got from completing my first piece is something that I will not forget easily.

In March 2010, I was asked by Dr. Spooner if I wish to join the ADMAT Field School in Dominican Republic as a senior student, an invitation I quickly accepted. By the end of June, I found myself travelling towards the town of Monte Cristi, where the ADMAT Centre is based. Joined by three other members of the ADMAT team, and two other field school participants, the Centre was bustling with life. We spent most days diving at *The Tile Wreck*, uncovering more of the wreck, and retrieving artefacts from its surrounding. However, whenever the weather was bad, or for whatever unforeseeable reason we were not able to dive, we held artefacts handling sessions. These sessions were highly educational not only for me, but also for the other participants of the field school.



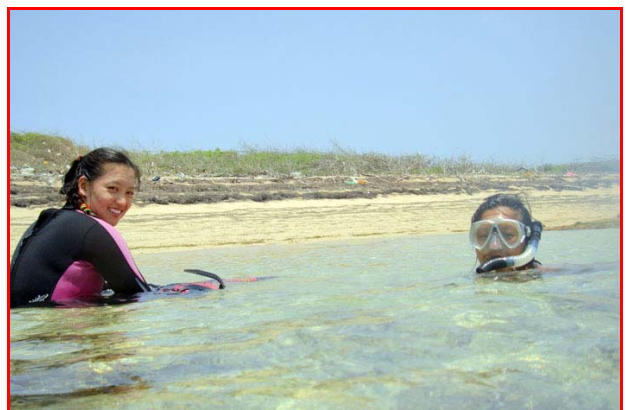
Photograph 11: The Team learning how to use loupes when examining the granite block samples (© ADMAT).



Photograph 10: Some of the conserved and documented terracotta floor tiles and conch shells from *The Tile Wreck* at ADMAT's Maritime archaeological centre (© ADMAT).



Photograph 12: A new form of communication Chinese, English and Spanish while Rami taught the basics of outboard maintenance at sea! (© ADMAT).



Photograph 13: Jennifer Chow and May Loo relaxing during *The Island Wreck* RECCE (© ADMAT).

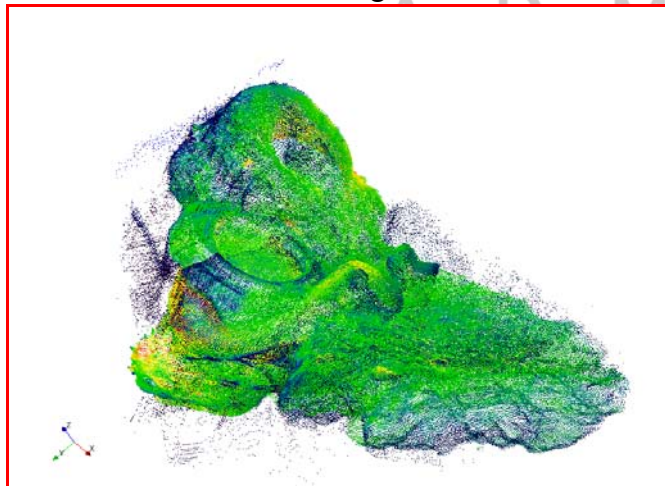
Latest Laser Technology – continued.

Taking accurate measurements from this scanner is quick and accurate. These models will be kept for future reference and can be used for comparison and measuring the reduction in the concretion during the conservation and electrolysis of the artefact. Most shipwrecks have thousands of iron concretions and normally it is just not possible to measure all of them in detail. Now with the use of this scanner it is quick, and accurate. One scan measures the entire item giving the unique ability to access thousands of measurements without having to actually measure them by hand. With the image being digitized it also can be sent around the world to leading experts for further analysis which is another benefit.

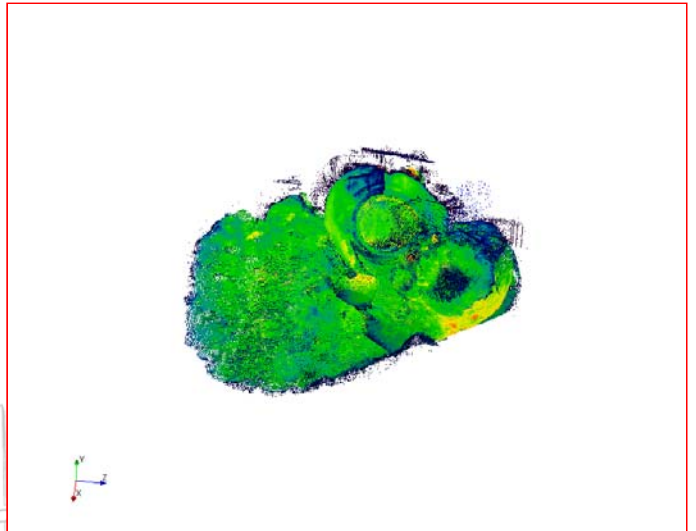


Photograph 14: The green laser scanning the concretion underwater (© ADMAT).

2G Robotics, under the supervision of Dr. Spooner, scanned underwater a concreted adze with some French faienceware attached, (a handle and a base). This analysis was undertaken with a small group of students in Toronto and one via the internet who was in California, who were working on the artefacts from *The Tile Wreck* as part of ADMAT's Artefact Handling Course.

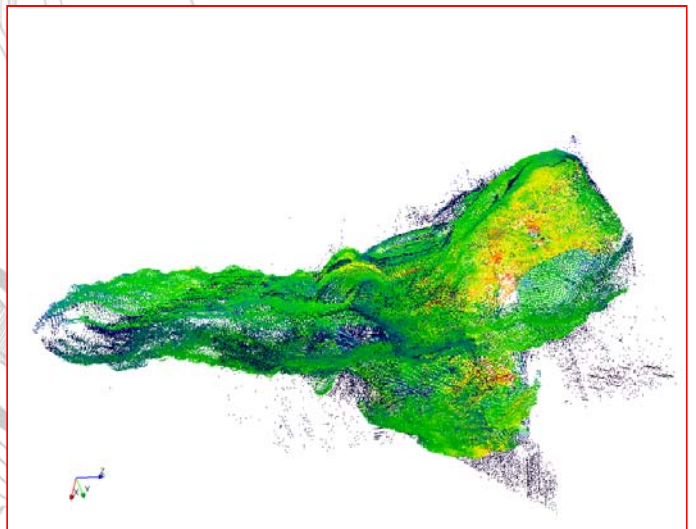


Photograph 15: The laser scan results showing the adze and the faienceware (© 2G Robotics - ADMAT).



Photograph 16: Another laser profile (© 2G Robotics - ADMAT).

The project worked well, although it did require some understanding of computer programs and did take a little while. However at the end of the exercise, the artefact was totally measured and documented. Using a special program all the artefact measurements could be ascertained.



Photograph 17: Side profile of the concretion (© 2G Robotics - ADMAT).



Photograph 18: Photograph of the corresponding side as per photograph 17 (© ADMAT).

Toronto Artefact Handling

By Aristeia Panayotou BA, MA. – Freelance Archaeologist

It is always important to handle artefacts with the greatest of care to preserve their integrity. Artefacts are a great source of information, something that must be taken into consideration when handling them. They are archaeological evidence that provides information of the past and their care must be the handler's first and foremost concern. Artefacts can be found in different environments and at different rates of preservation. Artefacts can be flakes, pieces of ceramic, metal, organics, wood, flora or fauna, brick mortar or bone. The list is endless and their sizes can be large or small.

Artefacts are often fragile, subject to breakage, and when working with them you must always remember to be extremely diligent in their handling. They can be so fragile that they often come apart in your hands. This at times cannot be helped. Fortunately, there are several things you can do save the integrity of the artefact as well as prevent any further damage.



Photograph 19: Aristeia Panayotou showing two students how to document the sherds (© ADMAT).

Before you begin laying out artefacts, ensure you have a clean, well lit, flat surface to work on. If you are photographing the artefacts, a whiteboard usually works well. Be careful with the lighting as whiteboards can reflect the flash of a camera as well as sunlight, causing a glare in your photograph. If you are examining artefacts, a surface that will absorb the impact if an artefact is dropped is ideal. The use of Styrofoam, even polythene over carpet is all well suited to the task (Banning, 2000).

Remove all jewellery when handling artefacts to avoid anything else touching them or hitting them. Avoid touching the artefacts with your bare hands as the oils and acids on your skin can contaminate

the artefact ruining its integrity. The use of latex gloves is recommended to avoid contamination. For metal artefacts, cotton gloves are the best to use (Banning, 2000). **DO NOT TOUCH YOUR EYES AFTER EXAMINING ARTIFACTS.** If you do, immediately rinse your eyes out with water.

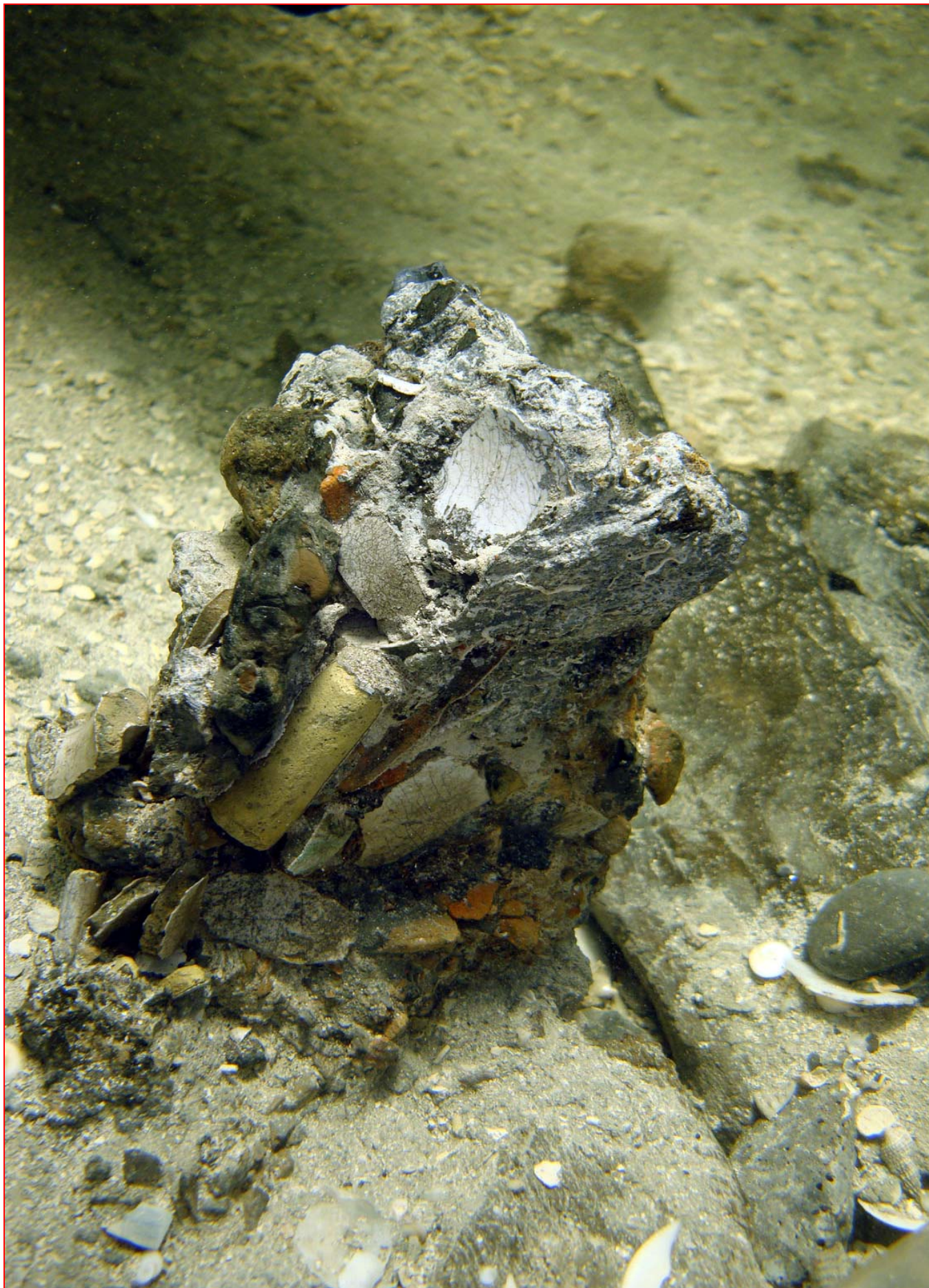


Photograph 20: A blue and white French faienceware sherd, showing the blue out line to the pattern which was part of the second glaze firing (© ADMAT).

If irritation occurs, call emergency. In the actual handling of the artefacts, never pick up an artefact from its handle if it has one. This would be the most used part of the artefact; therefore it would be the most fragile and prone to breakage. Place the artefact in the palm of your hand when you are examining it, holding it at its thickest part which would, invariably be its most strongest.

When cleaning artefacts it is usually best to use water. But, test it first as you don't want to cause erosion destroying any part of the artefact, as this will harm its integrity. Brushes are very good to use to remove loose dirt. Care must be take especially with ceramic and glazed surfaces as sometimes pieces become so fragile and corrode they crack and flake detaching from the surface. Dental tools may be used as overtime dirt and particles finds itself in unlikely places in crevices that a brush cannot reach and water seems to not dissolve. These tools must be used with utmost extreme caution as they may destroy causing irreparable damage to the artefact.

Always be gentle with artefacts, sometimes you are holding a thousand years-old piece of history that could tell a tremendous story. Artefacts must be handled with respect and the greatest of care. Happy handling!



Photograph 21: An interesting concretion based on an iron bolt on the ceiling timbers on *The Tile Wreck*. Attached to the concretion are broken pieces of French faienceware sherds, as well as a piece of red chalk which was possibly used for making cargoes in the hold of the ship. On two sherds (one small one medium) the light yellow core can be seen where the white faienceware has broken off (© ADMAT).

French National TV Filming ADMAT's Work

In 2009 ADMAT, ADMAT-FRANCE and the Muséum National d'Histoire Naturelle issued the press release on ADMAT identifying the French corvette *Le Dragon* (1783). This was a great piece of detective work by the Team, with very little clues to go on. It took a year in the archives for Dr. Gendron and Florence Prudhomme to find and piece all the clues together, on this important ship, the battle and the heroic Captain and crew. The press service of the Centre National de la Recherche Scientifique, had taken part in the press release and contacted Dr. Gendron in May of 2010, because Thalassa was looking for topics of interest to present from the Dominican Republic.

Thalassa, one of the oldest French television programs, is entirely focused on topics relating to and about the sea. Dr. Gendron, being one of the few French researchers to work in the Dominican Republic, was part of the ADMAT research team which was working on *The Tile Wreck*. The subject intrigued Anne-Corinne Moraine, "Grand Reporter" of Thalassa France 3, and after many meetings at the Institut de Paléontologie Humaine and international calls with Dr. Spooner in Canada, the decision was made.



Photograph 22: The French TV crew filming, Dr. Spooner discussing with Francis Soto, Director of the ONPCS Laboratory, some of the artefacts which are being conserved, (© ADMAT).

They would come and film part of our work which was being led by Dr. Spooner, with an international Team. The practical research techniques and ADMAT's discoveries would be shown on French national television. René Heuzey the world famous underwater camera man would be filming ADMAT.

As with any projects of this nature, a number of important people were involved in getting the necessary approvals to film in the Dominican Republic.

The Dominican Ambassador in Paris, the French Embassy in Santo Domingo, The archaeological commission ONPCS and the Director Wilfredo Felix as well as the Director of the ONPCS laboratory Francis Soto, both of which were invited to be filmed at ADMAT's Centre. The film crew wanted to film the uncovering of the wreck as well as our work, but they did not take into account that it would take about a week to uncover (and a further week to recover), as we had covered it fully when we left the site the previous year.

The team arrived and were ready to work. However like all projects in the Dominican Republic we hit a snag. The department of Medio Ambiente who was responsible for the Monte Cristi National Park objected to us working on the shipwreck. This was regardless of the fact that both Medio Ambiente and ONPCS were both in the Ministry of Culture and we had approval from ONPCS and were working for the Ministry! It took over a week of negotiations by Wilfredo Felix and Francis Soto, before permission was given.



Photograph 23: The French TV crew filming, Dr. Spooner discussing with Wilfredo Felix, Director of the ONPCS part of an Enema pump (© ADMAT).

Due to the delays the film crew had gone to other parts of the island to film some of the museums which housed French maritime artefacts. This gave the Team sufficient time to remove the sand bags from the central section of the shipwreck and get it ready for them to Film. The third anchor which was still on site was also uncovered.

French National TV – continued.

The Team worked hard uncovering the amidships section of the wreck. A new grid was relocated on the site to fit over the markers from the previous one. It was good to see that this year there were few lionfish which seemed to have dominated the site the previous years.



Photograph 24: The Team head out to *The Tile Wreck* (© ADMAT).



Photograph 25: The team learns how to hand fan without losing visibility (© ADMAT).



Photograph 26: *The Tile Wreck* ceiling planking with two of the pre cut granite blocks which have been moved to enable drawing of the planking (© ADMAT).

Luckily there had been no looting since we were last on site. The granite blocks were still in the same location as we left them. It was great to see a section of the wreck uncovered again, looking at the ceiling planking and taking a few additional measurements.

After the filming was done the team then covered the central section with sand bags and by reversing the dredges. The film crew then filmed the team working on the artefacts and did piece to camera on Dr. Spooner, Dr. Gendron and Wilfredo Feliz. Francis Soto then gave an excellent little piece on some of the artefacts, drawing on his extensive knowledge from all the wreck sites he had worked on.



Photograph 27: A cleared section of ceiling planking (© ADMAT).



Photograph 28: The Team washes and sorts some of the French faienceware sherds from *The Tile Wreck* while being filmed (© ADMAT).



Photograph 29: Francis Soto does a piece to camera with Dr Gendron watching as he describes one of the lead pieces used to make musket balls (© ADMAT).

In summary the program was a great success and over 3.5 million people in France watched it.

RECCE Of A New Wreck Site

The Island Wreck

In late summer 2010 the Team looked at a new exciting wreck site off one of the islands in Monte Cristi Bay. This wreck site has been known to ADMAT for some years and the plan was to conduct a RECCE (an exploration of a site to calculate the logistics) for a maritime archaeological survey of the wreck site and the drop-off.

The wreck from the cannons, probably dates to late 1600's or early 1720's. In fact it does have some similarity with *The Tile Wreck*, in that there are pre-cut granite blocks associated with the wreck site. This may assist with dating the wreck site following ADMAT-FRANCE's research in finding the French directive to transport granite pre cut blocks to the island in the 1720's. In addition there are three iron anchors of different sizes located over a wide area and plies of cannons all concreted together. There are three sugar presses and other items concreted. The initial wreckage is scattered in the shallows with depths less than a metre.



Photograph 31: Some of the iron concreted cannons on *The Island Wreck* site (© ADMAT).



Photograph 32: *The Island Wreck* site, on a beautiful tropical day, with the historic mountain of El Morro in the background (© ADMAT).



Photograph 33: More iron concreted cannons near the drop-off which is part of the wrecking trail of *The Island Wreck* site. (© ADMAT).



Photograph 30: One of the large anchors on *The Island Wreck* site (© ADMAT).

Dr. Gendron has already confirmed that the apparent design of the sugar presses appears to be French and one which was typical of iron presses made in France and shipped out to the French colonies. This is one area of research we will be further investigating.

Dr. Spooner has already put forward a working hypothesis as to the wrecking process from the initial survey. A full survey of the shipscape will enable this to be proven, as well as the identity of the ship and where the rest of the remains are located. From the size of the anchors the ship would be around 90-120ft (27m-36m) long. During the RECCE, no timbers were located and no other artefacts were seen.

It may well be that some sections of the ship remain intact under the sand on the approaches to the beach.

The site will make an excellent field school survey and we are hoping to start this during the late summer of 2012 with an international team.

Sqn Ldr Jeremy Schomberg The New Vice President for ADMAT, ADMAT-FRANCE and ADMAT USA.

It is with great pleasure that ADMAT confirms that Jeremy Schomberg has been promoted to the position of Vice President for ADMAT, ADMAT-FRANCE and ADMAT USA. Jeremy has been with ADMAT for the last decade and has had many roles, from Diving Officer, Health & Safety Officer, Treasurer, Logistics and Media Management.

His skills are very apparent in all that he does. He has been the backbone of the maritime archaeological surveys of *The White House Bay Wreck*, *Le Casimir*, *The Tile Wreck* and *The Button Wreck*. At the time of the release of this Newsletter Jeremy is working on a RECCE in the Caribbean for the next wave of projects!



Photograph 34: Sqn Ldr (VTR) Jeremy Schomberg at the TMYC dinner during Trafalgar Day celebrations with Antonia Harrison (© ADMAT).



Photograph 35: Sqn Ldr (VTR) Jeremy Schomberg in action photographing the lower hull of *The Tile Wreck* (© ADMAT).

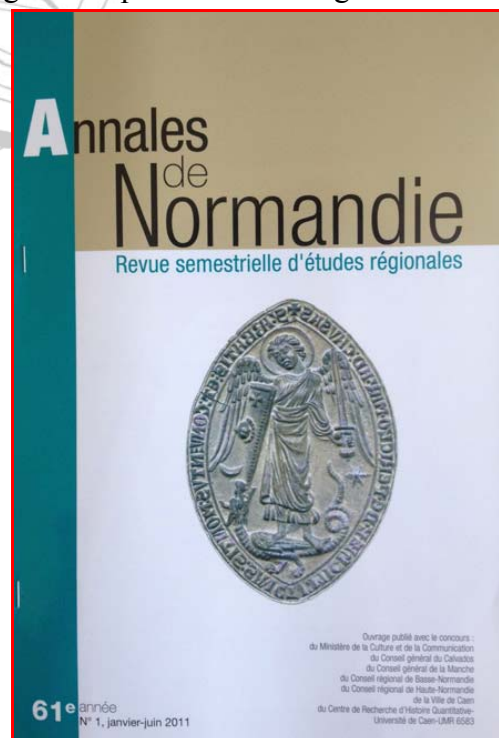
ADMAT-FRANCE New Publications

Dr. François Gendron's latest publication is in the *Annales de Normandie* No: 61 and was published in July 2011. This 22 page article tells the story behind Jean Louis Favre who was the Captain of *Le Casimir* when she hit a reef at night and sank near Monte Cristi in 1829.

Dr. Spooner who was researching the taphonomic wrecking process of this ship had put forward a number of hypotheses as to how and what time of day and when the ship was wrecked. Dr Gendron and Florence Prudhomme found the story of this ship after two years in the archives. The documented evidence proved the hypotheses. The research undertaken by Dr. Gendron raised a number of questions. He stated:

"The research led to the discovery of the court of enquiry into the sinking of this ship. The testimonies of the crew and passengers were completely different to that of the captain. I wanted to know more about who Jean Louis Favre was to try to understand the man and why he blatantly lied under oath. During my research I discovered the fantastic adventures of a young officer, a son of a great privateer native of Le Havre of the XVIIIth century and Revolution times. Jean Louis Favre becomes a captain traveling across the Caribbean before disappearing mysteriously after 1829. His maritime career is collated in this article which mentions his military career, obscure trade deals, sea risks and finally his shipwrecks".

The article is published for the moment in French, although we hope to have an English version soon.



Photograph 36: Dr. Gendron's latest publication into the story of Jean Louis Favre, the captain of *Le Casimir* (© ADMAT).

1720's Pewter Plate Found On The Tile Wreck

During the archaeological survey work on *The Tile Wreck* before the filming crew arrived, an important pewter plate was found on site. Dr. Spooner in his taphonomic wrecking calculations had put forward the route the ship had taken as she was wrecked and this was slowly being investigated. There were a few squares where the sea grass had been removed by the storms and this meant that the overburden was less enabling the metal detectors to see deeper buried artefacts.

While Dr Gendron was organising the excavation, Dr. Spooner and John Downing decided to look at one of these un-surveyed squares to the west of the site. The wreck site is divided up into 1,600 metre squares. Each square is analysed using a AX2000 proton magnetometer for ferrous, and for the shallow buried non-ferrous and ferrous items an Aquapulse metal detector. Both of these units are made and sponsored by Aquascan International.

When Dr. Spooner deployed the metal detector it starting ringing. Jeremy Schomberg was brought to the site with the underwater video camera to record what was under the sand. It could have been anything from cannon balls to lead, both of which had been found, although no so far away from the hull of the wreck as this location. Jeremy had been one of the creators of the SKY NEWS Dive Team and knew the importance of recording the event live. As the area was hand fanned carefully John Downing went to the next square.



Photograph 37: John Downing surveying a square with the Aquapulse metal detector on *The Tile Wreck* site (© ADMAT).

As the sand was removed there under only 7.3 cm of overburden was a pewter plate. The plate had been bent by the wrecking process, but was in very good state of conservation. The exact location was measured in to the grid and numerous photographs

were taken. The plate was then carefully lifter and examined prior to being removed and sent to ADMAT's Maritime archaeological Centre for conservation.



Photograph 38: The bent section of the pewter plate seeing light for the first time since the 1720's (© ADMAT).



Photograph 39: Dr. Spooner carefully removes the plate while Jeremy Schomberg films for the record (© ADMAT).



Photograph 40: The pewter plate after an initial clean and before examination (© ADMAT).

When the plate was back at the centre it was examined to see if there were any identifying marks. It was lightly cleaned to remove the sand and marine growth. The plate had been bent from the front to the back, by some considerable force. On the rear of the place there was a small mark.

Please go to page 13 to continue this story

Pewter Plate – continued.

Dr. Gendron examined the make under a loupe and found the makers mark. The mark was in the form of a circle with a heart in the centre, three five pointed stars and two downward pointing arrows which went through the heart. Either side of the heart were the initials A and M. On the top and right hand side there appeared to be scrolls, with the date in the top section. Possibly there was originally a scroll to the left but it may be that the stamp was not flush and therefore did not come out.



Photograph 41: A close up photograph of the stamp on the pewter plate from *The Tile Wreck* (© ADMAT).

Dr. Gendron then contacted Philippe Boucaud in France. He is an expert of French pewter and is a member of "Syndicat Français des experts Professionnels en Œuvres d'Art". Philippe conducted some research and found that the mark was the punch mark of Andre Manin. He was a master pewter maker based in Nantes in France in the first third of the 18th Century. We are informed that he received his "master in pewter making" status in 1700 and was then allowed to use his own stamp. He died in 1723. Philippe confirmed that the date of the stamp on the plate is 1710.



Photograph 42: A close up photograph of the stamp on a comparable pewter plate in Paris (© Boucaud).

Florence Testing the Latest French Re-breather.

Florence Prudhomme from ADMAT-FRANCE is a veteran of our projects having joined ADMAT in early 2001. She has taken part in the St. Kitts Project, as well as the Dominican Republic Project. She is also our researcher spending long days in the French archives, and is partly responsible for the success of identifying *Le Casimir* and *Le Dragon* as well as other wrecks.



Photograph 43: Florence Prudhomme testing the C.R.A.B.E. re-breather with the French military instructors in Paris (© ADMAT-FRANCE).

When she is not delving into Frances maritime secrets, she is invited to test French diving equipment. She was testing the C.R.A.B.E re-breather (Complete Range Autonomous Breathing Equipment), which is used by the French Navy. With this unit which weighs only 33 kg outside and less than 1 kilo in the water, divers can stay 15 minutes at a depth of 80 meters or 4 hours at 20 meters!

GEEST Continues To Sponsor ADMAT's Equipment Container



Our heartfelt thanks go to GEEST Line and Captain Dixon and Jim Porteous for their continued assistance and sponsorship! GEEST has agreed to continue sponsoring us the use of one ISO 20ft container for our use in the Caribbean.

Tile Wreck Granite Blocks Analysed By MNHN

The granite blocks from *The Tile Wreck*, we believed were an excellent clue which would assist us, with the identification and purpose of the last voyage of this ship. Our hypothesis being that these pre cut granite blocks were sent from France to assist with the building of French fortifications.

However this being said we had to have proof. During the field school in 2010, we made a through inspection of some of these blocks which we had at ADMAT's Maritime Archaeological Centre in Monte Cristi. They had been recovered from the cargo deck of the wreck in previous years. The blocks were repositioned in one of the conservation tanks to the exact position as they had been on the wreck. Dr. François Gendron from ADMAT-France is our resident geological expert. With John Downing and the rest of the team, the blocks were examined geologically. The weathered stone surfaces were worn and "greyed", making it difficult to provide a visual description of the natural rock characteristics, therefore requiring a deep fresh sampling.

Depending on the location of the stone blocks within the shipwreck, the surface colour was either stained red, a tell-tale sign of oxidized iron objects on or near the stone blocks, or contained a black discolouration, a result of decomposed organic materials. To observe fresh rock, five separate samples were taken with permission from ONPCS to ADMAT-France (UMR CNRS-7194), which is located in the Institut de Paléontologie Humaine, Muséum National d'Histoire Naturelle, in Paris.



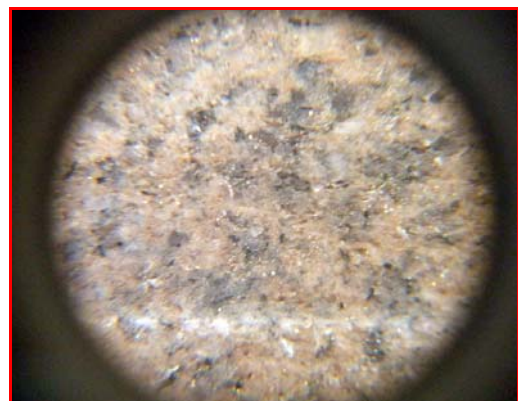
Photograph 44: Dr. Gendron explaining to the Team how the sampling was to be conducted, while Jeremy Schomberg films the event (© ADMAT).



Photograph 45: Dr. Gendron and John Downing perform "surgery" on a granite block from *The Tile Wreck* (© ADMAT).



Photograph 46: One of the samples taken from *The Tile Wreck* granite blocks (© ADMAT).



Photograph 47: The same sample under 10X magnification, showing the mica beds.

Once the samples were taken, they were examined under a 10X loupe. This would give us an early indication in the field. Under the loupe the mica beds are clearly seen, proving the gneissic structure of the rock. Gneiss is granite which has been metamorphosed.

The geological origin of this rock was determined by petrographic analysis and X-ray diffraction. The preferred methodology for studying these rocks is a description of the structure, followed by an examination of a thin petrographic section under a polarizing microscope. A mineralogical analysis was also conducted by performing X-ray diffraction at the Centre Européen de Recherches Préhistoriques (CERP) in Tautavel (Pyrénées-Orientales). The X-ray analysis was made under these conditions: diffractometer *PANalytical X'Pert Pro MPD*, anticathode Cu, feeding tube: 45kV, 40 mA, continuous scan from 2 to 80° (2 Θ), no 0.017° (2 Θ) accounted for 10.3 seconds, automatic anti-divergence slits. Analysis shows that the five sample blocks originated from the same source, leading one to assume that this could be true for all the blocks on board *The Tile Wreck*.

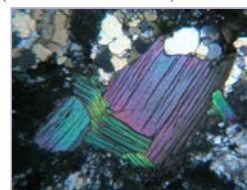
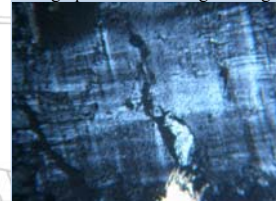
Overall, the study of these samples shows a very marked foliation of the rock: the presence of two micas, orthoclase and albite are typical in the general metamorphism of the lower half of the Mesozona (T: 500°C; P: 20-40⁶ hPa). Finally, the analysis by X-ray diffraction reveals kaolinite, derived from feldspar alteration, is present in almost all samples. Granitic gneiss is geologically uncommon in the Caribbean and the repetition of the same petrographic structure supports the assumption that these stone blocks came from the same quarry in France.

The next mission was for ADMAT-France's research team to ascertain from the archives which quarry the gneiss came from and if it could shed any light on why and when. Archival documentation in the Centre d'Accueil et de Recherche des Archives Nationales (CARAN) in Paris and in the Centre des Archives d'Outre-Mer (CAOM) in Aix-en-Provence were investigated. Their study revealed two main historical and geological factors: 1) a colonial building program between 1719 and 1723 that necessitated the delivery of large volumes of construction stone from France; 2) a range of possible sources within France from which the granitic gneiss may have originated.

In archives documents were discovered telling the complex story. A summary of the story is below with a full paper entitled "1720, Brittany to Saint-Domingue, The unfinished journey of a strategic cargo Of Nantes architecturally pre-cut building gneissic blocks" is being written by Dr. Gendron and Dr. Spooner for publication later this year.



Photograph 48: Above Left: Mica biotite.
Photograph 49: Above Right: Plagioclase (© ADMAT- Gendron).



Photograph 51: Above Left: Feldspar.
Photograph 52: Above Right: Mica (© ADMAT- Gendron).

In 1719, military engineer Amédée-François Frézier was assigned to Saint-Domingue colony to assess repairs to Fort Saint-Louis (Saint-Louis-du-Sud). He discovered that most of the colonial port fortifications were falling to ruin. The local stone was found unsuitable for construction use and Frézier directed the *Conseil de Marine* to arrange that pre-cut stone blocks be shipped from France. To reduce the cost of transportation, Frézier proposed that the military authorities direct merchant ships to use the blocks as ballast when the ships sailed to the colony, therefore providing a solution free of cost to the army.

Numerous shipments arrived between 1719 and 1723, many originating from Bordeaux, La Rochelle and Nantes. The transport of gneiss blocks to the colony was a military directive by French high officials and provides evidence which supports the hypothesis on the wreck's origin of departure and date of sinking. The main geological research and analysis of the gneiss rock found in the remains of the wreck have identified the possible source of the material, as it corresponds to that quarried at Le Pellerin, which is downstream from Nantes. Despite the large mineralogical variability of intrusive plutons of the southern Armorica, the metamorphism observed in the samples of gneiss and the mineral assemblage strongly supports the geological origin of these blocks and the origin of the shipwreck.

ADMAT Assists CHAA With Side Scan Sonar Training

In Ontario not all divers are looking for shipwrecks. Some are looking for aircraft, and in particular Harvard aircraft. The Canadian Harvard Aircraft Association (CHAA) who restore and fly Harvard aircraft, have a dive team. Their mission is to locate lost Harvard aircraft which crashed during the Second World War in the waters of Ontario. All of the aircraft were lost in flying accidents. Dr Spooner organised and taught a special course for CHAA to train them how to use side scan sonars efficiently.

The weekend course in Kingston Ontario was a great success and a number of problems with their survey methodology were identified and resolved.



Photograph 53 Above: Some of the CHAA Dive team attending the weekend side scan sonar training course in Kingston Ontario (© ADMAT).
 Photograph 54 Below: Dr. Spooner after a successful training (© ADMAT).



The training started late in the day and lasted well into the night. This was a new experience for them. The weather was excellent and at night there was little boat traffic which was an added bonus as they “mowed” the survey area. The night added to the teams ability to understand the pictorial images from the RedFin Imagenex side scan sonar program. After twelve hours the team had learnt a lot. Whilst they did not find the Harvard aircraft they were looking for, they did know where the aircraft was not located and found a historic river bed and course 10 meters under the water!

ADMAT's Artefact Handling Class in Monte Cristi

As always, work continues at our Centre in Monte Cristi on the artefacts from *The Tile Wreck*. American students arrived for a two week learning the process and understanding all the challenges associated with marine artefacts from the 1700's.



Photograph 55 Above Left: Student Wesley holding a concreted cargo block hook, (the wooden block is missing) (© ADMAT).
 Photograph 56 Above Right: Student Mike holding one of the four pound capsquares (© ADMAT).

A large number of the terracotta floor tiles recovered from the wreck site have now been finished and we are now examining some of the interesting iron concretions.

All of the iron objects are concreted. Some will remain a concretion as the iron has totally leached out leaving a “ghost” of its former self. Others are still very much solid. We have a range of items from ships construction and rigging, like cargo pulley hooks and blocks to items associated with the ships cannons such as capsquares and gun carriage support bars. All remain in fresh water which is changed regularly, which flushes away the salts from the exterior.

Two of the iron concretions, a worm which is a gunner's implement for cleaning out the cannon of hot embers and parts after firing and is shaped like a corkscrew, and an adze were taken with permission from ONPCS to Toronto for analysis. The adze as you will have read earlier was scanned by new laser technology and later we will be X raying it to determine how much iron is still remaining. This is a very important point as this will dictate the conservation methodology as to whether the concretion is removed revealing the remaining iron object, or if it is a “ghost” we keep it as a concretion or conduct injection resin to produce a copy of the long dissolved item. The work continues!

ADMAT-FRANCE Assists With The Grand Morin River Archaeological Survey

By Dr. François Gendron

For the last 17 years, in the medieval city of Crécy-la-Chapelle, the Association TechSub founded by Pierre Villié and assisted by enthusiast archaeologists; conduct maritime archaeological surveys and excavations along the Grand Morin riverbed. This is an old city in the Ile-de-France Region, about 45 km east from Paris.

The city has a historic past and man has been there for the last 2,000 years. During this period until today, the river has been successively used as a trade route and garbage dump... yesterdays trash today's archaeology. During the Gallo-Roman times, some agricultural exploitations occurred in the Grand Morin Valley. In the XIIIth and XIVth centuries, fortifications were constructed. In the French archives there are many references to the "river that penetrates and rings the city". The archives are full of documents informing of "digging of a ditch, mill installation, the creation of a port, cleaning out of the armlets", and other associated activities with the upkeep of the river and the city. These archives assists the archaeological divers with locations for surveys.

In June 2012, I assisted with the latest survey and started to excavate a ford dating this period. On this site the divers were working in shallow water, 70-80cm deep. Hand fanning on the riverbed a number of interesting Gallo-Roman ceramics shards were found. It was exciting to find some really old artefacts for a change!



Photograph 57: Dr. François Gendron surfacing from a dive in the Grand Morin Riverbed (© ADMAT - France).

The Dominican Field School

By Mike Caris – Surveyor

The end of September brought an interesting project for me as I attended the Maritime Archaeological field school with the Anglo – Danish Maritime Archaeological Team, (ADMAT), in the Dominican Republic.

This class started out as an opportunity to put my skills as a Surveyor, mapper, scuba diver and a general interest in history to good use. As the class took on many changes, as is typical when working on any project in the Caribbean, the opportunities for me grew. I've spent many years helping organizations become more proficient with the implementation of all kinds of technologies. Throughout the course I saw multiple areas that could be enhanced using the technologies I implement and use with my consulting business.

The first week of the course we learned a myriad of topics and tasks. We were introduced to the artifact handling process. This included understanding the basics of conserving items that have sat on the ocean floor for over 200yrs.



Photograph 58: Mike inspecting and cleaning the iron breach loading swivel cannon from *The Tile Wreck* (© ADMAT - Spooner).

The first few days we acclimatized to the hot humid weather we were given lectures about the ship wrecks we were going to be working on. The main wreck we were working is referred to as the "Tile Wreck", which ADMAT believes to wrecked between 1720-1723 (1690 construction) but have yet to determine the exact time the wreck occurred. They refer to it as the Tile Wreck because there where thousands of 8" x 8" clay floor tiles found among the wreckage. The wreckage also included a few anchors, cannons, a swivel gun, (which is a very rare artifact). Throughout the week we also learned about the other wrecks ADMAT has to work on which includes Le Casmir, Le Dragon, and the Island Wreck, all from about the same time period.

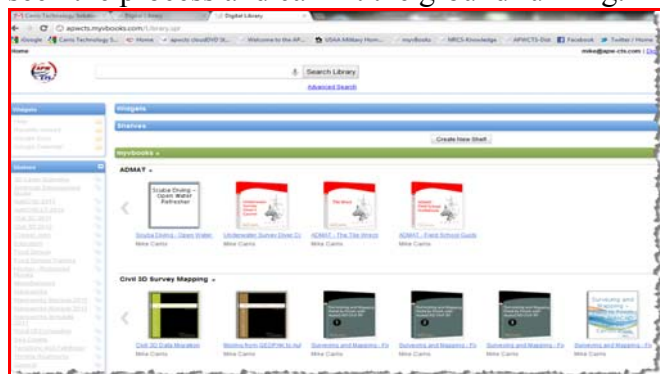
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I am always looking for ways to improve workflows and processes; it's something I've done since childhood. It didn't take long before I saw a need and came up with ways to make the ADMAT's process even more efficient than it already was.

The first item I identified was the standardization of the artifact documentation process. To photograph and catalogue thousands of artifacts takes multiple students and classes over many years to accomplish. Since having the same group of students or volunteers each year is rare, training new students each summer presents a challenge. The last thing you want to do is reinvent the process every time. Also some students may have experience with other archaeological teams and may have a slightly different process. Even with a standard method established making sure everyone is trained on this standard is a challenge.

The field school's purpose is to provide students with real world experience so that more hands on time they have with the artifacts the more experience they will gain. Being able to train the students on the process prior to them actually being on site will provide more time for other tasks. From our own experience we had to learn the process on site before we could get into a smooth workflow. Once we had the work flow we were able to put a small dent in the artifacts. Imagine if we were able to be trained prior to attending the class we could have processed and accomplished much more.

So while we learned and developed the workflow we began to take video of the process which is going to be used for future classes. This video is currently being processed and turned into an ADMAT online video Field Guide which will be made available to students prior to them attending the next field school. This way they have at least seen the process and can hit the ground running.



Photograph 59: Screen print of some of the video programs which will shortly be available. (© Caris).

This field guide is being created using a revolutionary technology I use in my day to day operations of training Civil Engineers and Land Surveyors. It provides searchable indexed video, 24/7 via any mobile phone/tablet or computer with internet access.

This was just the start.

Dr Spooner's lectures on the history of the wreck, his knowledge of Maritime Archeology, the History of the Dominican Republic, and more present a tremendous opportunity to be captured and distributed by this technology.

Throughout the week we kept the discussions going about other topics that would be beneficial for the students. In the first couple of days we came up with over 10 topics that could easily be turned into guides and made available to students before during and after the school.

Ideas for titles include:

- ADAMT - Field School Info Guide
- Using the Magnetometer
- Intro to Access
- Intro to Excel
- Photo Editing
- Survey 101

Another challenge we looked at was the distribution or centralization and tracking of the most current information or artifact database. Since we are working in a remote location the luxury of a network does not exist. So database, spread sheets and photos are all shared via USB drives or external hard drives. This works well during the course of the school but in-between sessions access to the data is only accessible by the individual who currently has possession of the drive containing the data. So we discussed using this same technology for projects.

We discussed the creation of a "Project Workbook" that can store the most current database that can be downloaded only by those with proper permission. This will allow key users the ability to update and maintain the database at any given time. Once they are done they return the database to the workbook with a Revision Date. This will provide a great source to securely store and backup the databases of the artifacts.

My entire trip to the DR with ADMAT was a great experience. I was able to put my passion for history, surveying, scuba diving and technology to use on an exciting project.

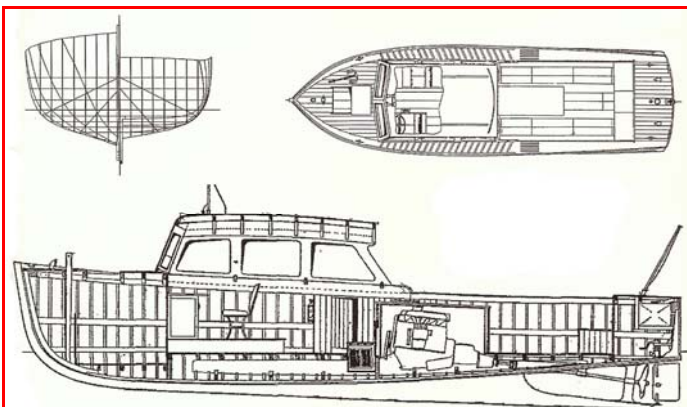
Police Launch *Maigret*

Jeremy Schomberg our Vice President has a passion for old boats. Not just any old boat but one with history and style. He runs a few simple boat maintenance and repair courses in the UK in the summers. The Police Launch *Maigret* is the second historic boat he has owned. The first was a little Dunkirk Ship, one which was used in 1939 to rescue the British Expeditionary Forces from Dunkirk. *Maigret* has not been in action that way, but she has served the Police faithfully since 1950's.



Photograph 60: *Maigret* escorting the Dunkirk Little Ships into Molesey Docks on the River Thames

Maigret is what is known as an Osborne-type duty boat, of the Metropolitan Police Thames Division. She was one of the last wooden craft to patrol the river, custom-built to a 1940's design by Osborne of Littlehampton, and subsequently made on the River Thames, jointly by Tough Bros at Teddington and Kris Cruisers at Isleworth. She was built with a 30-gallon diesel tank on the starboard side, a tow line system which keeps the line clear of the prop and a cabin for three crew members. The deck officer sits facing sternwards with the coxswain and radio operator being placed on either side of the vessel. To keep the crew warm there is water fed iron radiator next to each seat, heated from the engine water cooling off take.



Photograph 61: The lines and plans of the William Osborne-built Metropolitan Police patrol boat. The main structure was of English oak with keels, hog and main deck beams in solid sections. The planking and flooring was mahogany, and power was courtesy of Perkins (© ADMAT Archives).

The steering is via a three-spoked, car-type wheel above a cast-aluminium control panel. The throttle control is by a lever located in a quadrant under the righthand side of the instrument panel. An identical lever on the left side operates the engine decompressor.



Photograph 62: *Maigret* being constructed. Note the vertical "A" frame supports which were used in the building of the vessels (© ADMAT Archives).

These Osborne-type duty boats cost £2,950 in 1940 and took about four months to build. The first was delivered in March 1941 with her sisters, after a time period (no reason can be found for this) in January, April, May (two were delivered) September and December 1942, and in January and June 1943. In 1946 Osborne's built a further boat. In the archives there is no evidence to explain this single addition, but it may have been to replace one of the two boats lost without trace during the Second World War, and believed to be the victims of parachute sea mines. The next batch of ten boats was produced between 1950 and 51.

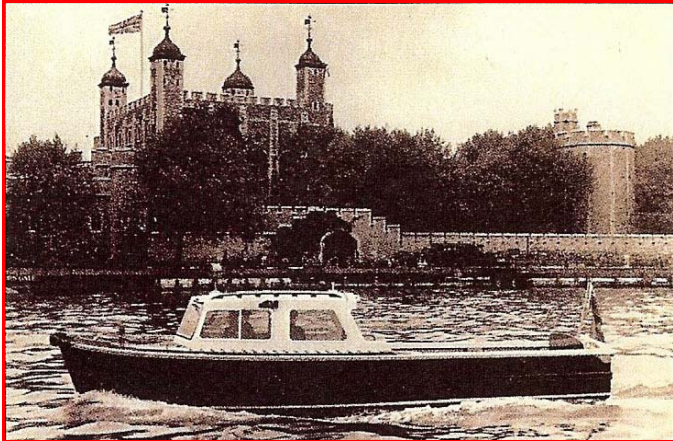
The final production of these excellent boats was made by Tough's at Teddington, working in cooperation with Kris Cruisers. They took over the building of the wooden duty boats from Osborne's with a commission for 12 in 1956 including *Maigret* which was No: 2 of 12.



Photograph 63: A rare photo of *Maigret* on duty on the River Thames (© ADMAT Archives)

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Nine were constructed by Tough's themselves with the workload being eased by letting Kris Cruisers who were located only a few miles down stream on the River Thames, handle the remainder. Bob Tough whose company built them stated that their design had a slighter finer bow than Osborne's and were faster. During the trials, which took place at Chelsea Reach on the River Thames, one of the boats achieved 13 knots.



Photograph 64: Another rare photo of *Maigret* on duty on the River Thames in front of The Tower of London (© ADMAT Archives).

Today as *Maigret* is retired and no longer enforces the law on the water, she too has to comply with the speed limits. This is fitting as Jeremy coxes one of the last Police patrol boats up and down the River Thames at a more dignified 5 knots which does not strain the old Perkins engine.



Photograph 65: Jeremy Schomberg and his *Maigret* at Hampton Court Bridge on the River Thames (© ADMAT).

Sponsorship & Donations Required For ADMAT to Continue Our Scientific Work

For ADMAT to continue our maritime archaeological and educational work, we need grants and sponsorship from companies and persons. Maritime archaeological work is an expensive process and as of yet we do not receive grants from France or the Dominican Republic so we rely solely on these grants and donations.

There are plenty of ways in which you can assist and for those in America there are tax advantages for donations via ADMAT USA which is an American Charity (Section 501 (c) 3).

For companies there are excellent PR opportunities for company logos and positive publicity. The areas in which we need support in are as follows:

- ❖ Sponsor a student to attend a field school costs in the region of US\$1,550.00 Per week.
- ❖ One 23ft long yola (local made open boat) with outboard engine Cost US\$ 11,000.00
- ❖ One years rent for the Centre 2010. Cost US\$4,500.00
- ❖ A researcher in the French Archives. Cost \$2,000 Per Month.
- ❖ Sponsor the archaeological survey of one of the wreck sites, *The Tile Wreck* 1720's, *Le Casimir* 1829, *The Faience Wreck* 1760's and *Le Dragon* 1783.
- ❖ Sponsorship to cover new diving equipment and servicing the old equipment.
- ❖ Sponsorship of the running costs including staff of the Centre, to enable research and documentation on the artefacts.
- ❖ Sponsorship for a new truck or Landrover.

For further information on how you or your company can assist and the benefits you receive, please contact ADMAT's Finance Director Jeremy Schomberg at jeremy@admat.org.uk

On behalf of ADMAT we thank you.