

Coolidge takes another hit.

Over the years the SS President Coolidge has taken quite a battering – and we're not just talking about the sea mines that sank the beautiful converted cruise ship in October 1942.

Lying on a slope with the bow in 21m and the stern in 73m of water, her relatively shallow depth, particularly at the bow makes the ship susceptible to damage from cyclones. With the powerful storms getting bigger and more intense these days, the damage to the ship is likely to be exacerbated over time.

However, of greatest concern are undersea earthquakes that in one form or another strike Santo every day of the week. Most are tremors so small, they can't be felt on the island.



The collapsed swimming pool is inspected by divers from Pacific Dive. Photo Pacific Dive.

However, larger quakes shift the sands around the ship, causing it to move and stress. While huge clouds of silt get stirred up and create impenetrable clouds around the ship that can last days.

So it was to be expected that a recent earthquake on Santo would
(continued...)

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Further exploration by the divers from Pacific Dive revealed more damage. Photo Pacific Dive.

cause some damage to the Coolidge. The question was how much and where.

As one of the largest dive operators on Santo, the Coolidge is a second home to the team from Pacific Dive in Luganville. Whenever a quake strikes the area, divers are sent down to run what's essentially a safety inspection of the ship, prior to the public being allowed back down on the site.

Following the 6.6 magnitude earthquake that struck off the coast of Luganville on March 3 and after the silt had finally settled, divers from Pacific Dive and Aore Adventure Sports Lodge dived the Coolidge.

Jack Power from Pacific Dive takes up the story. "The entire wreck had a complete silt-out for a few days and was unable to be dived due to the visibility", Jack says. "There was the usual disturbance you see around the



A traditional kiss for 'The Lady', who remained undamaged after the earthquake on Santo. Photo Pacific Dive.

ship following a significant earthquake. But everyone was quite shocked to see one aspect of the ship in pieces in the silt of the Second Channel.

The swimming Pool of the SS President Coolidge was at a depth of around 55m. It was a beautifully tiled pool and was structurally sound and a fantastic part of the wreck for technical divers to explore.

When the silt settled and again, the divers noticed the entire swimming pool has fallen away from the wreck to the sand at a depth of 60m."

While it is a shame that another significant part of the ship has been destroyed, Jack says that it has exposed parts of the wreck that were previously inaccessible. And that's what makes the Coolidge such an adventure for divers. Each time they return to Santo and the SS President Coolidge, there's always something new to explore.

A big thank you to Jack Power from Pacific Dive, Luganville for his assistance with this story.



If you're looking for an unforgettable dive experience, diving the Coolidge, the guys from Pacific Dive will make it one you'll never forget. You'll find them at pacificdive.net or give them a call on +678 555 1 555

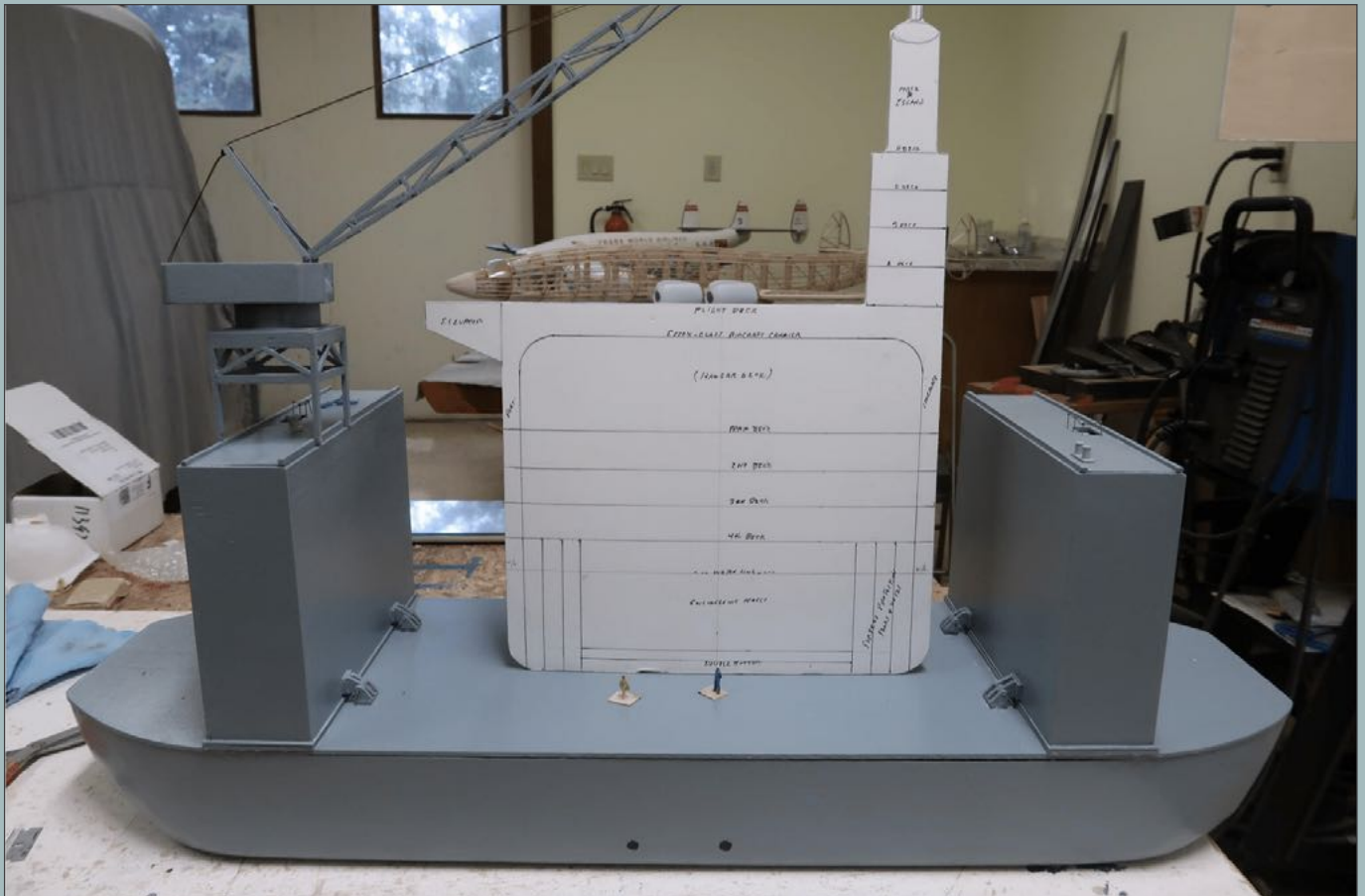
ABSD docks.

Fantastic news this month with the arrival of Andy Werback's Advanced Base Sectional Dock (ABSD-1) floating dry dock pontoon model.

The model which have featured in the past was 'scratch built' by Andy in California using plans,

Once secure, ABSD-1 would lift itself and its cargo out of the water, for maintenance.

Andy also sent through some copies of the original blueprints of the floating dry dock, which will look fantastic on display with the model, along with some



Andy's ABSD pontoon nears completion. To provide some sense of scale of the ABSD, Andy provided a scaled cutout of a 35,000 ton WWII aircraft carrier. And there was still room to spare.

drawings, photographs and even historic film.

By scratch built, we mean it wasn't assembled from a kit - like those you'd buy from a hobby store. Andy had to create every part by hand.

As you can see in the photographs, the level of detail particularly below deck is extraordinary. Incredibly, everything you see on the model would be submerged under Pallikulo Bay off Santo in real life as a ship slowly made its way into the dock.

of the many photographs we have of the gigantic structure in our files.

We'd like to congratulate Andy on all his hard work in building such a beautiful model.

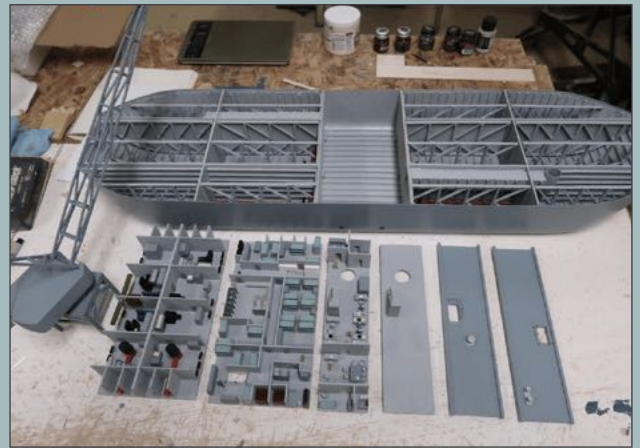
We'd also like to thank him most sincerely for donating his ABSD pontoon to the museum to help us tell another aspect of the fascinating story of Base Button on Espiritu Santo.

(continued...)

The model is currently in the care of Museum Project Manager Jimmy Carter in Melbourne, Australia and will come up to the museum later in the year.



With the main deck of the model removed you can see some of the amazing work Andy has put into his ABSD pontoon.



Andy's incredibly detailed ABSD pontoon and the majority of its component parts — except the main deck and wing walls.

- ▶ 75 HP Air Compressor, Small Pumps, filters
- ▶ Evaporators and Hot Water
- ▶ 2 Generator Rooms, approx. 350 KW ea, plus Switchboards
- ▶ 2 Engine Rooms, 525 HP Each Diesel
- ▶ 2 Pump Rooms, 200 HP Each, 16,000 Gallons per minute!
- ▶ Access is by ladders (3 each)

The beautifully detailed lower interior decks of Andy's model.



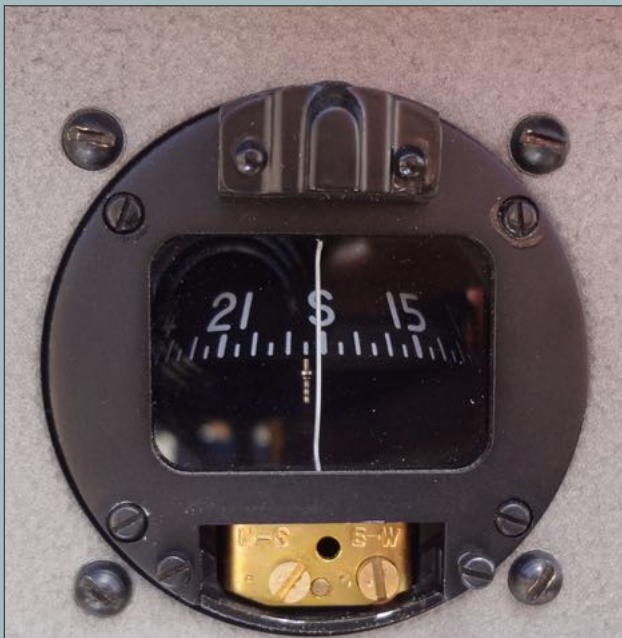
Espiritu Santo, 8 November 1944 and the West Virginia (BB-48) is having her damaged screws repaired. Photo US Archives.

A point in the right direction

It is crucial for pilots to ensure the accuracy of their compass readings — for fairly obvious reasons, particularly with the often long 'ferry' flights made from airfields such as those on Santo to the frontlines in areas like Guadalcanal.

This becomes particularly important when considering the potential influence of natural magnetic fields generated by steel components and electrical equipment within the aircraft itself.

To counteract any installation errors caused by these magnetic influences, most aircraft compasses are equipped with compensating magnets. However, there are instances when the compass may require recalibration and adjustment of these compensating magnets, such as during the installation of a new compass or when significant electrical work is being performed on the aircraft.



Turning small screws, like the brass ones shown on this aircraft compass, would make the necessary adjustments to correct any errors. Photo aviationstackexchange.com

Given the amount of aircraft instrument maintenance that occurred on Santo during the war, recalibration was often a necessity.

To address this need for recalibration, there are various methods available, one of which involves utilising a properly-surveyed 'compass rose'.

The compass rose, also referred to as a compass calibration pad, can be found at some airports and is specifically designed to facilitate the alignment of an aircraft compass with the Earth's magnetic field. Turtle Bay Fighter Airfield up on the east coast featured one such rose, which is still very easy to find as it's just in from the East Coast Highway at the end of the runway.



The compass rose at the end of the old Turtle Bay runway with a Toyota Hilux on it for scale.

The fundamental procedure for calibrating an aircraft compass using a compass rose involves taxiing the aircraft to the designated area and aligning it with the compass directions indicated by the ground markings. This alignment is achieved through the combined use of the ground markings themselves and a "gunsight" compass, which assists in accurately aligning the aircraft with the compass rose.

The simple four-step method for recalibrating an aircraft compass is as follows:

1. Taxi out to the compass rose and align the aircraft so it is pointing toward Magnetic North.
 - Adjust the compass compensating magnets so that the compass reads North.

(continued...)

2. Turn the airplane so it is pointing toward Magnetic East (090).
 - Adjust the compass compensating magnets so that the compass reads East.
3. Turn the airplane so it is pointing toward Magnetic South (180).
 - Adjust the compass compensating magnets to remove one half of the "South" error.
4. Turn the airplane so it is pointing toward Magnetic West (270).
 - Adjust the compass compensating magnets to remove one half of the "West" error.

Once the compensating magnets have been appropriately adjusted during the calibration process, a Compass Deviation Card is then prepared.

For	N	030	060	E	120	150
Steer	005°	027°	063°	090°	122°	147°
For	S	210	240	W	300	330
Steer	176°	207°	237°	270°	308°	339°
Date	April 18, 2013					

A compass deviation card showing the various offsets for each direction. Photo aviationstackexchange.com

Beginning with Magnetic West (270), the aircraft is turned to align it with each of the 30-degree lines on the compass rose (270, 300, 330, North, 30, 60, 90, 120, 150, 180, 210, 240). The error is then recorded on a compass deviation card.

This card serves as a reference for the pilot, providing information about any remaining compass errors that may still persist after the calibration procedure.

By consulting this card, pilots can make the necessary adjustments to ensure accurate navigation during their flights — particularly longer ferry flights where a minor compass deviation at the beginning of a flight, could have a pilot navigate off course by hundreds of kilometres, by the end of the journey.

The use of a properly-surveyed compass rose constructed in an environment free from magnetic disturbances, ensures an accurate calibration.



Vought XF4U-1 Corsair prototype on a compass rose 19 April 1941.

So as odd as it sounds the accuracy of an aircraft compass may come down to a concrete pad at the end of a runway and the reliability of a surveyor and his compass who determined the directions on it in the first place.



Instrument repairs being undertaken by US Navy technicians inside a Quonset hut on Espiritu Santo. Photo US Archives.



A present day 80-Foot Compass Rose at Harford County Airport Maryland being painted by Ninety-Nines women pilots. Photo Shannon O'Brien.

Thanks to voretaq7 from aviationstackexchange.com for additional information and some photos in this story.

Out of the blue

Recently, the South Pacific WWII Museum was unexpectedly contacted by Steve Heffelfinger from the Aviation Museum of New Hampshire.

The museum is operated by the New Hampshire Aviation Historical Society, a non-profit group that preserves the history of flight in the U.S. state of New Hampshire.

Located at Manchester Airport, an hour north of Boston, the museum has a unique home inside the original 1937 art deco terminal building at the airport. A building that was jacked-up and moved in one piece in 2004 to make way for an airport expansion.



The beautiful art deco building of the New Hampshire Aviation Historical Society at Manchester Airport. Photo NHAHS.

In his email to us, Steve said they had in their collection, a photo album of around 170 images taken at Camp Elrod on Espiritu Santo. The images were contained in an album from Colonel Louis L. Frank, USMC of North Woodstock, NH.

Colonel Frank was a U.S. Marine aviator for twenty years from the time his graduation from the University of New Hampshire in 1939 until his retirement in 1959. He received five Air Medals and was twice awarded the Distinguished Flying Cross for his combat flying as a pilot for Marine Squadron VMD-154 over the Solomon, Gilbert and Marshall Islands.

Steve asked us whether we would like copies of the images for our collection. Of course we jumped at the opportunity to receive such a complete collection of 172 images, including annotations describing each photo.



The Colonel Louis L. Frank display at the New Hampshire Aviation Historical Society museum. Photo Steve Heffelfinger.

So Steve and museum volunteer Bob Brown set about scanning the collection on our behalf. But what was VMD-154 and where was Camp Elrod located?

To do that we need to delve into the history of the first United States Marine Corps aerial photographic squadron deployed to the South Pacific during World War II.

In 1941, the Department of the Navy recognised the need for an organic aerial photographic capability in every U.S. Navy aircraft carrier and Marine amphibious force.

As a result of this thinking, the period between December 1941 and March 1942, experienced rapid growth in Marine Corps aviation. Existing aerial photography capabilities were present in observation squadrons (VMOs) and selectively modified aircraft in fighter squadrons (VMAs).

There was a on-going effort to establish a dedicated aerial squadron solely focused on providing photographic support to Marine amphibious forces.

(continued...)



The VMD-154 squadron patch.

In April 1942, the Commandant of the Marine Corps issued an order to establish Marine Photographic Squadrons, with one squadron assigned to each of the two existing Marine Aircraft Wings. VMD-2, became operational as a component squadron of the Second Marine Aircraft Wing.

At its inception, VMD-2 consisted of three F2A-3 Brewster "Buffalo" fighters equipped with automatic wing cameras, along with two SNJ-3 North American "Texan" trainer/scout planes. However, the squadron's development in terms of missions,



A U.S. Navy F2A-3 Brewster pictured during a training flight from Naval Air Station Miami, Florida (USA), on 2 August 1942. Photo Wikipedia.

training requirements, and organisational structure to effectively support aerial photography was only partially accomplished.

So to meet the demand for aerial photographic support in the planned amphibious operations of early 1942, the Marine Corps deployed the only aviation squadron equipped with aerial photographic capability, VMO-251 of the First Marine Aircraft Wing. They quickly replaced their SBC-4 Helldiver aircraft with Grumman F4F-3 Wildcat fighters modified for aerial photography and deployed them to the South Pacific.

At that stage, the senior Marine aviation officers found the concept of using high-speed attack aircraft like the F4F-3,



A U.S. Navy Grumman F4F-3 Wildcat in non-specular blue-grey over light-grey scheme in early 1942. Photo Wikipedia.

operating at low altitude, quite appealing. These aircraft could largely avoid anti-aircraft fire and take the enemy by surprise before they could conceal their activities.

However, the initial operations of VMO-251 in the Pacific quickly highlighted the need for long-range aircraft in Marine VMDs.

In an attempt to provide photographic support for planning the invasion of Guadalcanal Island, VMO-251 had to operate its aircraft from Espiritu Santo, approximately 885km (550 miles) away from Guadalcanal. Due to the limitations of their F4F-3 Wildcat aircraft and the absence of intermediate airfields, VMO-251 couldn't supply Marine Headquarters with photographs of the proposed landing beaches on Guadalcanal. This incapability prevented the Marine Corps from obtaining vital information crucial for effective planning of amphibious operations in the Pacific.

(continued...)

In a typically resourceful manner, VMO-251 managed to overcome the limitations of its equipment by adopting an ingenious approach. Seventeen Marine Corps aerial photographers were specifically assigned to collaborate with the U.S. Army Air Force's Eleventh Bombardment Group, stationed on Efate Island.

Employing state-of-the-art U.S. Navy cameras, the skilled Marine photographers embarked on missions aboard U.S. Army B-17 "Flying Fortress" bombers, capturing invaluable aerial photographs of the proposed landing sites in Guadalcanal.



B-17's from the 11th Bomb Group, Efate, over the Pacific. Photo Wikipedia.

This undertaking proved to be instrumental in furnishing Marine planners with the essential photographic support required to plan the impending Guadalcanal invasion. It also became evident that the emerging VMDs needed to possess certain capabilities to effectively fulfil their intended role.

Meanwhile, VMD-2 continued to train and organise itself under the command of Lieutenant Colonel Elliott E. Bard and Majors John T. L. D. Gabbert and Andrew B. Galatian. And it wasn't long before the squadron became a cohesive, combat-ready unit.

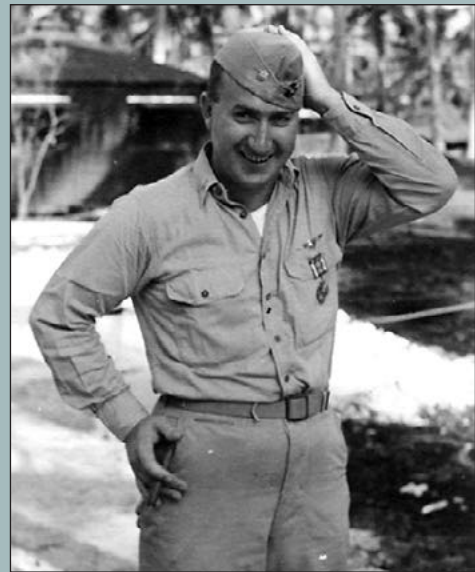
It's also worth noting that Col Bard had introduced his pilots and crews to the PB4Y and B-24 aircraft. The latter of which was a fully equipped bomber in an aerial photography role. This was a direct result of the successes with the big bombers from Efate.

By September 1942, it became evident that of the two squadrons still in training, VMD-2 that was now

designated VMD-254, was better prepared for combat. Simultaneously, the need for long-range photographic support in the Pacific became critical. Consequently, in September 1942, VMD-254 was redesignated again, this time as VMD-154 and immediately deployed overseas with the First Marine Aircraft Wing.

On October 13, 1942, an advance ground support unit from VMD-154 was sent to the South Pacific. They arrived in Santo at the end of October.

Six days later, Lieutenant Colonel Bard led a two-plane section of VMD-154 to Hawaii. Between October 20 and November 6, 1942, Lieutenant Colonel Bard and his advance flight echelon conducted aerial photography training, aerial gunnery drills, and oversaw the installation of radar units on their aircraft.

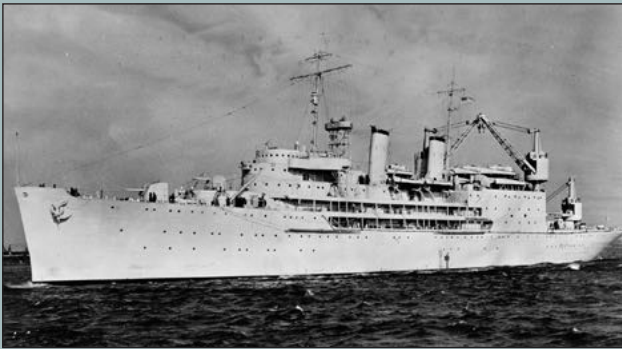


Lt Col Elliot Bard Sr, Commanding Officer of VMD-154 seen here at Camp Elrod, Espiritu Santo.

On November 6, 1942, the advance flight echelon completed its training in Hawaii and departed for Santo. Lieutenant Colonel Bard and the advance flight echelon of VMD-154 immediately commenced operations in support of Marine activities in the South Pacific.

The primary role of VMD-154's advance flight echelon was to capture photographs of Japanese activities in the Solomon and Russell Islands. Aircraft were rotated through Santo and deployed to Guadalcanal for two-week duty periods, during which numerous missions were flown north of Guadalcanal Island. (continued...)

Although the main body of VMD-154, along with its support elements, was not stationed at Guadalcanal, the processing of photographic products generated by VMD-154's aircraft was carried out by the Photography Department of the USS Curtiss (AV-4), a large seaplane tender anchored at Guadalcanal.



USS Curtiss (AV-4), photographed soon after her completion, in 1940. Photo U.S. Naval History and Heritage Command.

The urgent need for the immediate deployment of VMD-154 can best be summarised by Colonel Bard's remarks regarding this particular phase of operations in the Pacific: "Most of the maps preceding our occupation of Guadalcanal were charts made around 1850. Consequently, they were very much outdated, as the rivers had changed course, beaches had shifted, and their only use was to show the general contour of the islands."

When Colonel Bard's planes were not engaged in photographic missions, they were actively involved in transporting fuel and supplies from Santo to Guadalcanal. And, in a display of the Marines' unique ingenuity, they even conducted a 'bombing campaign' against suspected Japanese positions using empty Coca-Cola and beer bottles.

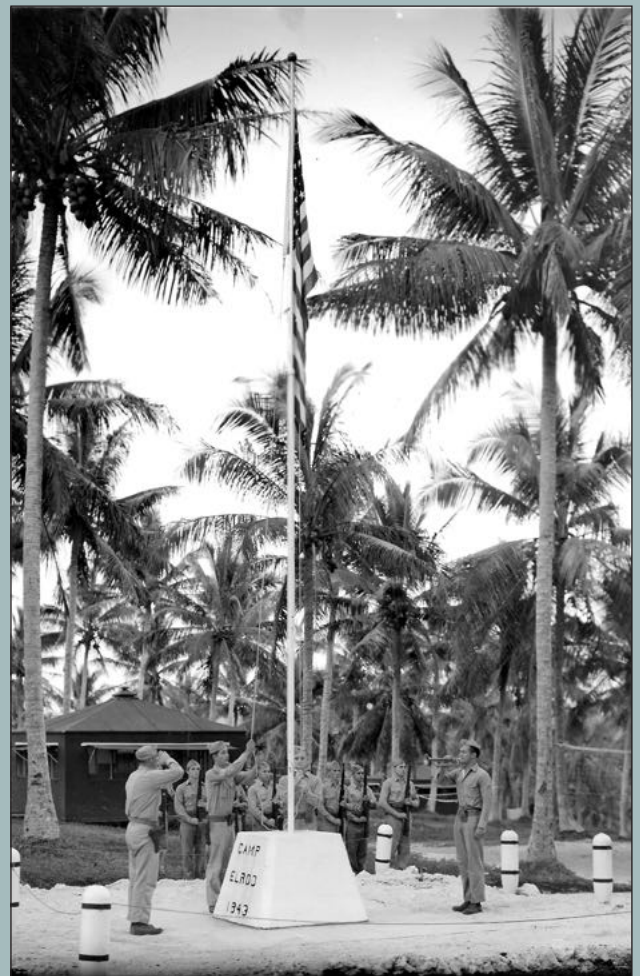


A U.S. Navy Consolidated PB4Y-1 Liberator in flight, in 1943. This aircraft was a USAAF Consolidated B-24D-7-CO transferred to the U.S. Navy. It still wears the standard USAAF camouflage. Photo Wikipedia.

On December 2, 1942, the main body of VMD-154 departed San Diego, California, aboard the S.S. Japara and the S.S. Bloemfontein, bound for Santo. By New Year's Day in 1943, VMD-154 had reassembled on Santo, comprising 29 officers and 405 enlisted men. The squadron's total aircraft strength at this time consisted of four PB4Y-1s.

Throughout January, additional aircraft and crews continued to join VMD-154, and by the end of February 1943, the squadron had reached its full wartime complement of personnel and aircraft, with eight PB4Y-1s. Additionally, VMD-154 inherited a lone SNJ-4 "Texan" from VMF-214, bringing its total aircraft count to nine.

It was during this time that Camp Elrod was completed as a fully-fledged camp operating within the confines of Base Button — which occupied pretty much all of the southeast corner of Santo.



Raising the Stars and Stripes at Camp Elrod on Espiritu Santo. Photo Aviation Museum of New Hampshire.

The camp was located on a rise to the north of the Bomber #1 Airfield on Pallikulo Bay, 2km north west of the present day Santo Golf Course.

It's primary function was to support the photographic intelligence gathering activities of VMF-154, hence why the camp featured so many photo labs, photographic storage buildings, intelligence huts and its own power supply, independent from that of the island's main power generation system.



The location of Camp Elrod on Espiritu Santo, north of the Santo Golf Course taken in April 2016. Photo Google Earth.

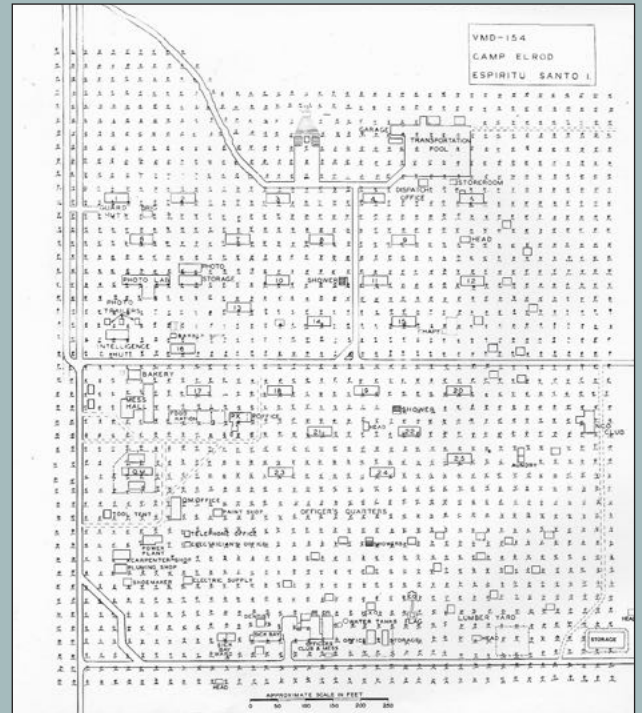
What Steve and Bob have sent us is a remarkable collection of photos from every aspect of life at Camp Elrod during the Pacific Campaign. We would like to thank them for the immense effort they put in scanning and annotating every photograph - we know it took them weeks and we do appreciate it.

If you are ever visiting New Hampshire and are interested in exploring a wonderful local aviation museum, you must visit the Aviation Museum of New Hampshire. It's certainly worth the drive to Manchester.

For more information go to www.nhahs.org



Some text and research in this story by Lt.Col. Steven James Finsterle USMC (Ret).



A map of VMF-154 on Espiritu Santo. Photo Aviation Museum of New Hampshire.

It would be remiss of us not to share with you some of the fabulous photographs Steve and Bob have shared with us. On the next few pages we are featuring just some of them. We hope to make the entire collection available via our website soon.



The Chapel at VMD-154 Camp Elrod, Espiritu Santo.



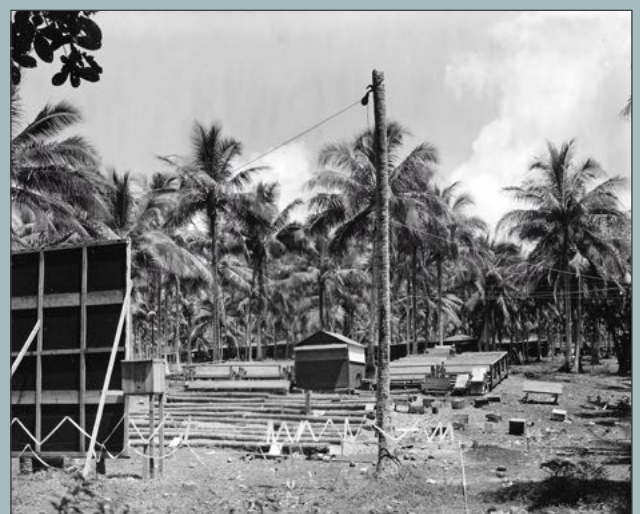
The Squadron Office at VMD-154 Camp Elrod, Espiritu Santo.



Road scene looking north from mess hall at VMD-154 Camp Elrod, Espiritu Santo.



Interior of Officers Galley at VMD-154 Camp Elrod, Espiritu Santo.



Movie show area at VMD-154 Camp Elrod, Espiritu Santo.



Censoring Mail at VMD-154 Camp Elrod, Espiritu Santo.



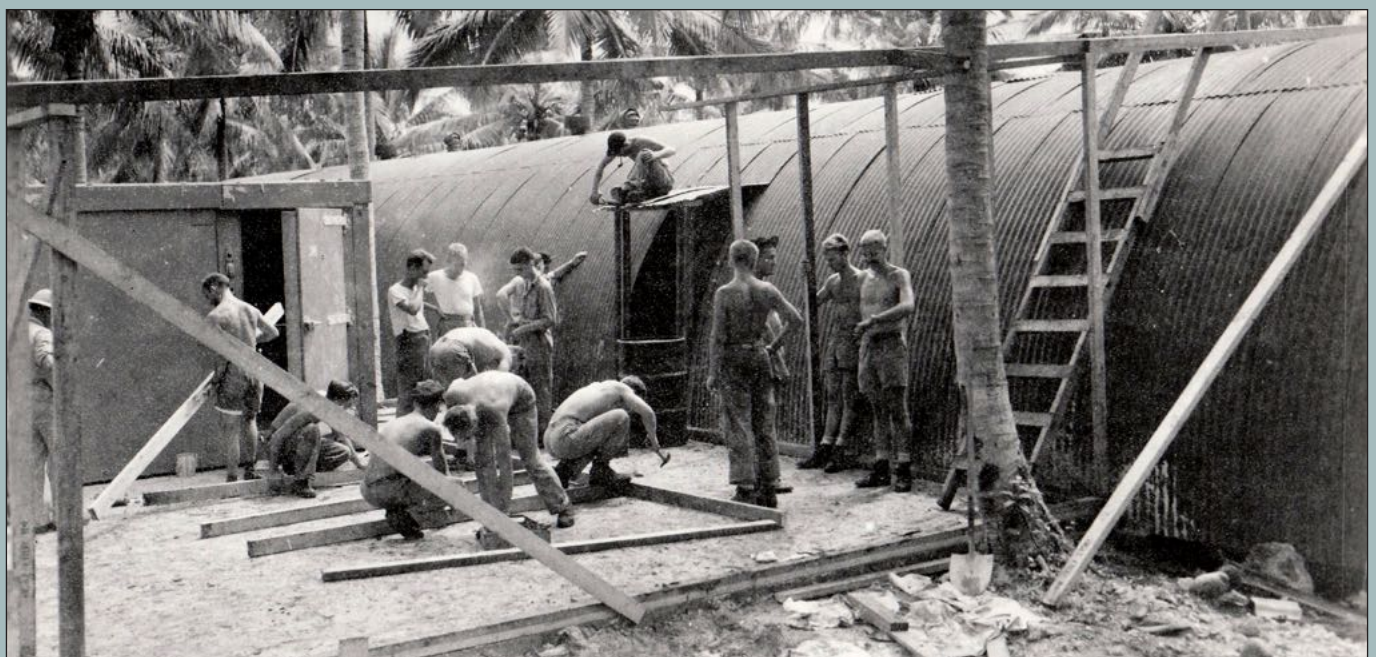
Hog spits at BBQ at VMD-154 Camp Elrod, Espiritu Santo.



Showers at VMD-154 Camp Elrod, Espiritu Santo.



Drying movie film at VMD-154 Camp Elrod, Espiritu Santo.



Building annex to the photo lab at VMD-154 Camp Elrod, Espiritu Santo.



Transportation area tractor & bulldozer at VMD-154 Camp Elrod, Espiritu Santo.



The Brig at VMD-154 Camp Elrod, Espiritu Santo.



Telephone Switchboard at VMD-154 Camp Elrod, Espiritu Santo.



Photo lab water trailers at VMD-154 Camp Elrod, Espiritu Santo.



Ambulance Jeep at VMD-154 Camp Elrod, Espiritu Santo.

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THIS MONTH IN MILITARY HISTORY

An unimaginable loss

80 years ago, this month, the hospital ship Centaur was sailing from Sydney to Cairns, off Australia's eastern coast.

The vessel was brightly lit – and marked as a hospital ship. It should therefore have been immune from attack, under the rules of war.

As the Australian War Memorial website notes: "She was ...clearly marked as a hospital ship. Around her freshly painted white hull a thick green band ran, broken in several places by large red crosses. At night, the vessel was brightly illuminated by powerful spotlights."



A rare colour image of the hospital ship Centaur.

Centaur had begun life in 1924 as a merchantman in the UK – but was converted into a hospital ship by January 1943. The vessel had a fully equipped operating theatre and dental surgery and could carry 252 patients.

This passage from the AWM recounts the shockingly fast end of the vessel.

"In the early afternoon of 12 May Centaur was carrying members of the 2/12th Field Ambulance. Shortly after 4 am on 14 May, while most people were asleep, a torpedo struck Centaur's port side, hitting the oil fuel tank which ignited in a massive explosion. The bridge superstructure collapsed, and the funnel crashed onto the deck. Everything was covered with burning oil

(continued...)

and a fire quickly began to roar across the ship. Water, meanwhile, rushed in through the gaping hole in her side. Many of those onboard not killed in the explosion or fire, were trapped as the ship started to go down bow first, and then broke in two. In just three minutes Centaur was gone."



One of Centaur's wards shortly after her conversion to a hospital ship. Photo AWM.

Just 64 of the 332 on board were saved.

The survivors were at sea for a day and half before they were rescued. The ship's crew and medical staff suffered heavily, as did the 2/12th Field Ambulance -178 men, from a total of 193, died. It was the nurses though, who suffered the worst. Of the 12 nurses onboard only one, Sister Nell Savage, survived.



A Poster depicting the hospital ship, 'Centaur' being attacked by the Japanese off the coast of Queensland. Photo AWM.

Although badly hurt herself, Sister Savage concealed her injuries and gave what help she could to the other

survivors. After sharks circled their raft, and when ships and planes passed without seeing them, a sing-along was organised to help keep up their spirits. For her "conspicuous gallantry" Sister Savage was awarded a George Medal.

The attack itself caused outrage in Australia and was used to encourage the war effort.

The wreck of the Centaur was found in 2009 off Queensland's south-east coast and is now a protected memorial to the dead.

As to the attacker, it is believed to have been I-177, one of some 27 Japanese submarines operating in the theatre at the time.

Its commander survived the war, but never admitted to the attack.



The wreck of the Centaur discovered in 2009 shows the collapsed foremast due to implosion as a result of the rapid sinking of the ship Source: David L Mearns, Search Director, The Finding Centaur Project. qldwarmemorials.com.au

You can find out more at the AWM website, including images and a newsreel of the survivors telling their story.

awm.gov.au/articles/blog/the-sinking-of-the-centaur

Inspiring everyday heroes

Vanuatu's been playing host to its own mini world cup of football this month, hosting the big matches in the Oceania Federation Cup.

It's a competition for top club sides in the federation, so slightly below the Brazils of the world.

But if you ever happen to visit Vanuatu, there's no doubting the enthusiasm for the game. It's not uncommon during the world cup for towns like Luganville to see cavalcades of taxis flying giant banners of their adopted countries.

Espiritu Santo has been hosting one of the teams, Auckland FC, who were looked after by the local police force. The team was fortunate to have access to the Santo Police Gym to use for training purposes during the OFC Cup in Luganville Santo.

They then travelled to face Vanuatu's Champion Club Ifira Blackbird FC in the semi-final at the capital's Fresh Wota stadium.

That match was a thriller - here's how the Oceania Football Confederation described the game:

"The Ifira underdogs showed plenty of bite and tremendous heart to play the final 16 minutes of

regulation time and the half hour of extra time with ten men holding on to send the match to penalties".



Local heroes, Ifira Blackbird FC. Photo New Zealand High Commission.

Auckland won the penalty shootout and then went on to win the final against Suva FC, again played at Freshwota Stadium, by 4 goals to 2.

Well done to Vanuatu for being great hosts, and to almost making it to the big final.

Inspiring Everyday Heroes is our Museum brand and means how the stories of yesteryear and our project can inspire today's new generation.



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