

## New year, new direction

Exciting plans are afoot at the Museum in what's shaping up to be our biggest year yet.

Following the past two years of border closures, the museum is undertaking it's most detailed and ambitious study of business, tourism and education within Vanuatu to better shape where we're heading.

The study will also assist our fundraising efforts in 2022 and beyond. It is being driven by Jo Cowie, our VSA fundraising volunteer from New Zealand who is working with us remotely, to help rescope our business case as we embark on the first stage of the Museum's development.

The qualitative research and face to face interviews with influencers and business leaders in Vanuatu, will help us uncover where potential opportunities lie as we move into a very important year for everyone involved with the project.



Department of Tourism Santo Manager, Mr. Edson Hosea meets with Museum Manager Lengkon Tokon.



Lengkon meeets with Mrs. Serah Ety from the Vanuatu Tourism Office - SANMA Information Office.



Beachfront Resort Manager, Mr. Calvin Rhodes also meets with Lengkon to discuss tourism to Sanma Province.

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# Hook, line & Stinson

Captain James H Brodie of the US Army was an inventive chap. So inventive he was granted four patents on an idea that was so ludicrous, almost nobody believed it could actually work.

In March 1942, Brodie made the first sketches of his 'cable rig'. He submitted the idea to the National Inventors' Council and the Navy, but they refused to believe it.

The idea was to 'land' an aircraft without a runway, by catching it mid-flight. A hook was attached to a light aircraft that would then get caught with a sling which

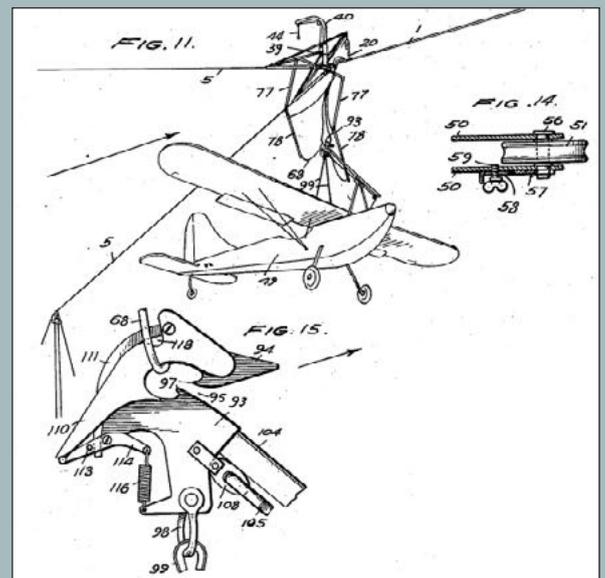


A Stinson L-5 with the Brodie skyhook system fitted. Photo by FlugKerlz.

itself was attached to a cable and a carriage that would bring the aircraft to a halt.

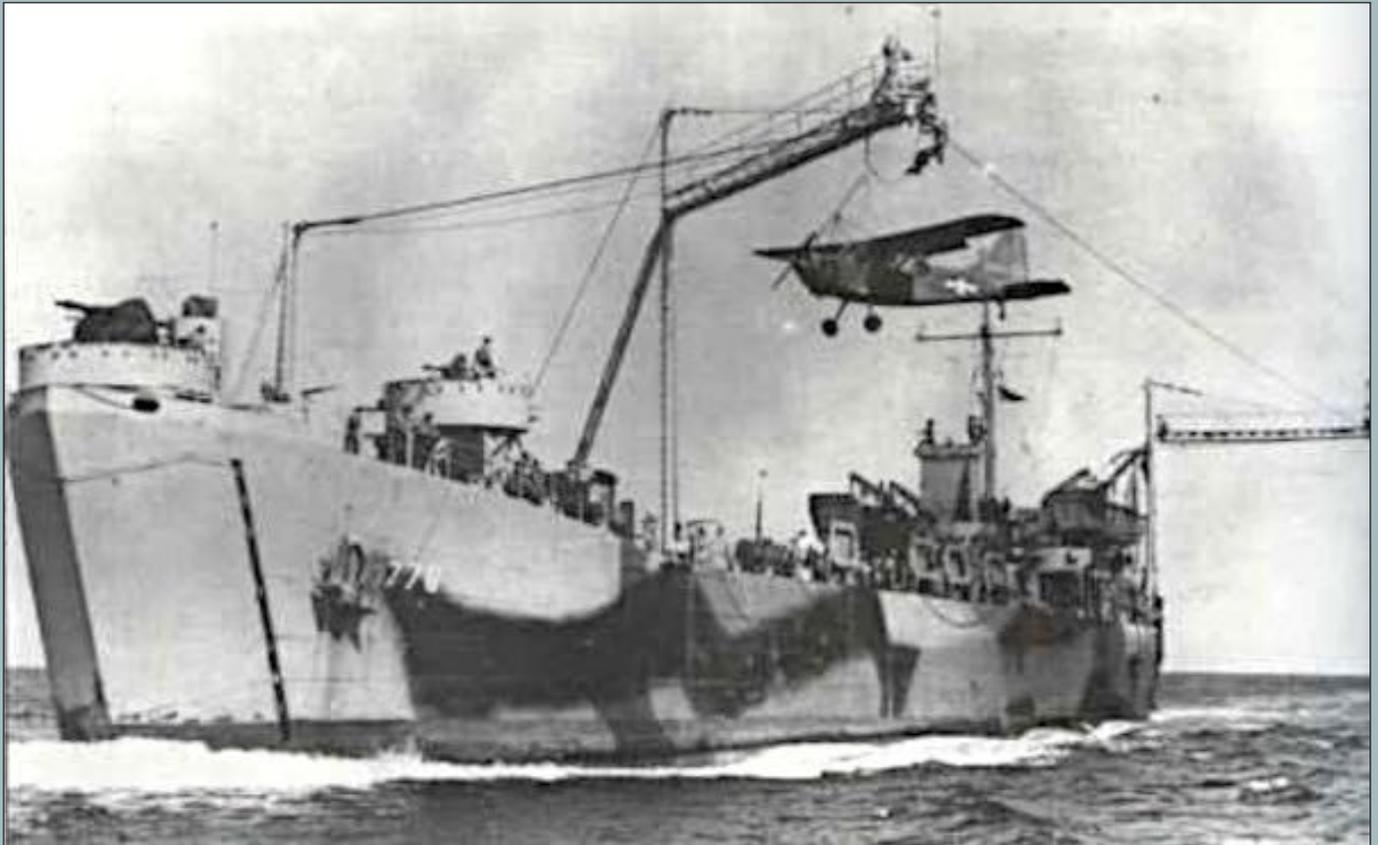
The system would have proved useful in landing aircraft in normally unsuitable terrain, such as the jungles of New Guinea or in mountainous areas where an airfield was impractical. It also meant an aircraft could land almost anywhere and its location kept well camouflaged as there was no runway to speak of.

Brodie finally got the chance to demonstrate his idea through the Army Transportation Corps. In September 1943, doubters and unbelievers saw the system demonstrated successfully in New Orleans. Soon after, sea trials took place in December, when the Brodie rig was strung between two long booms that overhung the sides of the motor ship City of Dalhart cruising in the Gulf of Mexico. Staff Sergeant R. A. Gregory made ten good take-offs and hook-ups with a Stinson L-5 light plane. Brodie and Gregory were awarded the Legion of Merit for their work on the system in 1945.

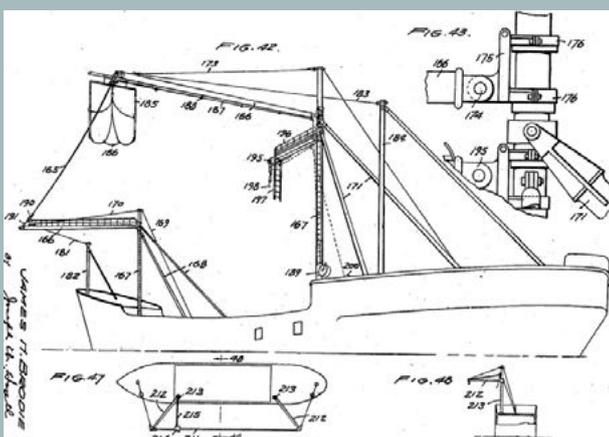


A drawing from one of Brodie's successful patent applications, US Patent # 2,488,050 - Aircraft Landing System.

Brodie was issued US Patent # 2,435,197, # 2,488,050, # 2,488,051, # 3,163,380 for variations of the landing system. He even envisioned scaling the system up to capture planes as heavy as 7000 lbs.



As crazy as the system appeared, it actually worked. This is Brodie's skyhook system recording another successful 'catch' while undergoing testing onboard an LST in 1943.



Drawings from US Patent # 2, 435,197 - Landing and Launching Apparatus for Aircraft, awarded to Captain James H. Brodie.

Many post war uses of the skyhook were devised. These included ship-to-shore ferrying of passengers, mail, and even pilots. There was talk of installations on building rooftops for air commuters and department store deliveries. Setups for forest rangers in mountainous country and emergency winter operations when regular airports are snowbound were also considered.

But with the invention of the helicopter gaining far wider acceptance and a lot less dangerous to operate, the skyhook quickly lost favour and was soon forgotten.

However, there is a YouTube video of the system being tested thanks to the Smithsonian National Air & Space Museum who even have a Stinson L-5 on display with the Brodie system fitted. You can watch the video at

<https://www.youtube.com/watch?v=ogvAWEgw6cc>

# Taking care

Interest in the US Army 25th Evacuation Hospital that was located on Santo during World War II, has resulted in a wonderful treasure-trove of photographs, documents and other ephemera being uncovered by descendants of those who served there.

Following in Dr John Anderson's footsteps and the subsequent video and book he wrote about his mother, nurse Angelina Mango, we were contacted by another son of a nurse from the 25th, Mark Jason.



Alice Haffie (second from the right) and some of nurses with the 25th Evacuation Hospital in Espiritu Santo.

Mark's mother Alice Haffie was also a nurse on Santo and a friend of Angelina's while they both served at the hospital, just north of Luganville. In fact John mentions Alice in his video.

Mark has hundreds of photographs, documents, invitations, press clippings and more that belonged to his mother, and he has very kindly scanned them and made them available to us.



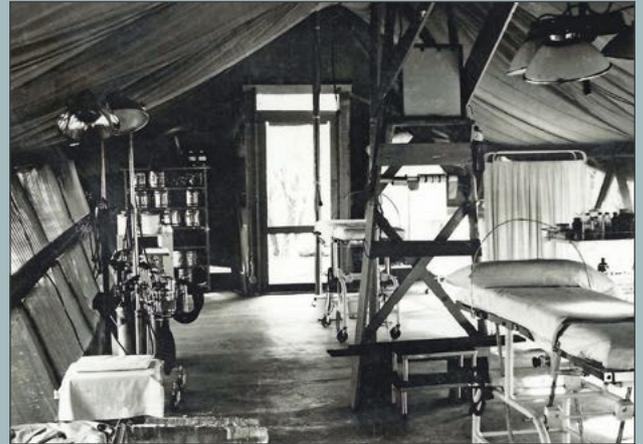
Alice Haffie's military identification card.

The Museum would like to thank Mark for all his work, his sister Patricia (Patti) Hefferan and Mark's late brother Paul Michael (Mike) Jason who also assisted in this huge effort. Indeed it has taken the much appreciated cooperation of Mark's extended family as well to pull everything together.

A final word of thanks to Mark's daughter Amanda for providing the encouragement and organisational talent that he admits he so famously lacks.



Alice with an officer outside the 25th.



One of the operating theatres inside a tent at the hospital.



A hospital ward inside a Quonset hut.



Alice stands outside a Quonset hut at the 25th Evacuation Hospital.

**CONVOY NEWS**

THE NAVY DEPT. issued a new communique today of heretofore unannounced raids by United States underwater craft. The submarines operating in war zones scored some scorching blows including sinking of two large tankers, a large cargo and passenger ship, two medium cargo vessels. In the same far-eastern theatre two smaller cargo ships went to the bottom, a converted carrier was damaged and set afire, a destroyer and one medium-sized tanker was damaged. On the other side of the ledger, the Navy announced loss of a medium U.S. merchant vessel sunk by enemy submarines off the northern coast of South America. The action took place in late September, the communique said. Survivors were landed at an east coast port in the United States, it was disclosed.

**SOUTH PACIFIC**—With the first round of activity in the Solomons over and decisively in favor of the United Nations, operations announced in that area today bore cheerful tidings to Americans. Our aircraft made three assaults on enemy positions on Guadalcanal, in which a formation of six Jap Zero fighters was intercepted by five Grumman Wildcats. Four of the fighters were shot down by the Wildcats without damage to our planes. There has been little ground activity on the island. The fast Wildcats attacked enemy installations on Rataua Bay yesterday, strafing buildings and causing fires. Our planes suffered some damage from heavy anti-aircraft fire but all returned to their bases. Supported by Flying Fortresses,

a small force of Marines crossed the Metakau River and attacked enemy positions to the westward. One wave of the leatherstocks made a two mile advance with very few casualties, it was said. Throughout the day the fighters and dive bombers of our air command scourged enemy positions on Guadalcanal, silencing Jap artillery batteries and forcing the enemy to a slow but steady retreat.

A PARAGRAPH that well pictures the situation in Italy is reproduced from yesterday's edition of the Atlantic CONSTITUTION: "The glory that was Rome looked back last week across twenty years of Fascism, the gaudy dress that lures nations into the vortex of hate. And there is much to hate in Italy. There is much of sorrow in the bright Mediterranean land."

**WASHINGTON**—The following nominations for advancement in the Army were sent to the Senate by President Roosevelt for confirmation: Major General Frank M. Andrews to Lieutenant General of the Army of the United States. The following to be advanced from the rank of Brigadier General to Major General: Donald H. Connelly, William O. Butler, Leroy Lutz, Philip E. Fleming, Troy H. Middleton, John V. Leonard, Fred Miller, Ralph C. Smith, James K. Crain, and William G. Livesey.

**LONDON**—Press reports that the Axis lost 408 planes in Europe, Middle East, and Britain during October. Of this total 88 planes were shot down over

One of the great pieces of ephemera in Alice's collection that Mark has passed on to us.

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## THIS MONTH IN MILITARY HISTORY

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# The little corvettes that could

The smallest vessels can have some of the biggest moments in any naval campaign.

In January 1943, two corvettes – sort of pint sized destroyers, or souped-up gunboats – of the New Zealand Navy had just that chance. The Kiwi (named after the country's famous flightless bird) and the Moa (after the country's infamous extinct giant bird) were on alert off Guadalcanal.

Radio direction finders in distant New Zealand had tracked transmissions that showed Japanese submarines, known as I-boats, were around the island.



The Moa – sunk not long after the battle by a Japanese dive bomber.

In fact, the submarine I-1 was approaching. By now the Japanese were desperate to get supplies through to Guadalcanal. The submarine had replaced its deck gun with a waterproofed barge. It would surface and launch the craft and its supplies.

Instead, it found the Moa and Kiwi, whose role was to fight subs with depth charges ideally. The I-1 dived again but not fast enough and was hit by depth charges. Now the commander did a crash surface – and then tried to fight his way to beach on shore. In fact, the I-1 outgunned the two corvettes.

The Kiwi, commanded by Gordon Bridson, instead of trying to sink the sub with his single gun, decided to ram I-1. His officers warned of the damage it would cause the Kiwi, to which Bridson reputedly reminded them that they'd get shore leave during any repairs.

He rammed I-1 three times during an action lasting up to an hour. The Japanese submarine's navigator even

tried to retaliate by trying to board the New Zealand corvette armed only with a sword. Eventually I-1 grounded on a reef 300 yards from Guadalcanal.

The loss was far more than a sub. The Japanese command correctly feared the loss of its code books on board. It even sent a bombing mission and a second submarine to try and sink the sub properly.



The mangled remains of the I-1's conning tower. Her deck gun was retrieved in 1968 and is now a museum exhibit in Auckland, New Zealand.

By the time this happened, the allies had retrieved the precious code books. They'd been found waterlogged and were dried out laboriously with sheets of paper placed between each leaf, while the books were placed on heaters to dry.

The intelligence gathered allowed the Allies to really understand the inner workings of the JN-25 code used by the Imperial Japanese Navy. The JN-25 had been partially cracked before but never to this extent.

This forced Japan to switch to a less secure reserve code; and according to naval historian Matthew Wright, one of the serendipitous outcomes was that the United States was then able to decode signals in April that enabled aircraft of the 339th Fighter Squadron to intercept Admiral Yamamoto's flight from Rabaul. He and his staff were killed.

All set in motion by two tiny ships.

(Information from the Naval General Board website, the NZ Ministry of Culture and Heritage, and the book, *Islands of Destiny*, by John Prados).

# Northern approaches

Back in our October 2020 edition of the Museum newsletter, we brought you the story of 'Hospital Hill' - a hill out of the East Coast Highway facing the ocean where US Marines constructed a radar installation on behalf of the US Army, to provide early warning of impending Japanese raids and close-in fighter direction for Santo.

In this issue of the newsletter, we're going to look at another fascinating radar that was constructed in the north of the island, prior to the construction of Hospital Hill. In fact it was due to the success

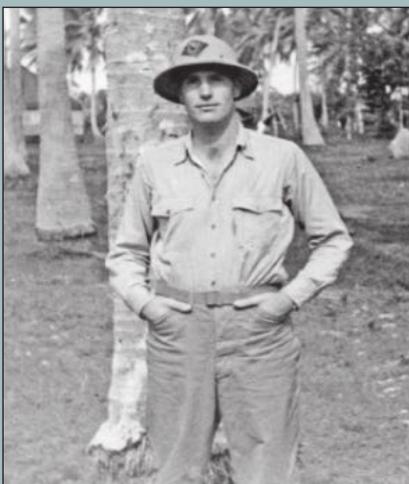


Hospital Hill, on Espiritu Santo. The remains of the radar and searchlight facility can still be seen today. Photo Kevin Green.

of the construction of the northern radar, that the second was built by the same radar team, led by Captain Claude 'Windy' Welch of Marine Observation Squadron VMO-251.

The radar set needed was the SCR-270. The nearest available unit was on Efate, so transportation had to be arranged to get the unit and its associated hardware up to Santo, including all the camp equipment needed to complete the job.

Welch met with Admiral McCain and was given carte blanche to get the northern radar up and running as soon as possible. Interestingly, also present at the meeting was LtCol. Harold W. Bauer commanding officer of VMF-212 operating out of Efate. Port Vila's international airport is named Bauerfield Airport in remembrance of the Medal of Honour recipient.



Captain Claude 'Windy' Welch.



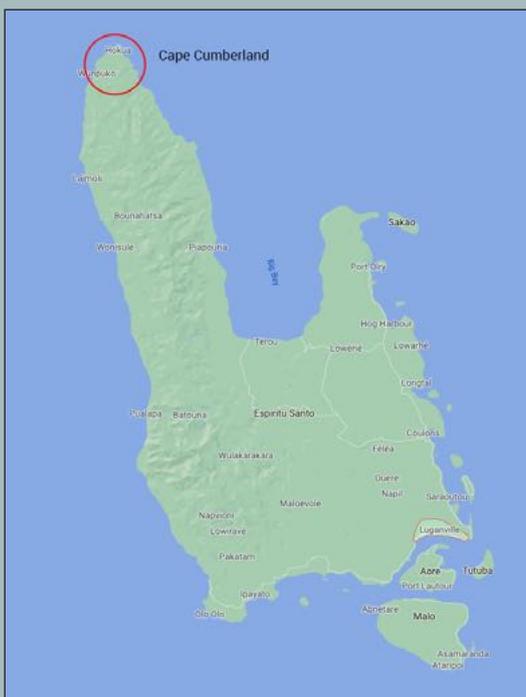
A J2F 'Duck' of the type Windy Welch flew to Cape Cumberland in.

Following the meeting, Bauer obtained the radar set from the 4th Defence Battalion on Efate, and everything was loaded onto a large barge for the journey north to Santo. Bauer also supplemented Welch's relatively small crew with six radar men.

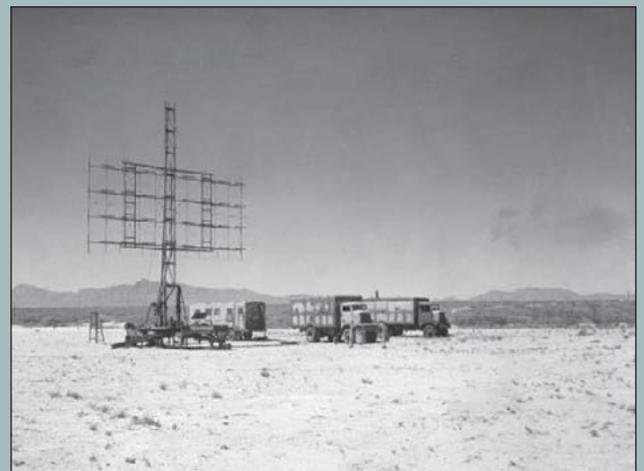
Amazingly at this time, no one had any idea, just where the northern radar was going to be located. Everything was arranged in such a hurry, Welch had not had time to scope the northernmost area of Santo to find a suitable location.

Again, Bauer stepped in and arranged for Captain F. R. Payne to fly Welch to Cape Cumberland on the northern tip of Espiritu Santo, in a J2F 'Duck' amphibious biplane. There, they made an aerial reconnaissance of the area to try and establish a location for the radar.

After flying over a long, grassy plateau near Cape Cumberland, they landed the aircraft in the water so Welch could paddle ashore and scout the terrain on foot.



The location of Cape Cumberland, to the north of Santo. Map: Google Earth.



An SCR-270 set up at White Sands Missile Range in the USA for testing. Photo: radomes.org

Welch was met by local villagers, who were most friendly and even helped moved the aircraft away from rocks where it was drifting with the tide. Unfortunately, the aircraft wouldn't restart and Welch and Payne were stuck in the village for two days before a Catalina could come and pick them up.

However, that gave Welch plenty of time to scout for the a location for the radar. Sure enough the site was found - 900 feet above sea level on a small mountain top, 10 kilometres south of Cape Cumberland.

Welch returned to his squadron and contacted Bauer to send the barge. In the meantime, more men were seconded for the job, plus a dozer to tow the radar and drums of fuel up the mountain. The barge arrived in Santo and was loaded with the additional kit, before Welch's crew of 20 men then headed up to Cape Cumberland.

A second barge was waiting for them when they arrived on August 19, 1942, and acted as an unloading barge to

breaking work as a cross-cut saw could not be located before the party left Luganville.

Despite the heat and the lack of equipment, the work party pressed on and continued their slog towards the radar site. After six days, they were far enough away from the coast to warrant moving the camp inland, so the works crew wouldn't have to walk so far. However, many more challenges had to be overcome.

Despite Welch taking the easiest route possible, three bridges had to be constructed, capable of taking the enormous weight of the heavy radar units. Luckily one marine on the crew named Meing, had experience building bridges in civilian life. He determined what timber would be strong enough to take the weight and the bridges remained in operation throughout the lifespan of the radar.

But just as the marines began the climb up the mountain, heavy tropical rain fell and turned the



An SCR-270 radar set overlooking the Hawaiian Islands. This is what the Cape Cumberland set-up would have looked like, covering the northern approaches to Santo. Photo: radomes.org

get everything ashore. It took six hours of hard physical labour to get the radar set and all the supplies the men brought with them, to a camp they set up near a stream not far from the beach.

The next day the agonising task of getting everything through 10 kilometres of jungle and up a mountain to the radar site began.

The three mobile parts of the radar each weighed eight to ten tons and with this SCR-270 being the only set available in the Pacific, great care had to be taken transporting it. Not an easy task through a remote jungle region with no roads.

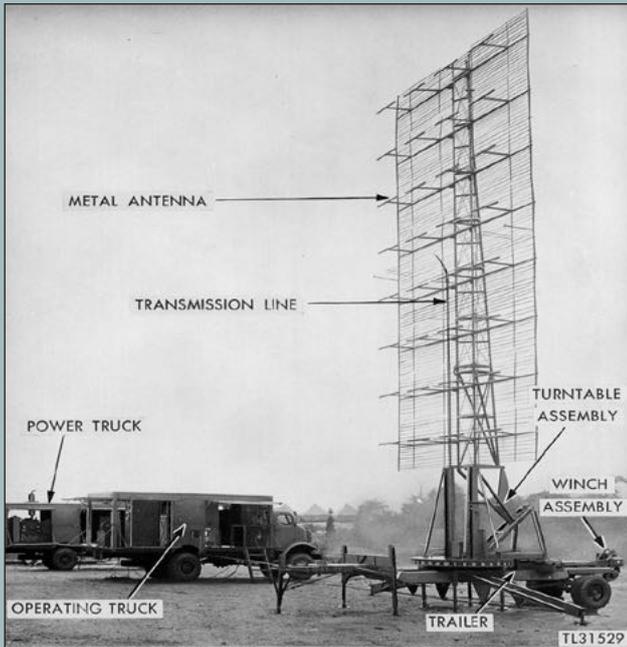
Under a hot Pacific sun and jungle humidity the work party used hand axes to cut down trees with trunks ranging from 24" to 28" in diameter! It was back-

new road into mud. Slippery, gooey mud which in turn delayed reaching the top.

After 16 days of unrelenting heat, mud, sweat and sheer exhaustion, the radar set was finally deployed and ready for testing.

The experienced radar technicians, had no problems setting everything up and getting it operational.

To begin with, just enough fuel was carried up to keep the radar's generator unit running for a few days. The remaining fuel had to be brought from the original campsite on a skid that could be towed up the mountain by the dozer. A weapon carrier, that had been intended to be used to haul the barrels of fuel to the radar site once the site was established, broke down weeks prior and could not be repaired.



An SCR-270 and its major components.

Initially there were issues establishing communication with the control centre on the southern end of the island. The reception was good, but transmission from the site was poor. It turned out to be an issue with the low power transmitter. The radar operators discovered that by using different frequencies during the day to those at night, reliable contact could be maintained.

With the radar functioning, all that was left to do was establish security for the site - the radar was rigged with explosives in case of Japanese invasion!

Welch was now satisfied that everything was running perfectly and everyone knew their jobs. So he requested via radio to be picked up and returned to the squadron.

Welch was back with the squadron on 6 September 1942 - just in time to start work on... Hospital Hill.



A Japanese H8K2 'Emily' long range seaplane similar to this one attacked Santo six times in 1943. The radar was searching for this type of enemy aircraft and anything that would suggest an impending invasion.

# Inspiring everyday heroes

Our everyday heroes this month are Captain Anna and Captain Olivia from Unity Airlines in Port Vila. Earlier in the month the airline was called to do two medevacs in the one day - the first with an the all-female crew.



Captains Anna & Olivia with the Promedical team from Port Vila.

Anna and Olivia flew two Promedics Celine and Charlotte, to Ambrym to pick up their two month old patient, little Kenny who had a serious respiratory infection. To enable Kenny to get enough oxygen to breathe, the crew flew at 500 feet around the islands of Paama and Epi to get him to a hospital. The great thing is, they received news not long after, that Kenny had survived his nasty infection.

Following Ambrym, Olivia flew to Aniwa to pick up a mama having a difficult pregnancy. The doctor jumped in the truck to the village (about 2km from the airfield)

and didn't come back! Olivia waited about an hour at her aircraft before setting off for the village.

Around half way there, she came across the truck with the mama, baby and bubu's in the back looking after them. She had given birth in the bush!

The baby was healthy but mama still needed medical attention back in Port Vila. Thanks to the wonderful people at Airports Vanuatu (AVL), Port Vila tower stayed



Rushing back to the aircraft for the trip back down to Vila.

open just for them, and they flew back to Port Vila in the dark with a full moon and beautiful weather to guide them home.

**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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