

# Seabee Pioneers in Reuse and Repurposing

by **Gina Nichols, Supervisory Archivist, US Navy Seabee Museum**

During WWII, Seabees deployed to remote Pacific islands to build advanced bases with limited supplies and materiel to complete construction projects. Using their infamous Seabee Ingenuity, they used materials on hand to make practically anything. Nothing ever went to waste on Island X as Seabees used scrap metal, crates, Coca-Cola bottles, and thousands

of other items to build and repair essential equipment and materiel (Island X was a designation for any island where Seabees were deployed. It was used to protect the specific whereabouts of the deployed units when operating in the numerous islands across the Pacific). Repurposing excess materiel



*Seabees from the 71st Construction Battalion improvising a hydraulic barrel-end remover from a 55-gallon drum. The Seabees have a long history of creating need-based inventions with the 55-gallon drum.*



*Elevated gas station built with a pontoon and palm tree trunks, WWII.*

streamlined their work and added creature comforts to their lives on often remote islands across the Pacific. The two items most often reused were the 55-gallon drum and pontoons.

## What Can You Make With a 55-Gallon Drum?

Nothing ever went to waste on Island X as Seabees reused millions of 55-gallon drums to make culverts, roofing shingles, bar-b-

ques, breakwaters, hot water tubs to wash mess kits, and shore up docks to name a few.



*Garbage incinerator made from 55-gallon drums on Okinawa by Seabees with the 81st NCB.*

Not satisfied with slowly cutting off the ends and flattening empty oil drums for purposes their manufacturer never dreamed, Seabees improvised a way to streamline their reuse and repurposing. They rigged a power-driven can opener to cut off both ends of the drum in less than two minutes. A small 60 HP motor salvaged from a Hyster supplied the power. A roller salvaged from the same Hyster

was made into a small, cone-shaped blade and easily cut steel drums. Then the decapitated gasoline drums were used as bathtubs, pipelines, ovens, chimneys, chairs, bulldozer radiators, and a plethora of other items.

Throughout the Pacific, Seabees welded 55-gallon drums together to create culverts to guide water, sewage, and debris away from camps and facilities. By the time US forces landed at Iwo Jima, Seabees had been using drums as culverts for more than four years. As they began repairing the two runways closest to Mount Suribachi (Runway 1 and Runway 2), they faced a daunting logistical issue: the heat emanating from the hot earth caused the newly



*Radiator repair done by Seabees from the 73rd Naval Construction Battalion with a 55-gallon drum, Munda, Solomon Island*

repaired runway to buckle and sag. After trying numerous sub-bases at different thicknesses, to no avail, the Seabees finally dug down a few feet, laid a thick sub-base and then culverts built from drums widthwise, and then another foot of base and asphalt to create the airfield surface. The heat rose causing the condensation to pool in the culverts and the steam to escape out the sides. This left a cool pocket of air between the drum and the sub-base and runway surface eliminating the buckling and sagging. Without this ingenious, yet seemingly simplistic invention, the airfield may not have been fully functional in time for the final push toward V-J Day.

### **Pontoon, Oven, Garbage Scow**

At the beginning of WWII, the Bureau of Yards and Docks ordered the construction and assembly of pontoon causeways prior to ships embarking for the Pacific. The causeways were strapped to the sides of the ships ready for use immediately after arrival at Bora Bora, Funafuti, and Efate during the early months of 1942.

Almost immediately, the Seabees realized that assembled causeways took up essential material space and it would be more logistically efficient to send unassembled pontoon parts for assembly in the field. Five Pontoon Assembly Detachments were trained and deployed to major advanced supply bases throughout the Pacific specifically to build and assemble 48 different pontoon configurations for use in the field.



*Seabees from the 75th Construction Battalion laying a sewage pipeline made entirely from 55-gallon drums. The Seabees have a long history of creating need-based inventions with the 55-gallon drum.*





*Water trucks made with pontoons rumble down airstrip at Eniwetok to aid in packing the coral on the strip, Marshall Islands.*

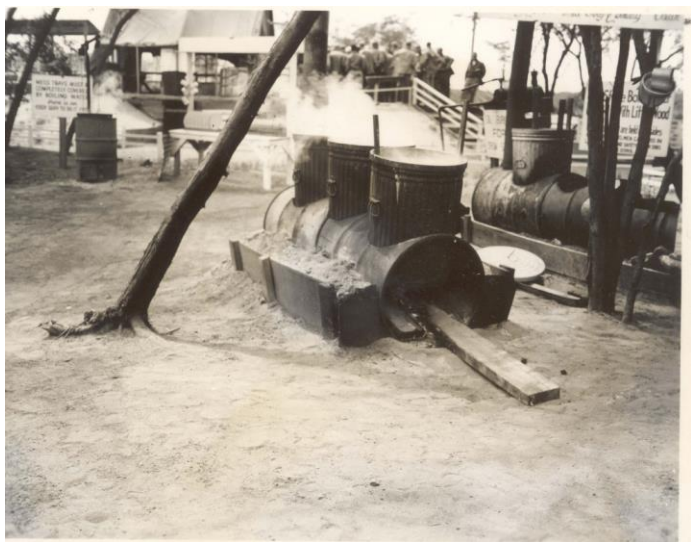
However, the pontoon parts, sheets of steel, were configured into many varied items to supplement and replace missing equipment and material. Pontoon parts were used to make ovens, garbage scows, and repair damaged equipment and ships. Pontoons were also used to make water tenders for construction, field gas stations, truck wash stands, or anything needed in the field.

Throughout WWII, Seabees used their imaginations and resources on hand to repair ships and equipment; create essential items like ovens, garbage scows, and culverts; and reinvent equipment like water tenders, grease traps, and incinerators. These items were essential to maintaining the leapfrogging momentum across the Pacific to V-J Day.

### Additional Photos:



*Galley waste water soakage pit and grease trap created by Seabees with the 81st NCB on Okinawa.*



*Seabee-built stove for sterilization, Okinawa. When combat support against Japan was completed, Seabees turned to construction of vast storage yards, dumps, buildings, harbor facilities, repair shops, hospitals, and living quarters.*



*Seabees from the 75th Construction Battalion constructing a sewage pipeline from gasoline*



*Seabees install submarine pipeline off White Beach, Tinian. They used 55-gallon drums to float the pipeline out to a floating gas station where Submarines could fill up.*