

Coast Artillery Living History Fort Hancock, NJ

On 20-22 May 2022, the National Park Service (NPS) conducted the annual spring Coast Defense and Ocean Fun Day event (sponsored by New Jersey Sea Grant Consortium (<http://njseagrant.org/>) in conjunction with the Army Ground Forces Association (AGFA). Coast Defense Day showcases Fort Hancock's rich military heritage thru tours and programs at various locations throughout Fort Hancock which occupies the Sandy Hook peninsula and is designated "The Fort Hancock and Sandy Hook Proving Ground National Historic Landmark".

The educational objective was to provide interpretation of the Coast Artillery mission at Fort Hancock in the World War Two-era.

This was the first public event at Battery Gunnison/New Battery Peck since October 2019 and many restoration projects have been advanced since the last public interpretive event.

The members of AGFA who participated in the event were Callum Bujdos, Donna Cusano, Paul Cusano, Joel Gonzalez, Richard Hill, Richard King, Henry and Mary Komorowski, Anne Lutkenhouse, Tom Morrison, Mike Murray, Paul Taylor, John Uhler, Shawn Welch and our guest Stephanie Welch.

AGFA focused on the activation of two 6-inch M1900 barbette carriage guns at New Battery Peck (formerly Battery Gunnison). The battery structure was modified and the two M1900 guns were relocated during the first half of 1943.

The tactical focus of the event was the ongoing U-Boat war, and the threat of saboteur activity or the shelling of Fort Hancock by submarines using deck guns. The event also addressed the operation of the Advance Harbor Entrance Control Post ("HECP") Number 1, which was located at Fort Hancock, and the role that Battery Gunnison/New Peck played as Advance HECP #1's Examination Battery.

The photo below from Sunday 22 May shows that day's participants in front of the Battery Commander's Stairs.



From October 2019 through May 2022, AGFA continued to execute major restoration projects. Projects A through E below have reports that address their work in specifics. Those reports are available on the AGFA website at <http://armygroundforces.org/restoration.html>.

- A) Designed and installed a completely new Powder Can storage rack system inside the powder magazine - completely realigning existing space and creating a much more historically accurate environment.
- B) Finished all interior M1 Collective Protector Chemical Warfare system restoration and installation.
- C) Recovered an original M1 Collective Protector air filter from Battery Kingman and placed it in a plexiglass display case to enable public view of the structure of the filter and its components.
- D) Completed the counterweights for both guns enabling elevation/depression of the gun tubes as would have been done during the service of the guns.
- E) Completed restoration and installation Shell Hoist #1 for Gun #1
- F) Fabricated a temporary shell table for the top of Hoist #1. This enables the execution of the entire ammunition component of the gun loading drill.
- G) Completed new breach covers for both guns (replacing the old cut 55-gallon drums).
- H) Fabricated four Drill Shells for use in gun drills and fabricated a new drill shell extractor rod to improve gun drills.
- I) Fabricated a temporary elevation indicator for the range drum on Gun #1. This enables elevation of the gun tube to be accurately determined. Parts are on hand to fabricate another indicator for Gun #2.

Several other major projects are underway including (1) continued work on M1900 gun traversing systems; (2) restoring 1915 Corps of Engineers Standard panel boxes for the Mortar Battery; (3) repair of sight cradle for Gun #2; (4) concrete sealing for chimneys; (5) restoration of nine platform lights for future use by the NPS.

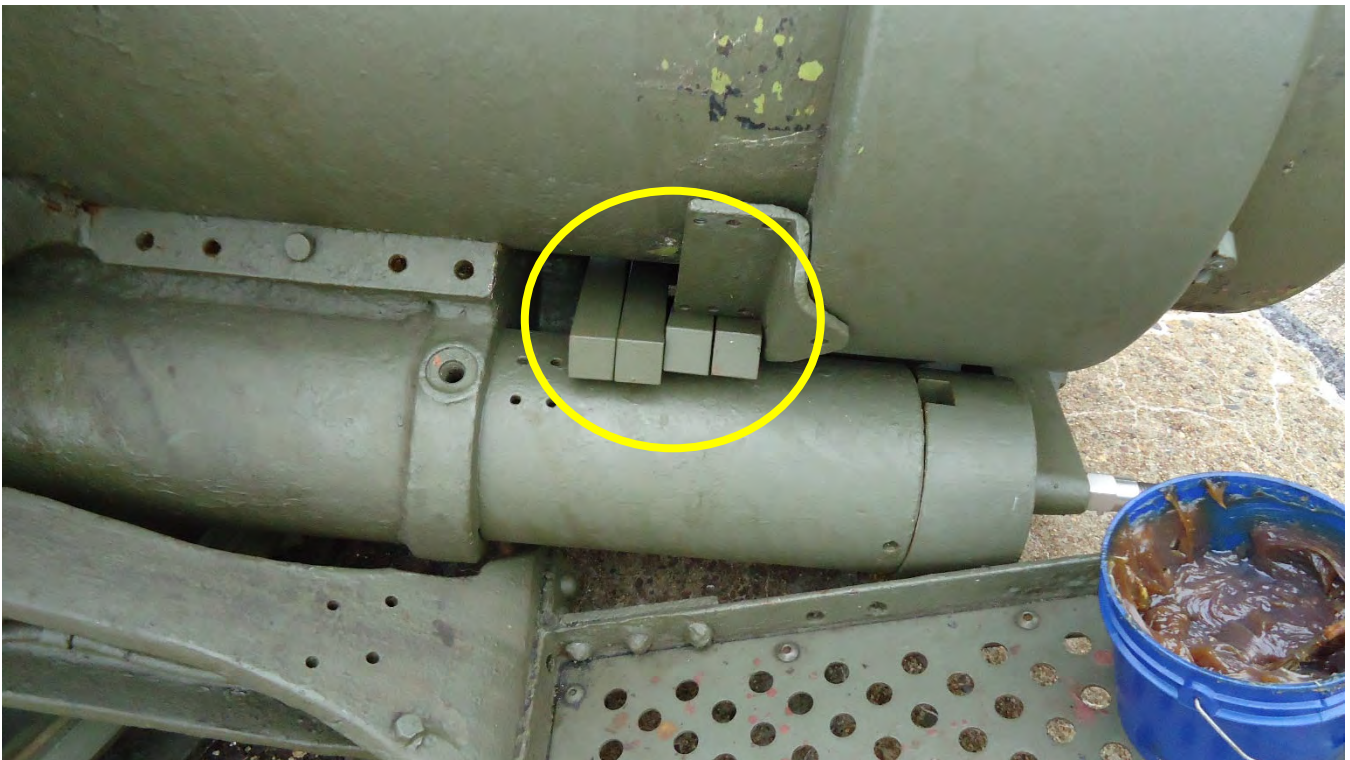
The photo below shows the new elevation indicator installed on Gun #1. This indicator can be adjusted for correct elevation of the tube which is enabled by moving the pointer on the threaded rod to the correct reading for zero elevation.



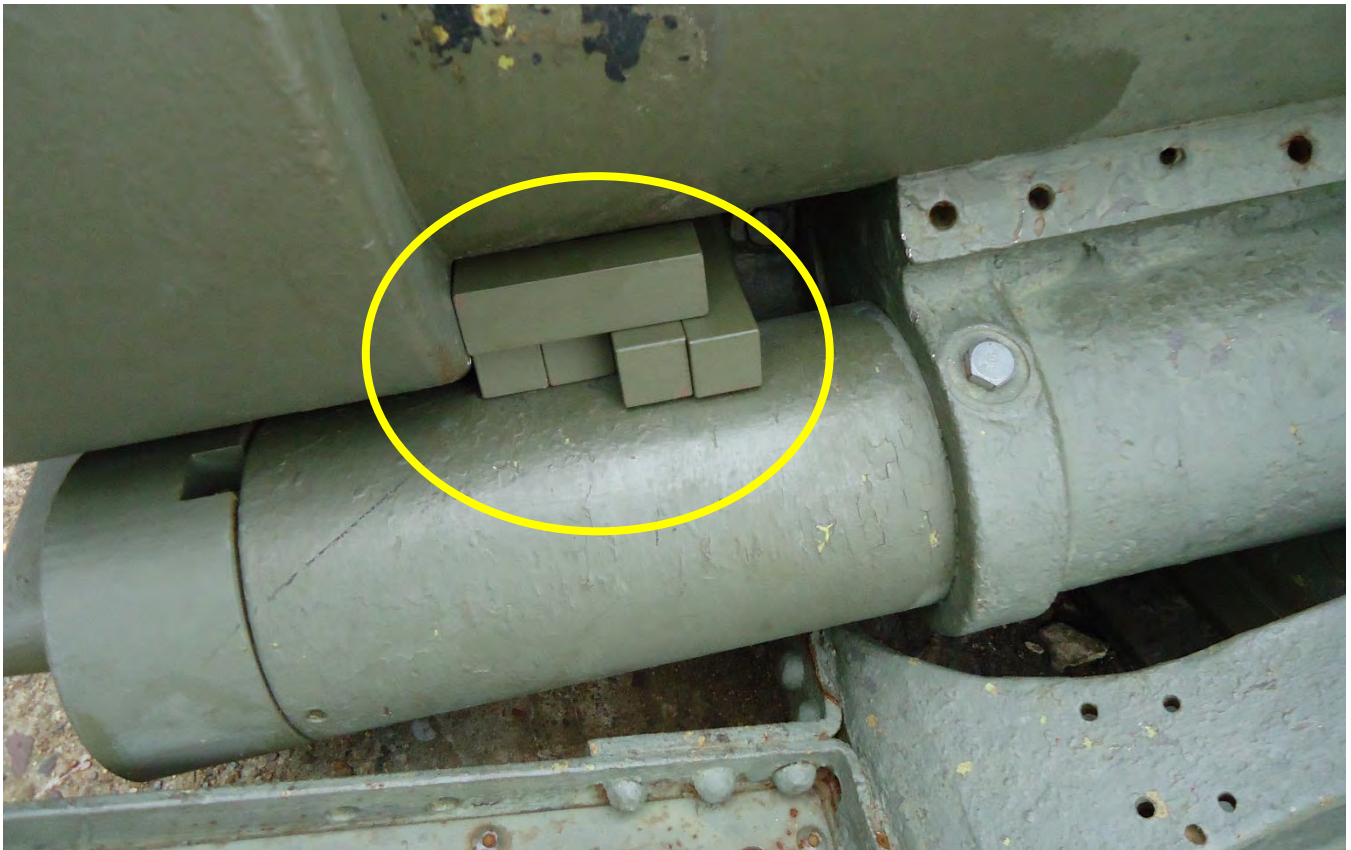
Much of AGFA's restoration work requires the fabrication of parts. Below on the left is a bronze Universal Joint casting and on the right is a steel platform light casting. These were fabricated by Cattail Foundry in Strasburg PA based on original items. Gun #2 requires a new universal joint for the traversing mechanism which is in fabrication.



With the completion of the counterweights and balancing of the guns, there is now a need for removable weights to take the place of the breach covers when removed. The four steel bars shown below each weigh 15 pounds. The four bars make a total of 60 pounds. They are easily removed when the breach cover is to be reinstalled.



The bars below add an additional 50 pounds for a total of 110 pounds.



New wooden drill shells have been fabricated. The shell on the far left was our original drill shell fabricated in 2009. We added 15 pounds of steel to give it more "heft". The next shell (long point) is based on the MK-33 Armor piercing shell. The next three are based on the M1911 armor piercing shell. The shorter shell is what was used by New Battery Peck. The longer shells were used by Battery 219 in Highlands Military Reservation (Hartshorne Woods Park). The shells weigh about 25 pounds each.



The five shells are shown below in the receiving table for the newly installed hoist for Gun #1. The white area is where the extraction bar is located. The white paint enables them to be seen inside the dark breach of the gun tube.



On Friday we conducted tests of the drill shells in Gun #1. The photo below shows the drill shell seated in the forcing cone of Gun #1. Notice the white area which makes it easy to get the extraction hook into the base of the shell to pull it out.



In the photo below shows the powder bag inside the breach. To extract that bag is easy - notice the cloth handle hanging loose. Grab that and "pull"!



The photo below shows our wooden extraction rod being used to pull the shell out of the forcing cone. The white paint makes the hole in the base of the shell very visible and easy to hook the rod and extract the shell.



Friday afternoon we were visited by the NPS grounds team which trimmed the top and slope of the Battery. Below they are cutting the slope area.



Below Manny Montano, NPS Supervisory Operating Engineer and roads/grounds manager, tests the new elevation capability on Gun #1 - it was a pleasant surprise for him!



Saturday morning started early at the Battery where we met with Jim Wolfe from Motion Systems Corporation at 0830. Jim has been helping us with the more difficult heavy machining for the traversing system. CPL Cusano has just completed installing the traversing system for Gun #1. Notice the new breach cover. This provides outstanding protection for the breach block and is easy to remove for one person.



We conducted several tests of the traversing systems for the two guns. Below, 2LT Gonzalez tests the worm gear shaft assembly for Gun #2 and we discovered that it does not fit. We have tentatively determined that the shafts are specific to each gun and in this case the shaft is really for Gun #1. More testing is needed.



Around noon we gathered the Saturday team together for a photograph on Gun #1 platform. We have just assembled the gun for drills and adjustments.



One major task for us was welding the broken frame for the Hoist #1 doors. Earlier in the spring the frame was broken during an attempted break-in. Below, CPT(CH) Uhler is setting up his welding system to fix the frame.



Below CPT(CH) Uhler just completed the first weld on the broken frame.



Below is a clearer view of the frame area and the new weld.



Right after the welding job we moved the gun implements to Gun #1 to begin our first training session on loading drills since before October 2019.



Below (L-R) CPL Cusano, CPT(CH) Uhler, T-5 Morrison and 1LT Taylor observe an M1911 drill shell coming up the hoist.



Below the shell arrives on the temporary upper shell table. We fabricated this table in late April and confirmed its utility a week before this weekend.



The photo below shows the M1911 drill projectile resting in the receiving table ready for placement on the loading tray for the gun.



Below T-4 Hill looks up the shell hoist shaft to confirm delivery of the drill projectile.



Below the team prepares for our first gun drill. LTC Welch (R) goes over the drill routine with T-5 Morrison and CPL Cusano as CPT(CH) Uhler and 2LT Gonzalez retrieve the drill shell from the hoist.



As we prepared for the gun loading drill, 1LT Lutkenhouse discusses what we are doing with public visitors as 2LT Gonzales looks on.



Below CPL Cusano and T-5 Morrison load the powder bag into the breach of the gun. T-4 Hill is the chief of breach and 2LT Gonzalez is the elevation setter.



In this photo, CPL Cusano and T-5 Morrison set the powder tray as LTC Welch brings the rammer into place to ram the bag into the breach.



In this view LTC Welch is ramming the powder bag as CPL Cusano and T-4 (?T-5) Morrison remove the powder bag tray. T-4 Hill is chief of breach, awaiting.



Below CPL Cusano and T-5 Morrison prepare to remove the powder bag.



Below CPL Cusano pulls the bag out by its handle as T-5 Morrison holds the powder bag tray.



On Saturday 2LT Cusano and 1LT Lutkenhouse did a "light" medical display setup for Sunday.



After the first gun drill training session, 2LT Cusano sits near the telephone box for the Gun Pointer's telephone.



Below shows the final welding job at the end of the day.



And shortly after that photo was taken, CPL Cusano had primed the metal and was preparing to paint the doors.



Sunday morning came early and we set up the Battery for Coast Defense Days/Ocean Fun Days. Below CPL Bujdos is bringing materials to the gun platform.



Below CPL Bujdos strings out the gun commander's telephone line. The MC-153 Time Interval Bell has already been mounted.



Below CPL Bujdos assembles the elevation board operator's station with the chalk board and EE-91 telephone.



Below 1SG Murray connects the MC-153 TI Bell in the telephone both. He is holding a "2x16 tool" that is used to make the connections.



Below CPL Bujdos, CPL Cusano and T-5 Morrison set up the Chemical Warfare display's M1 Collective Protector filter in its display case.



Below is the Chemical Display with various gas masks, protective materials and decontamination equipment. Much of this material is "new old stock" and in outstanding condition. CPL Bujdos is owner of this display and the font of knowledge on this equipment.



Below is another view of the Chemical Warfare display to include a rare decontamination sprayer from 1943 on the left.



The display below is the "light" medical equipment display that includes blood pressure, resuscitator, blood transfusion equipment, towels, bowls and other items.



The photo below shows the shell magazine as set up for the event. The focus here was to not only show projectiles and ammunition handling, but to also highlight several on-going projects. On the right are several completed platform light restorations.



The photo below highlights work being done on traversing materials for Gun #2.



Below is a fuse display showing eleven fuses that were designed and tested at the Sandy Hook Proving Ground in the 1910-1919 time period. All of these fuses were used in WWI and most were used in WWII.



The photo below shows the powder magazine with the new shelving installed. The shelving on the left holds about 220 powder cans. The magazine was designed to hold 600 cans. However, to provide room for the public to enter, only 300 cans are inside this room.



Below 1LT Lutkenhouse and 2LT Cusano are prepared for the public to visit.



The photo below was taken just before the start of the event to ensure we had everyone.



Below is the military Chaplaincy display. The location right under the gun platform provided a sheltered location for the historic items that avoided the direct sunlight.



Below is the ecumenical set with the field desk and liturgical equipment.



The Church Flag, field organ and box of hymnals.



Below is another view of the communion set and other liturgical items.



Below the team takes a break from the gun drills.



Below the Battery Commander's Station receives visitors.



Below is a view of the Battery Commander's station with two EE-91 telephones, an MC-153 Time Interval Bell, an M1910A1 Azimuth Instrument and a five-trifle rack.



Below is another view of the Battery Commander's Station.



Below 2LT Gonzalez takes a break and awaits the next group of visitors.



Looking over from the Battery Commander's Station we see the Gun #1 platform with visitors present. Notice how the chimney to the left is black in color. This is an asphaltic sealant. Since these sealants have been applied, water intrusion into the Battery has been greatly reduced. This is a historically accurate sealant and works well.



Below CPL Bujdos speaks with visitors about Chemical Warfare equipment in his display. Behind him T-3 Komorowski and 1LT Taylor confer.



Below we see several visitors in the BC station and the machine shop.



Below the team has just completed a gun drill and is going back to our other stations in the Battery to provide the public with additional information and experiences.



The gun platform is mostly empty as the team has gone back to the other stations in the Battery.



Below 1LT Taylor provides the public an overview of how the plotting room operates. In this case he is actually pointing to an original 1943 calendar.



Below is an M1905 Deflection Board and EE-91 telephone which connects the board operator with the gun pointer.



In this photo of the plotting room, we see an M1 Range Percentage Corrector to the left, three M1903 Springfield Rifles in the rack, and above them a Meteorological board. To the right of center under a circular electrical receptacle is a Wind Component Indicator. These are actual plotting room instruments.



Another view of the plotting room showing the M3 plotting board, and to the right the EE-85 Time Interval Apparatus. This original device is operating and sending out the TI signals to all the bells to include the one on the ceiling and the left.



Below the public gathers as the team starts the second gun drill.



Another view of the start of the gun loading drill.



Below LTC Welch gives an initial introduction as to what is about to occur in the "Ballet of Gun Loading".



Below CPL Bujdos brings over the powder tray and bag, CPL Cusano has just swabbed the bore, LTC Welch prepares to ram the shell that has been brought over by CPT(CH) Uhler and 2LT Gonzalez and 1SG Murray begins elevating the gun.



Below LTC Welch extracts the rammer in preparation for the powder bag, ...



...and then LTC Welch rams the powder bag into the breach.



Below T-4 King pauses in hoisting a shell as CPT(CH) Uhler passes him with his welding tools. The shell extractor rod has just broken!!!



Below CPT(CH) Uhler works on the new tool at the large vise, bending the tip to ensure it works.



Visitors watch inside the machine shop as CPT(CH) Uhler fabricates the new drill shell extractor.



Below 1SG Murray (Elevation Setter) provides an initial orientation on how the drill works as T-3 Komorowski (Gun Pointer) and T-5 Morrison (Chief of Breach) stand by.



The ammunition team stands by (L-R) 2LT Gonzalez, CPT(CH) Uhler, CPL Bujdos and 1LT Taylor as gun commander is ready to swab the mushroom head (breach face).



Below CPL Cusano uses the newly fabricated shell extractor to remove the drill shell onto the shell tray. This extractor is VERY robust and easily unseats the drill shell from the forcing cone inside the chamber.



Below the team prepares for the last drill of the day.



Ammunition service ready for the final drill!



The gun has just “fired” and the breach is open. 1LT Taylor swaps the mushroom head and CPL Cusano is running up with the breach swap to remove the burning embers.



CPL Cusano swabs the bore as the shell comes up behind him carried by 2LT Gonzalez and CPT(CH) Uhler.



LTC Welch brings up the rammer to ram the shell into the forcing cone.



The shell is rammed.



Next comes the powder bag as 1SG Murray begins elevating the gun tube.



LTC Welch finishes ramming the powder bag as T-5 Morrison prepares to close the breach. This drill was completed in 15 seconds - which is the expected time for loading the guns.



This was the first time the elevation of the gun tube was included in the drill making this the most "complete" drill performed to date. We believed as we add functionality and thus procedures into the drill that meeting the required 15 seconds would be very difficult. But we did it. The two days of gun drills identified two key points. We need a more robust drill shell extractor. The extractor fabricated on Sunday was a step in the right direction. The next is a lighter rammer head. The originals were aluminum which is much lighter than the 155mm steel shell rammer we have now. We will fabricate the new rammer using the picture in the ordnance manual as a guide and using a hard wood for ease of fabrication. These projects will be completed before October 2022.

After the last drill, visitors inspect the gun as 1LT Taylor, T-5 Morrison and T-3 Komorowski look on. With the last drill of the day came closing time.



The day has ended and Gun #1 is secure. Below CPL Cusano brings down the cosmoline as CPL Bujdos comes out of the magazine. The gun is secure for the day.



Below CPT(CH) Uhler and 1SG Murray chat during breakdown. Personally owned exhibits are being loaded their owner's cars as we prepare to lock the Battery.



At the end of the day after all personal and association property has been stored or loaded into cars, 1LT Lutkenhouse, CPL Cusano, 2LT Cusano and 1SG Murray rest at the plotting board.



Final loading of personal items with 2LT Cusano and 1LT Lutkenhouse.



The gun is locked in place, loading implements are stored, and another successful Coast Defense Days and Ocean Fun Days comes to a close. As one passes the Battery over time they will notice the guns are in different positions. This is called for in the ordnance manual to prevent settling of the guns. It also signals to visitors that the guns and Battery structure are maintained in a recurring manner.



For additional information regarding the Fort Hancock and Sandy Hook Proving Ground National Historic Landmark District visit the NPS website <https://www.nps.gov/gate/index.htm> or call (732) 872-5970.