

**Coast Artillery Living History**  
**Fort Hancock, NJ**

On 18-20 May 2018, the National Park Service (NPS) conducted the annual spring Coast Defense and Ocean Fun Day (sponsored by New Jersey Sea Grant Consortium - (<http://njseagrant.org/>) in conjunction with the Army Ground Forces Association (AGFA) and other historic and scientific organizations. 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 members of AGFA who participated in the event were Callum Budjos, Lisa Budjos, Peter Budjos, Doug Ciemniecki, Donna Cusano, Paul Cusano, Chris Egan, Richard King, Henry and Mary Komorowski, Anne Lutkenhouse, Eric Meiselman, Tom Minton, Steve Rossi, Paul Taylor, Wally Tunison, Bill Winslow and Shawn Welch. AGFA guests included Marc Herman, Tim Kuntz, and Phil Galvano.

The event had the following major components: (1) the Harbor Defense Lantern Tour on Friday evening; (2) Open House at Battery Lewis; (3) six-mile Fort Hancock Historic Hike; (3) Coastal Defense/Ocean Fun Day on Sunday. The Ocean Fun Days component of the event was hosted by New Jersey SeaGrant Consortium and AGFA had three separate activities; (a) World War One exhibit on Pershing Field; (b) Military Vehicles display at the event bus staging area and; (c) Battery Gunnison/New Battery Peck.

The educational objective was twofold: (A) to provide interpretation of the Coast Artillery mission at Fort Hancock in the World War Two-era and on Sunday adding (B) World War One exhibits and education.

The World War Two component focused on the activation of two 6" rapid fire M1900 guns at New Battery Peck (formerly Battery Gunnison). The guns were relocated to this site to provide a greater field of fire in the defense of the Ambrose Channel at the entrance to New York Harbor. 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 Historic Hike and Lantern Tours focused on fortifications and other structures across Fort Hancock (Sandy Hook) in World War Two, as well as components of the Sandy Hook Proving Ground.

The photo below shows the participants on Sunday 20 May on the newly installed Battery Commander's Stairs.



Between October 2017 and May 2018, many projects were undertaken and substantially completed. The most visually significant projects that were completed include:

- A) Reintroduction of Ammunition transportation bridges to the gun platforms. This National Park Service-managed and funded project has been in the making since 2005. The work began with Computer Aided Design (CAD) drawings developed by AGFA member Technical Sergeant Gary Weaver by importing original drawings into CAD and then completing the design. These files formed the basis for NPS project documentation and solicitation.
- B) Reintroduction of the Battery Commander's (BC) Station stairs. This project was part of an overall project that included the Ammunition Bridges. The completion of the stairs enabled the entire station to be interpreted to include the basic equipment.
- C) Completion of Exterior lighting. During the October 2017 event there were exactly four permanently mounted lights on the exterior of the Battery. By May 2018 twenty-three exterior lights were permanently installed to include three stanchion lights. All that remains to be installed is one front emplacement light and one stanchion light at Gun #1 emplacement.
- D) Chemical Warfare Decontamination Chamber. In May 2017 the chemical decontamination system was substantially in place. It was using a 1920s vintage 1,750 RPM motor. This spring the correct 3,500 rpm motor was mounted which created a true "WWII Experience" for the visitors - correct air flow using the correct equipment in the correct space.

There are other smaller projects that were completed and will be highlighted in this article. On Friday we started the day early and began the cleanup and preparation of the Battery for the weekend's events. Below, CPL Cusano sweeps the sand off the BC station stairs - a new task based on the wind and blowing sand.



Below T-4 King prepares his work area in the machine shop.



Below the team is opening Gun #1 for the weekend. The gun moved from old Battery Peck on 8 April 1943, so it has been in place for "about six weeks".



Looking from the top of the Battery Commander's Station, 1LT Lutkenhouse begins opening the medical station.



PFC Tunison and T-4 King just finished installing a new wood storage shelving unit in the powder magazine - greatly improving management of wood "bench stock".



For the first time since before 1950, the Battery Commander's station is open with an M1910A1 azimuth instrument, two EE-91 telephones and a Time Interval bell. The station is ready for visitors!



PFC Tunison looks down from the BC station - he has just finished connecting the electrical service.



The view from the BC station is spectacular. Here we are aiming the instrument at a ship in the channel.



And now we see what the ship itself looks like in the M1910A1 Azimuth instrument telescope.



A major new acquisition is the M1905 Deflection Board. This is an original plotting room fire control instrument and is used to calculate the deflection offset for the Case II (using gun sight for direction) or Case III (gun direction). This is a very, very rare piece of Coast Artillery fire control history - a true piece of "calculating furniture"!



A full view of the plotting room with the plotting board in the center, the M1905 Deflection board on left (below phone), Range Percentage Corrector, and Wind Component indicator (brass disk on right).



In preparation for the Lantern Tour, the team is shown below on the BC station stairs.



Below LTC Welch introduces the lantern tour team to our visitors.





Below SSG Minton speaks to the lantern tour visitors in front of the Sandy Hook Light House.



Below LTC Welch describes the cable tunnels in the protected switchboard room inside the Harbor Defense Command Post - HDCP - which is inside the mortar battery.



The lantern tour leaves the HDCP and heads to the multi-use path.



Below SSG Minton uses our new acquisition - a AN/PIQ-5 "Bull Horn" from the 1950s. This is a very useful item that aids our public interpretation.



Below LTC Welch uses the “bull horn” to discuss the historic electrical service we can see behind the mortar battery.



Below 1LT Taylor introduces Battery Gunnison/New Battery Peck to the lantern tour visitors.



1LT Lutkenhouse provides medical service information to visitors during the lantern tour. PVT Budjos stands by to demonstrate the chemical decontamination chamber - now functioning with a fully restored and original 3,500 rpm motor.



On the left 2LT Budjos stands by at the door to the medical station. The photo on the right looks through the decontamination chamber into the medical room.



1LT Taylor provides information to the tour about the plotting room.



T-4 Komorowski discusses the operations of the machine shop.



LTC Welch discusses the M2 Mine Case which when full and armed weighs about 2,000 pounds. AGFA obtained and restored this mine in the summer of 2017.



SGT Egan discusses ammunition with the lantern tour team.



CPL Cusano discusses powder bags with visitors. The bag to the right is showing its red black powder "igniter" charge (simulated).



Two wars were represented - on the left, T-5 Ciemniecki (WWII) and on the right is 1LT Winslow in WWI attire complete with leather "jerkin".



In preparation for the tour several members check out the new BC station.



SGT Egan uses the M1910A1 azimuth instrument to spot ships. The instrument is mounted on a concrete pier that was originally installed in the 1905 time frame.





SGT Egan gathered all lantern tour visitors to prepare for gun drills.



The exterior lighting is essentially complete. Below the three lights on the back of the battery parade are visible providing a big contrast to previous years.



Below Gun #1 is shown with its new emplacement lights and the on-carriage fire control system illuminated and a single lantern sitting on the gun pointers stand. Notice also the 6-inch drill shell to the left of the gun on the platform.



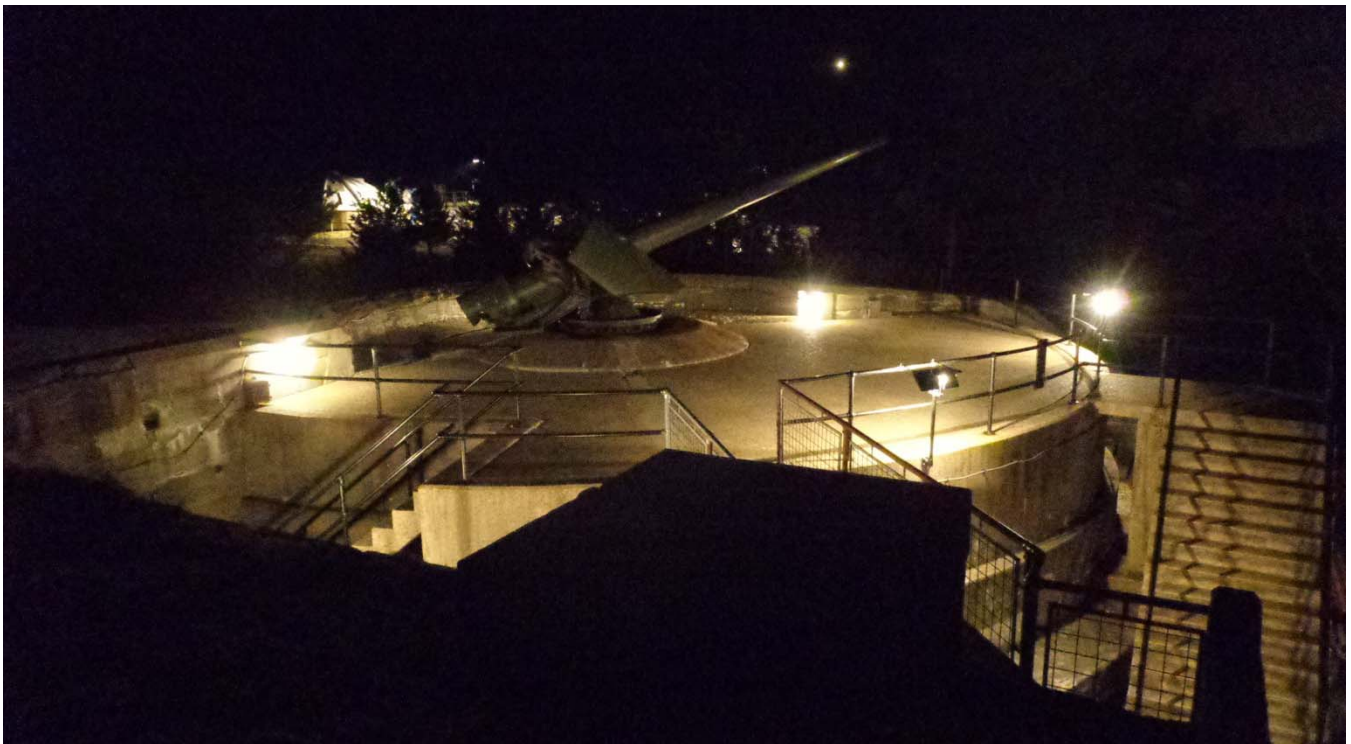
Below is another view of the Gun #1 exterior lighting system. This was just completed in early May 2018.



And another view of Gun #1 area, this time in a more light-restricted timeframe.



This view of Gun #1 is looking from on top of the battery towards the gun emplacement. The gun is actually pointed back towards Highlands in this view. The gun is periodically moved so as not to have the gun resting on the bearings in the same place every time.



The photo below shows Gun #2 with its first platform light (left) installed.



Below is another view of Gun #2 and its new lighting system, looking from the top of the battery towards New York City.



After the lantern tour we all gathered in the barracks for a snack and chat.



Saturday morning we headed to Battery Lewis in Navesink Highlands for an open house. In the photo below, the 16-inch rifle of emplacement #1 is pointing towards the Atlantic Ocean. The Monmouth County Parks System spent approximately \$1.5 million to restore this structure. The results are breathtaking!



Below the majority of the AGFA team inside the main corridor of Battery Lewis.



Another view of the main corridor.



Below the team visits the preserved latrine inside the battery.



The county has placed outstanding interpretive signage inside the magazine rooms of the Battery. Two of the many signs can be seen in this photo



One of the signs inside Battery Lewis.

# Welcome to Battery Lewis

Visit the exhibits inside to learn the complete story about Battery Lewis and the park's past, from Hartshorne estate to military bases during WWII and the Cold War, and the creation of Hartshorne Woods Park.

Approximately 200 soldiers of the 148th Coast Artillery Regiment, New York National Guard, pose stationed at the Navesink Military Reservation during WW II, manning the guns of Battery Lewis and Battery JG.

The Monmouth County Park System gratefully acknowledges all who contributed material for the Battery Lewis Exhibit

- Army Ground Forces Association
- Battleship New Jersey Museum
- Mark Berlow, Terry McGovern and Bolling Smith
- Coast Defense Study Group
- Delaware State Parks
- Fort Miles Historical Association
- Peggy Henneberry
- John Martini
- Monmouth County Archives
- Monmouth County Historical Association
- National Archives, Washington DC
- National Park Service
- Gateway NRA and Golden Gate NRA Archives
- New-York Historical Society
- Veterans of the 64th Aircraft Control and Warning Squadron, USAF
- Col. Shawn Welch, US Army (Ret)

Exhibit prepared by  
Monmouth County Park System  
and Z Studio

Battery Lewis was the principal structure on the 224-acre Navesink Military Reservation, established in 1942 as a sub-installation of Fort Hancock on Sandy Hook for the Harbor Defenses of New York during World War II. Battery Lewis was the largest coastal fortification built in New Jersey during the War, and the most important Primary Armament defending the nation's largest city. The Navesink Military Reservation Historic District was listed on the National Register of Historic Places in 2015. The Monmouth County Park System restored Battery Lewis between 2013 and 2016.

Battery Lewis is a massive earth-camouflaged concrete, steel-reinforced gun battery measuring 616 feet long, 108 feet wide and 35 feet high. Battery Lewis follows the prototype for camouflaged all-steel gun batteries built during the 1930s.

The two casemates, each originally housing a 16-inch gun, are connected by a central battery magazine. For the housing of ammunition and the power plant.

**Monmouth County Park System**  
Hartshorne Woods Park

Funding provided by

The photo below shows part of another sign inside the battery's magazines.

## Battery Lewis

Also known as Battery Construction Number (BCN) 106, Battery Lewis is a massive earth-camouflaged concrete and steel gun fortification measuring approximately 616 feet long, 108 feet wide, and 35 feet high.

**Casemate View of Battery Lewis**

The casemate is the structure designed for the gun. It is a massive concrete structure with a steel-reinforced interior. The casemate is built on a concrete base and is surrounded by earth. The casemate is divided into two main sections: the front casemate and the rear casemate. The front casemate is the main gun position and the rear casemate is the magazine. The casemate is built on a concrete base and is surrounded by earth. The casemate is divided into two main sections: the front casemate and the rear casemate. The front casemate is the main gun position and the rear casemate is the magazine.

**The Battery**

The main structure of the battery is the gun. It is a massive concrete structure with a steel-reinforced interior. The gun is built on a concrete base and is surrounded by earth. The gun is divided into two main sections: the front gun and the rear gun. The front gun is the main gun position and the rear gun is the magazine. The gun is built on a concrete base and is surrounded by earth. The gun is divided into two main sections: the front gun and the rear gun. The front gun is the main gun position and the rear gun is the magazine.

**Ammunition Service**

The ammunition service is the structure designed for the magazine. It is a massive concrete structure with a steel-reinforced interior. The magazine is built on a concrete base and is surrounded by earth. The magazine is divided into two main sections: the front magazine and the rear magazine. The front magazine is the main magazine position and the rear magazine is the magazine. The magazine is built on a concrete base and is surrounded by earth. The magazine is divided into two main sections: the front magazine and the rear magazine. The front magazine is the main magazine position and the rear magazine is the magazine.



The team is chatting with Monmouth county personnel and admiring the signs. The battery has significant condensation as shown by looking at the ceiling. The county personnel are gaining knowledge of how to manually operate the ventilation system to reduce the condensation just as was done in the 1940s.



Part of the AGFA team walks through the corridor to the 16-inch ammunition.



Below SGT Egan and the team admire the reproduction 16-inch shells and ammunition service.



A team photo by the shells.



SGT Eagan standing next to the reproduction 16-inch 2,240 lbs Armor Piercing shells.



Below SGT Eagan and SGT Meiselman admiring the shell hoists.



The 16-inch rifle is quite impressive looking out from the casemate.




Below members read the interpretive signs. The breach of the gun is to the right.



Below is a sign next to the gun.


## 16-Inch Guns at Battery Lewis

Producing 16-inch guns for the new casemated batteries required technical innovations and re-tooling to achieve the desired performance. The Mk II M I 16-inch barrels (or tubes) were Navy design, but modified by the Army's weapons arsenals to work with their M4 barbette carriages.

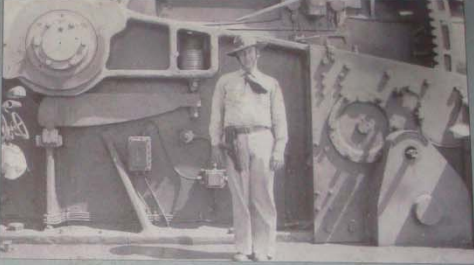


Gun, 16-inch, Mk II, Navy, and Carriage, Barbette, 16-inch, M4 - Right Side View  
With barrels 68 feet long, and 16 inches in diameter, the gun barrels alone weighed 307,105 pounds (over 153 tons). The barbette carriages, weighing 665,315 pounds, could rotate (traverse) the guns to the right or left to a maximum of 145 degrees, and raise them to a 46-degree elevation.


The open rear end ("breach") of the gun barrel is used to load the projectiles and propelling charges into the firing chamber.  
In this 1942 photograph, the breech block is open, revealing the rifling in the barrel bore.



Bethlehem Steel and Midvale Steel made the rough forgings for Battery Lewis' barrels, which were machined at the Washington Navy Yard, then shipped to the Army's Watervliet Arsenal in New York for modification, and transported to the site for assembly.



A soldier standing alongside a 16-inch gun provides a reference for the immense size of the barbette carriages.  
The Army-designed gun carriages for Battery Lewis were manufactured in Ohio and Pennsylvania.

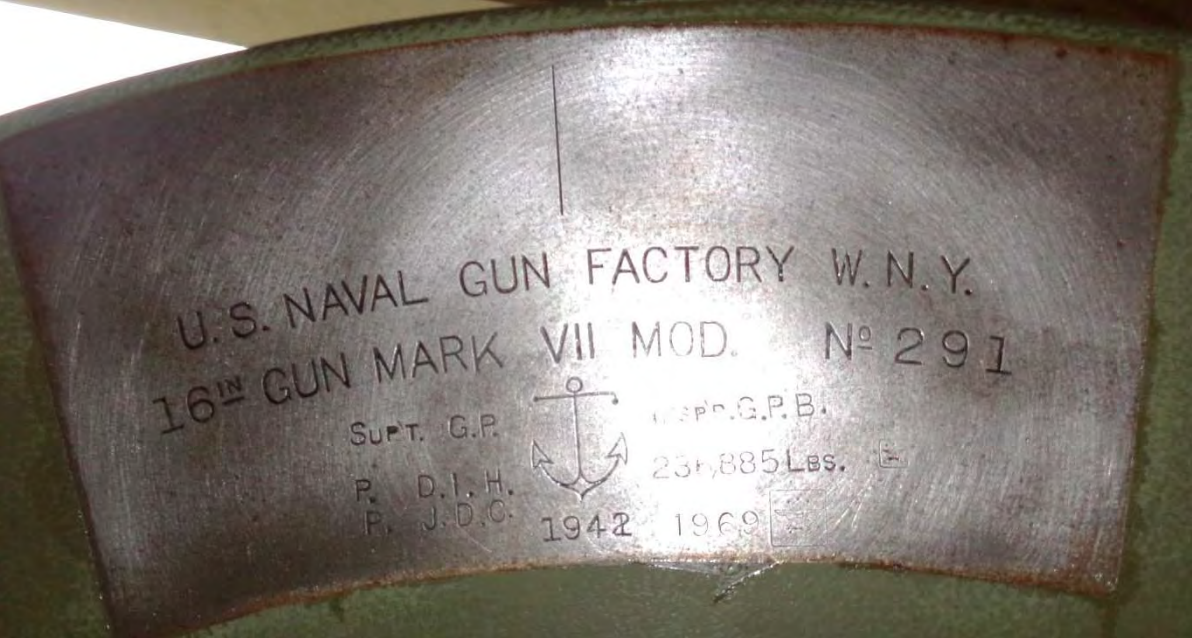


Taken from an Army technical manual, a soldier is shown operating the traversing control handwheel, which rotated the gun.  
The controls could be operated manually or by electric power.

Members chat with the restoration team next to the breach of the 16-inch gun.



The markings on the 16-inch gun barrel indicated it was made in 1942 and re-lined in 1969.



The AGFA team takes a group picture inside the casemate.



Right after the tour of Battery Lewis the team conducted the Harbor Defense Historic Hike. SGT Egan speaks with the hikers outside the plotting room.



LTC Welch discusses the generator building with the hikers.



The team moves down Atlantic Drive with SGT Meiselman (WWI vintage uniform representing the 57<sup>th</sup> Coast Artillery Battery at Fort Hancock) in the lead.



LTC Welch discusses the demolished fire control tower to the left of the picture.





Below LTC Welch discusses the remains of the telephone and electric service terra cotta conduits in the sand.



The hikers continue down Atlantic Drive.



LTC Welch discusses the disappearing search lights at the start of the South Dune Trail.



SGT Egan provides additional information for the tour group.



LTC Welch and SGT Egan discuss the generator building for the search lights.



SGT Egan discusses the search lights.



SGT Minton stands on top of the search light counterweight.



SGT Egan points out the supports for the search light tower.



SGT Egan discusses the TNT magazine near Fishing Beach.



The hikers gather on the beach to observe fortifications and structures now in the surf - showing that Fort Hancock (Sandy Hook) has been losing land to the sea at this portion of the peninsula.



The hike tour is inside Battery Mills observing the ammunition service equipment.



The hikers are inside the magazines proper.



LTC Welch explains the gun data computer in Battery Mills to the tour.



Another view of the ammunition service inside Battery Mills.



Below the team heads back down Atlantic Drive with SGT Egan in the lead.



SGT Minton gives the tour group a quick overview of the plotting room of Battery Gunnison/New Battery Peck.





Since we hiked in the rain, the team spends some time cleaning and oiling the M1903 Springfield Rifles to prevent them from rusting.



More rifle and equipment maintenance and care - a never ending requirement.



Sunday morning bright and early we are setting up Gun #1 - viewed from the BC station.



Below SSG Minton and SGT Egan connect the EE-91 telephones.



The medical station is ready as T-4 King arrives to install his new work bench doors.



T-4 Komorowski and T-4 King both prepare the machine shop for visitors.



T-4 King makes a call on the machine shop's newly-placed EE-91 telephone.



A full view of Gun #1 area from Atlantic Drive shows visitors on the gun platform.



At Ocean Fun Days the NPS has a booth in front of Bldg #22.



Our guests SGT Kuntz and SGT Herman prepare their WWI exhibit in front of Bldg #22 and the NPS booth.



T-4 Rossi and T-5 Galvano provide military vehicles and other displays at the bus staging area. They and the WWI station told the visitors about Battery Gunnison/New Battery Peck and that greatly increased visitation levels from 2017.



Below T-5 Galvano's jeep has many visitors.



Below SGT Herman discusses WWI equipment with visitors to Ocean Fun Days.



SGT Kuntz is very busy with visitors all day at Ocean Fun Days.



The Battery Commander's Station is open for business!



Another view of the Battery Commander's Station.





1LT Lutkenhouse takes visitors through the BC station.



Park Historian Tom Hoffman stands next to the M1910A1 azimuth instrument.



Below is the M1910A1 Azimuth instrument looking out to Long Island.



And it is sighted on the jump tower at Coney Island in New York City - with a correct azimuth set to the instrument -  $183.50$  degrees from zero degrees south. This azimuth was confirmed by Rutgers University survey team in 2016.



Below the Public enjoys the Azimuth Instrument and the sights of ships and New York City.



1LT Winslow provides an overview of the plotting room operations to visitors. Notice the large green container on the floor under the plotting board. This is a "marmite" or cold/hot container. In this case it is cold and contains our lunch sandwiches!



On Sunday the team decided to focus on the traversing system of Gun #1. An extensive amount of work was done to the traversing gears of Gun #1.



T-4 Komorowski and SGT Egan examine the gears.



With the gears removed, SGT Egan, T-4 King and CPL Cusano examine them for issues.



SGT Egan and PVT Budjos continue work on the gears.



After the job, PVT Budjos and T-4 King are clearly exhausted!



Below Daniel Berg, a key NPS volunteer Park Photographer, prepares to take photos in the BC station!



Below 2LT Cusano leads a tour in the BC station.



Visitors prepare to enter the magazine.



PFC Tunison welcomes visitors in the shell magazine.



SGT Egan and PFC Tunison near the hoist for Gun #1.





Below, AGFA guest T-5 Galvano, 1LT Lutkenhouse and 2LT Cusano discuss medical issues with the public.



It is the end of the day and time to secure Gun #1.



Just after we closed for the day, all remaining members and guests posed on the new BC Station stairs. These stairs mark a dramatic contrast to what existed before and are a visible pronouncement of the restoration advances of late.



Below, 2LT Cusano, SSG Minton and 1LT Lutkenhouse pack all the medical equipment. These are the final acts in the close down of Battery Gunnison/New Battery Peck after a wonderful and fulfilling weekend!



The summer of 2018 will be a busy one for AGFA. Please visit the NPS website (<http://www.nps.gov/gate/planyourvisit/index.htm>) for additional scheduling information or call (732) 872-5970. AGFA will be hosting public visitation and work days in July and August, so please be sure to visit the NPS website at <https://www.nps.gov/gate/planyourvisit/index.htm>, the Army Ground Forces Association Website for our schedule at <http://armygroundforces.org> or visit the "Battery John Gunnison/New Battery Freemont Peck" Facebook page.