SUBJECT: Report on Operations and Material - Fort Drum - During the Bataan - Corregidor Campaign, 8 December 1941 to 6 May 1942.

TO: Commanding General
Army Ground Forces
Washington, DC

1. Orientation.

a. Geographical. The entrance to Manila Bay is guarded by 4 islands.

(1) Corregidor - (Fort Mills)
(2) Caballo - (Fort Hughes)
(3) El Fraile - (Fort Drum)
(4) Carabao - (Fort Frank)

b. Tactical Command. The tactical command at the beginning of World War II was known as the Harbor Defenses of Manila and Subic Bays. This report deals with Manila Bay only. The defenses were divided into two parts, the ?? Command and the Seaward Defenses Command. Under the Seaward Defense Command were groups I, II, III and IV. (There were no groupments). The mission of the Seaward Defense Command was "to deny the enemy the use of Manila Bay and to protect the detachment of our Navy therefrom".

2. Fort Drum - Description and Organization.

a. Fort Drum was constructed on the small island of El Fraile in the channel of Manila Bay in 1913, and was termed the "Concrete Battleship". The entire top of the original island was cut away to below the surface of the water. On this foundation, the reinforced concrete fort was constructed. When completed, it was 350 feet long by 144 feet wide and the main top deck extended 40 feet above mean low water. The general outline of the hull, as seen from above, resembled a ship with the pointed bow toward the China Sea. The exterior walls of the fort were approximately 20 feet thick, of reinforced concrete. The deck had an overhead thickness of 18 feet of reinforced concrete and steel. Thin places on the top deck over the casemates and where the observation wells existed, were compensated for by an additional 3 or 4 inches of steel plate. The overall result was a top deck of uniform strength generally equivalent to 18 feet of reinforced concrete. The interior of the fort was cut into several compartments, constructed on various internal levels. The lower level was the engine room, the floor of which was 6 feet below mean low water. Above this was the main internal deck called the "Typhoon Deck". It was here that most of the troops were quartered. Other compartments housed the fuel tanks, the powder and projectile rooms, plotting room, storage facilities, kitchen and mess hall compartments. Access to the fort was had by means of the sallyport toward the stern which ran entirely across the ship, generally from north to south. The cover for the sallyport and entrance to the typhoon deck was another approximately 20 feet of concrete which had been an afterthought and had been added to Fort Drum as protection to the interior of the ship at a later date.

b. Armament.

(1) Primary armament. The primary armament of Fort Drum consisted of four 14-inch (Naval rifles), two guns to the turret. The forward turret was mounted on the lower forward portion of the top deck and was 9 feet below the upper level. The rear turret was mounted immediately in the rear of the forward turret, but on the top deck; this made it possible for the two turrets to be fired in a forward position simultaneously, the rear guns firing over the forward guns. The forward turret was limited to 230°, while the rear turret had a 360° traverse.

The turrets were 14-inch gun turrets, Model 1909 for 14-inch guns, Model 1909. The faces of the turrets were 16-inch armor plate, while the sides and rear were 14 inches in thickness. The flat top was from 4-½ to 6 inches in thickness. The turrets had no external openings for either vents or gunports and this proved to be very important later on. The entire turret was Barbette mounted and the water shed armor was on the outside of the turret and very thin, less than 1 inch. This presented a sizeable vulnerable area, exposed to enemy fire, on the top deck. As this ring was about the turret wells, it exposed portions of our powder as well as our personnel who were below decks, to any hits which might rupture this thin armor above. The interior of each turret was divided into two compartments, one for each gun; and in the rear of the turret, sealed off completely, was the turret captain's booth. Observation from the turrets was had by 3 periscopes, one for each gun and one for the turret captain's booth. The periscopes extended above the top of the turret for about 8 inches and were covered with a very thin armor head in the rear, about ¾ inch in thickness. This was a point we were to regret later as the top of the turrets was hit many times and damage was done to some of the instruments.

These turrets were completely electrically controlled. The ammunition hoists brought the projectiles and powder from below. The turrets were traversed and the guns were elevated by electrical gears. It was practically impossible to operate the turrets without power as the traversing of the turrets by hand was extremely slow, in fact, it took about six hours to traverse the turrets 180° manually. The lowering was accomplished by electric rammers and the guns were blown with compressed air.

The elevation of the 14-inch guns was limited to 15° which limited our maximum range from that height of site with normal ballistic conditions, to 19,200 yards.

(2) Secondary armament. The secondary armament of Fort Drum consisted of four 6-inch Naval rifles, two each in two casemates. Two of these guns, one above the other, were on the starboard, or north side, and two of them were on the port, or south side. Each of these batteries had one gun above the other on separate levels with a separate casemate for each gun. The deck, or floor, between the guns of each battery was steel about 3 or 4 inches thick.

The two 6-inch guns on the starboard (north side) were called Battery McCray, belonging to Group III with its' CP on the south side of Corregidor. Group III was made up of secondary armament with the mission of guarding the south channel. The two 6-inch port guns (south side) were called Battery Roberts. They were not part of any group, but came strictly under the Fort Drum Commander.

These casement blisters were constructed of 6-inch armor plate, recessed about six feet in the side of the concrete hull. The fields of fire for both batteries was limited to about 120° of traverse. Originally the elevation of these guns had been limited to 12°. This was governed by two factors in construction, the site of the port through which the guns fired in the armor plate and the fact that at 12° elevation, the breech was almost down to the floor of the concrete. The fort record book and the emplacement records kept before the war, indicated that the 12° elevation had proved to be unsatisfactory due to two factors. First the loading operation with the breech so near the floor hampered smooth loading and ramming. Second, the guns were sluggish on going from recoil to battery. These things had hampered target practice and after many reports and much correspondence, steps had been taken to limit the guns to 10° elevation.

When the war started, this 10 elevation was in effect, which limited the range of this armament to 10,200 yards. Three months after hostilities began, the gun mounts were again altered to permit 12° of elevation. This increased the range from 10,200 yards to 11,400 yards.

Battery Hoyle, 3-inch seacoast gun.

The above mentioned artillery comprised the entire armament of Fort Drum up to the beginning of the war. A diagram showing the fields of fire reveal a wide area of dead space in the stern of the fort. Only one battery, the rear 14-inch guns, would traverse this field of fire to the rear in Manila Bay. The fact that the cagemast was directly between the turret and stern caused this battery to have severe limitation due to dead space. Even though the cagemast had not existed, the top deck coupled with the height site created a dead space. This meant that enemy surface craft, approaching Fort Drum from the rear in Manila Bay, could not be brought under fire from the guns of Fort Drum.

When the Japanese Army gained control of Manila, and the Cavite shoreline, this weakness became a problem. The fact that the enemy had seized a number of large harbor boats and countless other power craft and barges at Manila, heightened the acuteness of the problem. Action was taken to remedy this situation.

A Model 1906 3-inch seacoast gun, with pedestal mount, was shipped to Fort Drum. A concrete base on which to bolt the pedestal was poured and the gun was mounted 12 January 1942, and designated as Battery Hoyle. This emplacement was on top edge of the stern.

The following day, 13 January, at 1430, an enemy vessel was observed approaching Fort Drum from Niac. As it drew near, it turned out to be a double-deck vessel of the inter-island type. That the enemy was well aware of the old weakness was evident as she bore down upon the fort, keeping the cagemast between her and the 14-inch turret. Apparently she had not discovered our latest addition. Major General Moore called Fort Drum and inquired if the newly emplaced 3-inch gun could be fired. On receiving an affirmative answer, he ordered the Fort Commander to open fire with the 3-inch gun. Remember that the concrete was less than 24 hours old and that the range drum was without graduation. The piece had neither been bore-sighted nor checked for assurance level.

A five-man crew of old artillerymen were assembled. As the target grew nearer, observers noted that the decks were lined with enemy troops in uniform and civilians, apparently making an inspection trip to the area in the rear of Drum.

Range was called vocally from the depression position finder in the cagemast. Fire was opened at 9,000 yards. The first round was off in deflection. The Japanese surprise was evident by the mass confusion on her decks. She began a fast turn which exposed her stern. The seventh and eighth rounds were near misses throwing geysers of water on the target. The ninth was short as the enemy was pulling out of range. Never again did the enemy attempt to approach Fort Drum from the rear. This was the first battery of seacoast artillery to open fire on the enemy in World War II.

(3) Other Armament. For antiaircraft artillery there were two 3-inch mobile AA guns jacked down on spider mounts on the deck. Fire control was by director and stereoscopic height finder. Combination protection for both defense and low-flying planes was provided for by four 50-caliber, water-cooled, AA machine guns with improvised mounts and two 50-caliber air-cooled machine guns donated by the Air Corps. Thirteen caliber 30, M1 water-cooled machine guns with Infantry mounts served for beach defense. This was augmented by four subThompson machine guns secured from the 4th U.S. Marines through the detachment of marines on Fort Drum. A quantity of Springfield rifles, with some long barrels, pump shotguns completed the defenses.

Illumination was by searchlight. Number twelve seacoast searchlight was located on the top of the eighty foot cagemast. The light was put out of action the first day Fort Drum was taken under fire. Number eleven seacoast searchlight was located on the southeast side of Fort Hughes. This light was under the direct command of Fort Drum. Its' mission was to provide illumination of that part of Manila Bay from

Cavite to Rostinga Point, just southwest of Ternate. The purpose of this was to prevent enemy attacks by water from the rear of Corregidor and the fortified islands. This light was in action until the surrender.

There was also one 60-inch mobile AA searchlight with steel mirror. Despite the fact that this light was hit repeatedly during the siege, it was always repaired to such an extent that it supplemented the illumination of the water area and afforded an emergency light aboard Fort Drum. The damage caused by enemy shell fire made it impossible to use it to illuminate enemy aircraft. Finally, for immediate protection of the Fort in the way of illumination, there were two 12-inch beach defense lights that remained in action until the end.

c. Communication.

The principle method of communication was by submarine telephone cables connecting the fortified islands. Despite the tons of explosive dropped by the enemy by air and artillery fire, this system remained in operation except for minor damage caused at some of the terminals on the other islands.

A short wave radio set was available for use at Fort Drum for communications with the harbor defenses. However, it was seldom used.

Blinker signal lamps were used between all of the fortified islands and due to the high state of the personnel, this was extremely successful. To prevent detection by the enemy at night, the lamps were placed in the breeches of one of the 6-inch rifles. The rifle was then laid at the proper azimuth and elevation which caused the piece to be aimed at the friendly receiving station.

d. Supply.

Fort Drum was constructed with good storage space for most supplies and it was not necessary to send a supply boat too often. This was very fortunate as the enemy artillery on the Cavite Shore could easily destroy ant ship carrying supplies to either Fort Drum or Fort Frank, if it was not operating under cover of absolute darkness. In fact, the harbor boat Neptune was destroyed by enemy artillery while unloading supplies at Fort Frank one night in February 1942. After this incident, no boat would make this ration run except at night when there was no moonlight.

Water was one of the chief concerns of the Fort. A boat towing a water barge would tie up alongside and fill the fresh water storage tanks. The Fort was equipped with metal tanks for this purpose, but the capacity was not adequate to carry over the long intervals when no boat arrived. This was remedied by two steps. In peacetime there were two large wooden water tanks on the top deck of the Fort. One of these tanks was at least 14 feet high and 12 feet in diameter. It was of wooden stave construction, bound with iron hoops. In the first days of the war, this tank was emptied, torn down, carried below to the engine room and reassembled.

The second method of increasing water storage facilities was to utilize the empty 14-inch powder cans. These cans held better than 50 gallons each, and several hundred were utilized. The fort personnel was placed on its honor to consume absolutely no more water than was necessary. These men were soldiers. No rationing was necessary. There was an old evaporator, but it required too much fuel to operate this machine, and oil was too precious.

The half ration on food was inaugurated at the outset of hostilities. Fort Drum adhered rigidly to this order, despite the fact that there was an extra supply of food available on the Fort, due to the fact that there was a thirty-day extra supply called the "Typhoon Ration." This was wise as it was never known when the ration boat would make its run.

Of utmost importance to Fort Drum was fuel oil. The 14-inch guns were dependent upon electric power for all their functioning. With out the oil to drive our large Diesel generators, the Fort would have been helpless. Conservation was the only answer to this problem. The engines were used only when necessary. Less than 30 days supply was on hand when Lieut. General Wainwright ordered the surrender.

The supply of American flags was exhausted as the enemy simply blew them to shreds. However, the flag was kept flying at all times by painting the stars and stripes on galvanized sheet iron.

e. Personnel.

The approximate strength of Fort Drum was 240 officers and men consisting of the following organizations and detachments. From the 59th CA, there was the Fort Headquarters and two batteries; Battery E and Headquarters Battery, 2nd battalion. This was augmented by the following detachments: 13 Marines from the 4th U.S. Marine Corps Regiment; detachment approximately 6 men from the 60th Coast Artillery for manning the 60-inch antiaircraft searchlight; 4 Philippine Scouts from Fort Frank manning the B-2 station for that fort; medical detachment, one officer and one enlisted man; Ordinance personnel were civilian Ordinance machinists, numbering 3 or 4. Approximately 12 April 1942, the Fort was reinforced by 20 men from a tank battalion to augment the garrison. These men had escaped from Bataan when that command had capitulated. All personnel manned certain battle stations regardless of their organization. There was not sufficient personnel to man all the positions at any one time, therefore, personnel might have 2 or 3 assignments depending on the signal given at the call "Battle Stations".

3. History

a. Period immediately preceding war.

On the night of 29 November, General George Moore, commanding the harbor defenses, suddenly summoned all the officers of the command to their regimental headquarters. There, orders were issued that the entire command of the Harbor Defenses of Manila and Cubic Bays would immediately take the field. The barracks were to be abandoned and troops moved to the field in accordance with previously prepared war plans. The entire command would be alert at all times, and that under no conditions would less than half the tactical armament of the defenses be out of action due to absence of personnel. The entire defenses were to be prepared to open fire immediately on any enemy targets. The complete move from peacetime to wartime conditions was to be completed by 1200 the following day. In the meantime, all organizations would report ready for action as soon as they were actually moved and set up in the field. Approximately 2 days prior to the attack on Pearl Harbor an official communique was issued by Harbor Defense Headquarters, which stated that planes positively identified as enemy, had been sighted flying over positions in the Lingayen area.

b. Period 8 December - 29 December 1941.

Immediately upon the notification of the attack on Pearl Harbor, Fort Drum took final steps to clear its deck for action. In peacetime, the troops assigned to Fort Drum had lived topside in temporary wooden barracks. These barracks were shoved over the side. During this period, there was very little action in the harbor defenses. Only a few enemy planes flew about the fort and occasionally they would be taken under fire by some of the antiaircraft batteries on the different forts.

c. Period 29 December 1941 - 6 January 1942.

On December 29 at 1200, Corregidor was attacked for the first time by enemy twin-engine bombers. There were between 50 and 60 of these bombers flying at altitude over 20,000 feet. They were accompanied by numerous Japanese dive-bombers, including nine old-fashioned bi-planes. These attacks continued daily on Corregidor through 6 January. During this period there were no attempted bombings of Fort Drum. This Fort assisted the other islands at this time, by taking the enemy bombers under fire with her two AA guns whenever the enemy came within range.

d. Period 6 January 1942 - 6 February 1942.

During this period, there was practically no enemy activity conducted against the fortified islands. The enemy air efforts were limited to occasional observation planes and to a few attacks on shipping in the vicinity of the fortified islands.

On 13 January, at approximately 1430, an enemy vessel approaching Fort Drum was taken under fire by the 3-inch deck guns and the enemy fled.

(Note of historic interest. 26 January 1942, Battery Geary, consisting of eight 12-inch seacoast model 1896 mortars opened fire on Japanese ground forces dug in on Longaskawavan Point on the Bataan Peninsula. The same battery fired again on January 27t^{h} at the same target. The enemy had landed behind the Bataan line on this point from submarines. Their positions was the tip of the point on an area 200 yards long by 100 yards wide. 33 rounds were fired of 690 pound point detonating personnel shells. Of the 33 rounds fired, 32 were hits. The corrected range was 14,200 which lacked 200 yards of being the maximum range. This is of historic interest as this was the first primary battery of seacoast artillery in the history of the United States of America to ever open fire on an enemy from our fortifications.)

e. Period of 6 February 1942 to 9 April 1942.

6 February 1942 at 0820 Fort Drum was fired upon by Japanese artillery. This initial action lasted 3-1/2 hours. It was the first fort in the harbor defenses to be taken under fire by Japanese artillery. The weapon was a 105-mm howitzer firing a point fuse shell. The firing was at intervals of from 70 to 85 seconds. The target was the cagemast and other deck installations. A few rounds of counter-battery were fired by both 3-inch deck gun and the 6-inch casemate guns Battery Roberts (south side). This Japanese fire continued daily for about two weeks with fewer rounds being fired each day. The damage was very limited and in no way affected the tactical situation.

From this time until 10 April 1942, Fort Drum fired occasional two gun, 14-inch salvos in the areas along the Cavite Shore. Firing often took place at night. The targets were areas reported by G-2 operators who were active in the enemy held territory. They consisted primarily of enemy troup bivouacs.

17 March 1942, Fort Drum and Fort Frank underwent a very heavy bombardment from Japanese 240-mm howitzers emplaced on the Cavite shore. This action continued for approximately two weeks. These were the first 240-mm weapons to be used against harbor defenses.

At least six 240-mm howitzers were employed in this bombardment. They fired two gun salvos and from the location of the hits, it was apparent that the artillery was well dispersed in the mountains back of the Cavite shoreline. The fire was coming from three widely separated positions. Counter-battery fire was brought to bear from time to time by all the fortified islands.

Fort Frank which was only 4,200 yards from Fort Drum, suffered serious material damages during bombardment. Almost all of her guns were out of action for a considerable period of time and some of them were out of action permanently. The principle targets on Fort Drum were the two 14-inch turrets and the casemate Battery Roberts. Battery Roberts was temporarily out of commission and the No. 1, or upper gun, was knocked out permanently by hits on tube. The 14-inch turrets, despite many hits on the side, rear, top, remained in action. The projectiles striking the 6-inch casemate caused flashes of fire to appear all the way inside the vessels to the typhoon deck. This created a grave fire hazard. It was not uncommon for fire calls to sound at least once every five minutes. Steps were promptly taken to throw everything which was inflammable, and not absolutely necessary for action on board the ship, over the side. Every square foot of the interior of the surface of the casemates was deeply dented and torn by heavy fragmentations. These fragments came through the open gun port and through narrow cracks

around the horizontal shield. Two 3-inch antiaircraft guns were completely demolished in this action.

Enemy dive bombers began attacking Fort Drum 6 February 1945 and continued until the surrender. Several attacks were made daily and always in the same manner. Invariably two dive bombers would approach Fort Drum and circle the Fort several times just out of range of the 50 caliber machine guns. The pilots were evidently attempting to stampede the gunners into breaking fire discipline and opening up at a range beyond their effective fire. The personnel manning the 50 caliber machine guns would hold their fire until the planes came within range. The first plane would come over maneuvering and would never drop a bomb. He evidently acted as a decoy. The second plane would then glide in and hastily release his bombs. The first plane was never taken under fire by the gunners as they preferred to hold their fire for the plane which actually made the attack. The Japanese evidently had great respect for 50-caliber fire as they seemed very nervous in their bombing operations and were very inaccurate. The two air-cooled 50-caliber guns were put out of action by Japanese artillery fire, but the four water-cooled 50-caliber machine guns continued in action until the time of surrender. Hits were scored, but no enemy planes were downed until 6 May 1942, some thirty minutes prior to the surrender when a Japanese dive bomber was downed in the water between Fort Drum and Niac. Despite the fact that the 50-caliber guns only accounted for one plane, they proved their value as the Japanese in attempting to avoid the 50-caliber machine gun fire, scored only 5 dive bomb hits. These 5 bombs caused no damage.

After the 3-inch antiaircraft guns on Fort Drum and Fort Frank were destroyed, the enemy was able to make any unmolested high bombardment attacks on Fort Drum from whatever altitude they chose. The bombing was extremely inaccurate. Only two out of the hundreds of bombs dropped by the high bombers struck Fort Drum, and the results were of no consequences. One of these missiles landed on the steping face of the forward turret, just above one of the 14-inch guns. It glanced, hit the 14-inch gun and detonated, but caused absolutely no damage.

The cagemast was serving no useful function and in addition to this served as an aiming point to the enemy artillery. It created a dead space to the rear for the 14-inch guns, and there was a possibility that it might fall under later bombardments. Should it fall, it might block the rear 14-inch turrets. It was dismantled and taken down. Beach defense positions on Fort Drum were consistently improved. They would be damaged during the day, but fully repaired during the night.

In view of the heavy attacks on Fort Drum and Fort Frank, coupled with G2 reports that the enemy was assembling numerous barges in protected positions along the Cavite shoreline, lead to the belief that the enemy might attempt an assault on either Fort Drum or Fort Frank, or both. In this connection, plans were carried out between the two forts to assist each other mutually in case of an enemy amphibious operation.

The morale of Fort Drum was exceptionally high. Training continued until the final day of surrender.

f. Period 9 April - 6 May 1942

Bataan surrendered 9 April 1942. The next few days were ones of preparation for the enemy. Unending columns of troops, guns and equipment rolled down the peninsula and went into position for the seige of the fortified islands. The tempo of the fire against Corregidor and Fort Hughes gradually increased. The Japanese artillery was of all calibers, but 150-mm and 240-mm were the most prevalent.

Fort Drum was called on for counter-battery missions on frequent occasions when the enemy was within range. The coordinates of the targets were furnished by the Seaward Defense Commander. The spotting for this fire was done from observation stations of high elevation on Corregidor. Very few rounds were generally required to complete the mission. The moment the

turrets were traversed, enemy batteries from Cavite would begin shelling Drum. Their fire would be directed at the turret which was being used at the time and despite many hits, the turreted guns were never out of action when called for to fire.

During the latter part of April, the enemy used a sausage balloon on Bataan for artillery observation. On 27 April (Emperor's birthday) the Japanese treated Corregidor and the fortified islands to an artillery show. Between 125 and 150 shells per minute were laid down. This continued until the 6th of May. It was during this period that Fort Drum was fired on by 105-mm batteries from Bataan. Our forward turret was in action at this time and their projectiles hit the turret three successive times, then ceased fire. The nearest possible position for that gun was 17,600 yards. There was no damage to the turret. By 5 May almost all of the batteries capable of firing on Bataan were out of action.

On Fort Drum, an act of nature if no small consequence had been taking place for the past three months. The ordinary method of ventilation aboard Fort Drum was by means of two large exhaust fans. In the initial bombardment of the fort, these fans had been put out of action and as a consequence, there was no ventilating system operating on the Fort from that period on. As a result, the heat from the engines and the firing aboard Fort Drum, the temperature inside had been gradually increasing.

For some time the thermometer had stood at over 100°. As a consequence, the powder for the 14-inch guns in the powder room magazine had ample opportunity to become uniformly heated to a high temperature. As a result of this heated powder, there was a high increase in initial missile velocity, which, in turn, gave an increase in range.

On the night of May5, 1942, the enemy began amphibious operations against Corregidor. The assault boats came from the vicinity of **Cabcaben** and landed troops on the Linley Field sector between Infantry and Calvary points. At dawn, 6 May 1942, observers at Corregidor spotted large concentrations of enemy troops in assembly areas just north of **Cabcaben**. The coordinates of these enemy positions were plotted and Drum was ordered to fire. It will be remembered that the normal maximum range was 19,200 yards, while this target was well over 20,000 yards. Fire was opened and the target was well within range. The fort fired 4-gun salvos into this area expending over 100 rounds. The Fort was then ordered to take enemy barges in the north channel approaching Corregidor under fire. Drum replied that they could not see the barges for the dense cloud of dust and smoke arising from Corregidor, the Commander reported back: "Just fire anywhere in that smoke, anywhere between you and **Cabcaben** and you can't miss them". On Fort Drum an order was issued for "Turret Commander's action" and the targets were taken under fire. The observers on Corregidor reported that the barges were being hit and to keep up the fire. Firing from Drum continued at intervals all morning until 1140, when the order was given to destroy the guns and surrender. Firing would only cease long enough for the Seaward Defense Command to assign a new target. During all of this time, Fort Drum was under constant artillery fire from Cavite and the enemy heavy bombers. Their action was futile and at no time were the 14-inch guns silent.

The personnel of Fort Drum had excellent opportunity to learn of the effectiveness of fire that day when they were taken away to a point south of Manila Bay for punishment by the Japanese. The Japanese officer in charge of the punishment was the brother of a Japanese Colonel commanding one of the assault regiments in the assembly area north of **Cabcaben**. It appeared that the Fort Drum fire had killed his brother and almost 3,000 troops in that area. For this, the personnel of Fort Drum was severely punished.

g. <u>The surrender of Fort Drum.</u>

At 1140, 6 May 1942, the Fort Commander of Fort Drum was summoned to the telephone and told by the High Command to demolish the armament on Fort Drum in accordance with pre-arranged plans. We were told to complete the demolition and surrender by 1200. This gave us exactly 20 minutes. Each officer on the Fort, assisted by a few key enlisted men took

certain material which had been prepared in advance and proceed to complete the job. The recoil cylinders of the guns were drained and obstructions placed in their muzzles. Then the guns were loaded with a round and fired by means of electrical primers with long wires attached, so that they might be fired from the light switches in the center of the ship on the "Typhoon Deck." All of the guns on the Fort were handled in this manner, except the 3-inch battery and the 6-inch gun in Battery Roberts on the south side. The 3-inch battery had sustained a hit on the breech from a Japanese bomb some 25 minutes prior to the surrender order. The breech of the 3-inch gun was thrown over board and all the mechanism and the breech recess were sledged with a heavy sledge-hammer. The upper 6-inch gun in Battery Roberts had been permanently put out of action by Japanese artillery fire. All the communications material was smashed and thrown over the side. The plotting room, with all of its' equipment, was cut into small bits with an axe, all of the records were thrown into the water. All of the small arms ammunition was carried to the top deck and thrown over the side. The remaining 14-inch powder cans had their tops taken off and buckets of salt water were poured into the cans with the powder. The 6-inch powder magazines were flooded with salt water from the sprinkler system, but the result of this was unknown.

American troops were kept on the fortified islands by the Japanese for over one year after the surrender. From time to time, these troops would be sent to our prison camp when the Japanese had finished with them. Through these men, it was learned that the Japanese attempted to put back into commission, many of the guns on Corregidor, Fort Hughes and Fort Frank. However, at no time during that first year, did the Japanese make any move to repair the guns of Fort Drum in any manner. The exception to this was the 3-inch gun and at one time a Japanese boat came to Fort Drum and the 3-inch gun was dismantled from the deck and taken away.

4. Effect of enemy fire.

a. Personnel.

Fort Drum lost none killed by enemy action and only five were injured. Of the five injured, only one of them required hospitalization. Two of those injured were in the Battery Roberts casemate while it was being fired on by the 240-mm howitzers. A shell exploded against the armor on the outside and fragments came through the openings causing these two casualties. The other three were injured in one of the turrets by freak hits. The turret Captain had his periscope hit while he was observing fire and the periscope came loose and crashed into his foot, breaking it at the instep. The other two men in the turret were injured by enemy by enemy shell fragments which came through the muzzle of the gun, as the breech was opened and fragments came through backwards.

This demonstrated that under heavy fire, fragments will enter any opening in any gun emplacement. Although the fort took very heavy pounding and the noise was constant and the concussion very heavy, it is to be noted that there were no cases of combat fatigue developed on the Fort.

b. Material.

The first day of enemy action against Fort Drum, no records of hits were kept, but conservative estimates placed the number as approximately 100 by enemy 105 howitzers. Beginning the second day and continuing through the war, accurate records were kept of all enemy firing. The number of rounds fired, the number of actual hits on the hull and turrets of the Fort, were recorded. Near misses were not counted. The number of actual hits was 593. Of this number, only 7 were bombs, 5 light bombs from low altitude and 2 bombs from high altitude. Of the 2 high altitude bombs, one hit the turret face above the guns and was harmless. The second was an 1,100-pounder and hit where many 240-mm shells had previously landed on top of the Battery Roberts casemate. Some of the beams of the powder magazine, directly underneath, were broken, but no real serious damage done. At least one-half of the 586 recorded artillery hits, were 240-mm. The sides, backs and fronts of the turrets were hit by many projectiles. Also, several exploded against the Barbette underneath the overhang and at the rear and under the turret. Three of the hoods protecting the periscopes were hit and the instruments ruined. These hoods were less than 1 inch thick.

The forward turret top was opened by a 240-mm hit. The opening occurred at the seam and was about 3-1/2 feet long by 6 inches wide. No damage occurred inside the turret, and it was not manned at the time. The bad feature was that when both turrets were firing at the same time, the flash from the rear turret entered the forward turret. This was remedied by welding a one-inch piece of iron over the opening, and fortunately, there was no other hit in this place.

The 6-inch casemate guns on the south side were repeatedly put out of action temporarily by enemy artillery fire. In the interior of the casemate, fragments tore off the range drums and sight brackets and from time to time damaging the elevating and traversing mechanism of the guns. This was repaired, but considerable time was required to put the guns back into action. The upper gun was hit twice on the outside of the tube by direct hits by 240-mm howitzer. The extent of the dent on the inside was measured by use a star gauge. The hit near the muzzle was found to be 86/1000 and the hit near the center of the tube was 173/1000. When this was reported to the Harbor Defense Ordinance Officer, he stated that the gun could no longer be used, as the dent was too large in area and protruded too far on the inside of the tube. This was the only seacoast gun on the Fort which was permanently put out of action by enemy fire.

The 3-inch battery sustained damage about 25 minutes prior to the surrender by a hit from a Japanese dive bomber, but this could have been repaired.

The two 3-inch antiaircraft guns on the top deck were completely put out of action by enemy artillery fire. The two air-cooled 50-caliber machine guns were also completely destroyed by enemy artillery fire. The four water-cooled 50-caliber antiaircraft machine guns were damaged from time to time, but prompt repairs were always made and the guns were ready to meet the next attack.

All the installations in the cagemast were destroyed by enemy fire, but this did not hamper our operations in any manner. The concrete hull of the structure stood up very well under the prolonged pounding and only about 6 or 8 feet at the most were whittled away by enemy action. However, it was noticed that the longer these bombardments lasted, the more damage was resulting to the Fort by hits of the same caliber which had previously not inflicted so much damage. This was probably due to the concrete being shattered and to the loss of bond between the concrete and the large steel reinforcing rods. The large reinforcing rods were two feet below the top of the outside surface and there were no smaller reinforcing rods or mesh near the surface. The 240-mm projectile would bury itself under the reinforcing and then detonate.

5. Conclusions.

The enemy was denied the use of Manila Bay for five months. That the enemy both wanted and needed this bay is an unchallenged fact. The bay was guarded by two things, seacoast artillery and mines. The mine field guarding the south channel was a Navy contact field planted prior to the war. These mines had been detonating accidentally in great quantities ever since the field was laid and its effectiveness as a barrier had been dissipated. That this mine defense had failed was known to the enemy, was evidenced by the fact that at the surrender, 12 enemy ships sailed into the south channel abreast, through the mine fields and back again without sweeping. The remaining defense was seacoast artillery, and it is a matter of record that almost all of the open seacoast batteries had either been knocked out or rendered ineffective with the outstanding exception of the 14-inch guns on Fort Drum guarding the south channel. It is this officer's opinion that properly designed, completely closed turrets, mounted on a strong concrete steel emplacement, correctly sited to command 360° fields of fire will prove unquestionably superior to any other seacoast fortification known to us at the present time.

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