Sandy Hook, Gateway NRA, NPS
Oral History Interview with John J. Mulhern
Child on Sandy Hook 1908-1927
Interviewed by Tom Hoffman, NPS
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Trancribed by JoAnn Carlson 2006
Editor's notes on parenthesis ( )

John Mulhern in ROTC uniform at Battery Arrowsmith c. 1925.
Photo courtesy of Gateway NRA/NPS

TH: We are here again at the (Nike Missile) radar site (near Horseshoe Cove on the bayside of Sandy Hook) and we were talking about your chores as a water boy. Maybe you could tell us a little bit about that.

JM: Around the time of World War I there was a feeling in the Department of Defense that the storage facilities for ammunition and powder at this coast defense installation, Fort Hancock, Sandy Hook, were inadequate and that more buildings of a temporary nature, fire-proof, should be erected along this area of the beach. And an organization known as the Turner Construction Company got the contract to build some twenty or so buildings.

At that time, of course, I was just a boy in school, and when summertime came along, there was always the necessity of getting a little something for myself to do for a few pennies here and there. So the Corps of Engineers were hiring. The Corps of Engineers was hiring a few people and they took me on as a water boy. I'm not sure whether I worked for the Corps of Engineers or for Turner Construction Company. But anyhow, I had never been a water boy in my life before, a brand new experience. The source of water was at a more or less permanent installation called Battery Mills, and Battery Kingman, two batteries that constituted the defenses on the bay side. And at that point, fresh water was available, and that was where I would get the water and carry it to the men who were working on the magazines about a half a mile away. Of course, this was in the summertime. It was hot. There were mosquitoes then just as there are now. And I would make periodic trips to Battery Mills or Kingman for water. I got to know some of the people that I worked for very well through just carrying water. For instance, there was a young fellow who somehow or other never had enough lunch and I would share my lunch, and my Mother always made a good lunch for me. And I would have lunch with young Mr. Page from Long Branch. And one day, during the afternoon after we had had our lunch, and I had go over to Battery Mills to get the usual two buckets of water, and I guess I carried about two gallons or 2 ½ gallons each, I brought the water back. Page came over and wanted a drink of water and of course, it was available, and he took one look at the buckets of water and he said "Why are you bringing us dirty water to drink?" and he promptly kicked over one bucket of water. Well, I really never forgot that. But I still shared my lunch with Page every once in awhile. I said my Mother always made plenty for me. And there was one of the fellows who would be unhappy because a leaf maybe was floating on the bucket of water, and after you carried a bucket of water through the woods for a ¼ to a ½ a mile, it wasn't unusual, certainly, for a little surface dust to blow in on top of the water or maybe a leaf to be floating on it, and one of these men might dip out a half dozen dipperfuls of water before he was satisfied that the surface water was clean, and have a drink for himself. And then of course, I would have a sooner…. then a little bit sooner I would be on my way back to Battery Mills for another bucket of water. But at the end of the day, it meant that I had spent so many hours carrying water, and at the end of the week or the end of the month, it meant so many more pennies into the pay envelope, all of which I guess helped me later somehow.

TH: What about Kingman and Mills back then, what did it look like?

JM: Kingman and Mills then looked quite different to the casual viewer than it looks at the present time. It was built around a time shortly after World War I, built at a time when hazard of air attack was not considered imminent in this part of the world, and the guns, the four guns that were there, two guns, two rifles at each battery, were out in the open. They were known as flush-mount rifles, and the gun was completely out in the open and that was quite new compared to the disappearing guns that were found at all the other fortifications at Fort Hancock, Sandy Hook at that time. It was very convenient for people who were operating the guns. Everything was right at ground level. Moving the ammunition, moving the gunpowder, swabbing out the gun, all these operations were very simple and out in the open. Later, when it appeared that air attack would be a possibility, and that was several years later, canopies were built over the guns, concrete

canopies, which pretty well shielded them from air attack. And those are the guns as you now see them, or the emplacements, the gun emplacements as you now see them. And they are really quite different from the original design of the battery of the entire fortification. Building a canopy over the gun limited, to some small extent, the elevation to which the rifle might be raised, and probably reduced, of course, the effective range of the rifle. I don't know that the guns were ever used for anything but target practice. Every year, there would be a target practice exercise at which just a few rounds would be fired from these rifles. While they looked like very substantial bits of metal, they really have a very limited life, and some of the guns that were like ten or twelve inch guns would only have a capability perhaps, of firing twenty or thirty rounds of ammunition, after which the gun would have to be re-bored or re-tooled, or whatever the process was for getting them back in operation. So that any test firing or any target practice that was held, was very closely supervised so that the effective life of the weapon would not reduce unnecessarily and yet there had to be assurance that should the weapon be necessary for its intended purpose, it would be adequate to satisfy that purpose.

TH: What about the diameter of those guns?

JM: The guns at Mills and Kingman were 12-inch guns. They were the largest that were ever permanently mounted at Sandy Hook. There was a 16-inch rifle that was test fired at the test proving ground, the Ordnance Corps or (Sandy Hook) Proving Ground; it must have been around 1912 or 1913 or around that time. That gun was never intended to be used here, and after it was test fired, a special carriage was built for the gun, and its mounting, and it was moved to the Panama Canal Zone. I believe there were four such guns at Panama, two at each end of the Canal Zone, or the end of the Canal. There were a few other 16 inch guns that were mounted in this area, at the Highlands in WWII, and at Fort Tilden in Long Island.

TH: Down there at Kingman and Mills the rest of the year, was there any activity?

JM: There was really no activity at Kingman and Mills during the rest of the year, except whatever necessary maintenance might be in order, and in the days of the old Army, when it seemed that the soldiers were generally rather professional, and had pride in their work, they did a very good job of maintaining anything that needed to be maintained. And if they could find maintenance work in the form of mechanical or electrical work, they would much rather do that, I am sure, than maintaining roads. Of course the soldiers had the job of maintaining the roads whenever they had to be maintained, too. But maintenance of roadways and public thoroughfares was less important than maintenance of coast defense equipment, whether you're talking about auxiliary power plants, about the guns themselves, about the collapsible search lights, or the mine casemates, or the cable testing station, or any of these items that were considered vital to Fort Hancock as one of the necessary coast defenses for New York City.

TH: It is understood that they all had to be maintained, but all these guns, all these

different batteries - we are up here at the radar site across over Horseshoe Cove are Battery Arrowsmith and you have Potter and Granger and all the other disappearing guns were just test fired every now and then, then the rest of the year they were just maintained, as such?

JM: They (the guns) were just maintained. And they really weren't guarded very closely. And that is amazing to many people. That there wasn't close surveillance, there wasn't somebody stationed at all of these batteries, all the time to make sure that vandalism didn't become the order of the day. And yet I don't think that ever was a problem. In all the time that I had lived here from 1908 – 1927, I can't recall any single case of what would be considered vandalism in the light of today's interpretation of the word vandalism. There were government buildings where there wouldn't be anyone in them from one end of the week to the next. And yet nothing ever happened. None of the buildings were ever broken into or had windows broken, or anything stolen out of them. There was a sort of code of ethics then, in the Army in those days that, "Heaven help the man who either lies or steals." He could fight or could get drunk, or he could do a number of other things that young men are likely to do, but to steal or to lie, were absolutely verboten, and it just didn't happen. And that was probably one of the reasons why so much confidence was put into the people who lived on the post, whether they'd be civilian or Army that they would respect the property that belonged to the Army.

TH: What about the drilling of the guns? Would they have a drill every day, or perhaps once a week?

JM: Occasionally there was drilling with the guns. And sometimes the guns were fired with sub-caliber attachment. Sub-caliber means a projectile or a shell much smaller than that normally used in the gun. It would be fired with the gun firing mechanism but not utilizing the barrel or the tube of the gun, and thereby reducing its useful life. So, the sub-caliber might be something as small as, for instance, a 37 mm gun, and a 37 mm shell, was about an inch in diameter, some of the small infantry field pieces of the older army were known as 37 mm guns, and they could be used as sub-caliber for the larger weapon. And everything would be the same in the firing operation: the loading of the sub-caliber weapon, the laying of the gun, just as it would be laid for a service round to be fired, targets would be simulated, the gun crews' orders would be just the same as if they were firing a service charge from the weapon. The only difference was that the small projectile which had no effect on the gun bore was fired from the smaller caliber weapon. Targets would be established for the range to be adequately covered by the small weapon so that there would be some check on the accuracy of the gun crew in laying the weapon, both for altitude and azimuth.

TH: How often did they train or have a drill?

JM: I think that the drills with sub-caliber weapons might not be more than once a year. Very seldom. Now they had operations that were for training purposes, other than by firing. For instance, laying the weapons, and training the crews to handle them.

All the weapons from Fort Hancock were controllable from Battery Potter, which was the Post Commander's, the Fire Commander's station, for all of Fort Hancock. And at that point, there was the necessary optical equipment in the form of range finders, and telescopes, and other optical equipment, that could be used in triangulating problems to simulate firing, and these problems to be turned over to the gun crews at the various guns, the various batteries along the coast, on both coasts of Sandy Hook, so that the whole business was really quite a mathematical procedure. The guns were all calibrated for azimuth and elevation. The battery commander stations equipment… There were some secondary stations as well as primary stations. All of this equipment was calibrated and oriented so it would be quite possible, for instance, for someone from the Post Commander's station to be present at one of the batteries during one of the simulated firings, to determine that the gun crew that was charged with the responsibility of firing a particular gun, properly interpreted the information that came from the Post Battery Commander's station. And this went on every so often, and I just don't seem to have any good recollection of what kind of schedules were involved in that kind of thing. But it was important that the gun crew could interpret the information which was sent to them by telephone from the Post Commander's station, and there were telephone lines connecting all the batteries all over Fort Hancock.

TH: Speaking of sighting guns, we took a nostalgic walk out to Battery Arrowsmith for you because you gave us two photographs of yourself taken about 1925.

(Referring to Photographs owned by Mr. Mulhern, taken around Battery Arrowsmith, circa 1925)

TH: Those guns look like they were 8-inch or smaller.

JM: They were 6 or 8 inch guns. (8-inch) When you look at the mounts and compare them to the larger guns, it's quite evident that they were mounts that didn't have to sustain a terrific shock of larger weapons.

TH: Walking around here, perhaps you can recall some of the activity that took place out there?

JM: Battery Arrowsmith was really very close to our home. We lived about across the marsh, the natural habitat marsh now. We lived about a ¼ mile from the gun. So it wasn't difficult of us youngsters to go across a foot path that was across the marsh at that time, a shortcut for the soldiers who used to have to go to Battery Arrowsmith once in awhile. So we would go over there once in awhile and since there were few people around, we would operate the guns. You look at a weapon that was the size that they are and you say well, it must be difficult to do that, and yet these things were very well maintained. They were gear driven, and there were wheels on each gun. There were one or two wheels that looked like a ships wheel, and about thirty or forty inches in diameter and a couple of other levers, handles you might call them, that could be used to turn the guns. Us children could operate the guns. So we would do that. We would move them 10 degrees or 15 degrees and we would look at the scale that was alongside on the bottom

of the gun. We'll move this one 10 degrees and move it back 15 degrees and we'll elevate it so many degrees. We were really coast defense defenders. And I'm sure we never did any damage, and we were never criticized for anything that we did, and I don't suppose that anybody in the military ever knew that we did anything over there.

There were good beach plums in that area, and my mother and the four of us when we all were big enough, would go over on the beach to pick beach plums over there. There were two or three little bungalows that were built over there, right alongside Battery Arrowsmith that the soldiers built for their families and those little buildings have long since gone, and I don't remember when they were torn down, but I have an idea that it must have been around the beginning of World War II. Because at that time, it was evident that Fort Hancock would be necessary for a jumping off point for large numbers of soldiers and these little non-descript buildings were not the kind of thing to have around. And I'm sure they were demolished. We watched the firing that used to take place once in awhile at Battery Arrowsmith, and the guns were never fired at targets out in the open water, but were fired at targets that were in at close range, close to the batteries themselves, and with small powder loads to determine the accuracy of the fire of the guns, and not to constitute a hazard to any shipping that might be out in Sandy Hook Bay. Because when you look at these guns, at Battery Arrowsmith you can appreciate that they have a very small angle of fire first of all and that even with a 6-inch (8-inch) service charge, you would be depositing a projectile in Perth Amboy, much probably to the disgust of the people who lived in Perth Amboy. We were disappointed when we saw the government begin the installation of anti-aircraft guns on Battery Arrowsmith, and a couple were installed over there, because we felt that somehow that spelled the end of Battery Arrowsmith and when you look at Battery Arrowsmith today, you can certainly conclude in your own mind, that it was a far cry from what it was as a well maintained coast defense weapon around the 1900's.

TH: So about the World War I era they did put up the anti-aircraft guns. You can still see the smaller gun mounts over the large gun pits.

JM: Around the end of World War I, when we resumed our residence at Fort Hancock in 1919, after a short period of living in one of the nearby towns, that the anti-aircraft guns at that time had actually been installed. I imagine they must have been something about the .50 caliber size, fairly small.

TH: Talking about dangers of shooting stray shells out over the bay towards the mainland, they also had the firing range down there too, didn't they?

JM: There was a rifle range where the soldiers would go for their annual familiarization firing or firing for record. That was right alongside Battery Arrowsmith, and yet it was so arranged and the bulkworks were so constructed that there wasn't any danger to anybody who might be working around Battery Arrowsmith, even though the rifle range practice might be on, although I'm quite sure that the Battery Commander at Battery Arrowsmith would make very certain that all of his people were safely out of range when there was any rifle shooting on the rifle range. The range that was there was relatively

short distance. I believe they were one hundred and two hundred yards or two hundred and four hundred yards in range. And of course, the firing was with regular service ammunition, .30 caliber 06 rifles, they were called, (Springfield) with an effective range of about five miles. And with steel jacketed bullet, it could be very effective. At some time subsequent to that, when there were more troops involved, more troops stationed at Fort Hancock, then the new rifle range was built, which was just south now of the Visitor Center. They were for……
(turning audio tape over)
….that any stray shells would go out into the ocean. And at that time, there was included in the newspapers as they still are, notices to mariners, and the notices to mariners, as far as Sandy Hook was concerned would say, during the period so and so, from the 15 of July to the 15 of August, a small arms target practice will be exercised at Fort Hancock, and mariners were warned to avoid the shoreline. There were so many soldiers here during World War I and World War II that larger target butts were necessary for the rifle practice that went on here with the troops that were stationed here. Those ranges were used for a long time, and I don't remember when their use was discontinued, but sometime after the expansion of the target ranges at Sea Girt, most of the target practice that had previously been held here, was transferred to the Sea Girt area, and of course that is used by a number of military outfits, and I suppose still is.

TH: Now Arrowsmith, being right here across the road near the site of Camp Lowe all the Army barracks out here, these soldiers man Arrowsmith, what was their activity down here in this area?

JM: Most of the soldiers that were here in this area were really of an infantry-type training, rather than a coast artillery type training, because it really didn't take very many soldiers to adequately man a coast defense as such. During the normal staffing or the normal manning of Fort Hancock, I suppose there were never more than six hundred soldiers that were on permanent duty here. And that was adequate to take care of manning the batteries in peacetime. Now, in wartime it would have been necessary to have more soldiers because you would be running a 24-hour duty cycle, but in peacetime of course, I don't think it was even an 8 hour day, it was more likely to be about a 6 hour work day, and the rest of the day was given over to administrative details of one kind or another that the soldiers had to execute, but I think that is about all the men that were here on permanent duty with the coast defenses.
The area was fairly well suited for infantry training, too. You had the woods, you had little hummocks (?) here and there, you had beach line, you had the Parade Ground for mass formations of one kind or another, and all of the little, all of the smaller areas where the soldiers were housed during both World War I and World War II, each had their own little assembly areas, too, as all post camps and stations do. So I think that only a few of the people really that were here for training most of the time, were actually for coastal defense training. There might have been some, but I think that there were very few.

TH: I'm wondering what they dressed like when they went out, say, for target practice, or when they drilled on the guns?

JM: When they drilled on the guns, and when they were out on target practice, they were strictly in fatigue uniform. A fatigue uniform at that time as I recall, is much the same as it is now, a sort of a twill material and rather baggy looking and poor fitting. When the larger guns were being fired, usually the battery commander and the officers that were part of the crew, would be generally dressed in Class A uniform, not the dress uniform, but not fatigue uniform.

(Halyburton Monument)

TH: There's one more thing, in this area here, asking you about Halyburton you said before when we went out last time, in April, you didn't believe that where that monument site is now marks the site where that brick vault is, where they found the bones, do you have any reason for this?

JM: Only my recollection of the distance from the road which is about the same traverse as the road now has, to where the railroad went by, and the railroad cut was made only as wide as necessary and it was right in line with that railroad cut that the vault was discovered. I would have to explore that a little more with reference points I may be able to find to designate the traverse of the railroad, because I know that the vault or from what I was told, the vault was right where the railroad actually went through the hill.

TH: So they may have even pushed dirt over it and not destroyed the vault?

JM: Maybe so.

TH: So it might still be under the sand?

JM: It might still be there.

TH: We're driving into Fort Hancock, you can see the missiles (Guardian Park) and you can see the Marine Labs in the background, what did it look like, as a boy, when you were here?

JM: When we first came here, this was quite different. When you came to this point all you could see was the Post Hospital which is now the Marine Laboratory (Building 19 burned down in 1985), and the house in which the senior NCO in the hospital lived (Building 20). And the little house just to the right of that which we always call the dead house, and that of course, is the morgue. We always called that the "dead house." That was all you could see here. This was all little woods area. This road that we're on now, was not here at that time. The only road that was on went up as far as where that first brick house is, and then it wound around in back of these barracks here. So there was nothing you could see in here, really. This land on our right was just about as it is now, though it seems to me that has been filled in to some small extent. A little farther to your right, is that low marshy place in there. That has always been that way. And at the southern boundary of that little marshy area, or where you see those first trees over in there, is where the pig pens were. And there was a whole series of them along in there.

Now there is a kind of path that goes down in there, or there used to be, on the other side of where those trees are, and you could walk down through kind of a marshy area on that side too. And there was a little road that went right down from behind this first barracks building that you see, the large brick building, that went through that low land in there, a little cinder road that went down where the pigpens were, and that is where the soldiers used to bring the swill from the mess halls to feed the pigs.

TH: Right, this is the area that is directly east of the Navy barracks (no longer standing) so marked here, built in World War II or just before. That's the only road that existed at the time, your road in front of Officers' Row then?

JM: There was a road in front of the Officers' Quarters and a road in back of the Officers' Quarters and it seems to me now that house was there when we lived in a temporary house that was right here, right on the side of 331. When we came in from the Highlands after the war (World War I) was over, and our quarters down at the pumping station was not available, there was another old house right in this little low space, and that hill went down lower 'til it got down as low as that grade across the street. And our house must have been about eight feet, the foundation must have been about eight or ten feet lower than this, if you follow that grade down. It was right on that spot or maybe across the road here. And there was a little kind of path that went behind these houses to where a couple of other people, the Post Tailor and the Post Barber lived over in there in little houses. But this road, as you see it now, was not here then.

(Barracks 74)

JM: Two companies occupied that when it was occupied by the coast defense forces, soldiers lived mostly in the front, and the upper floor, and the lower floors in these back wings were where the mess halls were, the mess halls and the kitchens were there. And right along in here, there was a little roadway that went right down in through there, and where the soldiers used to take the swill from their mess halls, and there are probably traces of that yet.

TH: This is building 74 here that we are talking about, where in the wings, they used to eat here? Is that the mess halls?

JM: The mess halls actually went around to part of that front section, too. Around there then, of course, they had the kitchen and food storage here, and down in the basement, they had other food storage. And all the top part…… (inaudible)

(Soldier's routine)

JM: They'd get up five thirty in the morning, and they would go through the usual self-policing, and they would get themselves dressed and then sometime during that period the whole organization would have to fall out for roll call to make sure that everybody was on deck. And at that time, the assignments would be given out of the different groups that were supposed to go to wherever they were supposed to function that day.

That would generally be in addition to the instructions that were posted on the bulletin board, and which every soldier had to read twice a day to determine when his guard duty was coming up, when his kitchen police or KP duty was coming up, when he was due to peel potatoes, when he was due to assist in cleaning up the barracks, when he was due to get out on the details to repair the roads, when he was due at one of the batteries to grease one of the guns, or whatever. And then the men would all walk to where ever they were going, they would either go or march, even if they were going all the way up to the post fortifications out on the ocean. If it took a half an hour to walk, that is what it took, and when they were through with their morning work, which was generally eleven o'clock or eleven fifteen, maybe eleven thirty, then they would walk here for their noonday meal, and then report back to the battery at one-thirty or there abouts for their afternoon work, which went on till about three-thirty or four o'clock, and then they would walk here again, and then for their evening meal. That was the detail every day. I don't ever remember the men ever going to work in vehicles of any kind; certainly not in our early days around here. It might have been around the time that we left here around 1926 or '27 there might have been some transportation provided, but normally everybody walked to his job wherever it was.

TH: What was the night activity like, you know, when the soldiers were off duty?

JM: Every barracks had its own pool room, with two or three pool tables. There were places where they could play cards. They generally played cards on their bunks in their sleeping quarters. There were always movies as long as I can remember there were movies, almost every night in the week. There was a very adequately managed YMCA that is adjacent to the museum now (Building 40). I knew two or three of the secretaries that worked there that were always very effective men. They always kept something going for the troops, and not always religious. But yet there was some little tempering of religion, otherwise the YMCA would have lost the idea of the YMCA. But they did other things. They had a pool table in the YMCA also. Then there was the post gymnasium which is still in existence that is behind the museum (Building 70). It was sort of the shopping center; there was a commissary there at that time, or right nearby; the PX, then called a canteen was there. There wasn't any gas station because nobody had automobiles. No gas necessary. There was a butcher shop and a grocery store in the PX, there was a barber shop there, and incidentally all the companies, every company had its own barber and barber shop and they took care of the troops that wanted to shorn properly and I guess it was an assurance that all the soldiers would be gentlemanly looking all the time. And they were.
The buildings were kept in good shape. There was always something going on. There was painting going on. There was some sort of rehabilitation, and they were always spotlessly clean, absolutely spotlessly clean. The old Army. The shoes would be all lined up properly, you could open any footlocker in the place, and every footlocker would be exactly the same arrangement. If one pair of socks was out of proper arrangement, somebody would hear about it in no uncertain terms, and I'm sure they did.

TH: We're talking about an era now, pre World War I or was it post World War I also 1915-1920 when you were living here. Is that how they operated?

JM: That was standard operating procedure.

TH: So they were doing all the work in fatigue uniforms I would guess.

JM: That's right. They did all the maintenance. There was very seldom any contractor work went on as such. The utility work was done to some extent with civilian supervision, and sometimes with civilian labor, but frequently with soldier labor. And even at the pumping station where my father was employed, there were always some soldiers that were assigned there. Usually (working) as firemen because that was a steam operated plant. And tons of coal had to be shoveled and the civilians normally didn't do that. That was turned over to soldiers to do. And they would have an adequate number so that if one didn't show up, another would be available.

TH: I'm wondering about all the soldiers that lived in the brick buildings from 74 on up north here. Were these the Coast Artillery soldiers? From what I read they were the 7th Coast Artillery?

JM: I don't remember how the whole post was designated. I only knew of it as Fort Hancock, coast defenses of Sandy Hook, made up of several companies, the 136th Company, the 137th Company, the 48th Company, the 56th Company, and the 76th Company, and the 113th Company. Each one of these buildings had a company of its own.

The mine companies, one company just handled the mining activity, and the others were all in the coast defense activities, but I believe that the designation, 7th Coast Artillery came along long after Sandy Hook started, and probably after 1927, too, for that matter. The whole thing was known as the Coast Defenses of Sandy Hook.

TH: They had a side line here for the soldiers, you were telling me.

JM: Oh that's right, you must be referring to the newspaper business. Somehow or other, and it might have been my enterprising mother who thought this up, because she was not one to have me wasting any time. Somehow or other it came to my attention that there was a newspaper company in Chicago that was engaged in the business of publishing two newspapers, one was called, "The Saturday Blade," and the other was called the "Chicago Ledger." And I found out, or somehow, that they would send these papers by mail to whoever wanted them delivered and collect the money for the paper. It seems to me that the papers were 5 cents a piece, and "The Saturday Blade," as I recall it, was in the shape of a conventional newspaper. And the "Chicago Ledger," as I recall it, was in the shape of the "New York Daily News." So, I started the rounds of the barracks here to find out who would want to buy newspapers. And I think it got up to the point where I was delivering something like 50 newspapers every week. And I would have the regular people that I would deliver the newspapers to. And it was a great way to learn about the soldiers. They knew when to expect the paper, and if I wasn't here about the right time on Friday or Saturday or whenever I delivered the paper, they would want to know why I

was late this week. It also had certain fringe benefits you might say. Around holiday time, around Xmas, around Thanksgiving time, anytime that the soldiers were having a big party in the barracks, there would always be something for me, either a pie to take home or a box of candy or maybe a bag of nuts. And by the time I finished my route on that particular day when the holiday was, I would have just about all I could carry home to the family. They used to think it was great. I thought it was real fine sort of thing, too. And then we would be invited up here, for instance to have dinner with the soldiers once in awhile. They liked my sister and I, mostly myself. I would be invited up to have dinner with the soldiers, and the food would be stacked high on the table. They couldn't possibly eat all the food that they had and it was the same way with candy, with cake, with desserts of one kind or another. There was always so much. When you walked away from the table, there was still more on the table than anybody could eat. They were allowed so much to feed each man. I think for a long time it was something like18 cents a day, in those early days. So the mess sergeant had to be a pretty clever fellow in some ways. He had to know how to make ends meet. And most of them did. They knew how to put the food together, and they bought it at the right prices, and I don't know what the Army food distribution system was then, but I'm sure the Army was taking care of its own then, as it does now. But there's a little side issue, and in order to supplement the food diet, all the soldiers had pig pens that were located, I guess, a half a mile from the buildings where we are presently located. In a southerly direction, you could look off across the marsh to the edge of the woods where the pig pens were. So, everyday the soldiers had pushcarts that would hold about a half a cubic yard of material. High wheeled, two- wheeled push carts, and they would load the garbage pails on these carts and take them down and feed the pigs. Of course they had water down there too. They had a water supply down there, so the pigs would have water to drink. But that meat that would come from those pigs, and they would raise the pigs to full size, and when they were slaughtered, that would be a good poundage of meat. A good sized pig weighs about 300 pounds, and if you figure a man would eat a half a pound of meat more or less, that would mean that you had six hundred man meals out of one pig. I don't know how many pigs they had, but I would wager that there were as many as a hundred pigs at one time down there. And of course, they went through the business of raising other pigs, the boar and the sow, and there were always little pigs around. But I don't think they ever ate the suckling pigs. I'm sure they didn't. They waited till they got full size. That was strictly soldier activity. That meant that the mess sergeant had more money to play with, and could make things just a little bit better than the standard Army fare.

(Tape 1 ends. Tape 2 begins)

JM: **…** area, or a sort of a dry marsh area. And as a matter of fact, this road wasn't even here. Part of it was here. The road came to about this point where we are now, and it turned to the left, just around the back of this big building here, #74. It turned north at that point, and went between those other two buildings, between the barracks and the mess halls, all the way to the end. There was a small road back here that had access to that laundry building which is the poured concrete building that you see ahead, slightly to our right now. That was the post laundry, north of the (present) tennis court.

TH: And it was all woods over here on the right hand side of the road?

JM: It was all woods right, or the dry marsh.

(Lighthouse)

TH: We've gone up the road a ways and we are standing in front of the Sandy Hook Lighthouse and perhaps you can tell us a little about that from your boyhood out here.

JM: I always thought it was the biggest thing that I ever saw in my life and for a good many years, I never saw anything that I remember as being as big as that is. And I thought it was just great. And people used to tell me about ships at sea looking for the lighthouse at Sandy Hook, and it was always something slightly romantic about that, too. When we first came here, there was a man by the name of Mr. Po (sp) and Mrs. Po, lived in that house that you see there now and he was the lighthouse keeper at that time. Later, he had an assistant by the name of Stanton, and Tommy Stanton had five children, 2 girls and we still write to one of the girls who is living in Florida. And it is always great when we get a little note from her at Xmas. We know that she's still in existence. The boys did very well. One of them was a Colonel in the Army. And finally became the Superintendent of Loomis Military Academy up the Hudson. Another one was an auditor and worked at Raritan Arsenal for some years. And another one was a bank employee, I believe, for a good many years. We were in the house just a few times. Strange as it may seem, never in my life, up to the present time have I been in that lighthouse. And it has been there all these years. And I've looked at it so many times and thought it was such a wonderful piece. (I've) Never been up to the tower. Maybe sometime we could get in contact with NOAA and get in to see it.

TH: Did they ever tell you any stories about it that they knew or any experiences – the lighthouse keeper?

JM: They (re: lighthouse) were sort of a closed corporation. If it hadn't been for Stanton's going to the same little St. Mary's Chapel that we went to, I don't think we would probably have ever known the Stanton's. First of all, the family was a very proper family I might say. And you didn't speak to them, unless you were introduced to them. They kept their little family that way. Maybe that's what resulted in the two girls being spinster girls. The two girls never married. I think only two of the boys married. They were here for a good many years, and after Mr. Stanton retired, they moved out to Highlands in New Jersey and bought themselves a very nice red brick house on Highland Avenue, in the Water Witch section, up on the hill in the Highlands. The house is still there, but in due time they decided they didn't want that anymore, and they moved and were on their merry way.

The Lighthouse certainly looks in poor condition now compared to what it did for a good many years in its history. The Fresnel lens looks like a fine piece of work. The thing (tower) really needs painting up very badly or the weather, the rain, the ice, is just going to chip piece by piece out of that until it's in very bad shape. You can see where those

cracks are, and that is disastrous. That is on the southwest side of the building. While we don't get our most rain from that side we're likely to get some, and all you need is a few bits of freezing rain here and there in that thing and you're going to be in real trouble. And it will cost a lot to repair it, when that happens. You can see that deterioration all the way down. Just too bad.

TH: What about the land around the lighthouse, did it look a little different to you as a boy?

JM: The grass was always cut. It was always just a lovely piece of landscaping. Most of the time, the lighthouse keepers really didn't have too much to do. They took care of the light, assured themselves that it would be burning, that the fuel would be available, that the thing would be clean, that it would go on at the proper time, and that kind of thing. And the rest of the time was pretty much their own.

(Mortar Battery)

TH: We are walking down through the Mortar Tunnel pit now down by the railroad tracks, you were telling me a little about the camouflage?

JM: These hills were always adequately naturally camouflaged. However, there was not nearly as much growth on the hills as you see now, and in the direction, of fire, of course, there was never any foliage because there was always the danger of fire, that the muzzle blast, for instance, might set fire to any foliage that might be at that point. When these guns were fired, from where they sat, even at a rather sharp angle, the muzzle blast would carry out to those trees that are out there on the edge now. There would just be a big blast of fire up there. Actually, the muzzle, that's the center of the gun there, the muzzle went out about this far, so that would be just one blast of fire out there. So they made sure that the thing didn't catch fire, or start a fire out there. Not that it would do any damage, but they just didn't want it to be that way.

TH: Were you ever allowed in here when you were a boy or a young man? Did you know any of the procedures they went through, the soldiers, when firing these things?

JM: I was never really there when this was fired. I know the operation would be that they would have to level the gun off, and put the new charge in, close the breech block, and then elevate it to the necessary angle, then triangulate the information or transcribe the information from the Battery Commander to the calibrated disks that they had in here, and then be on their way.

TH: There's a little fire control bunker or observation pit up here. There's one here and one up front and our view is obscured because of the poison ivy. I guess the officers were up there and they relayed that information down.

JM: Probably so, and that was in voice distance of the gun crew.

TH: I was just wondering, a lot of people ask me, why these are out on the walls here (metal hardware inside the gun pit)?

JM: They were probably for the ramrods, too, just like in the other place. See, they didn't have to be long on these things, these things were only 8 to 10 feet long. I suppose that's what they were, that certainly would be a logical thing to have there.

TH: And I was wondering how many guns here at Fort Hancock because we have four pits in this Mortar Battery, I'm sure you know that.

JM: I was always under the impression that there were three guns in each pit, but it looks now as you can see the remains, that there were only two. They were very little used; I don't believe that they even ran a regular target practice series at these guns. Very early, the idea of a mortar became obsolete because of the short range. After all, it was strictly a high-angle fire weapon, and it would be a simple matter to figure out mathematically just how far you could expect a projectile to go. And then, in addition to being a high-angle fire weapon, and a short range, it was necessary to be very, very accurate, with a mortar shell. You actually had to be on target to make it effective, with a flat trajectory weapon, like the coast defense weapons, you sort of had a better chance at your target, because first of all, you had the entire altitude of the ship from the topmost of the ship to the bottom of the hull, which could be an effective impact area as far as the projectile was concerned. In the case of the mortar, if you didn't drop the projectile right on the deck of the ship, and ships were not that big in those days, maybe the deck would be 30 – 40 feet wide, if you didn't drop your projectile right on there, it was ineffective, and just went down into the ocean. So, as I say, I think these things have become, mortars as such, have sort of very early in their, what might be useful life, became obsolescent.

(Lighthouses of Sandy Hook)
It always seemed to me that somebody had seen far enough ahead to develop a lighthouse system that could be useable enough to mariners and, so designed, that they could distinguish one from another. For instance, the one on the ocean front, the one that we are looking at, (inaudible) so called lighthouse, it is certainly the biggest thing on the Hook, easy to see. There was one that was on the bay side in front of the officers' quarters (West Beacon), was just about half the size of this one, and the one that was mounted at the very point of the Hook, another beacon, was even smaller, built on sort of a skeleton construction (East Beacon). The one on the bay side, by the officers' quarters, was sheathed in asbestos tile and it looked like the typical lighthouse, and the one at the point of the Hook of course, looked just like a beacon. They were all working they were all maintained and the keeper of this light, the one that was responsible for this light was responsible for all of the lights. So while there were two keepers, the keeper and his assistant, all the time here, the responsibility was such that, I suppose, you really need two people, to keep an eye on these things, and make sure they were burning during the hours that navigation lights were necessary.

(Area between the Mortar Battery and Battery Potter)

TH: What was it like out here in this field, they used to have Army barracks back here that dated back to WWII but you were here years before that.

JM: That's right. The point at which we are now sitting is where the Post Garden used to be. The Post Garden had a Superintendent by the name of Brown, Tommy Brown, who was responsible for seeing that the plots were properly laid out, and that serious gardening was done by whoever was doing it, and that the Post Garden itself was well taken care of for people who needed the produce of the Post Garden. And that was a pretty good sized area, and it is all in here from where this black road is down to your right here, east about 150 yards or so, extending toward Battery Granger probably two hundred yards.

What that concrete building is over there, I really don't know, unless it might have been possibly a paint warehouse. (The field) was empty and lower than it is now. Evidently this was filled in somewhat because mallows used to grow in here, marsh mallows, nice big white or pinkish flower, with dark centers and grow out near your park area headquarters out there. And at the far end of this you can see it, in the little grove of trees, is the government wireless station. That was station *WUB* of the Army's Communications Network. And, the last time I was down this way, at Battery Potter, I couldn't seem to locate it. I was standing at the wrong angle so that the grove of trees hid it, but last week when I was down, I went roaming around, and I was sure that it must be there. And sure enough, that is it. And I went inside the station, and it too, has been subject to vandalism, but there are certain features about it that positively identify it as being the radio station. For instance the large (unknown) insulator, the (unknown) insulator that goes through the back wall, and the antenna ground switch; the marks of that are still on the wall over there, and the building does have a number. It was strictly Army Communications, and they had, I remember the thing very well, they had an antenna that was a hundred twenty feet high and three hundred feet long, three hundred foot flat top antenna, and it came from the little station, part of the antenna was over the station and it came off in almost a southerly direction from there, and in fact, one of the anchors is still in that ground, it wasn't moved when all those (inaudible) or barracks buildings were erected.

TH: I'm wondering about this area here. Did they have a railroad running in here any tracks. Because you notice the tracks in the mortar battery running down into the firing pits, I'm wondering if there was a railroad system back here that you might recall.

JM: I don't recall any railroad system back here. The only railroad that I recall is the one that runs across in front of Battery Granger, and runs across in front of Battery Potter and runs down into the roundhouse area, the Ordnance Proving Ground area that was the main line in there. There are a couple of other spur tracks that have been built in since the original one. And there is one down there near the collapsible searchlight (building).

TH: I'm wondering about a Shipwreck Victims' Cemetery and also the Post Cemetery, because just before you moved in here as a young boy, they abandoned the Post Cemetery.

JM: Abandonment (of the post cemetery) has been the procedure at a number of old posts, camps and stations, like for instance, out at Fort Huachuca, there is a Post Cemetery, but there are not more interments out there. That has been closed for quite some time, but it is still there, still maintained and they still have sunrise services there at Easter time.

TH: Was this an active area, also, or was this a Post Garden or did anything else take place in the years that you lived here – 1908?

TH: That's quite a large garden. I guess a lot of people came in and tilled it.

JM: There was nothing at all in here. It was mostly a Post Garden, and they had the Post Gardener and he had a few helpers who took care of a lot of things, and I suppose, I don't know exactly for whom, they grew all their produce but I would be inclined to believe that maybe the Commanding Officer always had fresh vegetables.

(Battery Granger)

TH: I was wondering if you could recall what kinds of guns were mounted here?

JM: They were small.

TH: And I wonder, you have this large space, which was a marshy area …

JM: A low dry marsh, there never was much water in there.

TH: And I wonder how the fellas would come out here for practice, would they march?

JM: They walked, everybody walked.

TH: Granger, here, is abandoned. I'm wondering what was stored – of course no one ever lived inside these things- but there is still the rooms underneath. What were they used for?

JM: (The rooms underneath the gun pits) were for the Battery Commanders, the Plotting Rooms, the places where they had the optical equipment and instruments, and for use they always had the people who were interested in the mathematics of the gun-laying and all that kind of business. They always had those people out of sight and in some safe place or other. And down there in Battery Mills and Kingman, the plotting rooms down there were pretty good sized rooms because they had a bigger operation going there. And this whole business of laying the guns is a good algebraic, trigonometric mathematical computation business.

TH: People have commented about – they look like prison bars - the barred doorways into the tunnel area, is this because beside storing a lot of their sighting equipment but you also would have the gunpowder and the shells in here?

JM: (The powder and shells) would be in (rooms with bars on them), and they also had to be ventilated or aerated. There were no guards, but there were guards that did walking guard duty on practically the whole post. Like somebody would be assigned to the area from there up to the lighthouse, and he would meet another guard there who had to walk from there up to some place else. That was the kind of security that they had. Armed guard, yes, carried a rife, and they were on foot, and it was their job to know what was going on, and I'm sure that they did most of the time, and they weren't riding around in cars where they didn't see much and they didn't hear much, and they didn't do much. When they were on foot they had to be on the ball, so to speak.

TH: Was this road here at that time the one right behind Granger leading up to Potter? Was it a dirt road at the time you were a boy?

JM: Gravel. All the roads that were for any use at all on the post, originally, were gravel roads, but they were well-maintained. They (the guard) were in regular uniform, wrapped leggings at one time, canvas gaiters at another time, never straight legged trousers.

TH: I guess they wore the campaign hats at that time.

JM: They all wore the campaign hats. When I spoke about low marsh, this is the kind of thing I was talking about. It is not wet in there (referring to marshy area w. north w. of Battery Granger), where the anchor is for the antenna, the one that I found, a big block of concrete with a 1 ¼" steel eye coming out.

TH: The area north, these duplex's are relatively new I think they are 1939-ish or 1941. This area was also wooded, around Battery Potter? We can park right up in front of Battery Potter and take a look inside there. Now we are on top of Battery Potter in one of the observation rooms looking out at New York City and perhaps you can tell us what it was like coming up here as a little boy coming up here on top of the Battery. What year would you place it at, Mr. Mulhern?.
(voice trails off and then continues on the new subject below)

(Fort Hancock School)

I still do have my report cards from my first 6 grades in school and I'll check that date out some time. But from those times, we all came to school at this end of the Post, where the only public school was, walked to school, sometimes we walked directly, and sometimes we walked indirectly. And there were times when we would take little excursions to such places as Battery Potter for instance, the place where we now are. It was impressive, because it looked like the picture of a castle somehow. The entrance to

Battery Potter is just that way. And while I'm sure we weren't really interested in vandalism of any kind, we were curious, and we wondered just what went on in these kinds of places and we were always told for instance, that this was where the Post Commander had his Fire Command Post, he controlled all the guns for all of Sandy Hook. There were times when we found that some of the doors of some of these buildings we're now in, were open on the upper level. I was never on the lower level of Battery Potter. But up here occasionally we would find a door open and we soon discovered that this is where all the fancy range finding equipment was, where the powerful telescopes were, and where the Battery Commander could survey his entire field of fire, to observe his target, or to observe the enemy approaching. And I think we got real educational information in just operating the telescopes, in moving them around through their field of view, in looking at the ships, in enumerating the number of smoke stacks that the ship had, or the number of decks that ship had, all of which seemed to be educational as well just a plain matter of curiosity. It was always an interesting spot, and as the advertising says, "Watch the Fords go by." You can stand here and watch the commerce of the world go by, in all kinds of vessels; friendly, unfriendly, cargo, pleasure vessels, other vessels.

Of course, in those days, there were the great ships, the *Aquitania* the *Mauritainia*, the *Lusitania*, which were just like cities, moving out there in the ocean. Tremendous vessels. And on a day like today, it was just very interesting to just sit here and watch those vessels go by. No one ever seemed to object to our being in places such as this while there was a certain amount of security on this post as there is on all posts, camps and stations. Maybe interest in vandalism at that time was not sufficient to make the guards suspicious of everybody that they saw on site anywhere. So we can make ourselves really quite at home, around any of these fortifications. And of course, somebody says, "Now kid, be careful, you might hurt yourself," or something like that. Perfectly normal, but I just don't ever remember anyone saying, "Get out of here, you're not allowed in this place."

TH: Now when you would sneak up here, there was no one on duty, just the door would be closed and that was it.

JM: There wouldn't be anybody on duty. Rarely was there anybody on duty here, except when target practice was the order of the day, or when some simulated firing was about to be done, or maybe when there was some training exercise for the troops in acquainting them with the idiosyncrasies of the equipment they had here, and in training them in the mathematics that were involved in the laying and the firing of these guns. (Laying the gun) would be really pointing the gun so that it would hit the target. And it was important that that be done and be done very accurately. The targets that were used for target practice for all the guns that you see here in front of you up to twelve-inch guns, were made out of colored cloth, colored fabric, and they were mounted on a platform that was probably was about fifty feet long and maybe twenty feet to thirty feet wide, and maybe twenty feet high or so. And these colored strips of cloth would be mounted on the vertical section, and this entire target would be towed behind a tugboat, and there were two or three tugboats always available here at Fort Hancock, but the targets would only

be about a thousand feet astern of the vessel that was towing them, and that was relatively close when you think how important one or two degree angle means at a distance five miles offshore. So the whole thing in training for this operation was a very important and a very precision like type of training.

TH: Now on top of Potter, when you were a child, there was no guns up here but these houses that we are standing in, these observation rooms, were here.

JM: Yes, that's right. I never saw any guns mounted up in this area, and apparently they were taken out some time prior to the first time I saw this, which was probably about 1912. Sometime subsequent to that, or maybe coincident with, the buildings we are now in, were built to be used as observatories, and they were well laid out for their intended purpose. Each of these four or five huts that are up here, each one of them contained a large telescope that had a 6-inch objective lens which is a very good size objective lens for a telescope used in a site such as this. The telescope was securely mounted on a concrete pedestal because precision was the key word of this whole operation. A partial degree, the smallest angular mistake here might be disaster to a vessel offshore or to the tug that happened to be towing the target. There were chairs located around the plotting board, the plotting board being a large metallic table under the telescope which was engraved with degrees, minutes, seconds, and what ever finer divisions of an angle were possible, and the telescope could be rotated with vernir controls, micrometer controls across the scales to determine the angle that the operator wanted to determine. There were similar stations to this south of here, and the triangulation of the angles measured at this point, and the other stations, would locate a target very definitely for the man who was getting ready his gun ready for firing or the practice operation, or whatever was in order at that time. All these stations were connected by telephone, and the readings that were obtained at this station could be given to the operator at another station or combined reading or coordinated readings could be given to the gun crew that was engaged in firing the gun at some give objective. So the training was very precise, and whether they were enlisted men or officers that were involved in this artillery operation, they had to be cognizant of the niceties of geometry, trigonometry, of algebra, to go through the mathematical formula that had been involved to assist in acquiring precision in firing of these coast defense weapons.

TH: So you had the Battery Commander up here but he also had subordinates going down through these huts here, these observations huts.

JM: There were several people that were involved in this whole operation. There were the people who operated the telescopes, and took the basic readings. There were people who transmitted those readings to somebody in the plotting room, or at the plotting table, which was probably located in one of the lower rooms or just behind the room where we now are.

TH: Back behind us?

JM: That probably was it and with the open space, the windows there provided easy access for communications from the plotting room to the man who was operating the telescope and you didn't have to depend on any wire circuits or delay in time you were right there in real-time situation. The telescope would be mounted here and this large bronze or brass circular table-like that was under the telescope and with a pointer or an indicator on the telescope which followed around the graduations on the scale around the periphery of the bronze or brass table, and that gave the man the angular reading that he wanted in order to pass on to someone else for incorporation in the formula that was necessary for the gun operation or passing on to the gun commander, the battery commander at the particular battery where the gun was to be fired.

TH: How many men do you think were up here?

JM: I would imagine that there wouldn't be any more than about four men in this room, and maybe in the plotting room there might be six or seven. There would probably have to be a man to make some sort of reading or an inscription on a blackboard as a matter of record, and not depending on memory, because I'm sure none of them depended entirely on memory for numbers for relaying numbers, anymore than a ship captain would think of doing anything but reading off the instructions from the engine room telegraph in the pilot house of the ship.

TH: So this is where they worked. This is quite a good construction although its falling apart now, but the construction of this wood here has a certain name?

JM: The wainscoting it is usually yellow pine. It is usually varnished. It doesn't require very much attention and it is part of another age in interior construction. Now when you find a house that has wainscoting you either consider yourself very lucky, or very unlucky. These were first class office spaces.

(Sandy Hook Proving Ground)
TH: Down below us, we were discussing, about the Proof Battery site directly east or north east of Battery Potter. Is there anything you could perhaps remember about the Proof Battery operations here because they still have some railroad tracks leading over to the Ordnance maintenance shop. I know that when we youngsters were cautioned, really by our parents, to stay away from here. There was always a certain amount of antipathy and anxiety and all kinds of other cautionary thoughts whenever guns were to be fired in the Proof Battery. Occasionally, a weapon did explode, and occasionally people were injured. So, as children, I don't think that we really ever went near the Proof Battery. When new guns might arrive and there might be some talk around the kitchen table or the dining room table about it, we might sneak off right after school and go over and take a look at the new gun that had just arrived. But we never spent very much time around the Proof Battery, not even the children who lived within a few blocks of it.

TH: Were there ever any stories of these cannons being hurled through the air upon exploding, because they were being tested.

JM: Whenever a gun exploded, it was never any secret because there were always too many people involved in these kinds of things, and everybody seemed to know about it. For years when we would be walking around through along the beach, and down through the woods, occasionally we would come upon a piece of a gun barrel that had exploded and had been blown that particular point as a result of the explosion and had never been recovered. When the gun exploded, there wasn't really worth much except junk, and evidently junk wasn't worth much at that time.

TH: Getting back to Battery Potter what was stored inside, to the best of your knowledge, 'cause there are a lot of rooms and tunnels underneath Potter?

JM: I was never in Battery Potter, in the lower section of it, in the interior of it, but I imagine that like most fortifications, they probably stored gunpowder or shells or balls or whatever was used. I never saw any weapons installed at Battery Potter. I have heard of the type of guns that were installed here but I never saw any of them, but I think that Battery Potter was probably one of the oldest batteries on Fort Hancock. And as such, it would have whatever was necessary at that time to take care of the coast defenses. Battery Potter being located so close to the lighthouse, the big lighthouse here on the Post, that it sort of makes one feel that this really was the center of interest and whatever was thought to be necessary for the defense of New York as far as Sandy Hook was concerned was right here at Battery Potter, and that would include ammunition and shells and balls and whatever was used in the weapons that were currently in use at that time.

TH: And mentioning about this area being used as the main area for fire control area for the battery commanders – you got this row of 9, or 10 or 12 inch gun pits down here, Richardson, Halleck, and Alexander – up in the 6 inch, the 3 inch, do they also take care of the smaller guns?

JM: The Post Fire Commander was responsible for all the weapons. These weapons that you can see from here, the ones to the south of here, at Battery Gunnison, and Battery Granger, Battery Arrowsmith was over on the Bay beach; they were all the responsibility of the commander here, although I don't know of any facility right here that had a capability of observing the bay operations, if any.

TH: How about tying in with Kingman and Mills further down, of course this was used later about World War 1?

JM: (Kingman and Mills) must have been under the same control, because there was central coast control for all fire operations because there are just as fields of fire can be turned over to infantry men, so it was with coast artillery men and the protection provided by the coast artillery. For instance, you wouldn't want to have overlapping fields of fire that adding something to your mission. In other words, each gun or each battery would have its particular sector. Of course all of those activities had to be coordinated so that again you're not wasting your fire power.

TH: Okay. We are right behind the disappearing gun pits and we're right by old Battery

Richardson, perhaps you can tell me about that?

JM: These batteries, originally the guns in these batteries, originally were operated by hand, that is, they were raised to a firing position, and then after the muzzle blast, after the round was discharged, the gun was settled back in battery and ready for swabbing and reloading. Then later, they got mechanical devices, electrical devices to assist in operation of the gun, and I never really heard much about how effective one system was over another. Of course the electrical system always depended on power, and power wasn't always the most secure thing here on Fort Hancock. First of all, power was limited at both of the generating stations. There was a generating station right over here in the engineer's shops and there was another generating station down at Camp Lowe. But both were rather limited, so every one of these batteries as a emergency source of power, had twenty five kilowatt DC generators installed, gasoline-driven engines, and of course there was always the possibility that an engine might not start as it was supposed to. However, in order to make the thing most fool-proof, every one of the engines was equipped with a shotgun shell holder for one of the cylinders, and the cylinder would be put on compression, and then the shotgun shell discharged by hand, and that usually started the machinery going. That was pretty positive firing for gasoline. As kids, we watched them fire these guns on the practice once in awhile, but always at a safe distance, and a safe distance was probably someplace up around the red brick house, a couple of blocks up the road.

TH: Was there a lot of gunpowder discharged? Was that the smokeless powder?

JM: It was smokeless powder that they used, and there was always a muzzle blast, not a great deal of smoke. You really didn't hear much behind the weapon. If you happened to be in front of it, out on the beach or someplace when they fired it, it would be a terrific blast, but if you stood alongside of them, or behind them, of course it was a loud sound, but it was nowhere near what you would hear if you were standing in front of it, or close to the muzzle.

(Commercial telegraph operations)
They are not up there anymore. One was at one end of the (U.S.) Weather Bureau, one was at the other end of the Weather Bureau. There was a Weather Bureau office up there at that time. There is a strange thing about these guns. Standing alongside of a large caliber gun, you got one sort of a sound, you got a deep booming, roaring sound, much volume type of sound. And it wasn't particularly disturbing, but if you were standing alongside one of the little guns, the six inch gun, or thereabouts, the sharp crack of the discharge of the firing of the gun was very disturbing, the sharpness of the discharge; the explosion.

(Building 516, underwater mining operations)
…and not far from the water tank and the old fort. We used to come over here sometimes at lunchtime from school and we'd walk around this area, and we were always curious about what was going on and what was to be seen and what was real, what was on Fort Hancock or Sandy Hook. So one day we came over here and maybe we can

walk over there to the building now, and it was interesting, the building then looked just about the same as it does now. We came over to this place and we said "Well let's see what's going in here." So, in we went into this place, and as it so happens, this is a cable testing tank, and the cables being tested were those which were used in conjunction with the mine laying operations. So they would bring the cables in here, and put them in these walls, if you can see here, and there's a roll my goodness, there's a roll of the cable right in there yet. And they would leave those in here for the duration of the test, however long that would be. Now these were multi- paired cables like, fifty pair cable or some such thing, steel armored cable as that is steel armored, and those fifty circuits that are in that, or twenty five or whatever they would be, all had to be identified because they were attached to different mines that were laying out in the mine fields off Sandy Hook, and all of which were tied into the mine casemate, which is just up the road a short distance. Well, this particular day that we came out, not intent on any depredation, but curious again, we came over and looked in this cable tank and I'm sure we saw it from that far end up there. And we noticed that some new reels of cable had been put in there, and every one of the cables had been tagged out by whoever the electrician was, to identify the cables. They would put the tags on each pair of cables, then check them for insulation and conductivity and then a month later or some given time, they would come back and repeat that operation, and they would do that over a period of some time to ….

End of Interview