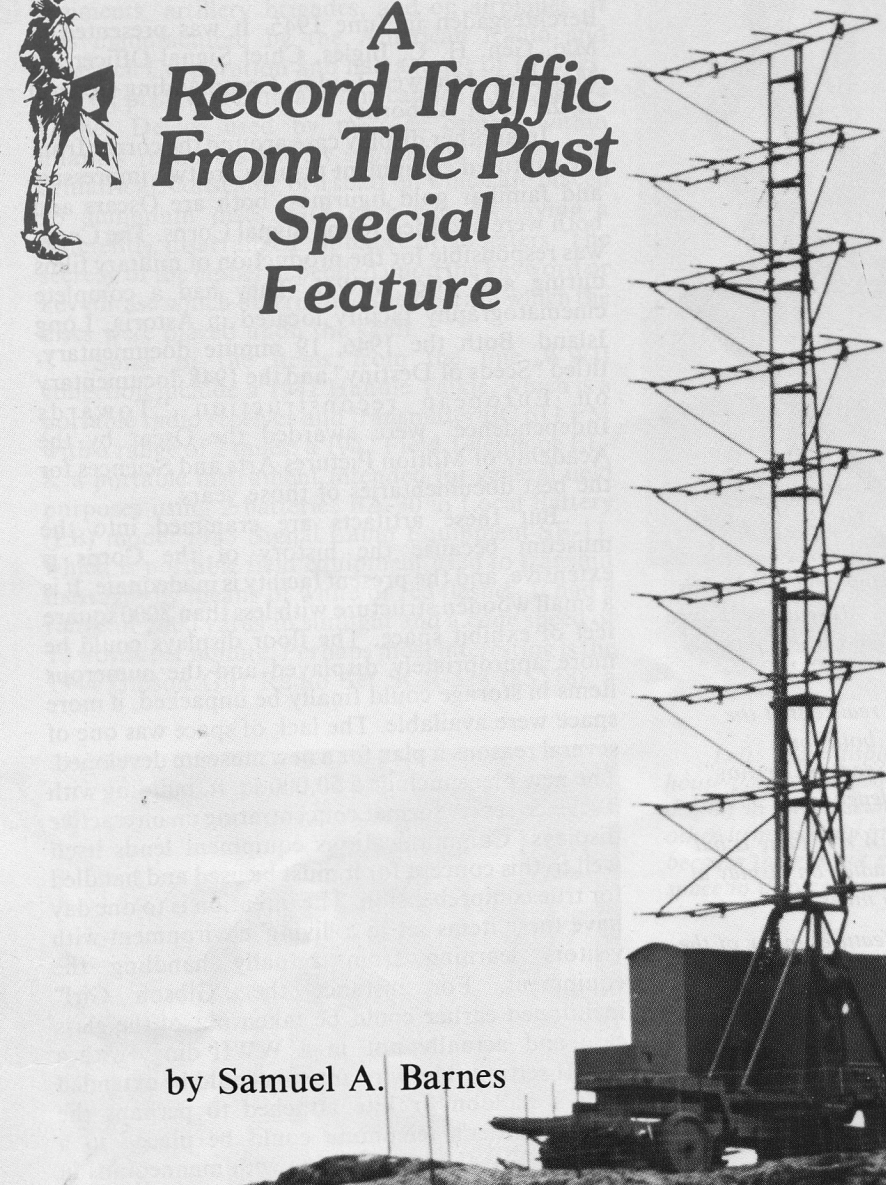
A Record Traffic From The Past Special Feature

Day of fate at Opana Point

by Samuel A. Barnes



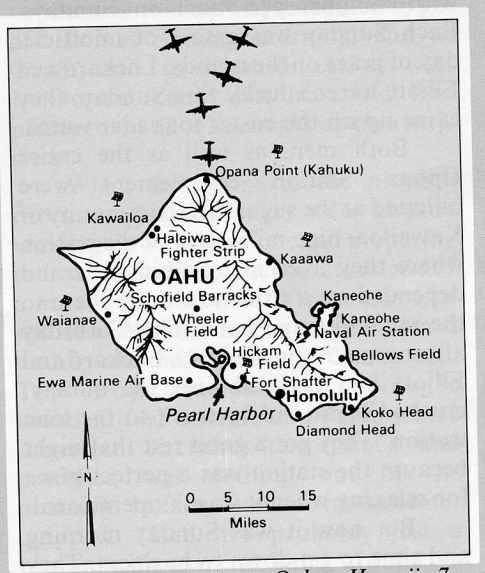
It's another sleepy Sunday morning at Opana Point. Two slightly bored, but extremely alert Signal Corps privates are on radar watch. They can't know that this Sunday, 7 December 1941, will be quite different. And they can't know they will soon sound a warning that—had it been heeded—might have changed history...

Early morning radar watch at Opana Station promised to be just another boring and monotonous one for Signal Corps Privates Joseph L. Lockard and George E. Elliott. So far, this morning, Sunday, December 7, 1941, had been as dull and uneventful as any previous radar watch morning: nothing had happened and nothing had been forecast to indicate otherwise. Early morning radar watch was more for training operators than for anything else. Mostly, it provided a good opportunity for observing and tracking the luminous blips of American aircraft patrolling or exercising off the north coast of the little island of Oahu, Hawaii. The potential enemy — the Japanese —were many air days and water miles from these quiet shores. Tracking the electronic blips was interesting, sometimes even fascinating but the long vigil inevitably became dull. In fact, Opana Point was a dull place and radar watch was dull duty.

Lockard, a handsome, dark haired boy from Williamsport, Pennsylvania, was the resident radar expert on duty. He had spent over a year on the island working with a variety of more conventional signal equipment and was one of the first men to be introduced to radar when it made its initial appearance on the islands. On this shift, Lockard was the assigned radar operator, while Elliott, his companion from Chicago, had the duties of plotter. Elliott, the lesser experienced man, was there to assist Lockard and to learn as much as he could about the new equipment.

At Opana Point, the two men manned one of the secret new radar sets of the Army Aircraft Warning Service (AWS). The Opana Point Radar Station stood isolated on top of a high promontory at the northernmost tip of Oahu, near the more familiar Kahuku Point, 28 miles across the island from Honolulu. The station consisted of the radar shelter, a towering antenna, and a gasoline-powered generator set. There were no living quarters or dining facilities.

To the north, the Pacific Ocean rolled in, lapped at the shores around the station, and fell back. In the opposite direction, plains, coconut palms and sugar cane fields fanned out in the distance for about two and half miles and finally gave way to the rough hills of the Koolau Mountain Range which rose abruptly to an elevation of more than 3,000 feet. The single track of the Oahu Railway and Land Company wound by not too far off, over which the train from the nearby Kahuku Sugar Mill chugged at least once daily. Seabirds were always present about the station, and airplanes would occasionally fly overhead or nearby. Airplanes were not unusual; there were several Army, Navy and Marine Corps airfields on the island, and there were usually one or two aircraft carriers at Pearl Harbor or offshore somewhere nearby.



Air warning stations Oahu, Hawaii, 7 December 1941.

The radar set at Opana Station that Lockard and Elliott operated was a SCR-270B. It was still in the experimental stage and had just been introduced to the island in August of that year. Radar, at the time, was a recent invention and had secret classification. Simply put, the equipment was designed to detect and plot the movement of flying aircraft — in this case, hopefully, enemy planes, since the equipment was employed as a part of the AWS.

The long-range radio detection and ranging device (thus radar) generated a powerful pulse of electricity which its antennas threw out into the surrounding sky. Whenever this powerful beam of electricity was interrupted by anything that got in its path, the device electronically caught the beam reflected off the intruder and displayed it as a blip upon the luminous face of an oscilloscope. Some prominent terrain features such as hills or cliffs caused steady reflections which in turn caused a pattern of permanent electrical sparks to appear on the scope. The radar would go blind when aircraft flew over sections of terrain represented by these permanent image areas on the scope. Other blips, however, were temporary, and these were the ones to look for because they indicated airplanes in the sky which "tripped" the invisible beam of the radar transmitter.

The SCR-270B at Opana Station was one of five mobile radar stations positioned at strategic points around the island as a part of the AWS. The AWS functioned as a part of the Interceptor Command, Hawaiian Department. During an all out alert or actual enemy attack, the Interceptor Command had the mission of coordinating and controlling the operations of pursuit aircraft, antiaircraft artillery (including available Naval and Marine Corps AA Artillery), the AWS, and attached units. It was also responsible for coordinating the antiaircraft measures of units not under military control — including the arrival and departure of all friendly aircraft — and for coordinating the antiaircraft fire of Naval ships in Pearl and/or Honolulu Harbors. Additionally, it was responsible for transmitting appropriate warnings to all interested agencies. The AWS radar stations figured prominently in the mission of the Interceptor Command, and in spite of their shortcomings, they were indispensable eyes towards the sea.

The operation of the radar stations and the control of the Signal Aircraft Warning Company, Hawaii (of which Lockard and Elliott were members) were the responsibility of the Signal Officer of the Hawaiian Department. This was to be so as long as the unit retained its training status. However, once the unit had been thoroughly trained, it was to be turned over to the Air Corps, which controlled the radar information center and the other elements that made up the aircraft warning system. The Air Corps eagerly sought to have the unit and stations placed under its control. On December 7, to the great displeasure of the Air Corps, the unit and radar stations were still in training status and under the control of the Signal Corps. This sort of joint command and control of the unit and stations caused much confusion and ambiguity and led to constant bickering between the two branches. It likewise strained communications and caused poor cooperation between them.

Even though local newspapers had from time to time printed alarming headlines and supporting stories prophesying possible Japanese attacks, few people really expected an actual attack in the area. Sensationalized news wasn't unusual, and such headlines and "panic" journalism had never amounted to anything before. Roughly put, such news amounted to nothing more than "yellow scare". With all the might and muscle the American military flexed on and around the islands, a Japanese attack would be unthinkable, even suicidal.

Recent Japanese troop movement did, however, seem to indicate the probability of a Japanese thrust into the rich Asiatic Islands or somewhere else in the far east. Highly placed officials in Washington did feel that war with Japan was imminent, but these feelings had failed to filter down to grass root levels with any speed. Therefore the powers in the Hawaiian Command reasoned that the only serious local threat was that Japanese activity in the Asiatic Indies might be accompanied by unrest among the large population of Japanese origin in the Hawaiian Islands. Thus, on the morning of December 7th, the Hawaiian Command was on the lowest of the three classifications of alerts — the alert against sabotage. Few, if any, military or civilian leaders in the islands felt any imminent danger of a Japanese attack.

In line with the minimal alert status and with the need to operate the radar sets as little as possible to keep from burning them out, the acting Signal officer of the Hawaiian Department ordered that the AWS radar stations operate for only three hours a day — from 4 to 7 a.m. (the departmental Signal officer was on a trip to the mainland at the time). The Commanding General of the Hawaiian Department considered these hours to be the three most probable hours for an attack by enemy planes taking off from aircraft carriers.

Logistical and maintenance problems also accounted, in part, for the reduced operating time of the radar sets. Spare parts were hard to come by, and some personnel had not yet acquired sufficient skill in troubleshooting or repairing the equipment. The reduced operating time benefited the Signal Corps: it better facilitated training, extended the operating life of the radar sets, and cut down on maintenance problems. The reduced hours did not satisfy the Air Corps, however; they preferred that the AWS radar stations be maintained 24-hours a day as well as be turned over to them.

Because of the minimal alert status and the unit's training status, the platoon lieutenant of the Signal Aircraft Warning Company, Hawaii, reasoned that two men would be enough to operate the Opano Station that morning and let the third man go on pass to Honolulu. It was a common practice throughout the command to operate with minimal personnel on Sundays. Each Sunday was a sort of unofficial day of grace on the islands. Lockard and Elliott weren't lucky this Sunday; they came up on the roster for radar watch.

Both men, as well as the entire Opana Station complement were billetted at the sugar cane community of Kawailoa, nine miles west of the station where they lived in pyramid tents and depended on a truck to shuttle them to the radar site and back. That Saturday afternoon (the day before), Lockard and Elliott had traveled over the bumpy, crushed lava road by truck to the lone station. They got a good rest that night because the station was a perfect place for relaxing when it wasn't operational.

But now it was Sunday morning and time to get down to business. They got up early, cranked up their power generator set, and checked out the big SCR-270B. At precisely 4 a.m. they had it on the air. The luminous face of the oscilloscope slowly increased in brilliance and the telltale specks and blotches that made up known terrain features came magically into focus in their expected places on the face of the scope. One familiar blotch, they knew, represented a totally "blind" sector 20 degrees north of Molokai. Now it was just a matter of routinely watching the glowing screen for three hours and catching the truck down to breakfast when it came up with the relief crew that would guard the equipment.

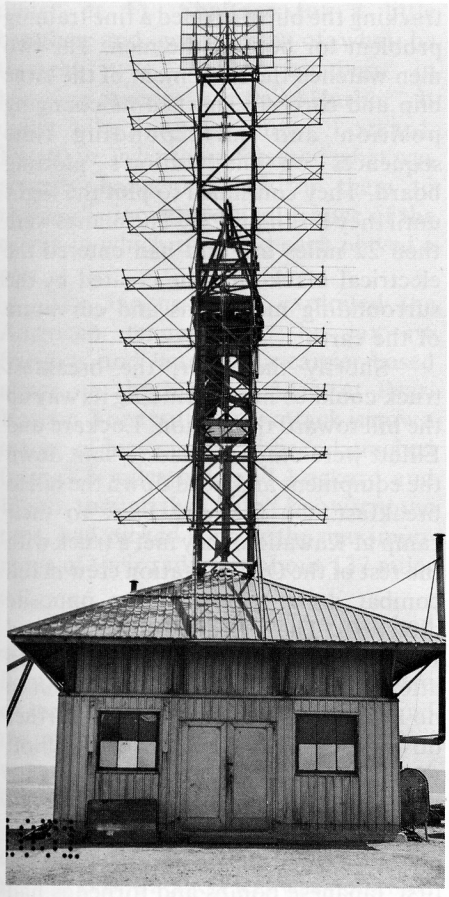
Operating the SCR-270B wasn't a piece of cake. There were shortcomings inherent in the equipment, and there were problems incidental to its operation. First of all, radar was in its infancy, and no one knew all that much about it. Plus, the set was large, cumbersome, and touchy to operate. In addition, the big hot electron tubes — though good for warming coffee or chilled operators —had very short lifespans. Worse, the power generator set broke down frequently. One glaring limitation of the set was that it could only detect aircraft at high altitudes at a range of about 20 to 137 miles out. The set could not detect aircraft flying closer than 20 miles or so of the radar site, and it could not detect low flying aircraft at all. The area within the 20 mile radius of the radio set was represented by a "black outzone" on the scope.

One of the reasons the radar was blind at distances closer than 20 miles was that it was sited at a high elevation. At the time, it was believed that high elevations afforded far better radar reception. It was later found that ground clutter, which caused the blackout zone, could be eliminated by placing the radar low, with hills in the background.

Radar watch required keen observation and a sharp mind. Unidentifiable blips and interference from hills encircling the island caused confusion and uncertainty. Coupled to this, none of the friendly aircraft operating around the island were equipped with IFF (identification, friend or foe). A blip was a blip, and there was no foolproof way to tell a friendly one from a hostile one. To further complicate the problem of aircraft identification, the commander-in-chief of the US Fleet had required that all aircraft maintain radio silence during joint exercises. Thus, a typical radar watch had, already conveniently built into it, a certain amount of routine confusion and uncertainty. Radar watch might have been boring and mostly uneventful, but certainly not because the job was too easy.

Lockard and Elliott settled into studying the glowing radar screen. Nothing seemed out of the ordinary. The radar scope showed the usual normal early morning sky. Radar watch was going pretty much as usual. About a half hour before the watch was scheduled to end, the sun begin to rise.

At about 6:45 a.m., Lockard and Elliott picked up a blip from a solitary airplane approaching rapidly from a point almost due north of the center of the island. They tracked the plane for fifteen minutes, then reported their observations to the radar information center at Ft. Shaftner, which was on the other side of the island perched atop a small concrete building used as a Signal Corps warehouse. The center was manned by several Navy plotters and a switchboard operator. A young Air



This SCR 270 Radar antenna is similar to the one which was operated at Opana Station by Lockard and Elliott except that it is mounted on a permanent building instead of a mobile trailer. (U.S. Army photo)

Corps officer, Lieutenant Kermit A. Tyler, was present as pursuit officer. Tyler was the only commissioned officer in the center.

Tyler was an experienced pilot who had been in the Air Corps for four years, but this was his first stint as pursuit officer. He did not know what exact duties a pursuit officer performed — other than those that seemed reasonable. Tyler had had some experience in passing on orders to fighter squadrons from the controller in charge of the center during training exercises. But he had never been given the authority to issue such orders on his own, and no fighters had been put at his disposal to intercept hostile aircraft or investigate doubtful radar plots.

The young lieutenant knew nothing about air-warning communications and had not received a formal briefing. In fact, he was in the center only because the air control officer thought that it would be a good idea for him to take a five-hour tour of duty there to become familiar with the routine and to learn as much as he could about the radar network. The only thing Tyler knew for sure was that he was there to learn and that he was to somehow keep the center open until his relief arrived. He could not foresee how he could be required to do much more than supervise an uneventful training watch. He was scheduled to go off duty at 8 a.m.

The switchboard operator, Pvt. Joseph P. McDonald, had been on the switchboard since 5:00 the previous evening. He was looking forward to 7:30 — the time that he was scheduled to get off. It was Sunday morning, and as bright and as beautiful as it was, McDonald knew that he could find plenty to do once he caught up on a little sleep.

When the phone in the plotting room rang, the plotters were already winding down operations and preparing to leave the center. Their shift ended at 7 a.m., the same as the shifts on the radar stations. No one in the center seemed unduly alarmed about the Opana call. The appearance of a single unindentified aircraft in an area where American aircraft often trained and patrolled was nothing out of the ordinary. In fact, someone in the center quipped, "Hell, it's probably just a pigeon with a metal band around its leg". Nothing was made of the sighting, and Lt. Tyler saw no reason to extend the radar watch beyond its scheduled three hours. Accordingly, Lockard and Elliott made preparations to shut down. Surely, the truck from Kawailoa would be there soon.

7 a.m. came, but no truck. Since the truck was late and the radar hut warmer than the cool early morning air, the two men decided to keep the equipment operational while they waited. There was at least some place to sit down in the shelter, and besides, Elliott needed some additional training on the equipment. The time spent waiting was ideal for the training, so they continued to operate.

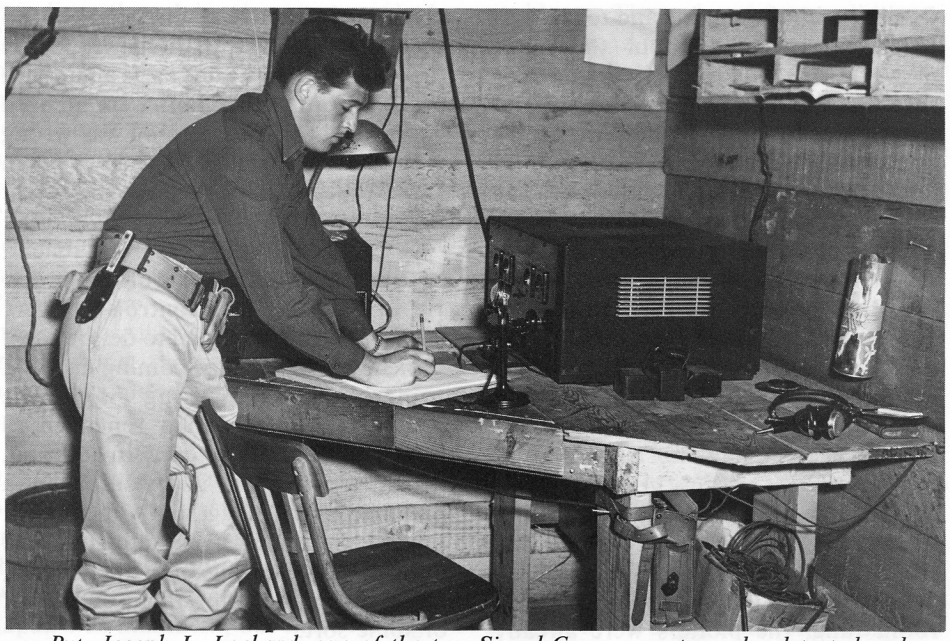
It was turning out to be a fine morning. The weather just north of the islands was a bit murky, but it was fine over the islands. The clouds began to break up and a dazzling sun came through. It was going to be a beautiful day! At about 7:02, the men were snapped out of their fine meteorological evaluation of the day by the sight of "something completely out of the ordinary" on the face of the radar scope. So many of the little telltale showers of electronic sparks had collected themselves at one spot on the scope that they appeared to be one large and bright blip. Lockard and Elliott were amazed and thought that something was wrong with the equipment. Neither of them had ever seen a blip that large and bright before.

Lockard checked the equipment, but it seemed in proper working order. He manipulated the controls in every way that he knew, trying to determine if something was really coming in or if something was wrong with the equipment, but the blip remained as large and as bright as ever. In addition, it slowly changed its position in a pattern that suggested movement towards the island. Eventually, Lockard decided that the big blip did, indeed, represent an incoming flight of aircraft of some sort.

Reasonably sure that a large formation of airplanes was breeching their area of radar coverage, Lockard and Elliott started plotting and recording its movement. By their estimate, the big blip on their screen represented at least fifty aircraft about 137 miles north and three degrees east of Kahuku Point, approaching at a speed of three miles a minute (180 miles an hour). Such a large formation was extremely unusual, so Elliott suggested that they call the radar information center again, and report the new sightings. After a short discussion, both men agreed. At 7:20 Elliott attempted the call.

But he was unable to raise anyone on the direct line to the center's plotting room. The plotters had already taken off their headphones, put away their rakes and counters, and gone to breakfast, leaving the Navy position completely vacant. In line with the usual Sunday morning practice of letting everyone off who could be spared, everyone else — except, of course, Tyler and McDonald — had already left the center. There were no liaison officers from any of the air services present, and no capability existed within the center to conduct an air defense. Thus, it was not unusual that the plotting room was empty and that Tyler and McDonald were alone in the radar information center when the Opana call came in at 7:20.

Elliott never did succeed in getting an answer from the plotting room, but he did succeed in putting through a call over another line to the center



Pvt. Joseph L. Lockard, one of the two Signal Corps operators who detected and reported the incoming Japanese planes at Station Opana on Oahu, Hawaii, 7 December 1941. (U.S. Army photo)

switchboard. When McDonald answered the Opana drop, Elliott gave him the information about the second radar sighting and told him to get in touch with someone who could do something with it.

At the time, McDonald thought that he was the only person in the center and told Elliott that he didn't know what to do. He thought that everyone else had left when the plotters left at 7 a.m. Impressed, however, with the earnestness and excitement in Elliott's voice, McDonald promised to try to locate some knowledgeable AWS person to whom he could pass the information. McDonald checked around the center and, to his surprise, found Lt. Tyler in another room. He gave Tyler Elliott's message, but the young lieutenant showed no immediate interest or alarm. He did agree, however, to talk to one of the Opana operators about the sightings.

McDonald called the Opana station back and got Lockard on the line and had him talk with Tyler. Tyler was not shaken by Lockard's attempt to convince him that something altogether exceptional was happening. He did not believe that what Lockard and Elliott had spotted could be unfriendly aircraft. In spite of his inexperience, Tyler thought that what the two men had spotted were friendly aircraft and told Lockard, in effect, not to worry.

Tyler reasoned that the large blip — if it was genuine — more than likely — represented a flight of Boeing B-17's expected in from California that morning. If not that, perhaps bombers from Hickam Field or fighters from any one of several other airfields, Navy patrol planes, or planes launched from the aircraft carrier *Enterprise* returning from Wake Island.

Tyler had heard over his car radio about the bombers expected in from the mainland, and he knew about the impending return of *The Enterprise.* Besides, he had heard Hawaiian music playing over the radio through the night, which he knew was a common practice for providing a homing signal for pilots flying in from the mainland. In view of his inexperience with the AWS system and the data he had at hand, not to mention the absence of any specific instructions, Tyler's evaluation of the situation and the conclusions he drew were not all that illogical.

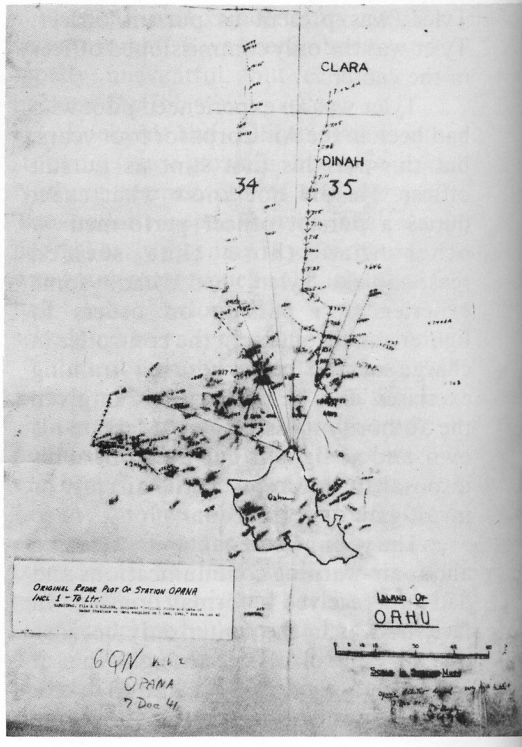
Unfortunately, he had no one to help him with rapid aircraft identification, or to help him make the important decisions he had to make. Furthermore, he had not been told whom to reach if anything happened, or how to reach them.

Eventually, Lockard concluded that no further action would be coming from the information center and wanted to close the station down. But Elliott, fascinated with the bright blip, insisted on following the flight. Since they were only killing time before the arrival of the truck, Lockard concurred. Anyway, tracking the blip provided a fine training problem for both of the men. The two men watched the movement of the large blip and carefully marked its changing position and corresponding time sequences on the station's plotting board. They continued to plot the flight until they lost it at 7:39. The planes were then 22 miles out and had entered the electrical blackout zone created by the surrounding mountains and curvature of the earth.

Shortly thereafter, the breakfast truck could be heard grinding its way up the hill toward the station. Lockard and Elliott were only too glad to shut down the equipment and head down the hill to breakfast. On the way back to their camp at Kawailoa, they met a truck with the rest of the Opana Station crew in full combat dress, racing in the opposite direction. The driver of Lockard and Elliott's vehicle blew his horn in an attempt to stop the other vehicle, but to no avail. As they bounced along further down the road, Lockard and Elliott were amazed at the little airplanes with the glaring red circles beneath their wings darting about overhead. It was about 8:05 and the explosions from the first Japanese bombs and torpedos had already rocked Pearl Harbor about 10 minutes before.

At about the same time, Lt. Tyler stepped out of the stuffy information

Original radar plot of Station Opana. (U.S. Army photo)



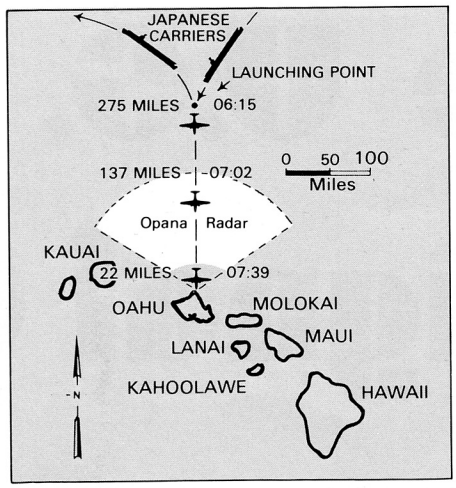
center at Ft. Shaftner for a little breather and got a view of what he thought was "Navy bombers in bombing practice over Pearl Harbor". It didn't take long for either Lockard, Elliott, or Tyler to understand what was actually happening, or for them to realize the incredible significance of the events in which they had each played a part.

The Japanese had exploited the American tendency to be lax on Sundays and launched a carrier-based attack on the big U.S. Fleet at Pearl Harbor. The result of the attack is now a matter of history. It had been launched from 275 miles out, and Lockard and Elliott, though they didn't know it at the time, had picked it up at the maximum range of their radar set about 137 miles out.

The first blip that the two men had spotted and reported was one of the float planes (seaplane) scouting ahead of the main Japanese attack force, and the second, larger and brighter blip, was, of course, the first of two waves of the main attack force itself.

In spite of the devastation and confusion that resulted from the attack, the big U.S. Pacific Fleet was not killed off at Pearl Harbor. The Japanese had simply won the battle, not the total victory. Every service responded as quickly as they could. The Signal Corps was faced with a monumental task, but its personnel worked hard to repair, restore, and initiate key communications for the Hawaiian Command, much of it in commendable time. Two hours before midnight a third of the damaged Hickam Field circuits were back in, and by two o'clock the next morning, the whole cable was restored.

A half hour after the first bombs fell, the AWS Company, Hawaii, had manned all six radar stations and the information center. The Opana Station reopened after the first wave of Japanese planes attacked and tracked that flight (or some other flight) back from Oahu in the same northerly direction from 10:02 to 10:39. In the aftermath of the attack, there was much bitterness over why the radar information on the outgoing Japanese flights had not been given to searchers looking for the fleeing Japanese planes. This failure was caused in part because the information center and the entire AWS were still on training status, and in part because no one in authority was experienced enough about radar, at the time, to realize the possible significance of the radar plots. Also, the unbelievable shock over the reality of the attack and the wholesale confusion resulting from being caught completely off guard didn't exactly facilitate a rapid and concerted response.



Early morning Japanese carrier-based attack on Pearl Harbor 7 December 1941. The Opana Station radar is shown detecting the approaching planes.

It was by sheer chance that Lockard and Elliott had kept their radar station operational after 7:00 that morning, and it was no fault of theirs that their timely warning had not been heeded. Had an experienced officer, with updated data on the movement of *ALL* friendly aircraft, been present at the center, it could have been known before 7 a.m. that a "questionable" aircraft was operating in airspace where no friendly aircraft should have been. Although friendly aircraft often patrolled and took part in exercises off the north coast, it was Sunday morning, and no such exercises had been arranged. The few Catalina aircraft on duty were reconnoitering farther to the south.

If key AWS and Interceptor Command personnel had been at their stations that morning and had they heeded the warning and dealt with the data properly, it is estimated that under the most favorable conditions, the Army could have gained about a 45-minute advantage; the Navy, about 30 minutes. These precious few minutes could have possibly twarted the attack, or at the least, lessened its impact. One can only speculate about what the results might have been had military authorities acted on the warning in a timely fashion. One thing for sure, it would have, at the least, put defensive forces in some posture of readiness. As it was, they were sitting ducks.

The cards were stacked in favor of the Japanese that fateful day. And Pearl Harbor exploded into a raging inferno of death and destruction.

Military analysts and historians have offered many explanations for the causes of the Pearl Harbor disaster and for the shattered links in the chain of responsibility. But one thing is sure: in the midst of the terrible and dark reality of Pearl Harbor, one bright light shines. Lockard and Elliott did their jobs well that day — in keeping with the proudest traditions and the highest standards of the Signal Corps.

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In addition to being the AD of TAC, Sam Barnes is also a Signal Corps history buff. He has written several historical articles for TAC and is the author of the poem "I Am the Signal Corps". Barnes holds a bachelor's degree in art from Augusta College and has done additional study at Georgia Military College. He is a veteran communicator and spent 20 years in the Signal Corps.