HISTORICAL SUMMARIZATION OF MUROC ARMY AIR FIELD
23 January 1942 - 2 September 1945

Located in the middle of a sandy waste dotted with sage brush and Joshua trees, Muroc was first used by the Air Forces in September, 1933, when a cadre was sent there from March Field to lay out bombing and gunnery ranges and to maintain them. Planes landed on the dry bed of Rogers Lake, the crews bivouacked beside them, and Muroc became a training center. In 1937 the entire Air Corps of that time participated in maneuvers held here. Its value in air training lay in the preponderance of good flying weather, its flat terrain, and the comparative isolation that made the ranges practicable. These advantages made it even more valuable as defense and war requirements made the rapid growth of the air arm imperative.

During the winter of 1940-1941, the Muroc bombing range was the only one open in both the Northwest and the Southwest Air District; bad weather had precluded the use of any of the others. The attack on Pearl Harbor immediately underlined Muroc's importance in the defense of the West Coast. On the afternoon of 7 December 1941 the 41st Bombardment Group and the 6th Reconnaissance Squadron were ordered to move to Muroc. On Christmas Eve the 30th Bombardment Group and the 2nd Reconnaissance Squadron also arrived. These were, of course, stopgap measures, for no extensive work had been done to make an air base at Muroc, but the importance of the site can be judged from the fact that during the months of January and February, 1942, about ninety percent of the long-range

1. PAF Historical Study I-1, "Organization and Function", Chapt. IX

offshore patrols conducted off the Pacific Coast were flown by the 2nd Reconnaissance Squadron.[1]

Approximately two million dollars were spent in late 1941 and early 1942 to construct such facilities as a concrete runway, a water system, a sewage system, and temporary-type buildings. By the end of 1942 the peak strength of the field was 6300 men and there were in use at that time five day bombing targets, two night bombing targets, and two pursuit ground gunnery ranges. Muroc Lake Bombing and Gunnery Range functioned as a satellite of March Field until 23 July 1942 when the Muroc Army Air Base was activated,[2] and the first Commanding Officer, Major Glenn L. Arbogast, appointed.[3] He was succeeded five months later by Lt. Colonel Frank D. Gore, who was promoted to Colonel in March 1943.[4]

Until 1 May 1942 the Range Maintenance Detachment was the only organization on the field, but on that date the 323rd Base Headquarters and Air Base Squadron was activated, and, absorbing the personnel then on the base, took over operation of the field. Later a Medical Detachment, a Guard Squadron, a Finance Detachment, a Quartermaster Platoon, a Band and an Aviation Squadron were added. Although the records of the field there and at Headquarters Fourth Air Force are extremely sketchy and incomplete for these years, it is reasonably certain that during 1942 and 1943 Muroc was engaged principally in training P-38 pilots. This program was accomplished by the 329th Fighter Group (TE), the 360th Fighter Group

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1. FAF Historical Study I-1, "Organization and Function", Chapt. IV
2. Section III, G.O. #83, HQ, FAF
3. S.O. #86, 24 July 1942.
4. S.O. #193, HQ, FAF, 13 Dec 1942 and S.O. #79 HQ, AAF, 20 Mar 1943.

(TE), the 81st and 82nd Fighter Groups (TE), and the 2nd, 4th, and 5th Pursuit Squadrons. It has been impossible to discover from the condition of the records and reports, the exact number of pilots graduated from this field in the P-38 program but it is likely that not fewer than 1100 were turned out. During the same time the 305th Bombardment Group (H), equipped with B-17's, arrived from Geiger Field to complete its training. It departed in August 1942 after successfully accomplishing the last phase training requirements at Muroc. Another O.T.U. made its last preparations here: the 456th Bombardment Group, a B-24 outfit, came in the fall of 1943, and after receiving second and third phase training, its seventy crews departed for a POE in January, 1944. Meanwhile, Muroc had sent off a contingent of its own to the war, when, in October 1943, a Provisional Overseas Unit (an air base unit) under the command of Lt. Colonel William W. Smith, the Base Executive Officer, left for Britain.[1]

In December, 1943, Muroc turned to directing its main effort toward training B-24 replacement crews. The 382nd Bombardment Group (H) was activated for this purpose and within several months was graduating fifty or more crews each month, about a quarter of the total produced by the Fourth Air Force. In the beginning of this training program there were but three phases of training, but shortly a fourth was added, Muroc being the first field at which this theater preparation was attempted. The success of this training led to the establishment of fourth phase training for B-25 crews. During 1944 the primary mission of the field was:

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1. MAAF History, Vol. I.

a. Three-phase heavy bombardment training of combat crews.
b. Fourth-phase theater training of heavy bombardment crews.
c. Fourth-phase theater training of medium bombardment crews. [1]

Reports in the Air Inspector's office at Headquarters, Fourth Air Force indicate that ratings of the field and of the training program ranged from Satisfactory to Excellent, and that POM inspection reports generally ran from Very Satisfactory to Superior. By April, 1945, when the heavy and medium bombardment training programs were ended to make ready for the B-29 Lead Crew School, Muroc had turned out about 600 B-24 crews (aside from OTU organizations that trained here) and about 100 or more B-25 crews.

It is worthy of note that Muroc was valuable not only for the air training given here, but also for the part it played in preparing AAA and Air Service Units that at one time or another were stationed here. In addition to several service groups that received all or part of their training at Muroc,[2] the field helped to provide transportation, communication, and other facilities to no fewer than twenty AAA units. Perhaps the most important of these occasions were the maneuvers of September-October 1943 and of January-May 1944. In these instances, for example, the officers participating in the maneuvers declared that they had received valuable practise in detecting, observing, reporting, and repelling air attacks. Muroc lent further aid by providing airplanes and crews to simulate air attack. Just as the surrounding mountains were to prove useful to the B-29 school later in simulating the terrain of Japan, so they were used by the AAA units to provide problems similar to those met in the Italian campaign.[3]

Meanwhile the field had had several changes in command and had undergone a reorganization. In March 1944 Colonel Gore was succeeded by Colonel

1. Historical Report WAF, 1-31 July 1944
2. Air Technical Service Office, Fourth Air Force
3. Histories of the 51st, 57th and the 59th AAA Brigades, Chapt. IV: History of the 762nd AAA Gn Bn.

Robert O. Cork as Commanding Officer, and he was shortly followed by Colonel Ralph A. Snavely, and he, on 2 May 1944, by Colonel Gerald E. Hoyle. Colonel Warren A. Maxwell, the present commander, took command of the base on 22 December 1944.

The reorganization was effected in April 1944 when the 421st AAFBU absorbed all other units on the field (including the 382nd Bombardment Group) in a move designed to increase efficiency of operation.[1]

All heavy and medium bombardment training ceased on May 1, 1945 when a group of officers from the XXI Bomber Command came to Muroc to establish the first stateside lead crew school of a combat organization. Muroc Army Air Field was chosen for this assignment because of its proximity to good industrial radar targets, because of surrounding terrain which was similar to the terrain in the Japanese homeland, because it afforded protection from prying eyes and curiosity seekers, and because of the unusually clear weather which prevails the majority of the time. A staff of combat wise veterans of the overseas B-29 unit was headed by Colonel Joseph J. Preston, deputy chief of staff for operations in the XXI Bomber Command; they arrived at Muroc the latter part of April 1945 and began immediate preparations to receive the first class of student crews about 1 May 1945.[2]

The importance of exceptional, qualified lead crews was early recognized by the Superfortress command, which was almost daily bombing the Japanese homeland. It was found that due to unusually bad weather

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1. Historical Report, MAAF, 1-30 April 1944
2. Historical Report, MAAF, 1-30 April 1945

over Japan it was necessary to rely on radar bombing with increased regularity; further and more precise training was needed in order to give crewmen the knowledge and ability to lead a formation to Japan and get the bombs on the target. Radar bombing needed to be stressed and practised religiously by men who were combat qualified to be given the training and who would return to the theater to put it to use. A prerequisite for the student crews was to have a minimum of six missions to Japan; the entire course was designed to perfect the crews radar bombing technique. In addition to the flying, a ground school course was set up which included such practical subjects as target study, tactical doctrine and S.O.P's, emergency operations and engines, Loran, lead crew navigation, precision radar errors, scope interpretation and range and azimuth errors, radar set operation and maintenance, general combat damage and inflight repairs, gun sighting and computation among others.[1] In all, the pilots had a total of sixty five hours ground school, navigators eighty-eight, bombardiers seventy-three, radar operators eighty-three, flight engineers sixty-three and radio operators sixty-nine hours. About ninety hours flying and fourteen missions would comprise the flying schedule. In addition, all types of trainers--supersonic, bombing, DR, CNT, gunnery and link were provided and scheduled for use by the trainees. All this would be given in a month's time after which the crews would return to put the knowledge gained to use by actually leading future formations of B-29's in air attacks against Japan. The over-all success of this program can be shown not only statistically but also by the enthusiastic endorsement of the returned student crews by the combat groups and wings which they subsequently led.

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1. Historical Report, 1-31 May 1945

At approximately the same time the school staff contingent arrived, ten (10) new B-29's were received from the factories. During the tenure of the school a total of thirty-five (35) B-29's were used; in addition to the first ten (10) received in April, a like number was received in May and June and five (5), including two (2) war wearies, in the month of July. The increase in B-29's was necessary because of the increase in the number of students. In all, a total of one hundred fifty five (155) crews underwent crew training during the time the school was in operation.

The first B-29 crews - twelve (12) from the XXI Bomber Command - began training on 10 May 1945.[1] Flying instruction given the first class was approximately two-thirds (2/3) of the desired minimum due to the late arrival of the class from the theater and the necessity of terminating the course on 1 June 1945 to take care of a new class commencing on that date. For the May class, which had twenty-one (21) flying days available, a minimum goal of ten (10 missions and seventy-one (71) hours was set. At the end of the course the crews averaged 73.6 hours flying and 9.4 missions. It was determined that the radar bombing circular error was affected by (1) an inevitable collection of minor operating errors and (2) major personnel errors, such as target misidentification and improper use of data.[2] For this reason computation of the Circular errors was broken down into two (2) categories: (1) Normal aimings, a circular error of less than 6,000 feet (influenced by factor 1), (2) gross errors greater than 6,000 feet (influenced by factor 2). On this basis, the first class showed a constant improvement

1. Historical Report, MAAF, 1 May-31 May 1945
2. Historical Report, MAAF (Lead Crew School), 1-31 May 1945

in the radar bombing techniques. At an altitude of 15,000 feet the circular error of normal airings dropped from 6295 feet at the beginning of the course to 3921 feet at the conclusion; and this despite the fact that the targets became more difficult as the course progressed. Seventy-five percent of all scored runs were within normal limits with the remaining twenty-five percent gross errors, and all but three (3) crews improved in overall bombing effectiveness.[1]

Twenty-three (23) crews constituted the June class which was given a full thirty (30) days of training. The goal was placed at ninety (90) hours flying and fourteen (14) missions. The crews averaged well-nigh 100%; the class average was 92.7 hours flying and 12.4 missions. As a result of increased experience on the part of the school instructors and a longer period of training allotted to the June class, their circular error and percentage of gross errors were slightly better than the May group. About 300 feet less than the May average, the June class of twenty-three (23) crews wound up with a circular error for normal airings of 2,946 feet and gross errors amounting to twenty-two percent. Of the twenty-three (23) crews only one (1) crew was rated as below average and not recommended as a lead crew; more than fifty percent were rated above average and/or exceptional crews.[2]

During the month of July a shortage of lead crew school instructors was relieved somewhat by the addition of several combat men from the Marianas. These men were among those crewmen whose tours of missions were completed and so great was the need for additional experienced instructor personnel that they were immediately placed on 150 days TD to the school after which

1. Historical Report, MAAF, 1-30 June 1945
2. Historical Report, MAAF 1-31 July 1945

they were to report to a Redistribution Center. This permitted the proposed return of several of the original instructor personnel whose tour of TD had almost expired. Forty (40) crews was the contingent received for training during the month of July.[1] A decided improvement over the two (2) previous classes in radar bombing accuracy was made during this month. With a circular error for normal aimings of 2,264 feet and gross errors of only twelve percent, this class almost halved the gross error percentage and decreased the circular error of the June class by about seven hundred feet.[2] This seemed proof enough of the growing value of all the principles for which the school stood. In the matter of flying hours and missions the class did very well although not quite as well as the class of the previous month. With continued goal of ninety (90) hours flying and fourteen (14) missions this class completed 84.9 hours and 10.2 missions. When the fact that the aircraft were beginning to grow older and require more maintenance and there were a proportionately greater number of crews in relation to the number of aircraft than in the previous two (2) months when these two factors are taken into consideration then one begins to understand why the hours and missions flown dropped slightly.[3] Of the forty (40) crews trained during July only five (5) were rated as below average and were not recommended for lead crews. Changes in crew members of several other crews were suggested but more than fifty percent of these crews were rated above average and/or exceptional.[4]

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1. Historical Report, MAAF, 1-31 July 1945
2. Operational Training Report B-29 VHB Prof. Trn, APPE, Historical Rpt, MAAF 1-31 July 1945
3. Historical Report, MAAF, 1-31 July 1945
4. History of Lead Crew School, App P, Historical Rpt, MAAF, 1-31 July 1945

August brought the cessation in hostilities in the Pacific, a subsequent understandable let-down in effort, a three-day respite from the back breaking schedule, and a consequent revamping of flying and mission minimums to 74.5 hours and 12.5 missions. Of these goals, 80% of the flying (59.6) hours and 65% (8.1) of the missions were completed.[1] Great improvements in radar bombing accuracy were tallied when 33% of all bombs scored were normal aimings and the circular error was only 2,067 feet. The latter was an improvement of 200 feet over July's average while the gross errors were decreased by 5%.

In four classes the accuracy of radar bombing was made greater by almost 1200 feet while the percentage of gross errors fell from an original 25% to 7% in August. There seems to be little room for doubt left as to the efficiency of the school and its effect on the accuracy of radar bombing. In fact, it foretells what may be done in the future when bombing through an overcast, using radar equipment. Instructors' ratings of the crews in the August class is not conclusive due to the conditions under which the class trained during the latter part of August; but they are indicative of the general proficiency of the crews. Of the forty-one (41) crews, ten (10) were rated excellent, twelve (12) above average, fourteen (14) average, and five (5) below average. This compares favorably with previous months.

As of the closing date of this history there were forty (40) crews being given lead crew training. These crews had left the Marianas just two (2) days prior to V-J day and had been granted leaves, as had all the preceding classes, prior to their arrival at Muroc.

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1. Operational Training Report B-29 VHB Prof. Training, App B, Historical Report, MAAF, 1-31 August 1945.

Muroc, California, was a "whistle stop" railroad station used as a loading center for the Santa Fe Railroad. Located in the middle of a sandy waste dotted with sage brush and joshua trees it owed its very existence to the fact that it was an accessible sopot to ship the products of the mines located in the area.

Muroc, despite the fact that the name sounds like some American Indian phrase, is the backward spelling of the name "Corum" and gets its quaint designation from the fact that an early settler named Corum owned the site of the present Army Air Field at one time and reversed his name to apply to the land.

Early details of the place's history are rather vague, consequently all material used herein is a combination of local folklore, and the tales of M/Sgt. Harley J. Fogleman, recently retired from the Air Force, who was one of the first soldiers stationed here.

Rogers Dry Lake, a flat, sandy stretch of what was once the bed of a long-evaporated lake, offered an ideal setting for both racing and testing speedy automobiles. Natural conditions adapted themselves to this purpose without artificial contrivances of any kind. Racing drivers from Los Angeles and nearby cities began to utilize the lake bed for this purpose. Among these early speed demons was Peter De Paula, now a captain in the Air Force.

Pioneers in the airplane world recognized Muroc as a natural air base, for it combined a level terrain with year-round flying conditions. Its waste spaces also provided an excellent site for practice bombings. September 1933, according to Sgt. Fogleman, a cadre was sent up from March Field to lay out a bombing range and to maintain it for training bomber crews.

Approximately twenty men were assigned here on D.S. from March Field and it was really "detached" service. All fuel, lumber, and other equipment was brought in from the "mother" field. Personnel lived in tents heated by coal which was freighted in to them. Electricity was furnished by an old power generator which was always failing.

Fogleman was in charge of the detachment with the rating of technical sergeant. ;e couldn't get a commanding officer," he asserts, "Commissioned officers would ›me up from Los Angeles, take one look at the place, and take off for L.A. again ;thout shutting off the motor of their plane."

Eventually a commanding officer took over. This officer was Lieutenant (Now ›lonel) Max R. Finnel. The place was made into a training center. Squadrons of ›mbers would land on the dry lake bed, bivouac beside their planes, and spend ›riods of time bombing the nearby ranges.

Local farmers complained that the explosions were breaking windows, causing ›ws to "freshen" prematurely, scaring sheep, hens and all manner of livestock and ›nerally disrupting agricultural conditions. Government directives were issued ›acing all target ranges used for bombing a specified distance from farm houses. ›entually it was necessary for the Army to condemn property and evacuate the ›nants of the nearby farms that the ranges might be utilized to their fullest ›vantage.

Fogleman's account of the place lays particular stress on the winter seasons ›en the entire camp would be "rained in" for months at a time. He gives a glowing ›count of their fire department which consisted of fifteen water buckets manned › the entire detachment in case of a blaze. On one occasion, Fogleman recalls, ›e water tower burned down depriving the fire fighters not only of the wherewithal › battle the flames, but also their drinking water for several days.

In 1937 a maneuver was held here in which the entire Air Corps of that time ›rticipated. Every ranking officer with the exception of General Arnold was ›esent, as Fogleman remembers, and every type of flying craft owned by the govern- ›nt arrived more or less on schedule. There were some 200 planes in all, which re- ›esented the United States Air Corps at that time.

Among the trainees of that period was Elliot Roosevelt, who presented his office ›air to Sgt. Fogleman as a token of his appreciation of the Fogleman capabilities.

BASE HEADQUARTERS HISTORY

Muroc Lake Bombing and Gunnery Range functioned as a satellite of March Field from the time that the original Range Maintenance Detachment was sent here until 23 July 1942 when Muroc was activated as an Air Base by virtue of Section III, General Order #83, Headquarters 4th Air Force (Confidential).

Major Glenn L. Arbogast assumed command of Muroc Army Air Base, per Special Order #86 dated July 24, 1942. Lt. Col. Frank D. Gore assumed command of Base vice Lt. Col. Arbogast relieved per Special Order #193, Headquarters 4th Air Force, dated December 13, 1942. Lt. Col. Gore promoted to rank of Colonel per Special Order #79, Headquarters, Army Air Forces, Washington, D.C., dated March 20, 1943.

Previous to this, the Range Maintenance Detachment was the only organization on the embryo Air Base. On May 1, 1942 the 323rd Base Headquarters and Air Base Squadron was activated and became the Base Squadron at Muroc. (For activation details see 323rd organization history.)

Medical facilities had been set up at Muroc June 13, 1942 when the Medical Detachment Muroc Lake Bomb Range was activated. This organization was transferred into Medical Detachment Muroc Lake September 11, 1942. (Details will be found in Medical Detachment's organization history.)

On August 17, 1942 the 854th Signal Service Company (Avn.) was activated. August 18, 1942 the 950th Guard Squadron was activated, the cadre was furnished from the original Bomb and Gunnery Range Squadron and the comparatively new 323rd Air Base Squadron. August 19, 1942 the Finance Detachment was activated by VOCG Fourth Air Force. August 17, 1942 was also the activation date for the 904th QM Platoon, Detachment #7. October 1, 1943 the 356th AAF Band was activated December 20, 1943 the 7th AAF Bombing and Gunnery Range Squadron was activated

from the remnants of the old Bombing and Gunnery Range Squadron which had opened the Base originally. January 31, 1943 the 1021st Quartermaster Platoon (colored) was activated and October 18, 1942 the 338th Aviation Squadron (Colored was activated. Last organization activated at Muroc was the 1313th Guard Squadron (Colored) which started June 20, 1943.

April 5, 1943 every available man from the Base personnel participated in the search for a lost child. Full particulars will be found in the 323rd Organization History in the form of clippings from the "Muroc Mirage."

July 8, 1943 four enlisted men from Base Ordnance, attached 323rd, were decorated with the Soldier's Medal for heroism in saving lives and property during a flood. A Muroc Mirage clipping in the 323rd History carries a full account of this, also.

August 19, 1943 Pfc. Jose M. Esparza of the Medical Detachment received the Soldier's Medal for heroism in rescuing a dazed pilot from a burning plane. The citation accompanying this presentation will be found in the Medical Detachment History.

September 21, 1943 a picked group of Anti-Aircraft Artillerymen simulated an attack on the Base. The Red Alert was sounded at 0535 PWT. Every available man among the personnel of the Base organizations was utilized in the defense. The enemy split his forces and feinted from the north and south with the main attack coming from the west. By taking advantage of the excellent cover afforded the enemy infiltrated through our lines and was able to capture the water tower in the vicinity of Base Headquarters. The all Clear sounded at 0756 PWT. Only strategic gain by enemy was the water tower at the cost of 66 2/3% of his attacking force. Umpires declared the Base had been successfully defended.

October 5, 1943 Lt. Col. William M. Smith, Base Executive Officer, left Muroc Army Air Base as commanding officer of a Provisional Overseas Unit by

authority of Special Order #194, Organization histories will carry details on number of men furnished this unit by each squadron.

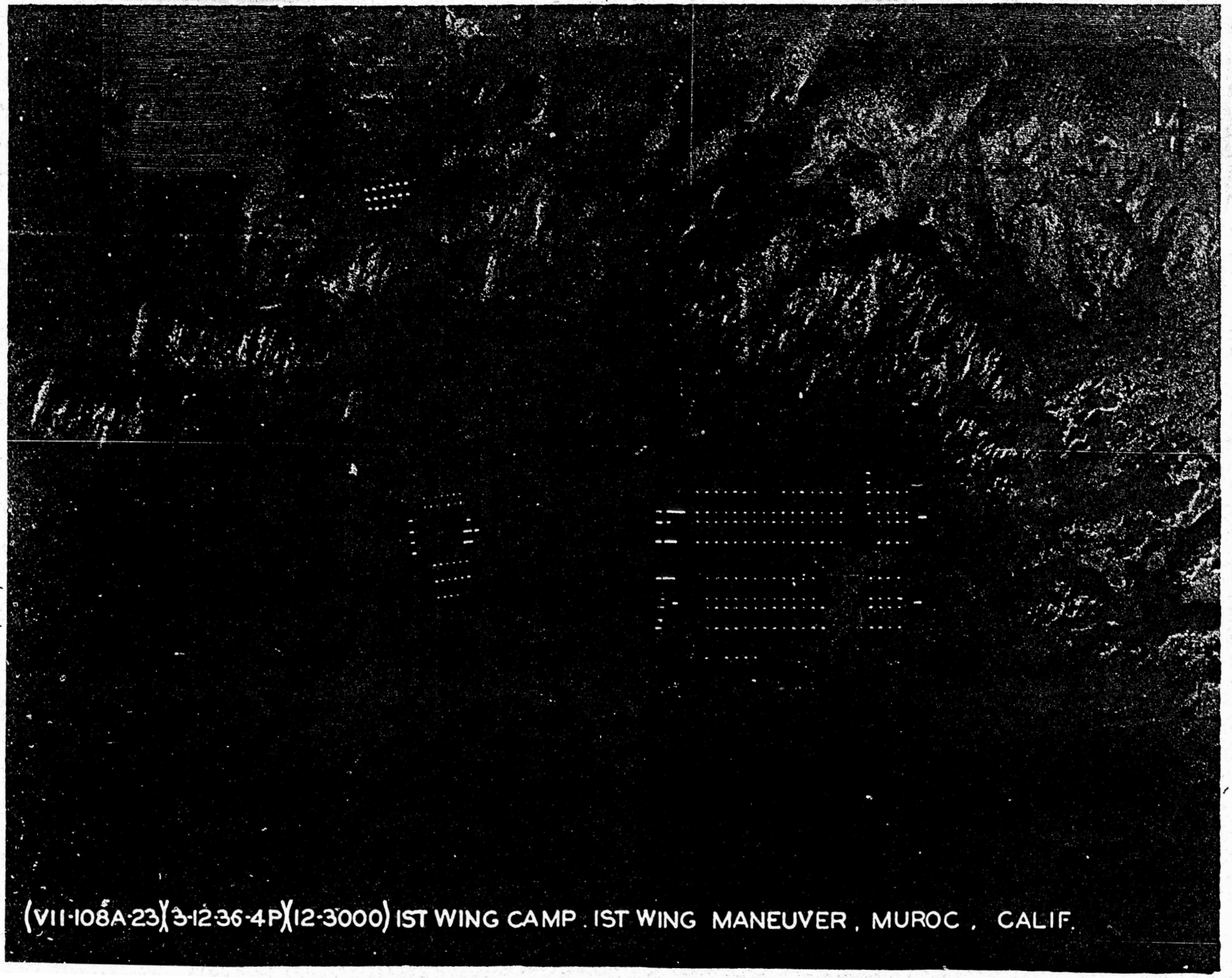
On 8 November 1943, Army Air Base, Muroc, California was redesignated as Muroc Army Air Field, Muroc, California, per General Orders No. 188, Headquarters Fourth Air Force, dated 26 November 1943.

BRIEF BIOGRAPHY OF FORMER COMMANDING OFFICER, MUROC ARMY AIR FIELD

After two years of Commanding the Air Base at Muroc, Lt. Col. Glenn L. Arbogast left to assume duties as Executive Officer at Hamilton Field California. Priot to active duty call in August 1940, Col. Arbogast was engaged in airplane designing and building and operated a school for airplane mechanics in Long Beach, California. Assigned to March Field as Assistant Base Engineering Officer, Col. Arbogast, then Captain, quickly demonstrated his executive ability and subsequently was transferred to the Muroc Bombing and Gunnery Range -- located on the East side of the dry lake. The young Commanding Officer envisioned a larger, more convenient Air Base west of the lake and proceeded to develope what is now known as Muroc Army Air Field.

During his two years as Commanding Officer here, Col. Arbogast saw his dreams come true and the present post is a monument to his efforts. Besides his military duties he was active in many Civic affairs in Antelope Valley. When the Colonel transferred in the earlier part of December 1942 and relinquished his Command to Colonel Gore on the 12th of December he left behind him a host of friends who cherish his friendship and wish him well in his new work.

M/Sgt. Harley J. Fogleman . As T/Sgt., Fogleman was in charge of first detachment (20 men) on detached service from March Field to come to Muroc Bombing Range. Retired on September 30, 1943 after 30 years of Army service.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