

HISTORY

Task Group 1.5 was the old 58th Bomb Wing (VHB). The 58th Wing was the original B-29 organization. It began its training in June 1943 and went to bases in India and China in 1944 with four groups, the 40th, 444th, 462nd, and 468th. The 58th pioneered the B-29 on the original raids against the Japanese Empire, from a drawing board airplane full of "Bugs" to a most reliable combat airplane.

Such well known names as K.B.Wolfe, "Blondie" Saunders, and "Curt" LeMay conducted this early experimentation. After bombing the Japanese cities and other objectives from China during 1944, staging there was discontinued in January 1945, due to excessive difficulty in supplying sufficient "over the hump" tonnage. The 58th then turned its attention to Singapore, Saigon, Kuala, Iunpur, Rangoon, and Bankok.

The saga of the 58th Wing may well read "From Bankok to Bikini". In April the 58th made a mass flight through Luliang, China, to the Marianas and began operations from Tinian against the Jap mainland, the 58th continuing as part of the 20th Air Force. After V-J Day, the Sunset project was started in September and a movement of the entire 58th back to the United States was completed without loss of a plane or man.

Then demobilization went into high gear and with it went the well manned Wing. In January only a few high ranking officers and virtually no enlisted men remained. Assignment of the 509th Composite Group, the Atom bombers who had operated on Tinian under jurisdiction of the 313th Wing, to the 58th was announced by Headquarters AAF. Then came the announcement that the Wing was to carry out the dropping of the Atom bomb in the Bikini tests.

Thus was formed Task Group 1.5 under Joint Army-Navy Task Force I. The organization of Task Group 1.5 was made up of a headquarters, which was composed of a staff, headed by Brig. Gen. Roger M. Remey. The function of this staff at the outset was to plan and organize the entire Task Group to properly carry out its mission. Then to see that the wheels moved smoothly toward the ultimate goal of successful accomplishment.

Under Task Group headquarters there were five main units. The overall commander of the 509th Composite Group was Col. William H. Blanchard formerly deputy chief of operations, 20th Air Force. He also commanded the Air Attack unit, which wears the decimal designation of 1.51. The mission of the Air Attack unit was to operate the bomb and pressure instrument dropping aircraft.

The second unit was the Air Photo Group, known as 1.52 commanded by Col. Paul T. Cullen. Their mission was to obtain and process such photographs as were required by the Task Group commander in conjunction with Naval, Air Force, and Manhattan project personnel. This unit also compiled a photographic history of Task Group 1.5 throughout its' life.

The third unit was the Air Instrumentation and Test Unit, the 1.53 outfit. This organization operated the pilotless remote control B-17 aircraft, based on Eniwetok. They were charged with securing scientific data in the vicinity of the atom explosion.

The fourth unit was the Air Transport Organization, 1.54. This unit operated with remarkable success an interior continental transport service as well as air transport lines overseas to the theater of operation. It provided air transportation necessary between Kwajalein and Eniwetok and between Hawaii and Guam, Task Group supply depots. The 320th Troop Carrier pilots also provided air transportation for movement back to the States.

The fifth main unit was the Air Service Group, 1.55. The overseas mission of the Air Service Unit was to provide services, supplies, and equipment required to support the operation of the other units and which was not provided by the units themselves or by the Navy on Kwajalein and Eniwetok. Supplementing these five groups were the weather reconnaissance and air orientation units.

Personnel overseas included some 2100 officers and men on Kwajalein and 450 on Eniwetok.

From the crews which originally began the training program, Task Group 1.5 put 29 AAF planes into the air on Able Day plus some five air sea rescue aircraft. A similar number were flown on Baker Day - of note was the 100% operational record - no plane aborted either A or B Days.

From the four bomb dropping crews who competed in the tight race for the honor of dropping the bomb, three participated. One was the bomb dropping B-29 piloted by Major Woodrow Swancutt, and two other which flew radiological reconnaissance. Two of the four blast gauge aircraft which trained for that special mission dropped pressure instruments. One crew served as a stand-by for the bomb dropping plane.

Thus from mid-January to late June 1946, Task Group 1.5 was organized, thrown into high gear, temporarily delayed in early April, then resumed movement overseas to become operational on Kwajalein on May 7.

The "drones" at Eniwetok performed remarkably, reaching a point of near perfection in their mother-babe remote control operations.

T-2 personnel participating in "Crossroads" project were largely from the Photographic Division. They were all assigned to Task Unit 1.52 usually referred to as the "Air Photo Unit". This capsule history will, therefore, concern itself hereafter with Task Unit 1.52.

A telephone jangled deep within the massive Pentagon. Colonel Paul T. Cullen, a staff officer, A-3, AAF, removed the instrument, found himself talking to his Chief, General Maxwell. It was

10 January 1946. The ensuing conversation revealed that Colonel Cullen was to be assigned to the staff of Vice Admiral W.H.P. Blandy, Task Force I; (to command an Air Photo Unit), whose mission would be to record photographically the nature and effect of an Atomic Bomb blast over Bikini Atoll in the Marshall Islands. His command was to be responsible for all Army photography accomplished in this experiment. Termed Project Crossroads, this experiment, a joint Army-Navy effort was to be the greatest post-war mission of the Air Force.

There was no time to be lost. Before he had replaced the telephone, Colonel Cullen was mentally formulating plans. His assignment was further amplified by a subsequent call from General Street, Commanding General, Continental Air Force. Colonel Cullen learned that he had but three months to assemble, organize, equip, and train an Air Photo Unit which was to be operational on Kwajalein Atoll by 15 April 1946.

Announcement was made in General Order #1, Headquarters, Advanced Echelon, 58th Wing, Roswell Army Air Field, of the activation of Task Group 1.5, and of its units, including the Air Photo Unit 1.52 (prov), effective 0001, 21 January 1946, in accordance with verbal instructions from the Commanding General, 58th Bomb Wing. This was later confirmed in the letter from Headquarters, Continental Air Force, 29 January 1946. The activation was coincidental with the arrival of Major Allen upon the scene, the unit's sole representative.

Col. Paul T Cullen, contacted Photographic Division shortly after the activation of Task Unit 1.52 and work started. Lt. Col. R. J. Cunningham, Chief, Photographic Division T-2, was appointed to Col. Cullen's staff and the part T-2 was to play in the coming events was taking shape. Major H. G. Ross, Chief Motion Picture Section became Administrative Assistant to Lt. Col. Cunningham, and Major P.M. Thomas, Chief, Special Photographic Services Section, was assigned as Technical Assistant.

The mission of T-2 was a tremendous one for so short a preparation time. The responsibilities were divided generally into: (1) design, fabrication and installation of all motion picture (normal, hi-speed and ultra hi-speed) cameras, special recorders, electronic timing control systems, and aircraft modifications related thereto, (2) providing documentary cameramen, aerial cameramen, camera maintenance crews, and installation engineers.

Mr. Henry Roganti of Special Photographic Services Section was sent to Oklahoma Ckty to investigate the F-13 aircraft for camera installations. Upon his return and with the realization of the magnitude of the job ahead of the Photographic Division, Lt. Col. Cunningham, Major P.M. Thomas, Mr. Ed Andres, and Mr. Roganti proceeded to Oklahoma City Modification Center on 6 February 1946. The preliminary work on the ten F-13 aircraft was inspected and certain corrections and modifications were recommended

Col. Cullen met this group and revealed new and larger requirements. Ultra hi-speed camera mounts were designed, drawings made, and the group returned to Wright Field. On 10 February 1946 a phototype ultra hi-speed camera mount was on its way to Oklahoma City. The Photographic Division was in high gear with an all out effort to complete special mounts for Eastman Type III, Fastax, Mitchell, A-7, and Jerome Turret camera modifications. At this phase of the program the flight operational plan required a "head on" approach at the time of detonation. Consequently all fixed installations were "forward shooting" at a depression angle of $22\frac{1}{2}^{\circ}$. Not one of these installations had ever been used prior to this time. The complexity of the installation can be appreciated by a study of the Oklahoma ATSC Modification report included herewith. A series of conferences at Roswell, Oklahoma City, and Wright Field, between Lt. Col. Cunningham, Major P. M. Thomas, Mr. Ed Andres, Capt Fred Crawford, Col. P. T. Cullen, and Mr. Brixner of Manhattan District, starting 10 February 1946 soon revealed that a highly complex electronic control system for the F-13 aircraft cameras would have to be devised. Capt Fred Crawford returned to Special Photographic Services Section and undertook the design of these controls. It soon was apparent that no standard equipment was suitable and also that no manufacturer was willing to fabricate the needed units to meet the deadline of 1 May 1946. Drastic action was necessary and was obtained with the help of Personnel Section who obtained several experienced electronic men. Bits and pieces were scraped together from all supply depots and salvage yards of the Signal Corps. With an exceptionally agile mind Capt. Crawford devised a system which was to be the "brains" of the photographic operation. Toward the end of February the already overtaxed shop facilities of the Photographic Division were loaded still further with fabricating control boxes, connectors, and miscellaneous metal and plastic parts for the electronic controls. And still new requirements came in, such as Radar Altimeter Recorders, Camera Time Recorders, and Pulse Amplifier parts.

Time was running short and already the advance group from T-2 had departed for Roswell Army Air Field. There installations and modifications continued. Still more requirements were added such as instrument panel recorders for the Bomb Aircraft, automatic installation for Blast Gauge Aircraft. Requirements were changed for the C-54 aircraft undergoing modification at Middletown AAB. Lt Tom Martin and Mr. Ed Andres were dispatched to accomplish these changes. Meanwhile Mr. Bob Holland was busy with the photographic installations in the B-17 aircraft, drones and mothers, at San Antonio Modification Center. During the month of March the shop facilities of Photographic Division, Special Photographic Services Section, Oklahoma Modification Center, Middletown AAB, San Antonio Modification Center, and Roswell AAF were going full blast on Crossroads equipment, no small part of which was involved in photographic equipment and aircraft modifications related thereto. Still more capacity was required. An assist was received from the ARL shops in the fabrication of Radar Altimeter Recorder parts. The deadline was 15 April, for completion of all equipment and installations. T-2 personnel moved out of Wright Field to Roswell - the first assigned to Crossroads for overseas duty left 20 February under the command of Lt. Col. Horace W. Pote.

Crew training started immediately - this complicated installations for lack of sufficient time since technicians sent for the purpose of installing equipment were assigned to air crews as a primary duty. Then came a change in the flight plan. The F-13's were to "orbit" the target instead of "heading in". This meant an almost total revision of the photographic installation. Many structural changes in the aircraft resulted. F-13's already completed in accordance with the original plans were returned from Roswell to Oklahoma City for rework.

Then came the postponement of "A" Day from 15 May to 1 July. A fortunate event in the face of the many difficulties besetting the Photo Engineering Section of Task Unit 1.52. Procurement and transportation required the use of five airplanes dispatched from Wright Field to gather and deliver supplies and equipment to Roswell and Oakland City California for overseas shipment. It was even necessary to use military intervention to secure some Fastax cameras from the strike-bound plant of Western Electric Company. The engineers at Roswell were under day and night schedule trying to keep pace with ever changing policies and plans and at the same time performing the duties of air crew members with almost daily flights of six to ten hours duration. To quote from a report sent to T-2 from Roswell, dated 4 April 1946:

" Accomplishment of modifications was in many instances severely hampered by lack of machine facilities, tools, materials and flying programs.

Request for machine facilities resulted in the delivery of an instrument trailer assumed to contain a complement of light machine tools which would fulfill our needs. This trailer was found to have been stripped of all equipment except the air conditioning units and power plant. Further investigation revealed all such trailers to be in a similar condition as a result of surplus property disposal. The lack of machine facilities was largely met with improvisation using an obsolete type repairable drill press obtained from A.C. Supply and machine facilities of a "Hobby Shop" located on the post only at times when the desired equipment was not in use by hobbyists. Three small items upon which the usual delay caused by AAF engineering shop S.O.P. could not be afforded, were fabricated by R.A.A.F. Engineering Shops. Hand tools available consisted chiefly of three G-1 field tool kits, borrowed drills, and socket wrenches. R.A.A.F. supply stocks in many screws, nuts, and miscellaneous items were depleted requiring the modification of available screws to the extent of making flat head screws from hex head screws and cutting and rethreading 1/4-28 bolts to obtain 1/4-20 cap screws.

As the flying program kept the aircraft in the air during most of the daylight hours much installation work in the airplanes was accomplished at night using flashlights and jeep headlights in the absence of sufficient portable power equipment."

The electronic control system was only partially completed by late March and had undergone numerous modifications and additions principally in the wiring of the aircraft. Likewise the Jerome Turret Camera control system, while based on the standard CFC system, had undergone many modifications making circuit changes in the aircraft necessary. The left scanner control had to be remoted to the tail position in order to clear the left blister for a camera position. A "short cut" design for the Jerome Turret Camera installation intended to save modification time contrary to advices of competent photographic engineers, was found to be useless. The fairing installed acted as an "air scoop" setting up excessive vibration causing almost total malfunctions in the cameras and in a few cases the loss of all lenses in flight. Therefore, an extensive rework of all turrets on ten aircraft was undertaken. The machine gun saddles had to be machined, mounting plates installed, skirts added to the turret domes and proper ports cut in the domes. The exceptional cooperation of Capt Thomas Lewellyn, Armament Officer made these changes possible. Task Unit 1.52 personnel were meanwhile being shipped to Kwajalein and the technical staff was depleted rapidly.

Some groups were caught enroute by the delay in "A" day and remained in Honolulu or were already on Kwajalein and useless for installation work. However, overseas shipments were resumed in mid-April and all crews and aircraft were on Kwajalein by the first week of May. Some forty practice missions at Roswell had never had a complete test of the photographic installations and control systems. The flying schedule on Kwajalein was even heavier than at Roswell - and less time of personnel and aircraft available for installation work. Continued difficulty with the Jerome Turret installations led to the discovery that the eight F-13 aircraft (two were left at Roswell for reserve) were not all wired alike and particularly in the CFC system the circuits varied according to the modification center that had reworked the original B-29's. This required a complete tracing of all circuits and considerable rewiring resulted. An amazing amount of cut lines and cross wiring was encountered. Another source of trouble arose from the assignment of gunners to operate the Jerome Cameras. Gunners had been trained to traverse rapidly and fire in bursts. Photographically this was the worst possible technique. A fast "traverse" called "panning" in photography, blurs the picture and is hard to view. Firing in "bursts" caused many camera jams and lost continuity of sequence. At this late date it was necessary to retrain the gunners for cameramen.

Early in May a detachment of photographers was assigned to Eniwetok to cover the documentary history, maintain, and install the camera equipment in the Drones and Mothers and to perform PRO functions. This again diluted the available manpower.

The documentary crews were also pressed for time in trying to compile photographic histories of all activities and at the same time fly as crew members. Still, the Photographic Engineering Section found it necessary to call on the documentary crews for help in maintaining some 500 cameras and in installing cameras for missions. Of all the members of the documentary crews it was only the T-2 group who gave substantial and repeated assistance.

The magnificent response of the T-2 group made possible the tremendous task of installing better than 300 cameras for each practice and Able and Baker Day missions. The magnitude of this task can be realized from realizing that 47 man hours were required to inspect, load, and install the cameras in each of ten aircraft (eight F-13 and two C-54). Further, installation in aircraft could not start prior to midnight before a mission, with crew station time usually at 0430. Approximately 95% of personnel available for installation were also crew members with duties required of that assignment.

Much additional trouble resulted from the effects of humidity and fungus. Equipment had to be inspected, cleaned, and tested twice weekly and stored in air conditioned buildings to insure freedom from corrosion. Tolerances and clearances had to be adjusted to offset the effects of extreme heat of the ground and low temperatures at altitudes. All exposed equipment dripped water of condensation after each flight. The Jerome Camera motors were not equipped (proper brushes were not available) with altitude brushes and necessitated an average of three each complete overhauls to insure operation.

However, in spite of mountainous difficulties, all equipment was ready on 1 July 1946, "A" Day.

ABLE DAY OPERATIONS

On Kwajalein, July 1, 1946, eight F-13 and two C-54 airplanes of the Air Photo Unit taxied down the concrete runway, the beginning of a history-making flight. At Kwajalein, weather conditions were clear with scattered clouds of approximately 3/10 cumulus and diminishing to 1/10 cumulus at target. Approximately thirty-five cameras of all types were installed on each airplane. So completely cameraized were these airplanes that crews dubbed them "flying cameras". The Air Photo Unit was charged with the duty of photographing the prodigious cloud resulting from the Atomic Bomb, from formation to dissemination. This also included photographing the radiological activity resulting from the cloud.

To accomplish the responsibilities outlined under Task Force 1.52, it required specially modified photo-aircraft. Eight B-29 type airplanes were modified into F-13 long-range photographic airplanes and two C-54 airplanes were modified to accommodate photographic equipment. It required 507 officers, enlisted men, and civilians to operate, maintain, and install the equipment. This equipment consisted of motion picture and aerial still cameras and special photographic instruments.

Almost every conceivable type of camera was used during the Able Day operations. They ranged from the 16mm motion picture camera to the 9-1/2 x 18 inch aerial still camera. There were over 300 cameras of every size and description, with all lenses focussed on one primary object, the bomb burst and the resulting phenomena. There were radar, television, strip smear and infra-red cameras, they were operated both manually and electronically; they were mounted

in every feasible point of the aircraft in order to obtain the minutest detail after the bomb burst.

The most extensive program of training, test flights, and the selection of the best technical and scientific personnel in the entire United States had been accomplished. In the entire history of the Army Air Forces there had been no function which depended so much upon the success of this mission to obtain the vast information from one bomb burst. There was to be no second chance. On the day before Able Day every one who was to take part was thoroughly briefed on their portion of the mission. Able Day station time was set at 0545, 1 July 1946. Time at station was set one hour before take-off time.

At dawn on this eventful day there were few scattered clouds at point of take-off and conditions were even better at the point of target. The small island of Kwajalein was a veritable beehive of activity. Men with equipment moved methodically into position.

A well-planned course had been set. Task Force 1.52 was set up in a three flight plan: Able Flight, Baker Flight, and Playboy Flight. Their main objective was concerned photographically in the ten second period which runs from detonation time (or MIKE time) M-5 seconds to M+5 seconds. They were also concerned with photographing the radiological activity developing from the cloud which involved the following and photographing of the cloud until dissipation.

Able Flight, consisting of seven F-13 aircraft, began take-off at 0516. The following aircraft made up the Able Flight: Nos. 1577, 1822, 2000, 1583, 1578, 1960, and 1991. The flight assembled over the island of Ailinginae at 0645 at a true altitude of 26,000 feet. Their course was set to proceed to Sifo Island then to Point Tare (Tare is a geographical point set for this mission which was 40 n.m. at 135 degrees from target). Control point Tare was reached at 0704 at a true altitude of 26,000 feet. The radar operators of these aircraft assisted the navigators in determining Sifo Island and point Tare. From orbit point Tare, Able Flight proceeded across the target area on 320 degrees heading at 0709 and on a 230 degree heading at 0739, taking vertical photographs of the target array. Photographic altitude was maintained at 26,000 feet true. From over the target the aircraft proceeded to individual stations at equal intervals on a circle which had a radius of 12 n.m. slant range from the target center. Radar operators determined position on orbit, giving range and bearing to the target. At detonation the aircraft of Able Flight were in position, as given by radar operators:

Aircraft No. 1577	28°	12 n.m.
Aircraft No. 1822	334°	12 n.m.
Aircraft No. 2000	78°	12 n.m.
Aircraft No. 1583	279°	12 n.m.
Aircraft No. 1578	239°	12 n.m.
Aircraft No. 1960	185°	12 n.m.
Aircraft No. 1991	127°	12 1/2 n.m.

Detonation (or Mike time) was observed to be at 090036, at which time an immense luminescent pillar spouted majestically after the first flash. In nine minutes the cloud had climbed to 24,000 feet, at 30,000 feet it stood still and began to drift in the wind. Cameras started reeling film and clicking shutters at M-5 and continued until M+5. During this filming, Able Flight orbited the target in counter-clockwise formation. After completing this task, five aircraft departed to base via Wotho Island. One of the remaining airplanes joined with a B-29 blast gauge airplane and performed radiological reconnaissance. These two aircraft orbited in an elliptical pattern at 20 n.m. from the cloud formation and photographed periodically dissipations and mannerisms. The other remaining airplane in Able Flight proceeded to point Tare and joined another B-29 blast gauge orientation flight. These two aircraft maintained radiological reconnaissance with the cloud from a south-east direction. At 1315 the two Able Flight airplanes were relieved by two of the Able Flight airplanes that had returned to base after M+5. Relief aircrafts continued the mission took positions on the upwind side of the cloud and continued photographing until Mike plus thirty minutes. At 0937 aircraft No 2627 departed the orbit, arriving at base at 1100. At 1015 aircraft No. 2711 departed the orbit, arriving at base at 1118.

The total flying time consumed by the three flights used on this mission exceeds the around-the-world record flying time set by airplanes. Flying time for the Able Day mission reached a grand total of 74 hours and 47 minutes. The average flying time for each F-13 airplane used was 8 hours and 9 minutes. The eight F-13 aircrafts had a total of 65 hours and 12 minutes. Average flying time for each C-54 airplane was 4 hours and 48 minutes. The total time for the two C-54 aircraft was 9 hours and 35 minutes. The average hourly gasoline consumption for the F-13 aircrafts was 609 gallons per hours. The C-54 aircraft had an hourly gasoline consumption of 222 gallons. Average gasoline consumption for the F-13's was 4,953 gallons making a total of 39,623 gallons. The C-54 aircrafts consumed an average of 1,067 gallons each and a total of 2,334 gallons. The grand total of gasoline consumed on Able Day was 41,957 gallons. This is more gasoline than an automobile user could use during his entire life.

The average gross weight at take-off for the F-13's with a 5,000 gallon fuel load was 109,000 pounds. The F-13's with a full gas load weighed approximately 117,000 pounds. On the take-off, the C-54 photo planes weighed approximately 65,000 pounds. The extra weight on these airplanes was due to the extra gasoline and weights placed in the forward part of the aircraft for balance.

The number of cameras used in this operation parallels the immensity and importance of this mission. One hundred fifty-seven motion picture and 106 still cameras ran through approximately 3,700 feet of film. This film was consumed during the period of ten seconds, running from M-5 to M+5. The Eastman and Fastax hi-speed cameras recorded the detonation at the rate of 1000 frames per second. The 88 Jerome motion picture cameras installed in the turrets of the F-13's were operated from a central fire and tail turret control station. Cameras

were tripped on time schedule dependent on commentary received from the bomb-carrying aircraft. Still cameras in general began operation at detonation time minus two seconds. At the same time some of the standard speed motion pictures were tripped. The hi-speed cameras, however, began operation by means of a specially designed electronic device upon receipt of a time signal from the Cumberland Sound which rebroadcasted the time tone signal emitted from the bomb-carrying aircraft. The hi-speed cameras were only capable of operating three and one-half seconds. A vertical camera in the bomb-carrying aircraft recorded bomb-away pictures. A recording camera was mounted on the navigator's panel to give reading during the bombing run. The blast gauge aircraft carried a vertical and radar scope camera.

Five months of training and preparation, including one month for selecting, briefing, and processing personnel, preceded the photographic operations. This careful preparation and planning enhanced the success of the mission. The eight F-13 aircraft and two C-54 aircraft took off from Kwajalein on schedule. They proceeded to their objectives as planned. Their correlated activities augmented the success of their portion of the show. No mishaps or difficulties were encountered during the flight. Weather conditions were excellent in regard to both flying and photographing. The photographic phase of this mission was of utmost importance. It was required of the photographic personnel and equipment to record on film the maximum amount of information in a minimum allotted time. Thirty-seven hundred feet of film rolled past apertures during a ten second period from M-5 to M+5. Approximately 60,000 feet of film was used during a ten minute period. Roughly this would be enough film to show ten full length feature shows. During all photographing only one minor unavoidable mishap occurred. Fastax and Eastman hi-speed cameras started operating two seconds ahead of the bomb burst. These cameras were shooting 1,000 frames per second. Their total running time was approximately 3-1/2 seconds. The explanation was a confusion or interference in the time signal which tripped the starting mechanism of these cameras. With this one exception, photographic coverage was excellent. Negatives developed at the base were of excellent quality. Communications for the entire mission were satisfactory, air to air and air to ground contacts being accomplished.

Following "A" Day a few days of relaxation were permitted. A picnic on Bennett Island - a truly beautiful South Sea Island, untouched by devastating bombardment - was a welcome interlude. Some personnel managed a few side trips to Majuro Island in the southern Marshalls, Makin Island on the Gilberts, and various other islands in and around Kwajalein and Eniwetok.

Relaxation was not long permitted for the "B" mission scheduled for 25 July was to have a new plan. The orbit was to change from 12 to 7 n.m. This meant the change of the depression angle of all fixed cameras, the change of mounts for additional depression clearance for flexible cameras and a wholly new installation in F-13 aircraft #999. This airplane was to fly directly over the detonation, therefore, all mounts were to be changed and new hi-speed Fastax and K-24 still cameras rigged for automatic operation. The Photo

Engineering Section had not been permitted more than hand tools until a few days prior to "A" Day - now the small shop was called upon for some fast work. Fortunately the 6th ARU, the Army Floating Repair Depot, did an all out job of repairing Aerial cameras and Jerome camera motors. This relieved Photo Engineering Section of enough work to permit a completion of schedules for "B" Day. Other changes required were a rewiring of the electronic control system to permit full manual operation to offset any failure of the signal system such as occurred on "A" Day. All cameras and equipment were completely overhauled and tested for "B" Day. A schedule of "half installation" for practice missions between "A" and "B" Day materially assisted in keeping abreast of the maintenance load.

"B" Day went on schedule 25 July in a highly successful manner. The details given for "A" Day will not be repeated for "B" Day since the mission was largely the same except that the slant range was 7 n.m. instead of 12 and F-13 aircraft #999 was directly over the blast since the Bomb Aircraft was not used for the Under Water detonation.

Some personnel were returned to the States following "A" Day to activate the St. Louis echelon of Task Unit 1.52. All the film began flowing into St. Louis after processing at Kwajalein, Hollywood, and Wright Field. At St. Louis reports and analysis were prepared. On "B" Day afternoon C-54 transport aircraft of the 300th Troop Carrier Command started the return of film and personnel to the States. Many of the T-2 group were assigned to Hollywood and St. Louis to edit the mountains of motion picture film, to supervise processing or to prepare reports. This activity proceeded until 1 October when Task Unit 1.52 was disbanded. Two T-2 personnel were still on duty for Crossroads as of 1 January 1947, Lt. Col. R.J. Cunningham is assigned to the final editing group at Washington D.C. and Richard Hagen is assigned to Hollywood for liaison work at Consolidated Film Industries.

So ended "Crossroads" with "C" Day cancelled. In spite of many trials and tribulations the nine months of operation for Task Unit 1.52 showed no flying accidents, no personnel accidents of a serious nature, a 100% operational record for both "A" and "B" Days, an overall camera malfunction average of 4.812% and a film record that will take years to digest. The largest photographic mission in history was a huge success - due primarily to the stupendous effort of personnel drawn from the Photographic Division of T-2. It was this T-2 group who were assigned to the key positions in Task Unit 1.52 and who supplied nearly all the technical skill and "know how" in successfully concluding "Mission Crossroads" against stupendous obstacles.

Credit must be given to the group of technicians from Photographic Laboratory, Engineering Division, who were assigned to the Photographic Engineering Section, Task Unit 1.52, under the command of a T-2 officer. A superlative job was done with the Aerial Still Photometric and Spectrophotometric installations of the C-54 aircraft.

Credit, and a lot of it, must be given also to the Aircraft Engineering groups, the flight crews and other components of Task Unit 1.52 for their excellent performance enabling the photographers and their equipment to secure such a mass of valuable photographic data.

The Command of T-2 and AMC may well be proud of its "Crossroads" staff for at Wright Field the experience, knowledge, and equipment of the Photographic Division was equal to the demands of the greatest photographic mission in history.