

MARINE AIR BASE SQUADRON 12  
 Marine Aircraft Group 12  
 1st Marine Aircraft Wing  
 Fleet Marine Force, Pacific  
 FPO, San Francisco 96602

3000  
 JWP:cw  
 3000  
 31 March 1966

From: Commanding Officer  
 To: Distribution List

Subj: MABS-12 Operations at Chu Lai Airfield, Republic of Vietnam

Encl: (1) MABS-12 Operations at Chu Lai Airfield, Republic of Vietnam, May 1965 through 1 March 1966

1. During the period 9 May 1965 through 1 March 1966, Marine Air Base Squadron 12 experienced almost ten months of combat operations at Chu Lai Airfield, Republic of Vietnam. Many problems were, and still are being encountered, and some valuable lessons have been learned. In an effort to share this experience, enclosure (1) has been prepared.

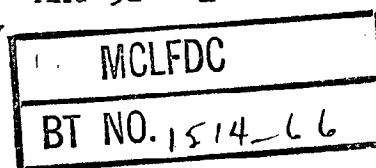
2. The enclosure contains a general description of MABS-12 operations, informal but more detailed explanations of the experiences of each section and unit, and brief descriptions of some special projects. This informal "study" is not intended as a history of Marine Aircraft Group 12 at Chu Lai, nor even a detailed chronology of MABS-12. The Airfield Construction, for example, has been reported at length by other commands, and has been omitted from this study.

3. Many of the MABS-12 operations and problems described are not unique, or even unexpected. The Chu Lai experience, however, has been a rare instance where a Marine Air Base Squadron has actually built a camp and operated an airfield in combat. Since it is likely that Chu Lai will not be the last such Marine Corps operation, it is hoped that our experiences here will aid the planning and operations of other Marine Air Base Squadrons and Marine Aircraft Groups in the future.

*JWP*  
 J. W. PARCHEN

DISTRIBUTION:

1st MAW - 1	MAG-13 - 1	MAG-24 - 1	MAG-33 - 1
→ MCLFDC - 2	MAG-14 - 1	MAG-26 - 1	MAG-36 - 1
MAG-12 - 1	MAG-15 - 1	MAG-31 - 1	MABS-12 - 4
MAG-11 - 1	MAG-16 - 1	MAG-32 - 1	



## MARINE AIR BASE SQUADRON 12

Operations at Chu Lai Airfield

Republic of Vietnam

May 1965 through 1 March 1966

I. General Description.

Planning and Embarkation

Area Description

Initial Operations and Missions

General

II. Operations of Headquarters Branch

Material

Administrative

Communications

Guard

Medical

Chaplain

III. Operations of Base Operations Branch

Air Freight

Aerology

Crash Crew

Morest

Photo Lab

MATCU-67

IV. Operations of Base Services Branch

Food Service

Liquid Oxygen

TAFDS

Utilities

Motor Transport

Ordinance

V. Special Problems and Projects

- A. Personnel
- B. Camp Security Construction
- C. Heads Construction
- D. Billeting Hut Construction

VI. Annexes

- A. Manning Level Recommendations
- B. Photographs
- C. Security Recommendation

Ordinance

V. Special Problems and Projects

- A. Personnel
- B. Camp Security Construction
- C. Heads Construction
- D. Billeting Hut Construction

Annexes

- A. Manning Level Recommendations
- B. Photographs
- C. Security Recommendation

DECLASSIFIED

PART I

GENERAL DESCRIPTION

I-1

DECLASSIFIED

## I. GENERAL DESCRIPTION OF MABS-12 CHU LAI OPERATIONS

1. Planning and Embarkation.

a. Initial planning for the Chu Lai operation commenced in April 1965, with the expected large number of variables and unknowns: shipping available, time schedule for the operation, and details of the area of operations. Numerous changes, loadings and unloadings, and personnel shuffles were necessary before embarkation.

b. Plans for camp layout were drawn up late in April based on hasty on-scene reconnaissance by various military representatives. The plan was sound, and was generally followed in later camp construction.

c. The advance echelon of MABS-12 embarked in late April in one LST, and arrived at Chu Lai on 7 May. Included in the advance echelon were 19 officers and 364 enlisted, MATCU equipment, 1½ TAFDS systems, M-24 and M-2 MORESTS, optical landing mirror, crash and rescue vehicles, and engineer heavy equipment. Off-loading commenced on 11 May. Commanding Officer, MABS-12, LtCol. A. WILSON, arrived by air on 8 May and took charge of the MAG-12 operations. The follow-on shipping of one LSD and three LST's arrived at Chu Lai on 24 May. Included in this shipping were the remainder of MABS, H&MS, and the advance half of two tactical squadrons, plus lumber, POL, vehicles, etc.

2. Area Description.

a. Chu Lai is located on the western shore of a 5 mile long, shallow bay. The airfield is located approximately 800 meters inland from and parallel to the beach, on a heading of 320/140 degrees. The terrain rises uniformly from the beach to an 80 foot ridge approximately 300 meters inland. The ridge drops off sharply to the west, to a broad, flat, sand "dry lake" area in which the airfield is located.

b. The entire area is deep, soft sand. The eastern slope of the ridge is thickly forested with bushy pines. (The area had been "harvested" over the years by Vietnamese charcoal producers and wood cutters.) Abundant fresh water is available from a water table 2 to 10 feet above sea level.

c. The area is humid but dry except during the fall monsoons. In October through December the flatland around the airstrip, lying just slightly above sea level, turned into marshy lagoons. May through July saw temperatures officially recorded at 102 to 104 degrees. On the aluminum runway in the sun, the temperatures reached 125 degrees; under a canvas tent noon temperatures were above 110 degrees. C-Rations were quickly heated by simply placing the cans on the sand. In November and December the monsoon rains and winds, with temperatures in the low 60's caused some chill and discomfort; more than 30 inches of rain per month were recorded in those months.

d. Laterite, a red ferrous clay soil, was dug out of pits north of the field and used to surface roads, working areas, and under the runway matting. The laterite unfortunately breaks down into red dust in dry weather and turns to thick gumbo when wet. Over the months since May acceptable roads have been developed by laying and grading laterite, then spreading sand back on top. Constant watering or spraying with

diesel oil is necessary in dry weather to hold down the dust.

### 3. Initial Operations and Mission.

a. The original concept for Chu Lai called for MCB-10 to complete the 8000 foot airstrip and taxiway in 21 days and then to immediately begin building the camp, paving the MSR, and a variety of other necessary projects in the MAG-12 area. The runway construction fell behind schedule before it even started, and in March 1966 the Seabees are still rebuilding the runway and taxiway, picking up and relaying matting, and making repairs. Further, the rapid and constant addition of other units to the Chu Lai enclave diluted the Seabee resources, and limited the construction support they could provide to MAG-12. Besides building and repairing the airfield and installing the airfield lighting, the Seabee contributions to MAG-12 have been:

- (1) Maintaining the MSR, including drainage.
- (2) Building strongbacked tents for S-3 briefing, airfreight, and the field hospital.
- (3) Building a Group Command Bunker in August 1965.
- (4) Building a 1600 man Mess Hall in February through March 1966.

Although neither manned or equipped for the job, MABS-12 has had to handle all other camp construction.

b. Operations in May were pointed toward getting the airfield operational by 30 May 1965, (later delayed to 31 May, and finally to 1 June) at the same time as establishing the camp. May 1965 was a maelstrom of sand, heat, and round-the-clock operations: gear and equipment was battled over the beach and through the sand; trees were cleared and areas leveled; the CP's were established; communication wire was laid, cut, and relaid; 25% of the troops were on guard at night, and defensive perimeters were dug in, expanded, and dug in repeatedly; stacks of bombs were manhandled off ships and into hasty revetments south of the field; the TAFDS, MOREST, and MATCU gear was moved into position; the LOX plant was pushed and pulled foot by foot into position; mess facilities were established in tents; power lines were strung and roads graded and wells dug, and the camp expanded. The climax came, of course, when the first A4's arrived over the 3800 foot airfield on the morning of 1 June 1965. May was largely a month of the Seabees and MABS; on 1 June the focus was shifted to the tactical squadrons, and the real support problems for MABS began.

c. The SATS concept calls for the Marine Air Base Squadron to assume responsibility for airfield maintenance and lighting. Neither the TO nor allowance of equipment has been revised to reflect this additional mission. Recommendations for changes in both personnel and equipment have been submitted although the Chu Lai operation has not yet reached the point where the Seabees can turn this job over to MABS.

I-3

#### 4. General

The following portions describe the operations and problems of various MABS units and sections. Most of the recommendations concerning changes in personnel manning levels, T/O, and allowances of equipment have already been forwarded through the normal chain of command.

PART II

OPERATIONS OF HEADQUARTERS BRANCH

Commanding Officer: LtCol A. WILSON to 25 September 1965  
Major J. W. PARCHEN to present

Executive Officer: Major H. B. RANDALL to 4 August 1965  
Major R. L. TALBERT to present

First Sergeant: 1stSgt C. H. SHIELDS to 29 June 1965  
1stSgt S. BROWNE from 29 July 1965 to present



## MATERIEL SECTION OPERATIONS

Matériel Officer: 1stLt. G. W. Procter

1. Three weeks before embarkation the Materiel Section was notified of imminent deployment. Materiel had as its task the preparation of a cargo manifest on the materiel required for the first thirty days for a 270 man MABS ashore in Viet Nam. The mosquitoes, extreme heat, and the sandy terrain were key criteria to be considered for the pack-up. Preparations for the sandy terrain were later found faulty in that existing tent pegs were too short for the sand.
2. Three men and one officer embarked on the first ship. Four men remained with the office for the second phase. Since receipt had to be established for all equipment left behind and the abundance of reports required, all records were left with the second phase personnel. These four personnel, supervised by a Sergeant, later proved to be understaffed. The transfers of equipment, reports and requisitioning required were not accomplished in an entirely satisfactory manner. The value of cross training was a lesson learned here.
3. On 9 May the dump platoon was taken ashore and offloading commenced. Although two moves were required to place our supplies in our proposed area, we lost a few supplies to the carelessness of forklift operators, inadequate boxing of supplies, or pilfering.
4. Within a very few days requisitions were dispatched by message to MAG-16 for Section M parts. The Materiel Section operated from under a paulin stretched over three sandbag containers. Primary duties at the time were issuing individual equipment, maintaining security over supplies and establishing a locating system on the gear. After about three weeks, MABS was joined by H&MS and VMA's 311 and 225. MABS supported them with its own packup until their supplies came ashore. MABS materiel remained as the only requisitioning activity in the complex for the next two weeks.
5. During these first few weeks Materiel was faced with the task of adapting to the support of ten new sections, working efficiently on a sand deck with no lighting, and maintaining control on equipment.
6. The task of adapting to the support of new sections was created through the very nature of garrison life. LOX, Aerology, Airfreight, Crash Crew, TAFDS, and Morest were to be supported, for the most part, for the first time. Not only were inventories required for accountability of their equipment but new stock lists were necessary for effective support. Further supply problems were created because of these sections lack of experience in programming requirements and the lack of familiarity with applicable stock lists and allowances. Although logistical problems were frequent and critical at times, sections were always sufficiently supplied to accomplish their respective missions.
7. Further growing pains were experienced as the allowances for the squadron increased. Through various means the equipment was acquired and modifications to the allowances were submitted. By 10 February, fifty-one requests were submitted for special allowances and modifications to the allowances list for all MABS. Of those on which action has been taken only three have been disapproved.

II-2

## MATERIEL SECTION OPERATIONS (Continued)

8. Materiel now occupies two GP Tents, one for office and one for storage. An additional storage shelter, approximately 30x50 feet, has been constructed of a wooden frame covered with paulins.

9. Due to constant rotations of personnel, the loss of personnel to working details, the guard, fire watch, four movements of the shop itself and three movements of the warehouse, organization within the section as well as the squadron was found to be very important. To combat this, desk procedures, standard operating procedures for the squadron materiel functions, formal training, and a locator deck of supplies were instigated within the section.

## ADMINISTRATIVE UNIT

Admin Officer: WO E. J. BRENNAN to July 1965  
Lt W. V. OKEEFE to Sep 1965  
Lt R. H. STOUT Sep to present

1. Operations.

a. Admin Unit initially set up in one GP tent, with the mail room located in the back of the Base Services tent. Facilities were later expanded to put all admin in one tent, with Admin Officer, First Sergeant, S&C, and mail room in another GP tent.

b. In February a tropical hut was constructed for the Admin Office. A tin roofed hut is planned for Admin Officer, Mail Room, S&C in April.

c. Normal admin functions have been performed. Workload has been heavier than in garrison due to: (a) greatly increased size of MABS, now approaching 675 officers and men; (b) preparation of recommendations for awards; and (c) requirements of two to five MPRs/APRs each month.

d. From 7 to 9 0141 have been assigned. This is not adequate without working 7 days a week and nights. Authorized Manning level is 12, which would be sufficient, if available.

2. Problems.

a. Sand, dust, and moisture have been exceedingly hard on office machines. There has been a chronic shortage of typewriters due to length of time required for repairs or overhaul.

b. Administrative workload required for large monthly drafts in and out has been very heavy.

c. Personnel accounting and reports have been much greater than in garrison.

## COMMUNICATIONS SECTION OPERATIONS

COMMUNICATIONS OFFICER: 1stLt Gary D. CLARK

1. Planning

a. A plan for deployment in a SATS concept had been prepared months before the operation was actually ordered. Since no specific information as to what radio nets or external communications would be required, the plan was based on text book deployment. Augmentation in the form of additional radio operators and equipment would be required from H&HS-1; unfortunately, when it came time to deploy, Wing Headquarters was also deploying and could not provide the requested augmentation.

b. The original concept called for movement to the objective to consist of three phases:

- (1) Advance Party,
- (2) Additional men and equipment to make the airfield operational, and
- (3) The remaining men and equipment.

Some communication support was still required at the rear until Phase 3 was underway.

c. A few days before scheduled embarkation, a reassignment of amphibious ships allowed only one LST for MABS-12 in the original shipping. Turn around shipping would not reach Vietnam again before the airfield was scheduled to be operational, therefore, it was necessary to combine Phase 1 and 2. It was decided that as much communication equipment and as many personnel as possible were to be included in the first detachment. One officer and 24 enlisted went with the advance echelon, with one officer and 10 with the rear echelon.

Equipment deployed with the advance and rear echelon is shown in Appendix A.

2. Embarkation and movement to objective.

a. Embarkation was routine as far as communications equipment was concerned. However, last minute changes to the ship loading plan caused some confusion and required the LST to be partially off-loaded twice before satisfactory loading was accomplished.

b. The AN/MCR-87 radio jeep was loaded in the tank deck near the front to facilitate early off-loading so that communications to higher headquarters could be established as soon as possible. Boxed and palletized equipment was loaded in the far end of the tank deck with the other bulk cargo. The AN/TSC-15 van was mounted on an M-35 truck and loaded on the top deck. Some of the portable radios, telephones and other equipment for which an early requirement was anticipated were stowed inside the van. Cryptographic equipment and all other classified material were loaded on the back of the M-35 with the AN/TSC-15.

c. Loading of the LST was completed and the ship was underway on the morning of 27 April 1965.

d. Arrangements were made with the ship's Captain to allow Marines to work in the Communication Center. The Navy personnel welcomed the assistance in handling the increased message traffic. Marine Teletype Technicians even

## COMMUNICATIONS SECTION OPERATIONS (Continued)

assisted Navy Technicians in the repair of their teletype machines, and by doing so they gained valuable experience with different types of equipment.

e. On 6 May 1965, part of the Communication Annex to the Operation Order was received. Although some pertinent information was missing, there were sufficient instructions in the part received to enable us to establish initial communications. RLT-4 was to provide our Comm/Crypto guard ashore until our own teletype circuit could be established to Wing Headquarters.

3. Landing

a. On 8 May 1965, which was D plus 1, the Communication Officer went ashore with a small party of other officers to conduct a reconnaissance of the area and to make liaison with units already ashore. The Commanding Officer of MABS-12 had flown in by helicopter and met us on the beach with additional instructions.

b. The LST pulled into the causeway and commenced unloading on 11 May 1965. Trafficability for heavily loaded wheeled vehicles was practically impossible, both on the beach and inland. To facilitate rapid off-loading of the ship a temporary dump area was established on the beach close to the causeway.

c. As soon as the AN/MRC-87 was off-loaded, it was used to enter the Wing Command Net #2. Telephone communications were established into the MCB-10 switchboard which was the closest unit. The RLT-4 Tactical Net was guarded to provide us warning in case of an enemy attack. Our portable FM radios were used to coordinate the off-loading of the ship into the dump area. Our Comm/Crypto guard remained aboard the LST for convenience until it was ready to leave, after which Comm/Crypto guard was switched to RLT-4 as instructed. The only serious mishap that occurred during off-loading was when a box containing AN/PRC-6 radios was run over by a forklift after it fell from the back of a truck. Five of the radios were crushed beyond repair.

4. Early Operations

a. Establishment of internal communications for the CP was accomplished in the standard manner. A site was selected for the main construction point and the installation of local lines was accomplished according to priority. Initially, portable radios were used to provide communications for the perimeter guard; however, telephone communications were installed, as soon as possible, using an AN/GIC-1 alert telephone system. After a short time, the AN/GIC-1 proved to be unsatisfactory for this use. The local units were not protected from the elements and sand entered the electrical contacts and rendered the system useless. Consequently, the GIC-1 local units were replaced with EE-8 telephones, and since we did not have an SB-22 switchboard, the lines were terminated into one section of the main SB-86 switchboard. This interim measure worked out well since at night when the guard phones were used most, the traffic from other telephones was very light.

b. Wire lines could not be laid by vehicle because of the limited trafficability in the sand. It was a slow, extremely difficult task for men to lay wire by hand through the soft sand, especially with the temperature soaring near 100 degrees. The men suffered from the high heat and humidity until they became somewhat climatized. Two wire trunk lines were installed to MCB-10

## COMMUNICATIONS SECTION OPERATIONS (Continued)

which was still the closest unit. All other units in the area were reached through these two trunks. Wire lines laid parallel to the beach, like these trunks were, were constantly being cut by tracked vehicles moving inland from the beach.

c. The radio relay van was moved into position and set up but difficulties with the equipment prevented good communications from being established for several days. Meanwhile, RLT-4 continued to guard for us but it was three miles between our C.P.'s and transportation was at a premium.

d. Most of the communications facilities were established in one G.P. Tent. The switchboard, radio central, and repair area were in one-half of the tent. In the other half of the tent, separated by stacked mount-out boxes, was the Communication Center. The tent was extremely crowded and security was not the best. No material was available to cover the deck and dust entered the equipment. Between the dust and the heat many equipment failures occurred for which there were no repair parts readily available. After several equipment failures with the AN/MRC-62 van were found to be caused from overheating, a shade was constructed over the van which made it at least ten degrees cooler inside.

e. The dry sand proved to be such a poor ground that a potential difference would exist between equipment grounded separately and cause the equipment to malfunction. The poor ground was overcome by connecting the grounding terminals of all equipment to a common heavy electrical wire which was then attached to a ground rod.

f. Power fluctuations, brought on by a hastily installed camp power system, resulted in considerable damage being inflicted to teletype and crypto equipment. At one time, all of the on-line crypto machines were inoperative with the failures attributed to poor grounding combined with power surges. Our crypto technicians were fresh out of school and had very little practical experience. Technical assistance and additional spare parts had to be provided by H&HS-1 before the equipment was repaired.

g. It was evident, almost from the start, that the wire communications required to support the airfield and the camp would be enormous. As soon as the camp was established it started to expand. As the camp expanded, the perimeter guard positions were increased and moved farther out, requiring that new lines be laid and the existing wire lines be extended. Wire lines that were tied to trees or laid on the ground had to be rerouted, to prevent them from being torn up as roads were built and trees were cleared in the area.

h. Coincident with the installation of camp communications was the installation of wire communications for airfield operations. MATCU-67 was located on the opposite side of the runway from the main camp, which dictated that any wire lines to them would have to be buried under the runway and the taxiway. Airfield plans called for a four inch communications conduit to be installed at several locations under the runway and taxiway. Since construction of the runway had not yet progressed to this point, temporary lines were laid direct to MATCU-67 and buried by hand to protect them from heavy equipment working in the area.

i. An arrangement was made by III MAF for a U. S. Army MRC-80 communications team to come into our area to provide air traffic control circuits, weather circuits, and other communications essential to airfield operations. The team did not arrive as scheduled and since time was growing short before the circuits

## COMMUNICATIONS SECTION OPERATIONS (Continued)

were required, Wing helilifted in a MRC-62 van and team with all equipment except a prime mover. The equipment was on the air and communications were established the same day. Two days later the MRC-80 team arrived and began their installation. It was decided that the MRC-62 would be retained at least temporarily after the MRC-80 was in operation.

j. Once the minimum essential communications for airfield operations were installed, our efforts were directed to the installation of a new C.P. The rear echelon came ashore on 24 May 1965 with all the remaining equipment and were available to assist in the move. The move was accomplished without a loss in wire communications by using one SB-26 switchboard in each area connected together by several trunk lines. In the new C.P. area a G.P. tent served as the Communication Center and Comm Office, and was married up to the S-126 shelter. Since on-line encryption was used on the teletype circuit, the S-126 shelter served as a transmission room as well as a crypto room. The Comm Center was located in a secure compound along with S-2, S-3, S&C, and a pilots briefing tent. Adjacent to this secure area but across the road was the rest of the communication facilities. Another GP tent in this area served to house the Wire, Radio, and Repair Sections.

k. To prevent the loss of essential communications from enemy action, all generators, vans, and the main wire frame were sandbagged. The PU-239 was used primarily as a back-up power source for all communications equipment in the event camp power failed. A master switchbox was installed to provide power distribution from either the PU-239 or camp power. Unfortunately, camp power was often unstable and this backup generator had to be run 12 to 14 hours a day.

l. After the C.P. move, wire construction continued at a hectic pace. As other units in the Chu Lai enclave moved into more permanent positions, trunk lines were installed directly to them. Runway construction had progressed to the point where the communication conduit was required, however, the conduit was never received. As a substitute, a 2 inch water pipe was laid under the runway and taxiway. 500 feet of 50 pair telephone cable was obtained from Wing to be used across this span. It was no more than installed when a grader working on the airstrip, ripped out the conduit and broke the cable. The cable was then too short to be used for this purpose. A 30 pair cable, about one half mile long, was prepared using WD-1/TT field wire. A ditch digging machine was used to dig a trench five feet deep and the cable was buried from the MATCU area to the main wire frame in the C.P. area. Installation of the new cable provided the necessary circuits across the runway to complete the installation of the S-3 alert system, the crash alert system, and various other hotlines required for Base Operations.

m. Vehicles and heavy equipment were our worst enemies as far as trying to keep wire lines operational was concerned. Every main cable was ripped out at least twice and the time required to repair the cables was a constant drain on our available manpower.

n. As telephone communications requirements continued to increase, it was necessary to make a thorough study to determine the maximum expected requirements so that additional equipment could be obtained. It was determined that the additional equipment should consist of 2 SB-C6 switchboards, 1 SB-22 switchboard, and 40 EE-8 telephones. The SB-22 and 35 telephones were required for

## COMMUNICATIONS SECTION OPERATIONS (Continued)

the guard alone. The airfield was operational and the main installation was completed in early June.

### 5. Expanded Operations

a. Throughout the Summer and Fall, the communication system continued to expand as new requirements became known. A more organized base defense plan developed which utilized every available portable radio in addition to the switchboard and telephones mentioned earlier. A command bunker was built from which the base defense effort could be controlled. Communications facilities in the bunker included two FM radios and several telephones.

b. As the tempo of airfield operations increased, so did the number of messages coming through the Communication Center. With the small number of personnel we had on hand in the Comm Center it was necessary to operate on a two section watch throughout this entire period. The need for another GGC-3 teletype machine was seen early when a breakdown on the machine prevented us from sending for two days. Messages could be sent by hand, but we were using tape relay procedure and Wing required a perfect tape. The chances of sending a message by hand without a mistake are pretty slim. In September this teletype circuit was changed from half duplex to full duplex operation to keep pace with the traffic load. The TT-297 would not hold up when subjected to continuous, heavy usage. Also it was necessary for ditto rolls to be used in the machine to eliminate the need for write-up of incoming messages. The TT-297 would not give a satisfactory copy when ditto paper was used. The old TT-4, a machine for which we could not even get repair parts through normal channels was our salvation. It was used on the receive side of the circuit until a TT-47 was borrowed from the Aerology Section in October 1965. To relieve the traffic load on electrical circuits it was often necessary and beneficial to send lower precedence messages by regular courier.

c. The U. S. Army MRC-80 system never did provide satisfactory service. The circuits routed over this equipment were seldom useable except late at night. To relieve the situation, the Army brought in a TRC-24 team and established a communications link to Quang Ngai. Some of the essential circuits that were on the MRC-80 were rerouted through the TRC-24 to Quang Ngai where they were strapped over through a TRC-90 to Danang. These circuits were still weak and not much better than the MRC-80.

d. The overall external circuit requirements continued to steadily increase as new units arrived in the Chu Lai area. In November, at the request of III MAF, the Army brought in a 24 channel TRC-90 Troposcatter system to replace the MRC-80 and provide additional circuits to fill these requirements. The only problem the new equipment presented us with was that the site was located two and one-half miles from the MAG-12 area. Wire was in critically short supply and a means for terminating the channels assigned to us was required. The Army again came to our aid and provided multiplexing equipment and spiral-four cable to accomplish the task.

e. In addition to the radio nets initially established it was necessary to provide, on call, a UHF radio for the Landing Signal Officers use during short field operations. A radio was installed in the Group Commanders Vehicle to allow him mobility during air base defense operations without losing communications. In October 1965 a Tactical Air Command Net was activated.

## COMMUNICATIONS SECTION OPERATIONS (Continued)

on a 24 hour basis to provide an emergency backup for the operations hot line to the TADC.

f. Throughout this period the majority of communicating was done by wire and consequently this is where most of our problems occurred. With the receipt of two more SB-86 switchboards and 73 additional EE-8 telephones, many more of the requirements could be met. However, there seemed to be no end to valid requirements and the number of telephones in use continued to increase until the switchboards could take no more. Once this point was reached the Wire Section was so over committed that they required assistance from men in the other sections just to keep the lines in repair. Little time was available to police up the existing lines or to properly maintain the equipment. The SB-86 switchboards began to deteriorate from exposure to extreme climatic conditions and from continual heavy usage. One particular problem that could not be taken care of with the board in use, was the replacement of bad signal drops. To remove a bank of drops from the system to affect repair would have resulted in severing essential communications for several days at best. The switchboards really required re-building, and the best solution was to obtain additional switchboards with which the bad boards could be replaced. Once again additional equipment was requested in the form of two SB-86 switchboards, two SB-22 switchboards, and two PRC-10 radios. The additional SB-86 switchboards have eliminated the maintenance problem. The two additional SB-22 switchboards were installed in place of the AN/GIC-1 alert telephones for the S-3 and Crash Alert Systems. The AN/GIC-1 had been generally unreliable besides having the undesirable characteristic that one shorted line would render the whole system useless. The SB-22 switchboards were a little slower but provided a hundred per cent improvement in reliability.

g. Until December 1965, equipment for a weather teletype circuit and a radio receiver to be used with a facsimile machine were provided from the Communication Section assets. In December 1965 the Aerology Section received a meteorology van which contained all the equipment they required. The Communication Section still had the responsibility to provide maintenance support for this equipment which consisted of radio receivers, converters, teletype machines and a facsimile machine. This requirement generated a request for a technician whose whole responsibility was maintaining the equipment in that van.

h. In January 1966, we started receiving additional personnel and the whole system began to operate more smoothly. One new circuit was activated, a half-duplex teletype circuit between S-3 and G-3. Good maintenance support was being received from FLSU-1 and a sufficient number of spare parts were being received to keep the equipment operating. A great deal of liaison was still required with Army communication personnel to obtain satisfactory performance on circuits routed over their equipment.

i. In January 1966, a new 16'x64' building was built to house the Comm Office, Comm Center, and the Radio Central. The S-126 shelter was married to the side of the building and was used in the same manner as before. Now all of the main communication facilities are located in the same area and the whole compound is enclosed with double concertina wire.



## COMMUNICATIONS SECTION OPERATIONS (Continued)

j. A plan calling for continual improvement of the internal wire communications has been initiated. The whole system uses expeditionary equipment but has been in operation now for almost 10 months.

6. Present Organization and Equipment.

a. Personnel

(1) With the receipt of additional personnel in the months of December 1965, January 1966, and February 1966, the present organization of one officer and 54 enlisted men (3 men are Radio Relay Team on TAD orders) more closely provides the manpower required to operate the present installation efficiently. The following table shows the number of personnel on hand and the recommended manning level:

<u>Billet</u>	<u>OH</u>	<u>Recommended M/L</u>
Communication Officer	1	1
Communication Chief	1	1
Message Center/Crypto personnel	18	15
Radio Personnel	10	13
Wireman	13	15
Technicians	8	11
Radio Relay Team (TAD)	3	3

7. Equipment

a. The equipment on hand is the same as that listed in Appendix A with the following additions:

4 SB-86 switchboards	1 GGC-3 teletype
3 SB-22 switchboards	1 TT-4 teletype
2 AN/PRC-10 radios	10 TA-1/PT telephones
1 AN/PRC-41 (temp loan)	130 EE-8 telephones

A requirement exists for the following equipment which has been requested:

2 AN/GRC-125 radios	2 AN/PRC-41 radios w/accessories
7 AN/PRC-6 radios	1 PP-3240 Battery charger
1 SB-22 switchboard	5 TH-5 telegraph terminal
1 USM-1050A Oscilloscope	

IB-10

## COMMUNICATIONS SECTION OPERATIONS (Continued)

8. Present Communication Facilities.a. Radio Nets

- (1) Wing Command Net #2 (Voice, HF/SSB)
- (2) Tactical Air Command Net (Voice, HF/SSB)
- (3) RIJ Tactical Net (Voice, VHF/FM)
- (4) Base Defense Net (Voice, VHF/FM)
- (5) ISO Net (Voice, UHF/AM)
- (6) Provisional Rifle Company Tactical Nets (Voice, VHF/FM)

b. Switchboards and Equipment

- (1) Group Switchboard - four SB-86.
- (2) Tactical Squadron Switchboards - four SB-22, one in each Squadron.
- (3) Group Guard Switchboard - one SB-22.
- (4) S-3 Alert System - one SB-22.
- (5) Crash Alert System - one SB-22.
- (6) Command Bunker Switchboard - one SB-22 (to be installed).

c. External Circuits

(1) External circuits are provided over the Army TRC-90 Tropo and TRC-24 Radio Relay systems in addition to our own AN/MRC-62 Radio Relay. Three voice trunk lines are available to Wing and other hotlines are installed as follows:

- (a) S-3 / G-3.
- (b) Chu Lai App Control/Danang App Control.
- (c) Chu Lai App Control/Monkey Mt. CRC.
- (d) Chu Lai App Control/Saigon ARTCC.
- (e) Chu Lai App Control/Quang Ngai Tower.
- (f) S-3 / DASC "A" /DASC.

Long land lines provide two other essential circuits from Chu Lai App Control to MAG-36 and MACS-7.

(2) Teletype circuits are installed as follows:

- (3) S-3 / DASC "A" /DASC

## COMMUNICATIONS SECTION OPERATIONS (Continued)

- (a) Wing CommCen/Group CommCen (Full Duplex).
- (b) Aerology Chu Lai/30th Weather Sqdn, Saigon (Full Duplex).
- (c) S-3TADC (Half Duplex).

9. Significant Problems and Solutions.

a. Generally speaking repair parts were not available at the same rate they were required. The 30 day supply of repair parts taken with the first detachment was not adequate both in type and quantity of parts in order to last until Group Supply came ashore. Even the stockage of parts by Group Supply was insufficient and it was several months before most requisitions were filled.

b. From a communication standpoint the solution to this problem lies in making our needs known to Supply. A detailed and continuing evaluation of anticipated needs is essential in determining general and mount-out stockage. Finally, close liaison must be maintained between the Communication Officer and the Supply Officer at all times if the system is to be effective.

c. Transportation was a significant problem, especially during early operations. Many vehicles were inoperable due to non-availability of spare parts and there just weren't enough vehicles to fill the requirements. The AN/MCR-62 van was taken off the vehicle and this M-37 became our workhorse for laying wire and hauling supplies. Many times it was necessary to use radio jeeps for transportation because there simply wasn't any other vehicle available.

d. The switchboard and 35 telephones used for Group Guard Communications were completely unforeseen requirements. The need for wire communications within the Group Guard will exist for any Marine Aircraft Group deployed in a similar manner and the only solution is to obtain sufficient equipment to do the job.

e. The portable radios used for base defense communications are mostly operated by non-communicators because there are not nearly enough radio operators in Communications Section to do the job. Also the switchboards for the tactical squadrons and the Group Guard are operated by non-communicators for the same reason. Non-communicators do not generally know proper procedure or how to care for the equipment. It was essential that regular classes be held to teach radio and switchboard procedure to those men assigned to operate the equipment. They were shown how to operate and care for the equipment and they were indoctrinated as to why they should practice what they were taught.

f. The TT-297 teletype machines did not perform well at all for the reasons stated earlier. The TT-297 is not made to withstand the continuous heavy message traffic characteristic of airfield operations. The teletype equipment used anywhere in the Air Wing should not be chosen for its lightness or portability.

g. A MABS is hardly required to be able to carry its equipment on its back. What we need is a good stable teletype machine, such as a TT-47, that will perform continuously at 100 words per minute.

## COMMUNICATIONS SECTION OPERATIONS (Continued)

h. The problem of vehicles and heavy equipment breaking wire lines is always present but we experienced more of this than our fair share. The most vulnerable area was road crossings. Initially, the only poles available were a few PO-2 poles we brought with us and bamboo poles that we were able to cut. Trees were used when possible but they were not sturdy enough or high enough in most cases. A few metal telescopic poles were obtained through Wing and proved to be the solution. These poles were used for road crossings and still a cable would occasionally be torn down by a Bay City Crane or a dump truck with its bed in the air. Many man-hours were needlessly lost in repairing cables broken through carelessness.

i. Most of the inadequacies of the T/E have already been mentioned, however, there is one area of particular importance. Only one item of UHF radio equipment, the AN/MCR-87, is authorized for the Communications Section. There is a valid requirement for having two radios for the LSO's use where pilot safety is the primary concern. One radio will be in operation while the other is standing by as an emergency backup. There is also a requirement to provide a base station on the Group Common Net for Group operations use in passing additional instructions to scrambled aircraft. Two AN/PRC-41 radios with the necessary accessories have been requested for this purpose.

j. When sufficient equipment is not on hand to fulfill the essential requirements, the only thing to do is to try and get more equipment. The earlier a need is recognized, the sooner it can be requested and received. When requesting additional equipment the means which allows earliest receipt is a One-time-in-Excess of Allowance request.

k. The T/O was also inadequate in almost all MOS's, but most of these are evident when comparing the present on-hand strength to the original personnel. One discrepancy is that by T/O or the present M/L we do not rate one single 2811 telephone/teletype repairman and yet we have a great quantity of telephone, switchboard, and teletype repair work to do.

l. The second discrepancy exists with radio technicians. We rate by T/O 2851 Aviation Radio Repairmen. When these men are received we discover that most of their training and work has been with UHF radio equipment and that they are not even familiar with some of the ground radio equipment that we hold. Since all of our equipment is identical to that found in ground units, we should rate 2841 Radio Repairmen or else adjustments should be made in the training of 2851's. Recommended changes to the T/O have been submitted.

m. Dry cell batteries loomed as a big problem during early operations. The 30-day mount-out supply of batteries was realized to be inadequate even before embarkation. As many extra batteries as we could get were taken along. The tropical heat and humidity had an adverse effect on the batteries and they would not last as long as expected. Certain types of batteries were in critically short supply and many of those received were bad. Reefer storage for drycell batteries is an absolute necessity in this climate. If an item of equipment can be operated either from batteries or a generator it is advisable to use the generator when possible.

10. Lessons Learned

a. See that communications equipment is placed where it is accessible both during embarkation and off-loading.

## COMMUNICATIONS SECTION OPERATIONS (Continued)

b. Take good care of the equipment to prevent it from being damaged. There may not be any replacement, and if there is, it will be slow in coming.

c. If you need equipment, ask for it. If you do not make your requirements known, you can expect nothing to be done about them.

d. When making an installation, do it as if you expected to stay for a while. If not, you will have constant trouble and eventually end up doing it again.

e. Publish periodic communications instructions so that everyone in the command knows what procedures to follow in order to get the best possible service.

f. Remain flexible and do not expect to go right into a permanent camp. Many changes and moves will have to be made before a permanent arrangement is reached.

## Appendix A

1. Equipment

<u>Item</u>	<u>Advance Echelon</u>	<u>Rear Echelon</u>	<u>Total</u>
AN/TSC-15	1	-	1
AN/TRC-75	2	-	2
AN/MRC-87	1	-	1
AN/MRC-38	-	2	2
AN/MRC-62	1	-	1 (Temp Loan)
AN/PRC-10	6	4	10
AN/PRC-6	14	6	20
AN/GRC-7	1	-	1
AN/GRA-11	2	-	2
AN/GRA-6	1	-	1
AN/TCC-14	3	2	5
AN/TGC-14	4	-	4
AN/GGC-3	1	-	1
AN/GIC-1	1	2	3
S-126	-	1	1
SB-86	2	-	2
EE-8	44	16	60
TA-1/PT	5	-	5
R-390	2	-	2
RC-292	2	-	2
AM-598	-	1	1
TIQ-2	-	1	1
PE-210	-	1	1
PU-239	1	-	1
PU-454	2	-	2
PU-499	2	-	2
PU-587	1	-	1
PP-388	-	1	1
RL-31	2	-	2
RL-27	3	-	3
TT-4	1	-	1
Typewriter	1	1	2
PP-1243	-	1	1 (Temp Loan)
MK-539	4	-	4
USM-15	1	3	4
TE-49	-	1	1
TK-122	1	-	1
ID-292	1	-	1
TV-7A	1	-	1
TS-183/A	1	-	1
ME-25A	1	-	1
URM-25B	1	-	1
OS-8U	-	1	1
ZM-11	-	1	1
URM-32A	-	1	1
TS-26/TSM	-	1	1
OAH-4	-	1	1
BC-5	7	3	10
RL-159	60	40	100
Field Desk	2	2	4

II-15

## Appendix A (Continued)

<u>Item</u>	<u>Advance Echelon</u>	<u>Rear Echelon</u>	<u>Total</u>
Field Safe	1	-	1
TD-15 Clock	1	2	3
Ditto Machine	1	-	1
Lantern Electric	2	-	2
AP-30C	Note 1	-	1
AP-30D	Note 1	-	1
LC-5	5	-	5
TA-125	8	7	15

---

Note 1 - Panel sets were split between advance and rear echelons.

## GROUP GUARD

Guard Officer: Capt M. H. MCAFEE to Sep65  
 Capt C. L. MANWARRING to Oct65  
 1stLt R. P. SMITH to Feb66  
 1stLt R. C. FROMM to present

1. Initial Operations

a. Although a MABS TO calls for a Security Section of one officer and 77 enlisted, the manning level for MABS-12 has never authorized such assignment. Before MABS deployed to Vietnam the assignment of security personnel was requested; repeated requests resulted in the assignment of one officer and 26 enlisted during July through September.

b. MABS had no O3 security personnel initially, and the group guard consisted of approximately 75 men assigned to these duties. Two man holes were manned around the entire perimeter of the camp at night, with reduced security in the day time.

c. When the advance elements of the tactical squadrons arrived on 24 May personnel from those squadrons were assigned to augment the guard, the total size of the guard was increased to 90 men, and the perimeter was expanded.

2. Expanded Operations

a. In July the guard was stabilized at 116 men, composed of prorata augmentation from all squadrons. The perimeter was stabilized, with 35 two man holes and 4 roving patrols. In September this arrangement was changed, with guards placed along the aircraft revetments armed with shotguns, and with no security holes between the runway and taxiway.

b. The guard moved to a permanent area on the north end of the camp in July. Tents for all guard personnel were erected.

c. In the months through November, the MAG-12 guard was frequently required to furnish 30 man platoons to the 4th Marines to defend the airfield during periods when the line companies were committed to operations elsewhere. This situation was resolved in November and not repeated thereafter.

d. On 28 October Viet Cong suicide squads attacked the flight line area. The group guard along the flight line reacted well, and was credited with killing or seriously wounding four VC.

e. Immediately after the VC attack the guard was increased to 160 men. Three man holes were established, with 2 men awake at all times. During November the guard went to 100% alert from 2200 to 0400 each night.



f. Present organization of the guard consists of one officer and 138 men, including Commander of Guard, Duty Driver, Armorer, Comm Man, Switchboard Operator, and Supernumeraries. The MAG-12 area is divided into 9 sectors, with a Sector Sergeant responsible for each. Eighteen positions and 25 walking posts are maintained.

g. In February all tents in the Guard area were decked, and a tin-roofed Recreation Hut was built. By mid-April, all decks will be covered with tin roofed huts. These buildings will be much cooler than tents and make daytime sleeping easier.

h. Some of the regular O3 guard personnel have been rotated to other squadron duties, such as ordnance and MOREST, in order to provide some variety and respite from pure security details.

f. Present organization of the guard consists of one officer and 138 men, including Commander of Guard, Duty Driver, Armorer, Comm Man, Switchboard Operator, and Supernumeraries. The MAG-12 area is divided into 9 sectors, with a Sector Sergeant responsible for each. Eighteen positions and 25 walking posts are maintained.

g. In February all tents in the Guard area were decked, and a tin-roofed Recreation Hut was built. By mid-April, all decks will be covered with tin-roofed huts. These buildings will be much cooler than tents and make daytime sleeping easier.

h. Some of the regular O3 guard personnel have been rotated to other squadron duties, such as ordnance and MOREST, in order to provide some variety and respite from pure security details.

11-49

## MEDICAL OPERATIONS

Senior Medical Officer: Lt C. N. HARRIS to November 1965  
Lt G. A. ANDERSON to February 1966  
Lt D. A. SMITH from February 1966 to present

## 1. Early Operations, May-June 1965:

a. One Medical Officer and three Corpsmen arrived at Chu Lai with the advanced echelon in early May and established a Dispensary in the temporary Group CP. One flight surgeon and two or three Corpsmen came with each squadron detachment on 23-24 May 1965.

b. During the first week in June, with the combined efforts of MABS-12 Utilities and medical personnel, seven wooden "decked" tents were erected in a tree area just off the beach near the center of the camp. Water was piped in from the central water point. With an eighth tent added later, this became the MAG-12 Field Hospital. In September, the tents were "strong backed" by the Seabees and arranged in a rough quadrangle. They were organized as follows:

- 1 Administrative Office and billeting quarters
- 1 X-ray and Aviation examining room
- 1 Sick call, laboratory and pharmacy
- 1 Operating room
- 1 Ward and billeting
- 1 Supply and billeting
- 1 Dental and dental supply
- 1 Billeting

## 2. Operations since June 1965:

a. Assigned personnel have averaged four flight surgeons, one dentist, two dental technicians and 16 to 20 Corpsmen. Assigned vehicles have been two M679 Cerlist ambulances and one M43 "cracker-box." The latter vehicle has been impossible to maintain, and has now been surveyed but not yet replaced.

b. Medical procedures at the Field Hospital have been routine. Numbers of Sick Call visits have ranged from 200 to 350 per week. Some difficulties have been experienced in getting medical supplies, but no serious shortages have developed.

c. Sanitation standards for the base were established with the help of the medical department. One Hospital Corps Chief has been assigned duties as sanitation inspector. Weekly sanitation inspections are made and reported to the Group Commander. The sanitation department constructed 50 wooden rat poison boxes. Mosquito and fly control is handled by spraying the area with insecticide. Spraying is done two to three times weekly using a fogging device mounted on a pickup truck (International 4-wheel drive) used jointly with MAG-36.

d. During ground alert conditions one corpsman is assigned to each provisional rifle company (each squadron). Other medical

personnel are dispersed only if a mortar attack is anticipated. A corpsman is maintained with the Crash Crew at all times.

e. Bravo Medical Company, 3rd Medical Battalion, located three miles north, handles all evacuation. Evacuation policy and support have been normal. Helicopter evacuations can be made from the beach area directly east of the Field Hospital.

### 3. Problems and solutions:

a. The Cerlist ambulances are difficult to maintain and do not provide satisfactory reliability in this environment. Suitable replacements are scheduled for the future.

b. Emergency electric power has been a continual problem. Due to a shortage of generators, an emergency generator is not always available, and power has failed frequently for periods up to four hours.

c. Sanitation of heads and urinals has required continued emphasis, but there have been no large outbreaks of dysentery in the camp. There is no mosquito or malaria problem in the immediate M&G-12 area, and mosquito nets are neither required nor much used here. Anti-malaria pills are distributed through squadron First Sergeants and are made available in the Mess lines.

d. Continued indoctrination on heat exhaustion and use of salt tablets is required.

e. The venereal disease rate was initially zero, but now runs from 1-2% per month. Venereal diseases are contacted on R&R. Venereal disease lectures are required for every man prior to going on R&R.

## CHAPLAINS

Senior Chaplain: Lt Richard A. LONG, USN, May 1965 to Sep 1965

LCDR Gerard W. TAYLOR, USN, Sep 1965 to Present.

1. One Catholic and one Protestant Chaplain have been assigned to MAC-12, with one or two Chaplains Assistants.
2. Religious services at Chu Lai were initially held in the mess tents. In the first week in June a Chapel was set up in one GP tent. Wooden benches were constructed to seat approximately 75 men. The Chaplains' office was established behind the Chapel in a 16'x16' pram tent.
3. Normal religious services have been held at Chu Lai since the initial weeks. Evening Catholic Masses and evening Protestant Services and study have supplemented the Sunday services. Jewish services have been held at Chu Lai in conjunction with Jewish religious holidays, and once weekly.
4. In December 1965, a 28'x64' wooden, tin roofed building was constructed as Chu Lai Chapel By The Sea. The capacity is approximately 250 men. The site is in a wooded area on the beach front adjacent to the field hospital. Chairs were obtained through the Chaplains service. A modernistic slab altar and an altar cross were fabricated of aluminum airfield matting. Lighting fixtures were made from recoilless rifle shell casings. Despite heavy monsoon rains the Chapel was pushed to completion by 23 December 1965. It was dedicated on 24 December 1965 at services conducted by Rear Admiral James KELLEY, Chief of Chaplains. Christmas Eve and Christmas Day services were conducted for overflow crowds of Marines, Naval personnel, and civilian construction workers from throughout the Chu Lai enclave.
5. During April 1966, two 16'x16' buildings will be constructed and connected to the Chapel for use as Chaplains offices.
6. The Catholic Chaplain has conducted numerous masses in the local Vietnamese villages.
7. The Chapel is used as an overflow hospital ward during periods of heavy casualties. This situation existed in August during "Starlight", and during operations "Harvest Moon" and "Utah."

PART III  
OPERATIONS OF BASE OPERATIONS BRANCH

III-1

## BASE OPERATIONS/AIR FREIGHT

Base Operations Officer: Capt F. LACEY to Jul65  
 Capt L. E. REID to Oct65  
 Major J. C. ARCHBOLD to present

1. Initial Operations

a. Base Operations initially set up one GP tent near what was later to become the mid-point on the runway. Two men, a telephone, and a table were all the installation required. Helicopter traffic was landed on the unopened runway or on a "helipad" of cleared sand.

b. Late in June 1965 Base Operations and an Air Freight and Passenger Terminal were established in 2 GP tents on the MSR about 5000 feet down the runway. The aerology unit was located adjacent. Six men and a rough terrain forklift handled air freight; gear was loaded and unloaded from the taxi-way to the sand. A plastic covered helipad was established near the taxi-way.

2. Expanded Operations

a. The Air Freight and passenger effort at Chu Lai has multiplied rapidly over the months as the number of units in the Chu Lai enclave increased. In August, for example, 1,4000,000 pounds of cargo, 39,000 pounds of mail, and 7,300 inbound and outbound passengers were processed. By February these monthly figures had almost doubled. Since the SATS concept has not included the airfield acting as a major logistic support center, this activity has caused problems with parking space, transport aircraft handling, and cargo handling.

b. During the period 1 June 1965 through 1 March 1966 the following total air freight and passengers were processed:

Cargo	18,000,000 pounds
Mail	2,800,000 pounds
Passengers	72,000 pounds

c. In mid-October, Base Operations and Air Freight moved back to the mid-field area. Two strongbacked tents were erected as a Passenger Terminal, and one for Base Operations. On 20 October, VMGR-152 assumed the mission of handling the air freight and passenger business. Eight men and a forklift were provided. By March 1966, air freight personnel totalled 12 Marine Corps, 4 Air Force (augmented from Aerial Delivery company) and 2 forklifts. VMGR-152 personnel were joined to MABS-12 but remain OPCON VMGR-152.

d. In January a Base Operations/Transport area was completed at mid-field. M9M2 matting laid in an "E" shape from the taxi-way provides areas for transport parking and unloading. Cargo is still stacked in the sand off the mat areas.

e. Base Operations has functioned as a coordinating center for air field activities. The Base Operations Officer handles VIP visits, care and maintenance of the runway/taxiway (painting, sweeping, etc.) and trouble calls on airfield lighting, besides coordination of MABS units in the Base Operations Branch. The Base Ops Office has minimum flight planning facilities and no communications other than on SB-22 switchboard, which is the crash and emergency net center.

f. Civilian air traffic into Chu Lai has been rather extensive. RMK and other civilian construction aircraft land several times daily. Other transient traffic includes Air America, Vietnamese transports, and a multitude of Army, Navy, and Air Force aircraft. Chu Lai is also a Navy carrier divert base, and frequently gets divert aircraft from Danang.

## WEATHER SERVICE OPERATIONS

Weather Officer: Capt Fred LACEY to July 1965  
2ndLt J. F. WOLFE, Jr. July 1965 to present

1. Description of operations prior to receipt of SATS Meteorology Van:

a. May and June 1965:

(1) Personnel: MAG-12 weather personnel were TAD to MABS-17 at MCAF, Iwakuni, supporting the MCAF weather office. Upon notification of MAG-12 to move to Vietnam, 1 officer, 4 forecasters and 4 observers were transferred to MAG-12. This was 4 men short of the MAG-12 weather T/O but was all that could be spared from the MCAF office due to other commitments. Embarkation was uneventful. Upon debarkation in Vietnam, weather personnel set up a weather office with available equipment. Four of the weather personnel were assigned to details other than their MOS and the weather officer was assigned as operations officer and security officer, with the function as weather officer an additional duty. One forecaster was assigned TAD to the Air Force weather office at Danang to assist in briefing Marine units in Danang and to keep MAG-12 informed of local weather forecasts and occurrences.

(2) Equipment: Prior to actual embarkation at Iwakuni a salvaged radio van was obtained and available meteorological equipment was packed in this van for use in Vietnam. This equipment consisted of a UMQ-5 wind measuring set and indicator, a UMQ-3 wind measuring set, thermometers, a theodolite and various consumable items. Section L storm gear stored at Yokosuka was not released for this move. The equipment and supplies were inadequate to perform any appreciable weather service for MAG-12. A SATS Meteorology Van was ordered for MAG-12 prior to embarkation. Upon arrival in Vietnam a mighty mite teletype (TT-14) was installed in the salvaged van by MAG-12 Communications Section. This TT was hooked up through the existing TR-80 Communications Relay System. This arrangement was effective in furnishing in-country weather reports approximately 10% of the time.

(3) Supply Procedures: Supply channels were normal, through MABS-12 Materiel for requisitioning of Section L equipment and supplies. A request was made to COMSEVENTHFLT for a UH-92 Facsimile Recorder, shift converter and a TT-28 teletype. The FAX and shift converter were received and utilized with an R-390 radio receiver furnished by the communications section. The TT was received incomplete for use by the weather service office and was used by the communications section.

b. June through December 1965:

(1) Personnel Utilization: As the airfield was established the weather service personnel were returned to the weather office except those assigned normal details such as mess duty and guard duty. A three section watch was established with one forecaster.



and one observer on each watch. Twenty-four hour service was available and 24 hour observations were taken. Personnel totaled one officer as part time weather officer through July, replaced by a full time weather officer 29 July, and supplemented by an assistant weather officer in September. There were also 4 forecasters and 4 observers through October. This number of personnel was adequate with the equipment available. In November, 3 forecasters and 4 observers were joined by MAG-12 along with an incomplete GMD-1 Rawin set. During December, additional personnel were assigned to a total of 2 officers and 18 enlisted. The personnel were used to prepare a site for the GMD set and the SATS Meteorology van, and to correct logs for submission.

(2) Equipment Utilization: The equipment mentioned above was the basis for operation of the weather office. The TT reception improved to approximately 15-20% of full capability. Telephone communications with Air Force weather in Danang were inadequate during daylight hours during July and August and barely adequate after that primarily due to overloaded circuits and faulty micro-wave relay equipment. The FAX machine was operative and was used except for a three week period when it was down for parts. During the period July and August the weather office was capable of furnishing a questionable local area forecast depending on facsimile coverage. As communications improved, the weather office could make forecasts for selected stations and could present current weather for selected stations sending weather over the in-country net. Little upper air information was available and route forecasts out of country, when given, were fair in accuracy and based on FAX coverage.

(3) Supply Procedures: Supplies trickled in, consumables were ordered and outstanding requisitions were checked and reordered if necessary. The SATS Meteorology Van arrived in-country early in December and was delivered to MAG-12 on 27 December. It included spare parts and consumables for 30 days operation.

## 2. Operations subsequent to receipt of SATS Meteorology Van:

### a. December 1965 to present time:

(1) Van checkout and use: A roof seam had parted during shipment, allowing water to leak into the van. The interior surfaces of the van were mildewed and discolored and approximately \$300.00 worth of consumable items were watersoaked and unserviceable. All items not physically attached to the van were removed from the van, it was sealed, cleaned and repainted. Equipment and supplies were inventoried. A 30KW mobile generator was located to power the van. The base power supply was insufficient to operate the electrical equipment in the van. Upon initial electrical hook-up of the van there was an overload of current causing failure of some electrical equipment. It was determined that the junction box of the van was incorrectly wired allowing the overload to occur. With assistance of ground electronics, the radio and shift converter has been repaired. The van contains equipment necessary for

radio TT and FAX reception, wind measuring and recording equipment, upper air measuring and recording equipment and the normal weather measuring devices giving the MAG-12 weather office the same capabilities as a normal air station weather office with the exception of a transmit capability. This transmit capability can be accomplished by completion of the TR-90 radio relay comm set up, allowing the weather office to have direct communications to the Air Force Weather Collection Station, Saigon.

(2) Personnel: Present strength is 2 officers and 18 enlisted, of which 6 enlisted are forecasters and 12 enlisted are observers. Personnel are on a three section watch basis with each watch consisting of a forecaster and 2 observers. One forecaster is NCOIC; one forecaster works days and one forecaster and 5 observers are assigned to the GMD Rawin gear. One observer works days correcting logs.

(3) METLO Assistance: METLO assistance is available from Sangley Point, R.P., and has been used to assist in the check-out of the van and equipment. A technician is presently adjusting and calibrating equipment peculiar to the weather service.

### 3. GMD-1B Rawin Equipment:

#### a. Equipment and utilization:

(1) The equipment is incomplete due to the absence of a TMO-5 recorder. The equipment on hand is in an up status but is not being used. The equipment on hand could be used to determine upper level winds using a known rate of ascent for each balloon. The wind direction and speed would be accurate, however, there would be some inaccuracies in the selected levels. At present there is a 90 day supply of consummables on hand in case of displacement of this equipment. Planned use of this equipment is in support of a MASS.

#### b. Personnel:

(1) A suggested manning level for this equipment operating independently of a weather office would be 3 SNCO/Sgt Forecasters and 10 E-5/E-2 Observers. There are presently 1 Forecaster and 5 observers assigned to this section.

### 4. Problems and recommendations:

a. Section L equipment and supplies should be made available to a unit preparing to mount out for independent utilization. If a Metro Van is available, necessary comm equipment will be included in the van. If a van is not available, it is recommended that arrangements be made with communications to have necessary radio, TT and Shift Converter equipment supplied to the weather section.

b. A separate generator must be located with the weather section to operate either the van or the comm gear as the case may be; the size of the generator needed depends upon the amount of comm gear operated. In case of a Metro van, 20 KW is sufficient.

c. If a Metro van is available, it will include 30 days operating supplies. If a van is not available, at least 30 days operating supplies should be in the weather office pack up. In some cases, such as various instrument charts, items will not have to be initially supplied unless the instrument is available. If Section "L" equipment and supplies are available to the MAG prior to deployment, requisitions should be placed for another 30 days consumable supplies prior to embarking to insure delivery when needed.

c. If a Metro van is available, it will include 30 days operating supplies. If a van is not available, at least 30 days operating supplies should be in the weather office pack up. In some cases, such as various instrument charts, items will not have to be initially supplied unless the instrument is available. If Section "L" equipment and supplies are available to the MAG prior to deployment, requisitions should be placed for another 30 days consumable supplies prior to embarking to insure delivery when needed.

## CRASH CREW OPERATIONS

Crash Crew Officer: 1stLt J. L. SMITH, Jr., May 1965 to July 1965

2ndLt John D. REXROADE, July 1965 to present

1. Early Operations - May-June 1965

a. Advance elements of the Crash Crew, consisting of 12 men and 2 MB-5's, landed at Chu Lai on 11 May 1965. The men assisted in clearing the area and setting up the base camp. On 23 May 1965 the remainder of the Crash Crew arrived, raising the total to 36 men, 2 MB-1's, 4 MB-5's, one 530A, and one Navy ANSUL Airlift Unit.

b. The Crash Crew moved into a position between the runway and taxiway, approximately 2500 feet from the north end of the strip. Three GP tents were set up, for office/dispatcher, for ready crew billeting, and for material/maintenance. The Crash Crew set up two positions for MB-5's adjacent to the runway, spotted the Bay City Crane at the central Crash Crew Area, and were ready for the first jets to land on 1 June 1965.

2. Operations since June

a. On 9 October 1965, the Crash Crew received an LVTP5A, with 2 crewmen, borrowed from the local Amtrac Battalion. The Navy Airlift unit was mounted on top, and drills were conducted with the 2 SAR helicopters to ensure that they could hook onto and pick up the unit if necessary. This LVTP5A for the first time provided a tracked "crash" vehicle capable of getting off of the runway or road and moving to wreckage located in the surrounding sand.

b. In late November the Crash Crew moved from its original area - which was low and muddy during the monsoon rains - to its present location east of the taxiway 3000 feet from the south end of the runway. MCB-10 leveled the area, the Crash Crew laid M9M2 matting parking areas, and six tents were set up: office/dispatcher; material; truckmaster and maintenance; and three for personnel billeting. Security positions were dug and a 20 KW generator emplaced in the area for lights and airfield security lights.

c. In January 1966 the Crash Crew was assigned two M-76 amphibious cargo carriers - the "Otter" - to replace the LVTP5A. These vehicles are still an interim measure until the SATS tracked crash vehicle is received. The airlift unit is carried inside an Otter, since the frame is not heavy enough for top mounting. The hoses for the airlift unit can be operated out through the top hatch.

d. By 1 March the Crash Crew had one officer and 48 men assigned, which approximates the required manning level for the around-the-clock operations at Chu Lai Airfield. The crew is broken down into 2 duty sections. Two vehicles are maintained at runway alert positions, with relief every 4 hours.

e. Present equipment includes:

2 MB-1  
4 MB-5  
1 Bay City Crane  
1 Airlift Unit

III-8

## CRASH CREW OPERATIONS (Continued)

- 1 Jeep
- 1 Rotary runway sweeper
- 1 Ordnance trailer, used to carry flare pots
- 2 M-76 Otters

An additional Navy Airlift Unit has been budgeted and requisitioned; further, BUWEPS representative has indicated four are being shipped to Chu Lai. A 43-ton La Tourneau Crane has been requested. The rough terrain forklift located at Air Freight is alerted with every aircraft emergency, and would be available to help lift or push an aircraft from the runway.

f. The Crash Crew has been given the additional task of providing fire protection for the camp. One NCO is assigned full time duties as fire prevention NCO; he checks and tests fire extinguishers and fire protection throughout the camp. For camp protection, a large number of 55 gallon drums, open topped, painted red, and filled with water, have been positioned throughout the billeting and operating areas. H&MS sewed fabric covers for these drums. During March a "fire hydrant system" will be installed in the camp. Surveyed 10,000 gallon TAFDS bags will be emplaced at two locations on the high ground west of the camp and east of the MSR. Surveyed TAFDS hoses will be run from these bags to three locations in the camp: near the Group CP and PX; near the mess hall; and near the main billeting area. These bags, filled with water will provide a ready reservoir from which the 530A structural fire truck could draw in the event of fire in the camp.

g. From 1 June 1965 through 1 March 1966 the crash crew responded to 13 major aircraft crashes (10 A4E, one Air Force C-130, one Navy F8U-2N, and one F-104) as well as 350 aircraft emergencies/incidents. In addition, major fire fighting efforts were required on the flight line on 28 October 1965 when Viet Cong infiltrators attacked, bombed, and set fire to five aircraft. One fire in the TAFDS hot refueling area, a fire at FLSU mess hall, and a large fire in the local village of An Tan also required action. In the latter case, an MB-5 and two water trucks were in operation for almost six hours, and succeeded in confining the fire to 12 buildings on one side of Highway One.

h. Crash crew personnel have received or been recommended for the following awards for actions during and after the Viet Cong attack of 28 October 1965 and/or the crash of the C-130 on 8 December 1965.

- 4 Navy and Marine Corps Medals
- 2 Bronze Stars
- 2 Navy Commendation Medals
- 10 Letters of Commendation

### 3. Problems encountered and solutions

a. With only a single narrow runway available it is necessary to rapidly clear the runway to permit operations to continue. Initially, aircraft with blown tires, brake failures, or other malfunctions/damage requiring the engine to be shut down were blocking the runway for as much as 15 to 20 minutes before a tow vehicle could be obtained from the squadron. To speed the reaction, tow hitches were welded to the back of all crash vehicles, and the vehicles all carry A4 tow bars. When an aircraft shuts down, the crash vehicle immediately hooks on and pulls it clear of

## CRASH CREW OPERATIONS (Continued)

the runway. Average time the runway is closed has been reduced to four minutes.

b. The MB type equipment is restricted to hard surfaces, and cannot traverse the deep, soft sand surrounding Chu Lai Airfield. A SATS crash vehicle is required, and the LVTP5A and Otters are not adequate substitutes. BUWEPs and the Marine Corps have tracked vehicles under evaluation; a request to conduct the evaluation at Chu Lai was denied. In the interim, BUWEPs is considering purchasing and providing Nordwell Tracked Vehicles.

c. A utility vehicle, such as M-37 3/4 ton personnel carrier or Dodge Power Wagon, is required to carry tools, power packs, etc. None has been made available for this purpose, and Crash and Rescue tools are carried in the Otter.

d. Hoisting slings for all Marine Aircraft have been procured. Despite correspondence and liaison all the way to CNO, we have been unable to obtain such slings for Air Force aircraft that use this field in emergencies.

e. More than 200 flare pots are set out by the Crash Crew each night for emergency field and taxiway lighting. The continual construction and maintenance on the field has caused lighting failures to be a matter of almost nightly routine, and the pots are now emplaced and lighted each night.

f. Water trucks are deployed to the Crash Crew Area automatically in case of aircraft emergency or crash, or during ground defense alert conditions.

g. Navy airlift units are our only means of combatting fires off the runway at the present time. An absolute minimum of two are needed.

h. Resupply of parts for the MB type vehicles has been very slow and uncertain. One MB-1 truck has been deadlined since August for a transfer case, despite complete follow-up action on requisitions.

i. During ground defense alert conditions, all crash crewmen report to the area. Crash vehicles are dispersed to the north and south ends of the flight line; additional vehicles and water trucks are kept manned for immediate reaction.

## MOREST OPERATIONS

OIC: Lt J. E. SMITH JR. 11May65 to 15Jun65  
 Lt G. K. CLIFTON 16Jun65 to 15Feb66  
 Lt W. J. CARMICHAEL 16Feb66 to Present

1. Initial Operations

a. The MOREST Section, with one officer and 22 enlisted, arrived at Chu Lai with the advance elements of MABS and off-loaded on 11 May 1965. One MK-2 and one MK-24 system were off-loaded and hauled to the general vicinity of emplacement. An optical landing mirror was included. Two fresnel lenses arrived with the follow-on shipping on 24 May.

b. The Seabees prepared laterite pads for the MK-2 gear and it was in place and ready for operation on 30 May 1965, 1500 feet from the north end of the 3800 foot airstrip. The mirror was also in place.

c. Twelve foot Harvey earth anchors and "deadmen" of matting buried 12 feet and secured to the engines by cable, were used to secure the MK-2 gear.

d. In mid-June the MK-24 gear was positioned at about the 2500 foot mark on the runway, but was used for aborts and emergencies only.

e. In the first month of operations MOREST recorded over 1000 arrested landings. Twenty six deck pendants were replaced.

2. Expanded Operations

a. In late July the MOREST section received a second set of M-2 arresting gear. Since then two sets in two positions have been used, with the MK-24 remaining for emergency purposes only.

b. The MOREST positions have been shifted repeatedly, as necessary to support operations from one end of the field or the other. With 8000 feet of runway, the M-2's are located 1600 feet from each end. The MK-24 gear has remained 3000 feet from the north end.

c. The 10,000th arrested landing was recorded by MOREST 500 on 9 February 1966. The MK-24 gear has recorded only 29 arrestments, 7 of which were taxi tests.

d. The MK-8 MOD fresnel lenses were replaced during July and have operated well with few maintenance problems. A 20kw generator is positioned with the fresnel lens in use.

e. In March 1966 a wheels watch was instituted manned by MOREST men. A "shack" was constructed and mounted on an ordnance trailer for portability.

### 3. Maintenance

a. The M-2 gear has been reliable but has required extensive maintenance. Periodic inspections at 100, 250, and 1000 arrestments must be made during high tempo flight operations.

b. Blowing sand has caused continual packing and control valve problems. During the rainy season mud in the sheaves was a difficulty. This latter problem was helped by laying matting aprons between the engines and the runway.

c. Routine maintenance has included retorquing of control valves every 100 arrestments, and every 250 landings checking retrack valve for corrosion and "O" rings for distortion. Nine instead of the usual eight pieces of packing were used during repacking because of heat and sand. Sand also increased the problems of clearances in the crosshead assemblies.

d. Lack of sufficient support equipment has made life difficult for MOREST at times: air compressors for air bottles or driving stakes with a jackhammer and a vehicle to replace deck pendants have frequently had to be borrowed.

e. The MOREST engines have required overhaul every 2500 to 3000 landings. Due to the abrasive action of sand and mud, even the limit is usually the lower figure. Overhaul is accomplished in Yokosuka, Japan. Surface transportation of the gear has been slow and uncertain, and several times Air Force C-124 aircraft have been committed for the lift.

### 4. Present Organization and Future Plans

a. MOREST Section now has 2 officers and approximately 65 enlisted. It is in the process of expanding to an official Launch and Recovery Section with the installation of the CE-1 Catapult and M-21 arresting gear.

b. In November, plans were announced for the installation at Chu Lai Airfield of a CE-1 MOD 3 Catapult. Priority shipments of gear began to arrive in December. In January 1966, while the Seabees were relaying the north half of the runway, the catapult guide rails and sheaves were installed. Location of catapult guide rails is from the 2000 foot to 4000 foot mark on the north half of the runway, 18 feet from the western edge of the airfield. Tech reps from All America Corporation are now on hand, and the catapult engines are expected to arrive in late March or early April. Installation is estimated to take about two weeks. With this installation, the Launch and Recovery Section will expand to about 85 men. No expected arrival date for the M-21 gear is available.

III-12



5. Problems and Solutions

- a. Most problems have been discussed above.
- b. Aural sound protectors are worn by all MOREST men when on duty on the runway.
- c. Rubber tire "boots" have been used under the cable because of difficulty in getting steel pendant supports.
- d. Sandbag barricades have been erected for the point man. Fifty-five gallon drums filled with sand are installed at each end of the MOREST engines as protective barricades.
- e. MOREST is responsible for operating the 20kw generators providing power to the fresnel lenses.

# PHOTO LAB OPERATIONS

Photo Officer: 2ndLt J. F. WOLFE, Jr. to September 1965  
2ndLt W. C. KOHLER, September 1965 to present

## 1. Description of photographic operations prior to installation of permanent photo lab:

### a. May through September 1965:

(1) Personnel Utilization: One volunteer from VMCJ and one volunteer from MABS-17, MWSC-17 were recruited to form a photographic section of MABS-12. These two photographers, not having prior knowledge of what type of support was to be required of them, packed all available photographic equipment that was held in storage at MAG-12 supply. These Marines landed with the initial units on 7 May 1965. During the early days at Chu Lai most of the photographic coverage was of visiting dignitaries, progress of the base, and aerial coverage of the landing field. All still shots were taken to the LPH IWO JIMA each night by our photographers, processed, printed and returned to Chu Lai. This arrangement lasted for about three weeks.

(2) A GP tent was procured for the photo lab and set up next to the Base Operations tents. Facilities for processing and printing were still lacking in that a ready water supply was not available and the U-2 Darkroom kit was missing the plastic liner and poles for erection. Processing and printing was accomplished by using the Photo Lab at MCB-10 and VMCJ-1 at Danang. This arrangement required almost daily flights to Danang.

(3) The equipment on hand during these early weeks was not used due to the workload on the two photographers, and the non-availability of parts of the U-2 darkroom kit. All equipment was stored on the beach exposed to the elements until 18 June (moved to tent adjacent to operations) consequently this led to equipment being in dire need of repair, (i.e., Speed Graphics, Exposure Meters, Enlarger).

(4) The cameras used during this time (until 18 June) were the personal property of the two photographers and very often the film was also purchased by the individual.

(5) Consummable supplies (film, projection paper, flash bulbs, etc.) were not on hand for deployment in appropriate quantities. There should be enough supplies on hand to sustain the unit for 30-60 days until supply can furnish consummables.

## 2. Description of operations after establishment of the Photo Lab. (16x32' plywood walled building covered with GP tent 9Sep65)

a. The equipment available in the mountout gear was satisfactory with the exception of the aerial equipment. All of this equipment was and is being used with the exception of the U-2 Darkroom kit.

b. Supply procedures have been marginal. Many items have been on order for months and have never been received or have been cancelled (projection paper, film, flash bulbs). A power supply RA 87 for the electric drum print dryer has been on order since late October.

c. Personnel were adequate starting in early July when the lab had four photographers. Transfers have reduced the photo lab to two photographers, which is less than the number needed.

d. The lab as it is constructed now lacks temperature control necessary for quality work. Chemicals break down in minimum time and film weakens without a proper temperature controlled environment.

### 3. Requirements:

- a. A refrigerator or freezer for use as a film storage.
- b. An air conditioner for temperature control.

### 4. Problems and solutions:

- a. Problem: Lack of personnel

Solution: Change T/O of MABS Photo Lab to the following:

1 SSgt	NCOIC	4631
1 Cpl	Supply & Photographer	4631
3 LCpl/Pfc	Photographers	4631

No MOS of 6671 has been included due to the fact that no requirement exists for the MOS in this type MAG. MOS 6671 is for a VMCJ organization. This T/O would allow for an NCOIC and four photographers to operate a lab with enough personnel to adequately function as a photographic laboratory.

- b. Problem: Unnecessary equipment shipped into an already congested area.

Solution: Allow only that equipment assigned to a Class E lab be shipped, plus a water supply tank (1-200 gallon type).

Assign a photographic processing van to each MABS.

- c. Problem: Many units with photo labs in same general area.

Solution: Consolidate all photo labs into a centralized lab, thus:

Centralizing all photographers.

Reduce duplication.

Lower cost to government for total amount of work expended.

Increase quality and quantity of work.

## MATCU-67 OPERATIONS

Officer in Charge: Capt Donald QUAGLIOTTI, May 1965 to June 1965

Capt John F. KEANE, Jr., June 1965 to present

1. General

a. MATCU-67 arrived and off loaded at Chu Lai on 11 May 1965. Until May 28, 1965 the personnel assigned to MATCU were largely used as security personnel. On approximately 15 May 1965 the GRC 99 Mobile Expeditionary Control Tower was placed in commission to provide air traffic control service for transient and logistic helicopter operations.

b. On 28 May 1965, MATCU-67 was directed to install and establish air traffic control facilities at Chu Lai and be prepared to provide Air Traffic Control Service on 1 June 1965. This task was accomplished and the unit was prepared to provide Air Traffic Control service to the first A4 that landed at Chu Lai at 0810 on 1 June 1965.

c. Equipment installed and the services provided: The AN/TSA-13 Expeditionary Control Tower for Local VFR Tower operations; the AN/TSQ-18 Radar Air Traffic Control, used to provide Approach Control and Ground Control Approach service; and the AN/TRN-14 TACAN system used as a navigational aid.

2. Early Operations

a. The early operations of MATCU-67 were primarily VFR operations with a minor percentage of IFR operations. The tower handled the largest share of the ATC work during the month of June. We were somewhat fortunate in this because technical problems were being experienced which would have hampered our ability to provide unimpeded IFR service. The electronic components of the TSA-13 and the TSQ-18 suffered considerably by virtue of the shipboard movement, period of inattention, and extended period of being de-energized. There was a several week period in June when the equipment once energized went through a "Cooking in stabilization". It is not uncommon to experience extensive minor technical problems during this period.

The complexity of the components and their delicate construction tend to retard operational readiness until the equipment has had time to settle down and cook itself in. The more frequently the equipment is used and the more frequently the preventive and corrective maintenance, the better the performance of the equipment.

b. In July the tempo of operations began to increase and in September a peak of both VFR and IFR operations was reached with the commencement of night TPQ-10 operations. Since September a leveling off has been experienced and monthly VFR and IFR operations are pretty well stabilized with no significant difference from month to month.

### 3. Present Organization and Equipment

a. During the mount out and debarking phases, and during the first 60 days at Chu Lai, the unit operated at approximately 75% of manning level. Of the personnel on board, about 15% were committed to various police, guard, mess and special details. Gradually the unit was built up and a new T/O was authorized increasing the personnel from 10 officers and 54 enlisted to 7 officers and 61 enlisted. For the past several months the unit has operated at this manning level which is almost ideally suited to this operation. The only personnel problem area has been that of MOS 1342 GCA Engineman. A MATCU rates 4 and this unit has had two (2), 10% of the time and the services of one (1) 90% of the time. With all the power provided by diesel equipment, it is not possible for one diesel engineer to maintain all of the equipment assigned.

b. The equipment that this unit has is that with which it originally came ashore, with the addition of a CPN-4A Ground Control Approach System. This system was added in September. In October MATCU-67 received three (3) PU-3/4, 400 cycle generators for use with the AN/TRN-14 TACAN System. In February we received two (2) Radomes for use as protective covers on the TPN-8 antenna systems.

### 4. Major Problems

a. Climate: The high ambient temperatures and high relative humidity have had considerable effect on the equipment by shortening the life of components. Condensation, coupled with the abrasive action caused by the wind blown sand and the residue of sand, has reduced the operating life of the equipment and has increased the maintenance problems. There have been many JATO take offs and the exhaust gases from JATO have been highly corrosive. The monsoon rains have been perhaps the biggest enemy of the un-protected antenna systems, generators, and cabling. The two Radomes we have received should materially reduce this particular problem.

b. Supply, particularly for high priority items, has been good. There has been considerable delay on several items and as a result some of the equipment has been out of commission for excessive periods.

c. The external communications are necessary for an ATC Agency to operate. Chu Lai Approach Control is required to have available voice communications between Chu Lai Approach Control, Danang Approach Control, Panama CRP, Saigon ARTCC, and Quang Ngai Airport. These communications at Chu Lai have been intermittent at best. Internal communications between the various ARC functions within a MATCU (Tower, GCA, Approach Control) are equally important. A TRIDEA 10 Station Intercom has been developed and added to the system for this purpose. MATCU-67 does not have a reliable TRIDEA Intercom System. Correspondence was initiated in September to correct this situation but we still do not have the Intercom System.

III-17

d. The sand, monsoon rain, heat and humidity cause excessive malfunctions to unprotected generators. This and an inadequate parts supply for diesel engines has compounded the operational problems in this area. Our high operational level with the diesel equipment is best attributed to the skill of some very exceptional Diesel Engineers. We have received three (3) brand new PU 344 generators without a parts list or a spare part. We have four (4) other generators with no spare parts list and only a nominal amount of spares.

## 5. Lessons Learned

a. The most important lesson learned by MATCU-67 here at Chu Lai is that a MATCU on extended garrison duty in a maintenance status (that is one with limited operational employment of its personnel and equipment) is not fully prepared for an operation of this nature. Tactical Squadrons train continuously so as to be prepared to instantly deploy for operations. This same emphasis on team training is necessary for all FMF units, and MATCU is no exception.

b. Personnel strength in a MATCU should be as close to manning level as possible. MATCU-67 deployed to Chu Lai well below M/L and many problems were experienced by MATCU-67 in accomplishing complete spectrum of its mission because of this. Whether VFR or IFR, whether aircraft fly or do not fly, MATCU-67 is required to have a completely operational Tower, Approach Control, GCA and navigational aids. At Chu Lai this requirement takes 100% of the present enlisted T/O of 61 personnel.

c. Detailed planning for deployment and employment of a MATCU is essential. Knowledge of the terrain, facilities available, siteing and site preparation, Approach and Departure procedures, Operational Instructions, Internal communications, personnel assignment, adequate spares, embarkation data and airdrome layout is essential. When the MATCU deploys to the field as much detail as possible should be put into the prior planning so that once the unit and its equipment arrives each person knows what his particular duties are and what area of responsibility he is to cover.

d. OPNAV Inst. 3722.9A states that: "Equipment repair parts are provided as components of the major equipments in, quantities considered adequate to maintain equipments in operation for a period of six (6) months. Commanding Officers of units to which a MATCU is attached will insure that these repair parts are maintained at 100% allowance." To deploy with less than 90% of your 180 day spares will result in considerable frustration. BuWeps, CMC, ESO and SPCC have given this particular problem considerable attention. Action has been initiated by BuWeps to initially outfit each MATCU with its 180 day spares in accordance with a published ERPAL for each major equipment. The spare parts situation is easing considerably in all areas except diesel. Present trends indicate that this problem will not be as severe in the future, but it will always be an area requiring constant attention.

e. Extensive use of the SATS MATCU equipment here at Chu Lai, has indicated the need for field modifications to the equipment:

f. Radomes for coverage and protection of the TPN-8 radar antennas. We now have the Radomes and are erecting them.

g. MTI. The present AN/TPN-8 radar systems do not have MTI (Moving Target Indicator) a feature which would have been of tremendous assistance to us during the monsoon season. The equipment is configured with circular polarization which is supposed to materially reduce weather presentation on Video display (PPI Indicator) but it is not as efficient as MTI, which will eliminate virtually all return that does not move to or from the station at a speed of 3 knots or more.

h. Approach Control. The present configuration of the AN/TSQ-18 has recently been evaluated and when received by the MATCU's should provide adequate Approach Control facilities.

i. Generator. MATCU-67 has two (2) PU 608, 45 Kw, 400 cycle generators as power sources for the TSQ-18. A third generator has been requested as back-up.

j. TSQ-18 Tape Recorders & Radios. The cooling duct provided for the communication equipment cabinet and the tape recorder cabinet should be modified to draw air from the shelter interior rather than outside air. Outside air does not cool the equipment and results in radio and tape recorder failures as well as inducing failures because of sand entering through the system.

k. Ten Channel Intercom. This unit has requested a replacement for the TRIDEA Ten Station Intercom on 11 September 1965. The request has been approved by BUWEPs but we have not received the equipment.

## 6. Recap of Operations

### a. TAKE OFFS AND LANDINGS

Month	A-4	Trans.	Helo	Other	Total
May 1965 through Feb. 66	35,763	3,700	13,818	1,801	67,985

### b. RADAR APPROACHES

	Surveillance	Precision	Total
May65- Feb66	1,134	2,160	3,593

### c. APPROACH CONTROL SERVICE

	May65-Feb66
Tactical Instrument Departures	2483
Standard Instrument Departures	18
Radar Climbs	263
Flight Followings	826
Tacan Approaches	930
Radar Vectors	734

PART IV  
OPERATIONS OF BASE SERVICES BRANCH

Base Services Officer: Major A. A. NELBACH JR. MARCH 1965  
TO: PRESENT  
Base Services Chief: MSgt N. CHANDLER SEPTEMBER 1965 TO  
PRESENT

IV-1



## FOOD SERVICE

Mess Sergeant: MSgt W. P. WILKS to Dec65  
MSgt F. C. SEYFRIED to present

1. Initial Operations

a. The MABS advance echelon included 4 cooks. After landing at Chu Lai on 11 May they established a temporary ration dispensing point near the Group CP. Only C Rations were dispensed until 22 May, when a GP and 15 field ranges were set up and an evening meal of B rations was served.

b. After the arrival of more equipment and personnel on 24 May a larger galley was built. An area near the beach was cleared, 4 low decks for mess tents were constructed, and strongbacked tents for galley and bakery were erected. On 27 May a regular schedule of breakfast and supper of B rations and dinner of C rations was started.

c. The galley, with 15 field ranges, was screened and covered with a GP tent. It was unbelievably hot throughout the summer.

2. Expanded Operations

a. In July water was piped from the water point to an elevated tower at the mess hall. Two more GP tents were erected as mess tents to increase the seating capacity to over 200.

b. By the end of July over 1500 officers and men were being fed. This number increased to about 2000 by 1 March.

c. A few meals of A rations were received in June and July. By August approximately 10 to 20 suppers each month were A rations; breakfasts of fresh eggs were rare. The mess began feeding three meals per day in August. The menu improved in December, with A rations, almost every supper. By 1 March all suppers and most lunches were A rations. Eggs were available about one week out of three.

d. On 10 December an Officers' mess, built by MABS on the beach near the Officers' billeting area opened. The dining area was 16 X 92 feet; the galley and serving area are 16 X 48, with a water tower and storage building. Opening the Officers' mess relieved some of the overcrowding in the general mess.

e. In January 1966 the Seabees began construction of a 1600 man General Mess. The two dining wings will be 42 X 140 feet and the galley area in the center wing 30 feet shorter. Completion date is estimated at 1 April.

### 3. Problems and Solutions

a. No significant problems have developed except repeated difficulties with spare parts for mess equipment. All repair components for field ranges and ovens have been scarce.

b. A block ice machine was obtained from FLSU in August, and has been the only source of ice for the camp. The machine can produce 2000 pounds daily when it works, which is seldom. Innumerable repairs and field fixes have been required on this equipment.

c. The bakery has two dough mixing machines, and bakes all bread and pastry for the camp. The bakery has been a most successful operation.

d. Mess men wash all trays. There have been no outbreaks of dysentery at Chu Lai.

e. Scarcity of A rations has depressed morale for long stretches at times. Shortages of reefers at FLSU and shipping and transportation shortages have been the reason for the shortages. Other canned items, like catsup, tea, peanut butter, condiments, cold drink flavoring, etc. have not been available for extended periods.

## LIQUID OXYGEN OPERATIONS

NCOIS: SSgt R. G. BELCHER to Jul65

GySgt H. G. CRAVEN to Aug65

GySgt J. H. NOLEN to present

1. Initial Operations

a. The LOX section, with one HT-1 generating plant, embarked on LSD-19 in mid-May, and debarked at Chu Lai on 24 May. The HT-1 generator was moved from the LSD by boat and offloaded over a causeway onto the beach. An M-52 tractor pulled the plant up over the sand hill to the MSR. Two TD-24's were used, one pushing and one pulling, to move the plant from the MSR to the LOX area. The LOX area was established in the beach front tree line at the north end of the MAG-12 area, approximately  $\frac{1}{4}$  mile from the nearest billeting tents. The beach location provided maximum cooling by the prevailing sea breeze. The sand area was bulldozed level and the plant emplaced on pierced plank matting.

b. Operations in May and June 1965 included running the one HT-1 generator, two 500 gallon trailers and one 150 gallon trailer. The generator was in constant use and required one engine rebuild, one reefer section rebuild, one compressor rebuild and numerous replacements of several parts such as valves.

2. Expanded Operations since June 1965

a. A second HT-1 generator was received in late July and emplaced on a laterite surface adjacent to the original plant. An additional crew and five 500 gallon trailers were required.

b. Average usage rates have increased from 100 to approximately 190 gallons per day. Usage rate has averaged 2.07 gallons per flight hour. Approximately 75,000 cubic feet of gaseous oxygen and 30,000 cubic feet of nitrogen is pumped and issued each month now. Gaseous oxygen is provided to RMK, the civilian contractors in the area.

c. Present equipment includes: two HT-1 generators, with one back-up power skid and another back-up catapiller engine; seven oxygen 500 gallon trailers; one nitrogen 500 gallon trailer; one vacuum pump; one purge unit; and one vaporizer. Eleven men are now assigned.

d. In February 1966 two 35x40 foot cement pads were poured 200 yards north of the original LOX area. Two newly overhauled generating plants were emplaced on these pads on 1 March and are now in full operation. Two tin-roof huts were constructed for billeting. Future plans include a trailer parking and maintenance shed, as well as maintenance and supply buildings.

e. Couriers took LOX samples to Atsugi, Japan, for testing each week through November. Testing facilities are now available at NAS Cubi Point, P. I. Air transportation for the couriers has been unreliable and time consuming.

### 3. Problems

a. Heat and water were and are the most significant problems encountered in the Chu Lai LOX operation. Sheds had to be built over the plants for shade; 30 inch standing fores are used on each component for additional cooling. The water shortage was eased by digging a 25 foot well, and installing a 3000 gallon water tank with a 55 GPM Red Jackel gasoline pump.

b. Personnel shortages are a continuing problem with two operating plants and the heavy requirements for maintenance. A manning level of 19 men has been recommended. The personnel assignment (all MOS 7114) should be:

1 NCOIC	MSgt
2 Plant NCO's	SSgt - GySgt
6 Watch NCO's	Cpl
6 Watch Standers	Pvt - Cpl
1 Maint. Chief	SSgt - GySgt
2 Maint. Men	LCpl - Sgt
1 Supply Man	Cpl

c. Proper maintenance facilities have been a continuing problem. Salt air and blowing sand have complicated the work. Tracked vehicles traveling on the beach and helicopters landing nearby have created dust and sand clouds that have put the plants out of commission.

### 4. Lessons Learned

a. The LOX generating plants require firm, stable areas. Emplacing the plants on loose sand or even a harder laterite surface contributes to the vibration, and results in additional maintenance and high usage on instruments, gauges, and high pressure lines.

b. Production rates vary directly with ambient temperatures. Production has averaged 4 to 6 gallons per hour during daylight and 6 to 8.5 gallons per hour at night.

c. A full crew of well trained operators is essential since there is minimum opportunity to train personnel in operating and maintenance procedures while in full production.

TAFDS OPERATION

NCOIC - SSgt Rex B. MOODY, 1454837, USMC, May 1965 to Dec 1965.

GySgt Ernest BENJAMIN, 1136166, USMC, Dec 1965 to present.

1. Operations

a. The TAFDS deployed in May 1965 consisted of ten men and one 60,000 gallon TAFDS System. The system was emplaced at the North end of the runway commencing 27 May 1965 and fuel was dispensed on 1 Jun 1965 to the first jets.

b. Late in June 1965 a fueling area was set up for the heliport located near the center of the airfield. This fueling point had a storage capacity of 20,000 gallon and was kept in operation until MAG-36 began handling all helicopters during September 1965.

c. In July, a 40,000 gallon system was installed at the center portion of the flight line.

d. Finally, in October 1965 TAFDS set up a 60,000 gallon system at the south end of the runway completing the original plan to have three systems on the Chu Lai Airstrip.

e. "Hot" refueling from two or three dispensing points is used at each of the three operating fuel farms. Until January 1966 no refueling trucks were used, and all aircraft refueling was from the TAFDS. During the period June 1965 thru 1 March 1966, 14,200,000 gallons of JP-4 and 330,000 gallons of aviation gas were dispensed.

f. During May, June, and July it became necessary to assist the Seabees in a sea water pumping operation. The Seabees discovered that by soaking down the area on which the matting was to be installed they could compact the sand foundation for the runway. The Seabees needed a continuous flow of water that could only be delivered in quantity by the 350 GPM pump, a component of the TAFDS System. The TAFDS section was given the task of resupplying this water; this was done successfully after trying different methods, by placing a pump on a section of causeway and anchoring it outside the surf.

g. Another major task which the TAFDS Section was able to assist in was the fresh water supply. A 350 GPM pump was used to pump fresh water from a well to supply the camp. The TAFDS pump was used on the fresh water supply operation because the pumps augmented to the water point could not supply the quantity needed to support the camp. At present TAFDS is still supporting the Seabees as well as the water point with one 350 GPM pump each.

h. Prior to daily issue a fuel sample is taken from each TAFDS field dispensing point and checked locally for water/sediment content, specific gravity, and fuel contamination. Pertinent information pertaining to the quality of each sample is recorded in a daily fuel surveillance log maintained by the record section. Every three days a sample is taken from each TAFDS storage farm and transported by an assigned fuel courier to the Army Petroleum Laboratory at Danang, RVN. This sample is subjected to a comprehensive fuel analysis to further monitor the quality control of all fuel issued.

## TAFDS OPERATION (Continued)

2. Equipment and Personnel

a. The TAFDS equipment deployed was components of the M-1958 systems, many with a history of long shelf-life. The tanks and hoses of these systems have had a short in-use life due to the tropical heat, as well as their previous shelf-life. Twenty percent of the original tanks brought to Chu Lai have had to be surveyed and fifty percent of the remaining tanks are weeping around the seams.

b. The present organization consists of 35 men. This T/O has proved sufficient to handle the three farms now in operation. At present the personnel break down is two four-man shifts at each of the three fuel farms. This is the minimum personnel needed to handle the hot refueling of squadron aircraft and to receive fuel from the Bulk Fuel Company simultaneously. All fuel that is received into TAFDS comes through a four inch line running parallel between the runway and the taxiway, and with a WYE branch off to each farm.

c. MAG-12 rates five systems but has only been able to procure three. Many components have been surveyed without replacements reducing the effectiveness of the unit.

d. TAFDS 30 day mount out should be increased to a 90 days back-up on certain items such as "O" ring type gaskets, and preformed packing for nozzles and filter elements.

3. Problems, solutions, and lessons learned

a. Two significant problems that have been encountered are the presence of salt water in the fuel received from Bulk Fuel Company, and the need to do third and fourth echelon maintenance on an organizational level.

b. The first problem has been almost completely solved by the introduction of the GO-NO-GO fuel monitor, used downstream of the filter separator on the bulk fuel receiving line and downstream of the filter separator on the dispensing line. These GO-NO-GO units stop any water entering the system by locking themselves shut when detecting water.

c. The second problem was handled though not solved by having qualified personnel available to handle the echelon of maintenance required on the pump units.

d. The primary lesson learned was that the job can be done with the gear available. High usage items should be stocked in twice the present allowance.

e. Another lesson learned is that shelf-life of the TAFDS System adds to the dry rot of the rubber components. All M-1958 systems should be put into use as soon as possible to get maximum service before they dry rot in storage.

f. Another lesson learned is that the 30 day back-up on certain items such as "O" ring type gaskets, and preformed packing for nozzles and filter elements.

## UTILITIES SECTION OPERATIONS

Utilities Officer: Capt E. M. CONDRA to Nov 1965

WO P. W. LINTS Nov 1965 to present

1. Heavy Equipment

a. The advance element of the Heavy Equipment Unit, with one D-6 tractor, two D-4 tractors, two rough terrain forklifts and one M-60 antihy crane, debarked at Chu Lai on 11 May. This limited earthmoving capability was all that could be provided to the advance element because of a shortage of shipping. The heavy equipment operators worked around the clock moving cargo, preparing roads, and clearing the camp. Progress on clearing the camp was slowed by the heavy sand, intense tropical heat and equipment breakdowns; by 31 May, however, the camp clearing and interior roads were 90% complete.

b. In the ensuing months the heavy equipment has been critical to camp construction and improvement, although priority on maintenance has gone to TUD-80, rough terrain forklifts, and M-60 cranes in that order. All units in the Chu Lai enclave have had heavy equipment problems, and loaning and borrowing between units has been essential. The local problems have centered around: remarkably adverse operating conditions of deep soft sand and high temperatures; inadequate maintenance areas in tents in the sand; initially inexperienced operators; slow supply action on replacement parts and 4th and 5th echelon repair; and old, worn out, or unsuitable equipment to begin with.

c. Only one of two graders assigned has been consistently in operations. It works full time on interior roads and operating area improvements, and is loaned to the seabees or engineers when needed.

d. The Rough Terrain forklift has been great, and is the most valuable machine we have. By March, 18 were assigned in the group. They go anywhere and do anything. Unfortunately, prior to the Chu Lai operation, the rough terrain forklifts had been used primarily on hard surfaces in garrison; as a result, usage data on replacement parts was totally inadequate. The supply system has now caught up with reality, and an average of 13 out of 18 forklifts have been maintained in operation lately.

e. The three D-4 and one D-6 dozer assigned have had a poor record. The D-6 was deadlined in September 1965, has been evacuated, but has yet to be replaced by the TD-15 promised. One or two D-4 dozers were all that could be kept in commission, and were too small for anything except minor improvements. No D-4's have been operating for two months, and camp construction and improvements has depended upon equipment borrowed from other units, all of whom are also having heavy equipment problems.

f. The TUD-80 situation has been well documented for several years. Replacement tow tractors have not yet arrived, and may not for many months. As an interim measure, 1stMAW purchased and assigned 4 diesel International farm tractors to MAG-12 in January. These fine little machines have worked perfectly to date.

g. M-60 Anthony Crane and M-35 truck have performed admirably.

h. In February, the Utilities Section poured a 20' X 80 foot concrete pad and erected a high roofed maintenance shed for heavy equipment and generator repair.

## 2. Laundry

a. One washer and one dryer were installed under elevated tent flies in May, and were used to wash clothing of all marines once each week. In August, a second washer and dryer were received, in excess of allowance.

b. During the monsoon rains of October and November, the laundry operation nearly ground to a halt. In late November a wooden building, 28 by 54 feet, was constructed on the beach front after the canvas covered laundry blew down. A well was dug and enclosed adjacent to provide water.

c. The laundry has processed almost 8000 pounds of cloths and medical linen each week. Officers and Staff NCO laundry is now handled by individual bundle; other enlisted laundry is turned in and processed by the tent.

d. In January one washer and two dryers were received from overhaul. At the present time, two washers and three dryers are operated.

e. Maintenance of the laundry units has been a nightmare. The units were manufactured in 1944 and no spare parts are available. Repeated mechanical failures and breakdowns have been experienced, and during the months Sept Through December not more than one washer and one dryer could be kept operating. The machine shop has made hundreds of repairs, welding, patching, and fabricating parts. Newer, better equipment is still desperately needed.

f. A shortage of laundry operators has been chronic. Six men, one from each squadron, augment the 6 laundry personnel now assigned. The laundry operates 24 Hours per day, 7 Days per week, on two shifts.

## 3. Water Supply

a. Abundant fresh water is available in a water table near the surface through out the MAG-12 area. The only problem has been digging wells, with suitable casings, in the sand.



b. Immediately after debarkation a well was dug, and the sides sandbagged, in the south area of the camp. This well became contaminated with oil in early June. A new well was dug in the center of the camp on the beach front; 12,000 sandbags were used around a wooden casing. The water purification unit was installed and main water point established; since then, the unit has pumped over 30,000 gallons of water daily or a million gallons each month. A 14 foot water storage tank was built at the water point, and pipe laid both ways down the beach to feed shower points and a storage tank at the mess hall.

c. Two shower units were established on the beach front and one in the officers area. In March a fourth unit will be located in the new MABS billeting area, and a gravity feed pipe for showers in the guard area will be installed.

d. Additional wells for unpurified water have been dug and operated at the LOX area, in the motor transport area for vehicle wash rack, at the laundry, and in the ordnance dump.

e. A 120 gallon per minute electric pump has been installed at the water point. The TBA 35 gallon per minute pump was inadequate for the large volume of water required and a 350 GPM TAFDS pump has been used.

f. The Seabees plan to dig deep wells and install metal storage tanks at some time in the future. The tanks will be located on the ridge line to provide gravity water pressure throughout the camp. Wooden shower buildings are also planned.

#### 4. Electrical.

a. Undermanned and over-committed has been the routine situation in the electrical unit. Immediately after landing wiring of tents commenced, and wiring and rewiring has not stopped since. Four by four power poles were implaced, and new wires or circuits laid as the camp expanded. A generator bank was built of the MSR below the CP to power the flight line area and CP. Seventy-five KW Generators have been maintained in these banks; smaller generators have been spotted at the ordnance dump, at north and south ends of operating areas, in the guard area, in motor transport area, etc. to provide power to those areas.

b. The 75 defensive floodlights and 14000 feet of cable installed in November - December was a major electrical effort. During February, the power poles in the interior of the camp were replaced with metal telephone poles and poles of welded bomb fin crates: street lights have been purchased and will be added in March.

c. Camp power supply has been the most inadequate support provided by MABS. The problems have been numerous, complex, and have not yet been resolved.

(1) All camp and operating area wiring has been done by MABS; the Seabees, to date, have handled only the actual airfield lighting. The initial stocks of wire and fixtures brought into Chu Lai in May were used up rapidly as the camp developed. Resupply was miserably slow and uncertain; open purchase of wire and fixtures in Saigon was necessary to continue the camp construction during Fall 1965. The Seabees plan to rewired the operating areas in April 1966; MABS is completing rewiring the camp as buildings replace tents.

(2) The inadequacies of the current TBA generators - 75 KW, 30 KW, and 20 KW - have been well documented by every unit in Vietnam. They are old and worn out in service; they are high RPM, light weight, expeditionary type equipments unsuitable for heavy continuous use at semi - permanent sites; and the repair parts support has never equalled the maintenance problems. Fourth and fifth echelon repair and overhaul in Japan has been very slow, averaging over six months. The electric power supply problem at Chu Lai has been a nightmare of reshuffling generators to meet increased requirements with inadequate generator assets. In March, two 75 KW, five 30 KW, and six 20 KW generators power the MAC-12 areas, including airfield lighting. New 100 KW or 60 KW generators have been provided as an interim measure prior to installation of a permanent power system in the enclave. Six 100 KW generators would satisfy all power requirements except for outlying areas such as the ordnance dump, and would have enough back-up capacity to permit taking some generators off-line each day.

d. Future electrical plans include: consolidation of two generator banks into a single bank with 100 KW generators; construction of sheds over generator banks and installations; and, replacing defensive light poles with welded fin-crate poles and rewiring on a single circuit with buried, heavy duty cable.

5. Refregertion Unit. Refrigeration mechs have installed and maintained more than seven types of refrigeration equipment, including the block ice machine at mess hall, reefers, and ice making machines used in the various clubs.

#### 6. Combat Engineer Unit.

a. The combat engineers have been used as construction men and carpenters from the initial landing at Chu Lai. The first project was building low plywood decks for the tents in the coup CP, the squadron CP's, the Field Hospital, and the PX, post office, chapel, and disbursing tents.

b. In late May the galley and bakery tents were decked and strongbacked, and low decks put in for a mess area.

c. Low plywood decks for officers and enlisted billeting tents were constructed as lumber supplies permitted.

d. In June an amphitheater was bulldozed out of the sand in the center of the camp for the Chu Lai outdoor theater. A projection booth and plywood movie screen were constructed. The screen was expanded to 48 foot width in October for cinemascope movies.

e. In July, raised wooden decks were built for the Officer, SNCO, and enlisted clubs.

f. Lumber and plywood brought into Chu Lai with the initial shipping was quickly used up in May and June. Thereafter, some lumber was drawn from the Seabees who coordinated the Chu Lai enclave cantonment program. The Seabees provided lumber for complete strongbacked tents; the strongbacked tents, however, were not too successful as the rafters quickly wore through the canvas tents. The decision was made in MAG-12 to not strongback the tents, and to use the additional lumber to build more tents decks. Lumber and plywood purchased with project 40 funds began to arrive in September; thereafter project 40 was used extensively to order lumber, plywood, corrugated tin for roofs (purchased in Saigon), and hardware.

g. The camp construction program went into high gear in September; construction was given a priority equal to flight operations, and personnel augmentation from every squadron was added to camp construction details. Augmentation totalled 25 men: 8 from MABS, 5 H&MS, and 3 each from the tactical squadrons. The carpenter shop worked on a day and a night shift and other personnel were broke into five 4 or 5 men crews. All tents were decked with high decks by late November, and the tin roof hut program started. A new billeting area for MABS was cleared at the south end of the camp, and 30 tin roofed huts built there by February. Other major construction projects included:

(1) Officers' mess. Completed 10 December, 16 X 96 building, with a 16 X 48 galley and serving area. The Officers' club was established in one end, and a low decked wing built. A 16 X 32 storage building was added in February.

(2) Chu Lai Chapel by the Sea. A 28 X 64 building rushed to completion in only 12 days despite heavy monsoon rains, in time for Christmas Eve services. Two 16 X 16 chaplains' offices will be added in April. Interior decoration includes straw mat ceiling, modernistic slab altar and cross made of aluminum runway matting, and distinctive light fixtures fashioned from recoilless rifle shell casings.

(3) Laundry and carpenter shops. Both 28 X 54 foot buildings completed in November.

(4) Combination Post Office and Disbursing Office. A 28 X 64 building completed in February.

(5) An S-3 briefing building and office. Due for construction in March; 28 X 64 with complex offices, briefing rooms, and security areas.

(6) Other completed projects include a retail issue outlet building in H&MS and Section M Building in motor transport. Future plans include a PX building, a SNCO club, barber shop, and telephone exchange/comm building.

(7) By 1 March the camp included 65 tin roofed billeting huts and 161 bulleting tents on high decks.

h. In December MAG-12 received the pre-cut material for 40 tropical huts. MAG-13 designed the huts, purchased the material in Japan, pre-cut and palletized it, and shipped it to Chu Lai. The huts included sheet rock siding and roofing, ceiling board, and screens, plus all electrical fixtures. The huts were allocated to the squadrons and the group CP, and had all been erected by 1 March. A few local modifications were made by MAG-12, including shutters for rain protection. This commendable MAG-13 project was a great help to MAG-12. The huts are well designed and cool.

i. All carpenter work has been done with TBA equipment: one table saw, 2 radial overarm saws, and skillsaws. Larger, 5 Horsepower saws have been requested.

j. Photos and details of tin roofed huts and other construction are included in the annexes.

## MOTOR TRANSPORT SECTION OPERATIONS

MOTOR TRANSPORT OFFICER: Capt Charles MANWARRING, May 1965 - Aug 1965.

Capt William P. SCHLOTZHAUER, Aug 1965 - present.

1. Early Operation May - June

a. Terrain Driving Conditions - On initial landing from a LST the endless sandy terrain immediately handicapped vehicle operations from the beach and inland to the beach dump.

b. Drivers Training - Drivers were unskilled in continuous sandy terrain driving, causing delay in off loading, to some degree, until matting was installed on the MSR.

c. Establishing Pool - The pool area had to be cleared of trees, the sand graded and augmented with laterite to help form a firm surface to ease driving. Two tents were erected for operation purposes, three for supplies and four for automotive maintenance.

d. Spare Parts - During May and June parts were practically non-existent and usage data had not been established to support operations in this type of terrain. The result was a heavy deadline due to lack of parts.

e. Maintenance Facilities - A wash rack was dug and lined with sand bags for wall support. A field-type grease rack using 55 gallon drums was installed. One of the automotive maintenance tents was used to support organizational maintenance and three for field maintenance.

f. Equipment on-hand - All vehicles authorized by the QM-6 allowance list were on-hand and used except:

Capt William P. SCHLOTZHAUER, Aug 1965 - present.

3 - 2000 gallon refuelers

1. Early 5 - 5000 gallon refuelers

5 - Truck, Tractors, 5 Ton

g. (12 Jeeps on-hand in lieu of 12 Cerlists authorized) - On initial landing from a LST the endless sandy terrain immediately handicapped vehicle operations from the beach. Personnel: Two additional welders were needed to support the expanding camp maintenance projects. One mechanic for every six pieces of self propelled equipment was needed in addition to the authorized T/O to support equipment off attached units. Off loading, to some degree, until matting was installed on the MSR.

h. Supported Units - Consisted of H&MS, 3 tactical squadrons, one MACS, one MASS, and a MATCU Unit. The MACS and MASS received 3rd echelon support only. graded and augmented with laterite to help form a firm surface to ease driving. Two tents were erected for operation purposes, three for supplies.

2. Expanded Operations Since June

a. Facility Improvements - Additional areas were cleared and squadron motor pools were established. A shelter was made out of matting and covered with canvas to serve as a servicing area for batteries. A generator was installed giving electricity to the machine shop, maintenance tents and offices. Two grease racks, one in the maintenance area and one in operations, were relocated and reinforced with drums, timber and matting. Wooden decks were installed in the operation tents and a cement slab poured for support organizational maintenance and repair work.

IV-14

f. Equipment on-hand - All vehicles authorized by the QM-6 allowance list were on-hand and used except:

## MOTOR TRANSPORT SECTION OPERATIONS (Continued)

of tire changers. Additional fill was hauled to level off area for 100' x 40' maintenance shop. A tent was erected to serve as tool room and storage area for the proposed maintenance float stores.

b. Additional Equipment - One 1200 gallon water truck and one A/C oil service truck on-hand in excess of allowance to support expanding fuel and water requirements. A revised QM-6 allowance list effective 1 December 1965 authorized increases in certain line items which would suffice in this type operation. A 5-Ton Wrecker, six 400-gallon water trailers, one 1200-gallon water truck and a carburetor and ignition shop van are additional items deemed necessary under present operating conditions.

c. Aircraft Refueling - Aircraft refueling requirements exist which cannot be handled by the TAEDS and the full allowance of refuelers authorized was considered necessary for field operations. These trucks are now assigned directly to the supported squadrons.

### 3. Present Organization and Equipment

a. QM-6 Allowance - Equipment as listed in QM-6 plus additional items listed under paragraph 2b. are recommended for this type operation.

b. Personnel On-hand - The manning level as authorized would suffice, to support equipment assigned, but base security requirements and work details reduce the number of effectives and has an adverse effect on operation and maintenance.

### 4. Significant Problems Encountered and Solutions Desired.

a. Roads - The road network throughout the Chu Lai area causes constant maintenance problems. The normal weekly drivers PM results in nearly a complete quarterly check. All drive shafts must be tightened and all body bolts checked. Front end assemblies, wheel bearings, brakes, springs and shocks are all constant maintenance problems due to road conditions. Laterite mixed with sand, with occasional grading, has improved this problem to some extent.

b. Cerlist Vehicle - This vehicle is considered unsuitable for field use. It is built on the lines of a commercial vehicle and is a maintenance burden. It constantly has problems in the starter system, hub assembly for the four wheel drive, transmission and fuel pump circuit. The M38A1 jeep has replaced ten of the cerlists, but the jeep has no cargo capabilities and no local solution has been found to ease this problem.

c. Water Supply - The three 1200-gallon water trucks are assigned to supply water to water trailers, lister bags, laundry, water cans, showers and water the road net through the camp area. This is a constant and continuous requirement. Requirements for water throughout camp continue to expand and no solution has been found to reduce the burden on transportation except the requested assignment of another water truck.

d. Personnel On-hand - The personnel assigned to the group are assigned to the Ordnance Support Section. These vehicles are run over and right to meet heavy ordnance requirements. More trucks are needed, a total of 2 trucks for each

## MOTOR TRANSPORT SECTION OPERATIONS (Continued)

tactical squadron supported, but providing the ones assigned are in an operating condition, requirements for ordnance have been met with six trucks. The recent change to the QM-6 authorizes additional 2-1/2 ton trucks to tactical squadrons. Augmentation of these additional trucks to ordnance support will ease this problem.

e. Fuel Support - Four 1200-gallon tank trucks assigned, two diesel and two gas, have met operation requirements satisfactorily.

#### 5. Lessons Learned

a. Training - That continuous training for drivers and mechanics is mandatory.

b. Equipment - That suitable replacement vehicle is needed for all types of cerlists.

c. Spare Parts - That usage data, and not a general rule of thumb formula, determines spare parts necessary to meet this type of deployment.

d. Maintenance Float - That a parts maintenance float of assemblies and sub-assemblies at the users level is feasible and would ease the vehicle down time period, providing that the float level could be obtained. This has not yet been accomplished after nine months of operation.

e. Higher Echelon Maintenance Support - This type support should be attached to the using unit, in form of a maintenance detachment from the service group. Unnecessary time is lost in dispatch traffic trying to establish availability of parts, prior to receipt or repair.

## ORDNANCE OPERATIONS

Ordnance Officer: 2nd Lt Jack A. WILDER, May 1965 - June 1965

Capt John M. ELLIOTT, June 1965 - Present

1. General Description.

a. The Chu Lai operation began in April 1965 when MABS 12 was stationed at MCAS Iwakuni, Japan. All planning and preparations for the operation had to be made in a few days just prior to mounting out. On 27 April 1965, MABS-12 forward echelon departed on LST 1170 for Viet Nam. On 7 May 1965 a landing was made by the 4th Marines (Ref), on the beaches of what is now called Chu Lai.

b. The first MABS Ordnance personnel came ashore on 9 May 1965, and equipment came ashore two days later. A Class V(A) munitions dump was established a few hundred yards inland in soft, deep sand, making movement difficult.

c. The initial shipment of munitions came ashore from APAs, an AKA, and LSTs. Mike boats and LCUs discharged their loads of munitions along the beach, to be picked up later by working parties from the Shore Party Company and transported to the bomb dump. Dump operations continued 24 hours a day; receiving, storing, assembly and delivery of munitions.

d. Ordnance personnel lived in the bomb dump area and were fed by A Company, 1st AmTrack Bn., as the MAG-12 camp area was two miles away.

e. Through-out the entire operation MABS Ordnance was short of personnel and equipment. The fact that only 25 to 30% of MAG-12's aircraft ordnance capability was used at any one time enabled Ordnance to meet their commitments.

f. SATS equipment arrived midway in the operation in the form of SATS Weapons Shelters, Rough Terrain Trailers and Weapons Cradles and Adapters. This greatly improved the delivery and response capability. The average tonnage delivered each day ran approximately 40 to 50 tons, with an average of 1300 to 1500 tons being received each month from munitions ships.

g. Low Drag bombs were in short supply and large quantities of AN standard bombs were received. AN-M57A1 250# GP bombs with banded lugs and AN-M64A1 500# GP bombs were expended in large quantities; some of these bombs were dropped with box fins due to the lack of conical fins. A large quantity of AN-M65A1 1000# GP bombs were also used. All bombs were dropped using 100 series Nose Fuzes, most of which were close to 20 years old. As the limited stocks of modern munitions have been expended it has been necessary to revert to the obsolescent types in order to have any munitions to operate with.

2. Early Operation April - June.

a. Mount Out

(1) Preparation

(a) When MABS Ordnance received word to mount out, very little was required to complete packing. Most of the equipment was already boxed.



and preloaded on F2A and Mk 3 flat bed trailers. All AERO 14B Spray Tank equipment and Special Weapons handling equipment was to remain behind and was turned over to the Supply Officer of MWSG-17.

(b) All that remained to be done was the boxing of office equipment and preparing all Mk 7 bomb trailers for shipment. It should be noted that at this time that the MABS 12 Ordnance Section was short of both personnel and equipment. Earlier in the month the section had transferred ordnance equipment and eight ordnancemen to MAG-11 at Danang.

(c) The ordnance equipment that would be needed first - or what we thought would be needed first - was loaded aboard LST 1170 Windham County. This included all of the office equipment, publications, bomb trailers of all types, bomb handling equipment and a small APU. Eight (8) ordnancemen, the Ordnance Officer and one (1) EOD NCO accompanied this equipment and were to start the initial construction of the Class V(A) dump once ashore. No problems were encountered loading the ordnance equipment aboard ship. Three ordnancemen remained behind to load the remainder of the ordnance equipment which was to be included in the 2nd phase of the operation.

## (2) Movement Landing

(a) LST 1170 departed Japan on 27 April 1965.

(b) On 7 May 1965 the 4th Marines went ashore. The MABS 12 Ordnance Officer and one SNCO debarked on 9 May. The rest of the ordnance personnel and all equipment did not come ashore until 11 May. The Ordnance trailers came ashore in fair condition. Damage to the tierods and steering arms was caused by the deep soft sand and rough handling by the Shore Party. All equipment was staged in the MABS Staging Area on the beach until needed.

### b. Establishment of the Bomb Dump

#### (1) Selection of Site

(a) When the Ordnance Officer came ashore on 9 May he was met by the MABS 12 CO and the Ordnance NCOIC who had flown in by helicopter the day before. The contact with the CO, Shore Party, who had the commitment to select the site and construct the Class V(A) Munitions Dump, was made on 10 May.

(b) On 12 May the Ordnance Officer and NCOIC were finally shown the site of the ordnance dump; they informed the CO of Shore Party that it was inadequate to store the large quantities of Class V(A) munitions that would eventually come ashore. Their technical advice was ignored.

and they were informed that the decision on location of the Class V(A) dump was final. Shore Party did not possess the capability to construct the dump even though they had been given this commitment, and no arrangements had been made for construction equipment.

## (2) Construction

(a) On 15 May the CO of the Tank Company volunteered the use of his M-48 Tank Dozer for five days. The Ordnance Officer, NCOIC and two (2) ordnancemen proceeded to mark off the revetments and the tank dozer slowly scraped them out. The Class V(A) dump could not be laid out and built to meet the field storage requirements set forth in BUWEPS OP 5 Vol 3, with the knowledge that forty five days of Class V(A) munitions to support three VA squadrons would be coming ashore within ten to fifteen days. The Shore Party CO said the area already assigned (roughly 900 by 1200) feet was adequate to store forty five days of Class V(A). Further attempts by the Ordnance Officer to acquire additional storage space were of no avail. This lack of space continues to be the major problem in the storage of munitions at Chu Lai and indicates a lack of planning or grasp of the problems involved in storing these vast quantities of high explosives in the field.

(b) TD-18 dozer from B Company Engineers was borrowed, when available, for a few hours work in the revetments.

## (3) Initial Ship to Shore Movement of Munitions

(a) On 23 May the USS OKINOGAN, APA 220, lay off shore with first load of Class V(A). Other ships bringing in the initial load of Class V(A) were two APA's, an AKA, and an LST. Roughly 75% of the munitions came across the beach in Mike boats and LCU's. The LST off loaded on the causeway, which was also used by the LCU's when possible. Shore Party provided trucks to move the Class V(A) munitions off the beach and into the dump. Shore Party also unloaded the boats and loaded the trucks with the help of working parties from various Rifle Companies and from the ships in the bay. Unloading in the dump was done by MABS ordnancemen with some 15 man working parties provided by the Rifle Platoons in the area. Building of revetments continued during the entire off loading operation.

## (4) Problems Encountered

(a) During the off loading operation an alarming amount of Class V(A) munitions was damaged due to rough and improper handling by Shore Party personnel. As a result, MABS Ordnance had to place qualified NCO's on the beach, causway and each ammo ship to act as munitions Safety NCO's to insure safe and proper handling of the munitions. The loss of these technically trained men hampered the dump

operations. Munitions such as rocket pods, M-79 fire bombs and JATO bottles were subject to damage in the Mike boats as they ran up on the beach and the munitions were flung forward. The run to the beach was made under full power to get over the sand bars. Additional damage was caused by negligence on the part of Shore Party and truck drivers. None of these people had been instructed on the proper and safe handling of munitions and were only interested in how much tonnage could be moved over the beach in a given period.

(b) Class V(A) and other classes of equipment and supplies were coming ashore faster than it could be moved off and the beach became crowded and congested with Class V(A) munitions scattered throughout the whole area constituting a serious safety hazard. Some of these munitions were not even above the high tide mark and received water damage during high tide. Some 250# and 500# LD bombs were buried under sand and water necessitating a mine detector to locate them. Two Mike boats, each loaded with 250 and 500 pound LD bombs were swamped a few yards off the beach and the bombs aboard remained under water for over 24 hours before they could be lifted from the boats. On many occasions unloading operations in the bomb dump bogged down due to the shortage of Rough Terrain Forklifts and M-60 Cranes. As many as fifteen to twenty trucks would be backed up at one time awaiting unloading. Further delays were caused by the different types of munitions, both Class V and V(A), arriving at the same time and not enough equipment or personnel to work three or four separate revetments at one time. This problem still exists, and is compounded by the fact that Flight Line commitments must be met at the same time ammo ships are being off loaded. During the initial operation MABS Ordnance had only one (1) Rough Terrain Forklift and four (4) M-60 Cranes, two of which were down from the start due to lack of parts. This situation has improved only in that two (2) Rough Terrain Forklifts are now assigned to Ordnance. One of these is usually down for repairs.

(c) On 24 May the eight (8) ordnancemen that had been sent to MAG 11 returned. In addition five men with O300 MOS's joined MABS Ordnance to bring the section up to a total of twenty four (24) men and one (1) officer. The equipment sent to MAG 11 was not returned.

### 3. Expanded Operations Since June

#### a. Operations

##### (1) Delivery of Munitions

(a) On 1 June 1965 four (4) aircraft arrived at Chu Lai airfield and an operational flight was scheduled for the same day. Bombs, rockets, and JATO were trucked the two miles to the flight line in the back of M35A1s. 60 trucks as the road was too rough for the use of Mk 7 bomb trailers.

It was learned very early in the operation that most munitions would have to be transported in the bed of the 6 x 6 trucks in order to get the required amount of munitions to the flight line in time to meet the flight schedules. Mk 7 trailers, able to carry just one (1) weapon at a time, were used mainly for transporting Mk 79 fire bombs and 2,000# LD bombs. Bomb fuzes, adapter boosters and bombs were all carried together in the same truck even though it is against all published safety regulations. This violation was necessary because there were not enough trucks available to haul these items separately and still meet the daily ordnance requirements to the flight line.

(b) On many occasions difficulty was encountered in trying to meet the ordnance requirements called for in the Group Frag Order due to only (6) M35A1 trucks being assigned; deadlined vehicles reduced this limited quantity even further. Other reasons, such as non-scheduled hops, put a serious strain on the limited capability. At such times the S-4 would request truck assistance from LAAM Bn or ADC. Trucks were not the only reason for not meeting commitments. Break down of Rough Terrain Forklifts and M-60 Cranes impaired the ability to load trucks rapidly.

## (2) Resupply

(a) Resupply of munitions continued throughout the entire operation. As many as three (3) to seven (7) LST's unloaded Class V(A) munitions each month. Shore Party had the commitment to off load each ship and move the munitions into the bomb dump, where it was unloaded by MABS ordnancemen and equipment. While unloading the trucks coming from the ship, munitions assembly and meeting flight line commitments had to continue at the same time. This caused delays in off loading incoming munitions due to insufficient ordnance personnel and equipment to handle all three jobs at the same time. Flight line requirements had the priority. This caused some hard feeling with Shore Party, but could not be helped.

(b) A record of on-hand munitions in the bomb dump was kept on a day to day basis and reported to Wing Ordnance, III MAF, COMSERVGRU III, COSERV PAC and FMFPAC each month. A daily squadron expenditure report was collected by MABS Ordnance and reported to the Wing Ordnance Officer in Da Nang each morning. Based on these on hand and expenditure reports Wing Ordnance and COMSERVGRU III would schedule the amount of Class V(A) munitions to supply.

(c) The types and quantities of munitions supplied was not in line with the Wing mount out requirements nor the missions being flown by MAG 12. It was all that was available in the backup stocks.

IV-21

(3) Storage

(a) Storage continued to be a problem throughout the whole operation and at no time was there adequate space to store the amount of munitions on hand.

(b) In the initial shipment of munitions only Mk 81 through Mk 84 Low Drag bombs were received and they were all stored in one large revetment as there was no room to store them separately. As more area was acquired, the bombs were spaced out into separate revetments when possible. Rockets, AERO 7D and LAU-10A's, were stored in two revetments, later expanded to three. All fuzes and boosters were stored in three (3) revetments all in one area.

(c) As the supply of Low Drag bombs began to dwindle, AN standard bombs began to arrive by the thousands and it was necessary to spread out again. Space between existing bomb revetments was used for storage and where possible AN-M64A1 500#GP and AN-M65A1 1000# GP bombs were stacked five (5) high and in rows of 300 to 450 feet or longer with the fins stacked in rows along side them for convenience in the assembly operation.

(d) The entire bomb dump area occupied only 65 to 70 acres of land. To store the same amount of munitions in accordance with TM 9-1300-206 would require 1800 acres, plus additional space for assembly and filling of Mk 12 Smoke Tanks, assembly and filling of Napalm Tanks, mobile equipment maintenance, storage of inert material and office and living spaces.

(e) The inert storage area, Ordnance Office and living quarters were set up in a rice paddy which later proved to be a stream bed. During the monsoon season, high water forced the movement of most of the inert gear to be moved to higher ground, much of it into the fuze revetments.

(f) In the 8th month at Chu Lai the Class V munitions dump adjacent to the Class V(A) bomb dump began to vacate some of their area which the bomb dump took over and used for 20mm storage, belting and mobile equipment areas as well as sites for smoke filling, napalm mixing and Ordnance Office.

(g) During this whole period efforts by the Group and Wing Ordnance Officers to relocate the Bomb Dump into a more suitable area were fruitless. The deep loose sand and extreme heat during the summer months and the many deep puddles during the rainy season aggravated the storage and movement of munitions.

(4) Amount

(a) The quantity and types of munitions expended at Chu Lai is classified. However, during the period 1 June 1965 through 1 March 1966, more than 7,500 tons of ordnance were delivered by the aircraft.

4. Present Organization and Equipmenta. Equipment

(1) The M35A1 2½ ton 6 x 6 truck is an outstanding piece of equipment! This vehicle with its capability to keep going in the deep soft sand found at Chu Lai has made it a must for the operation of the dump and the delivery of munitions to the operation areas. Six (6) have been assigned, however eight (8) are required when supporting four (4) VMA squadrons in order to properly meet all requirements. These trucks are authorized under the new Section M.

(2) Five M-60/63 Cranes are authorized in the current Section M for MABS Ordnance use as replacement items, on a one for one basis, for the MJ-2 Bomb Service Truck. MABS 12 has the rated five (5), but only two (2) were available for use by the Wing Mount Out directives. This allows one crane in support of each squadron (one is held by each tactical unit for unloading in their area) and one (1) as a back up or in for PM.

(3) The Rough Terrain Forklift is a MUST. Though not rated in the Section M specifically as a piece of Ordnance Equipment it is an essential piece of equipment in the bomb dump. Fifty to sixty per cent of the Class V(A) munitions are shipped palletized. One (1) and later on two (2) of these forklifts were assigned to the Ordnance Section. A minimum of three (3) are required to operate efficiently with the quantities of munitions expected when the dump stock level reaches forty-five days.

(4) The Mk 7 Bomb Trailer has proved to be of little value in the Chu Lai operation as far as the MABS Ordnance Section is concerned because of the deep sand. In addition, it is only capable of carrying one munition at a time and is far too slow to meet the flight line commitments. From the dump to the tactical area it has only been used to transport Mk 79 Fire Bombs, 1000# and 2000# bombs. The tactical squadrons, however, use this trailer extensively on the flight line to transport all munitions and to hang the heavier items on the aircraft. MABS had on hand 78 Mk 7 trailers, most of which have been used on the flight line. All Mk 7 trailers at Chu Lai have been maintained by the MABS Ordnance Section. This has entailed a two man crew seven days a week to repair the damage caused by towing the heavy loads in the loose sand, and replacement of parts worn out in service. A tactical unit for unloading in their area and one for PM.

IV-25

(5) The Rough Terrain Forklift is a MUST. Though not rated in the Section M specifically as a piece of Ordnance Equipment it is an essential piece of equipment in the bomb dump. Fifty to sixty per cent of the Class V(A) munitions are shipped palletized. One (1) and later on two (2) of these forklifts were assigned to the Ordnance Section. A minimum of three (3) are required to operate efficiently with the quantities of munitions expected when the dump stock level reaches forty-five days.

(5) The E2 Trailer is completely unsatisfactory for the transportation of munitions under the conditions that exist at Chu Lai. They fail to meet any safety requirements in that they have a metal bed, no brakes, and are unstable. These trailers have only been used as a platform for the mounting of the Mk 1-0 Smoke Filling Unit and the E3R3 Napalm Mixer.

(6) The Rough Terrain SAT3 Trailer, 8000 lbs capacity, is by far the best piece of Mobile Ordnance Equipment to come down the pike in years. This trailer has been of great value in the Chu Lai environment. Its ease of handling, maneuverability, large wheels, sturdy frame, both pneumatic and mechanical hand brakes and 8000 lbs capacity make it the most practical trailer we have ever had. Very little maintenance is required on this item. Using various adapters and cradles that attach to the trailer, it is possible to carry eight (8) Mk 77 Fire Bombs or twelve (12) bombs ranging in size from 250# to 500#. This would require one Mk 7 trailer for each bomb to move the same quantity. Twenty-two (22) of these trailers are now in MABS Ordnance.

(7) Though not shown in the current Section M as a piece of Ordnance equipment, a 25 Kw generator is required for operations in the Class V(A) storage site. Not only does this provide power for the living spaces and office but the power is required for operation of various pieces of equipment used in the filling of smoke, napalm and mobile ordnance maintenance. This generator is only required when the Group is deployed in the field.

(8) The current Section M does not show any type of Bulldozer/Front Loader as a piece of Ordnance equipment. In the field one should be assigned to provide support in the upkeep of the field storage site. A D-4 would be hard pressed to keep ahead of the drifting sand at Chu Lai while a D-8 would be able to take care of the day to day upkeep plus building new additional storage sites. Not having a dozer available has resulted in the bunkers that were originally built slowly drifting away so that the walls that once were 6 to 8 feet high are now 3 to 4 feet high.

(9) A M38A1 1/2 ton Jeep, or similar vehicle, is a must for the Group Ordnance Officer if he is to perform his duties effectively in the operation of the Class V(A) storage site and be current on all the problems of the tactical squadrons.

(10) Another Section M item that is not specified as Ordnance equipment is a floodlight trailer. For years a Schramm Floodlight Trailer was a standard piece of equipment in all squadron ordnance sections. The receipt, assembly and delivery of munitions is a round the clock operation and illumination is absolutely required for the safe and efficient handling of these items. At the present time it is maintained by the maintenance company and the maintenance company is deployed in the field.

(11) The current Section M does not show any type of...

necessary to work under the lights of the assigned mobile equipment. This is a very unsatisfactory situation in that it ties the equipment to one spot and further hampers the efficient operation of the bomb dump during the hours of darkness.

(11) SATS shelters were received in September 1965. These shelters were designed for weapons storage and each tactical squadron has been issued one. Two have been erected in the bomb dump and are being used for mobile equipment support and as a facility for the filling of Mk 12 Smoke Tanks and storage for their associated equipment. These seven shelters were test models, and have been erected and disassembled and shipped several times. However they have proved to be a very fine shelter, easily erected on any level piece of ground in two to three hours by a trained crew.

(12) A classified number of MK-4 Gun Pods are now assigned to one VMA squadron. These pods are programmed for all squadrons in the future. The MK-4 gun has been enthusiastically received and used by the squadron. It creates, however, significant logistic problems for MABS ordnance. A maximum of 2000 rounds per hour can be belted with the MK-4 equipment. An estimated 16 men, plus forklist and truck, will be required to support the weapons programmed for the future.

#### b. Personnel

##### (1) Shortages/6511

(a) Operations in the field versus garrison bear no relation to the present TO. The present M Series TO is adequate for in garrison operations when the Group is supported by a Station Ordnance. However in the field MABS Ordnance becomes the support activity and the TO is far short of the required personnel necessary to operate a Class V(A) storage site in addition to delivering munitions to the tactical squadrons.

(b) The aircraft load carrying capabilities have increased greatly since Korea yet the TO has failed to reflect this. The greatest percentage of the personnel working in the bomb dumps in Korea were indigenous labor who do not appear on any TO and who seem to have been forgotten in the planning. There is no indigenous labor employed in the munition storage sites at Chu Lai. In order to meet the commitments based on the anticipated sortie rate a large increase is required in the present TO. However, significant logistic problems will be created for MABS ordnance. A maximum of 2000 rounds per hour can be belted with the MK-4 equipment. An estimated 16 men, plus forklist and truck, will be required to support the weapons programmed for the future.

IV-25



(c) The following TO is recommended as the bare minimum for a MBS Ordnance Section in the field supporting four (4) VMU squadrons. This estimate is based on the experience gained in the Chu Lai operation which is the first time the entire SATS complex has been operated in the field under "combat conditions".

RANK	MOS	QUANTITY	JOB DESCRIPTION
MSgt	6511	1	NCOIC
GySgt	6511	2	Asst NCOIC
SSgt	6511	3	Quality Control/ASRS
			ASRS NCO
			Section Leader
			Section Leader
Sgt	6511	6	Crew Leader
			Crew Leader
			Munition Delivery/
			Dispatch NCO
			Munition Delivery/
			Dispatch NCO
			Mobile Equipment NCO
			Supply & Embarkation NCO
Cpl	6511	6	Munitions Crew
		2	Munitions Delivery
		2	ASRS
LCpl	6511	1	Office Clerk
		13	Munitions Crew
		8	Munitions Delivery
		1	Mobile Equipment
		1	Supply
PFC/Pvt	6511	13	Munitions Crew
		8	Munitions Delivery
		<u>TOTAL</u>	<u>67</u>

(2) Additional Men/Non-School Trained

(a) To meet the additional personnel requirements, non-school trained men can be used. Most storage and assembly can be handled by non-rated personnel who have a school trained NCO in charge. Munitions truck drivers need not be school trained and need only pass an explosive drivers examination and have a valid military drivers license for a 2½ to 5 ton vehicle.

(3) Recap June - December

(a) The Ordnance Section expanded from twenty four men in July to forty by December. This is still far short of requirements.

Cpl	6511	6	IV-26	Munitions Crew
		2		Munitions Delivery
		2		ASRS
LCpl	6511	1		Office Clerk
		13		Munitions Crew
		8		Munitions Delivery
		1		Mobile Equipment
		1		Supply

## 5. Significant Problems Encountered

### a. Lack of Adequate Space

From the first day ashore adequate space has been a problem and remains so today. The area now occupied covers roughly 65 - 80 acres of land, of which approximately 60% is useable. All munitions are stored by categories but safe separation distance is practically non-existent. All bombs, regardless of type or size, are stored in two large areas, one a large revetment, the other a large natural revetment covering some 30 acres. Bombs are stacked in rows by the thousands with just enough space between rows to fit them and get in and out with an M-60 Crane and truck. Adequate storage as required by existing directives would require 2000 acres. Repeated requests for additional Class V(A) storage space has produced no relief from the critical situation.

### b. Lack of Transportation

In the beginning, six trucks were adequate to handle the munition delivery requirements. However, with the addition of a fourth squadron and limiting the trucks to their rated 2½ ton capacity for use in rough terrain, the ability to meet the flight line requirements has been strained. Only the introduction of the SATS Rough Terrain Trailers relieved the situation. Two (2) 2½ ton trucks are considered necessary to support each tactical squadron properly.

### c. Inadequate Communications

The efficient operation of the bomb dump and the ability to meet all flight line requirements makes it imperative that reliable communication be available at all times. The telephone equipment provided to date has not been reliable.

### d. Billeting Facilities

At the beginning of the operation, MABS Ordnance had three (3) GP tents, one (1) used for the office while the other two (2) served as living quarters.

The SNCO's built a wood shanty and covered it with an assortment of tarps, flys, ponchos and wood. In July a 4th GP tent was acquired and an extension built on the SNCO shack. Decks were built to get the men up out of the running water in the living spaces, utilizing the dunnage from the ammunition ships. Tents have been in short supply throughout the Command and it has been necessary to do with what was available. Six buildings, 16 x 32 feet, were constructed for living facilities in February. A seventh has been built for office space. This is the standard MAG 12

designed building with corrugated metal roof and is being built by ordnancemen.

## 6. Lessons Learned

### a. Need For Proper Prior Planning

(1) One of the first tasks in planning such an operation should be the determination of how much space will be required to properly store the quantity of munitions expected. A plan should be formulated that would properly establish a dump with the small initial receipts and be able to expand in a logical manner as additional munitions are received. These figures can be determined through proper and diligent study of the Class V(A) mount out requirements for the types of squadrons being supported. These figures are compiled by G-4.

(2) That MABS Ordnance personnel in general (not just this MABS) are sadly lacking in the proper training in how to store munitions in the field and the correct stock recording and reporting procedures. Very few know or understand the necessity of the Lot Number system and how it works and what the Lot Number will tell you about the item. This is important in garrison but vitally so in the field when MABS is the supporting activity charged with the safe storing, handling and issue of munitions.

(3) It is evident that additional training is required by both Shore Party personnel and Motor Transport in the proper and safe handling of Class V(A) munitions. These people must be issued and required to use the proper slings, and other handling gear in moving munitions to reduce the damage and increase safety.

### b. Wing Mount Out Requirements

(1) The existing Wing mount out documents for Class V(A) are not realistic. They fail to provide the munitions most used by the MAG 12 squadrons for the targets being engaged. Rather than compile a single document from information supplied on the capability of the aircraft, a series of documents should be compiled based on the situation and location anticipated for the operation. These munition requirements must be flexible to utilize the limited stocks in the most efficient manner.

### c. The Reason Why

(1) All the aforementioned discrepancies point to a lack in realistic training both in garrison and when on maneuvers. While the pilots drop practice bombs, there is no training being provided the ordnance personnel who are somehow supposed to learn how to assemble and load all the multitude of ordnance that Marine aviation is capable of carrying. When on maneuvers there are never any actual

movement of Class V(A) to give these people training in how to handle these items that are not even on the training allowance but of prime importance in combat. The aircraft is only a means of delivering the munitions to the target but no training is given the people that are supposed to support this operation.

(2) Even the Advance Base Problems presented by the teams from MCS Quantico never show the quantities of Class V(A) munitions required to support their problem. Nor do they show where all the vehicles will come from to move it from the beach to the storage site.

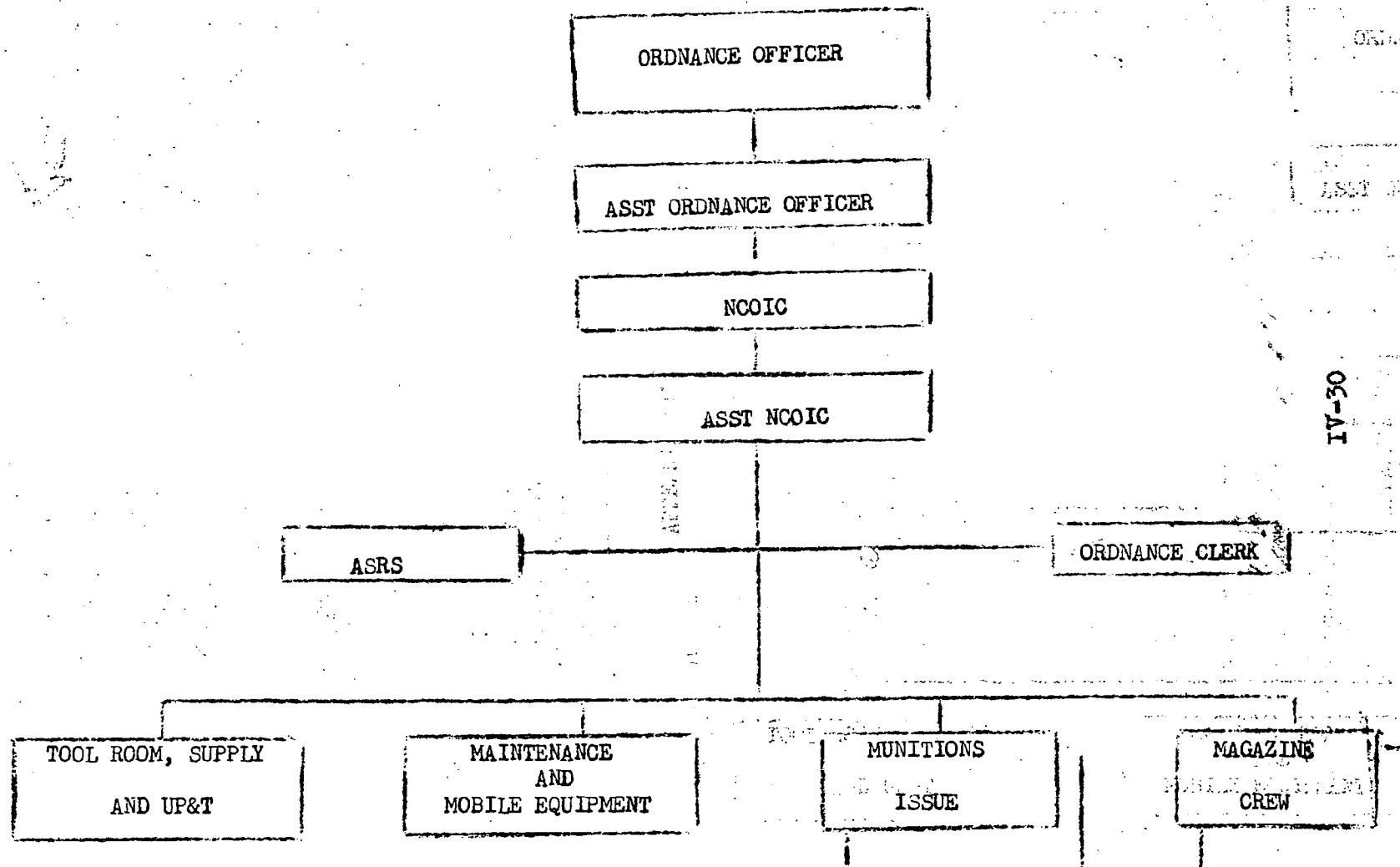
(3) Consequently, there are very few who have the experience of how to establish a dump, the vast spaces required for the dump, nor the proper handling, storing, components required to make a complete round, and assembly of these munitions.

movement of Class V(A) to give these people training in how to handle these items that are not even on the training allowance but of prime importance in combat. The aircraft is only a means of delivering the munitions to the target but no training is given the people that are supposed to support this operation.

(2) Even the Advance Base Problems presented by the teams from MCS Quantico never show the quantities of Class V(A) munitions required to support their problem. Nor do they show where all the vehicles will come from to move it from the beach to the storage site.

(3) Consequently, there are very few who have the experience of how to establish a dump, the vast spaces required for the dump, nor the proper handling, storing, components required to make a complete round, and assembly of these munitions.

## APPENDIX "B"



## EXPLOSIVE ORDNANCE DISPOSAL OPERATIONS

EOD OFFICER: Capt James S. NEEDHAM

1. Past Operations

a. The Explosive Ordnance Disposal team of Marine Aircraft Group-12 while operating out of Iwakuni, Japan was made up of one officer and two enlisted that operated jointly with the MWSG-17 Explosive Ordnance Disposal team under a Marine Corps Air Station SOP. The joint operations worked well with each supporting the other plus supporting the Air Station, which does not have an EOD Team.

b. Since no live ordnance was flown from Iwakuni the main work load consisted of the disposal of Grade III ammunition, special weapons loading drills, responding to emergency situations on the runway, plus a few off station calls.

2. May-June

a. For the deployment to Chu Lai R.V.N. the EOD Team deployed in two phases. In the first phase one man and all the EOD tools, loaded on a MK 8 trailer, were embarked aboard ship. The second phase, which departed two weeks later by ship, consisted of the EOD Officer and the EOD truck. At the time the team was made up of one officer and one enlisted. The EOD truck was sent in Phase II because of shipping space and the terrain of the beach-head. If the EOD Team had been up to T/O, the second phase would have been one officer and one enlisted. The phases were set this way because the Group still had planes flying from its old base and flying wouldn't start at Chu Lai until Phase II arrived. The EOD truck, all tools and equipment, and safe arrived without any noticeable damage.

b. The biggest majority of work during the initial weeks of airfield construction came from Division units in the enclave since there was no EOD from the 3rd EOD platoon in the area. EOD also disposed of some Grade III ammunition that was damaged during off-loading.

3. June-Present

a. The team has a General Purpose (GP) tent that serves as the working and living spaces for the EOD technicians. The location of the tent is accessible to the runway in case of an aircraft emergency but isolated enough for the stripping of ordnance and the positioning of a ready demolition locker.

b. Since the airfield has been opened the team has responded to five major plane accidents plus has assisted numerous visiting planes for assorted reasons. When MAG-12 aircraft are making arrested landings one EOD man stands by the runway to police-up any 2.75" FFAR that might be freed from their pods upon landing.

c. A considerable amount of Class 5A, Grade III ammunition for one reason or another has been turned over to EOD for disposal. Because of the inaccessibility of a disposal area at Chu Lai the team strips and burns as much ordnance as possible. So far 75 JATO bottles and over 2000 2.75" FFAR have been stripped and burned. The 2.75" FFAR warheads have been returned to Group Ordnance for reissue.

## EXPLOSIVE ORDNANCE DISPOSAL OPERATIONS (Continued)

4. Present Organization and Equipment.

a. At the present time the EOD team has a strength of one (1) officer and four (4) enlisted. Our present strength is sufficient enough to allow an adequate runway watch plus leave men free to answer dud calls, dispose of Grade III ammunition, plus caring and cleaning of the tools and equipment.

b. The team has all the tools and equipment that is rated or is on order. The time from ordering to receiving has ranged from one (1) week to nine (9) months. With the changes being made at the present time in the EOD Stock Lists ordering new tools and equipment has been a continuous job.

c. Since the EOD team still keeps its Special Weapons capabilities, all tools and publications are kept at Chu Lai and up-to-date.

5. Problems

a. At almost every base in R.V.N. and at Chu Lai no adequate area for the disposal of unexploded or Grade III ordnance has been set aside. Till an area inside the enclave is designated as a disposal area the team is using a nearby island. This island is not very desirable but is the only area available. Because of the coral around the island the only transportation is by "Amtrac" or MAG-12's SAR helicopters. The helicopters present a problem because they won't fly dud ordnance either internally or externally. A sea dump off R.V.N. has its problems because of the distance to the 100 fathom line and the difficulty obtaining boats.

6. Lessons Learned

a. The T/O for a MAG EOD Team is set up as one (1) officer and two (2) enlisted. For the type operations at Chu Lai with four (4) tactical flying squadrons, this T/O cannot handle the job. Our present strength of one (1) officer and four (4) enlisted is sufficient.

b. Since Chu Lai is an abort airfield for planes in distress every EOD technician should be schooled and periodically refreshed on all services aircraft in relation to aircraft hazards.

c. A Group Order for the loading, fuzeing, unloading, flying, and accident procedures for bombs fuzeed with chemical long delay fuzes has been prepared and Base Operations, Crash Crew, and EOD have been carefully briefed on necessary procedures.

PART V  
SPECIAL PROBLEMS AND PROJECTS

V-1



MARINE AIR BASE SQUADRON 12  
 Marine Aircraft Group 12  
 1st Marine Aircraft Wing  
 Fleet Marine Force, Pacific  
 FPO, San Francisco 96601

RLT:au

5300

10 February 1966

From: Commanding Officer  
 To: Commanding Officer, Marine Aircraft Group 12

Subj: Recommended Manning Level, Marine Air Base Squadron 12

Ref: (a) CO, MAG-12 ltr 1:SFS:itb over 1300 of 1Feb66  
 (b) CO, MAG-12 ltr 1:FHW:job over 5340 of 26Sep65  
 (c) CO, MAG-12 ltr 1:FHW:sjp over 5310 of 11Nov65  
 (d) CO, MABS-12 ltr CW:jm over 5310 of 30Sep65  
 (e) MABS-12 Manning Level, FY-66

Encl: (1) Recommended Manning Level for MABS-12  
 (2) Justification for Additional Personnel  
 (3) Recapitulation by Rank and MOS

1. In accordance with the provisions of reference (a), enclosures (1), (2), and (3) are submitted.

2. References (b) and (c) have previously submitted recommended changes to the MABS-12 Manning Level, with justification. This letter, with enclosures, supercedes both of these previous letters. Reference (d) forwarded a recommended change of the Table of Organization for the Administrative Section of the Base Services Branch, MABS; it has been forwarded recommending approval through the Third Endorsement, by Commanding General, Fleet Marine Force, Pacific.

3. The recommended Manning Level for MABS-12 forwarded by this letter is based on reference (e) and on the past nine months actual experience at Chu Lai Airfield. It is founded, therefore, on the operations of an aircraft group actually supporting four tactical squadrons, with a high tempo of combat operations, and actually operating an airfield. Further, it is based on the following assumptions, all considered to be valid for at least the next year:

a. That the defensive and security requirements of MAG-12 will continue at the current level.

b. That MAG-12 will continue to be required to construct camp facilities and billeting, and that little or no MCB effort will be available, as

Annex A

RLT:au  
5300  
10 February 1966

little has been available in the past.

c. That until such time as permanent facilities are built at Chu Lai the requirements for extensive maintenance of such items as communication lines, generators and electrical power system, and roads will continue at, or increase beyond, the currently high levels.

d. That the possible introduction of indigenous labor will permit only minimum substitution of unskilled natives for Marine labor (as in trash trucks, laundry, and police details) but will not reduce heavy requirements in such critical areas as the ordnance dump, motor transport, or camp construction.

4. It is emphasized that the requirements set forth in the enclosures are based on actual experience. Accomplishment of many of these requirements in the past has been possible only because of heavy augmentation from the tactical and support squadrons. For example:

a. The MAG-12 Group Guard has been maintained at 165 men. Only 25 of these are O3 security personnel, and the other 140 are pro rata augmentation from all squadrons.

b. Camp construction has been accomplished by the assigned combat engineers augmented by a total of 25 men from all six squadrons.

c. The laundry unit has been operated with assigned laundry personnel augmented by 6 men (one from each squadron).

5. Several recent developments have drastically increased the need for personnel. The introduction of the MK-4 gun pod, as well as indications of heavier ordnance commitments in the future, create a pressing need for more personnel in the Ordnance Section. The installation of CE-1 catapult will almost double the need for personnel in the Launch and Recovery Section. Detailed justification is included in enclosure (2).

6. Other pertinent directives that increase the missions and tasks of particular sections are referenced in the justification discussion of particular sections.

7. A recommended Manning Level for MATCU-67 is not included in the enclosures. It is recommended that MATCU-67 Manning Level be established as 100 per cent of Table of Organization.

J. W. PARCHEN

RECOMMENDED MANNING LEVEL CHANGES FOR MABS-12

LINE	BILLET DESCRIPTION	RANK	MOS	NOTE	RECOMMENDED			DIFFERENCE		
					NA	AG	ENL	NA	AG	ENL
29	Communications Section									
30	CommOff	Capt	2502			1				
32	CommChief	MSgt	2529				1			
33	Cryptographer	SSgt	2561				1			
34	Cryptographer	Sgt	2561				1			
35	Message Center Unit									
36	NCOIC	GSgt	2543				1			
37	MsgCenMan	SSgt	2543				2			
37a	MsgCenMan	Cpl	2543				1			
37b	MsgCenMan	Pfc	2543				2			
38	TTOPr	Cpl	2541				3			
38a	TTOPr	LCpl	2541				1			
39	TTOPr	Pfc/Pvt					2			
40	Radio Unit									
41	NCOIC	GSgt	2539				1			
42	RadTeleOpr	Sgt	2533				2			
42a	RadTeleOpr	Cpl	2533				1			
42b	RadTeleOpr	LCpl	2533				1			
43	FlldRadOpr	Cpl	2531	1			2			2
43a	FlldRadOpr	LCpl	2531	1			3			1
43b	FlldRadOpr	Pfc/Pvt	2531	1			3			1
44	Repair Unit									
45	NCOIC	SSgt	2861				1			
45a	RadioTech	Sgt	2861				3			
46	KW-7 RadioTech	SSgt	2862				1			
47	KW-7 ElecTTypeRprman	Cpl	2822				1			
48	RadioRprman	Cpl	2841	1			2			1
49	KW-7 ElecTTypeRprman	LCpl	2822				1			
49a	Telephone-TeleTypeTech	Sgt	2811	1			1			1
49b	Telephone-TeleTypeTech	Cpl	2811	1			1			1
49c	Telephone-TeleTypeTech	LCpl	2811	1			1			1
50	RadioRprman	LCpl	2841	1			2			2
51	Wire Unit									
52	NCOIC	SSgt	2511				1			
52a	Wireman	Sgt	2511	1			1			1
53	Wireman	Cpl	2511	1			4			1
53a	Wireman	LCpl	2511	1			5			3
54	Wireman	Pfc	2511	1			4			1
55						1	57			16
56	Security Section									
57	SecurityOff	Capt	9910	2		1			1	
57a	AsstSecurityOff	Lt	9910	2		2			2	
58	SecurityChief	GSgt	8151	2			1			1
58a	AsstSecurityChief	SSgt	8151	2			3			3
59	Sgt of the Guard	Sgt	8151	2			6			6
60	Cpl of the Guard	Cpl	8151	2			12			12
61	Pol/PropMan	Cpl	8911	2			1			1
62	AdminClerk	LCpl	0141	2			1			1

LINE	BILLET DESCRIPTION	RANK	MOS	NOTE	RECOMMENDED			DIFFERENCE		
					NA	AG	ENL	NA	AG	ENL
63	Guard	LCpl	8151	2			50			50
64	Guard	Pfc	8151	2			90			90
65							3 164			3 164
76	A/CLaunch/Recovery Section									
77	L/ROff	Capt	7381		1					
78	AsstL/ROff	WO	7002			1				
79	L/R Chief	MSGt	7011				1			
80	Launch Unit									
81	LaunchOff	WO	7002	3		1			1	
82	LaunchChf	GSgt	7011	3			2			1
83	A/C L/RTech	SSgt	7011	3			3			1
84	A/C L/RTech	Sgt	7011	3			4			4
85	A/C L/RTech	Cpl	7011	3			10			10
86	A/C L/RTech	LCpl	7011	3			14			14
87	A/C L/RTech	Pfc	7011	3			12			12
88	Recovery Unit									
89	NCOIC	GSgt	7011				1			
90	A/C L/RTech	SSgt	7011				3			
91	A/C L/RTech	Sgt	7011				4			
92	A/C L/RTech	Cpl	7011				10			
93	A/C L/RTech	LCpl	7011				14			
94	A/C L/RTech	Pfc	7011				10			
95					1	2	88		1	42
96	CrashCrew/FireFgtSec									
97	CC/FF Off	WO	7002	4		1			1	
98	CC/FF Chief	MSGt	6461	4			1			1
99	Crash F/R Man	GSgt	6461				1			
100	Crash F/R Man	SSgt	6461	4			4			1
101	Crash F/R Man	Sgt	6461	4			6			1
102	Crash F/R Man	Cpl	6461				9			
103	Crash F/R Man	LCpl	6461	4			13			2
104	Crash F/R Man	Pfc	6461	4			14			3
105						1	48		1	8
106	Weather Services Section									
107	Aerology Off	WO	6802			1				
108	Aerology Chief	GSgt	6811	5			2			1
109	Forecaster	SSgt	6811	5			3			1
110	Forecaster	Sgt	6811	5			3			1
111	Weather Obs	Cpl	6811	5			6			2
112	Weather Obs	LCpl	6811	5			6			4
112a	Weather Obs	Pfc	6811	5			5			4
113						1	25			13
126	Base Services Branch									
127	Admin Section									
128	BaseServO	Maj	0402			1				
128a	AsstBaseServO	Capt	0402	6		1			1	
129	BaseMaintEng	Capt	1330	6		1			1	
129a	AsstBaseMaintEng	Lt	9912	6	1				1	
130	BaseServChief	MSGt	1169				1			
131	LogClk	Sgt	0441	6			1			1
131a	ConstDraft	Cpl	1411	6			1			1
131b	ConstSurveyor	Cpl	1413	6			1			1
131c	EmbClk	LCpl	0431	6			1			1
132						1	3	5	1	2

LINE	BILLET DESCRIPTION	RANK*	MOS	NOT	RECOMMENDED			DIFFERENCE		
					NA	AG	ENL	NA	AG	ENL
133	Utilities Section									
134	Utilo	WO	1320			1				
134a	UtilChief	MSgt	1169				1			
135	Constrn/RepairUnit									
136	NCOIC	GSgt	1371				1			
137	MetalWkr	SSgt	1316				1			
138	Constrn/Repairman	Sgt	1371	7			4			1
139	MetalWkr	LCpl	1316	7			2			1
140a	Constrn/Repairman	Cpl	1371	7			5			4
140	Constrn/Repairman	LCpl	1371				8			
141	Constrn/Repairman	Pfc	1371	7			16			4
142	Electrical Unit									
143	NCOIC	SSgt	1169				1			
143a	Electrician	Sgt	1141	8			2			2
144	Electrician	Cpl	1141	8			4			1
145	Electrician	LCpl	1141	8			5			2
146	Electrician	Pfc	1141				7			
147	Laundry Unit									
148	NCOIC	SSgt	3261				1			
149	LdryMachOpr	Cpl	3261	9			2			1
150	LdryMachOpr	LCpl	3261	9			3			1
151	LdryMachOpr	Pfc	3261	9			5			1
152	Plumb/WaterSupUnit									
153	NCOIC	SSgt	1169				1			
153a	Plumb/WtrSupMan	Sgt	1121	10			2			2
154	Plumb/WtrSupMan	Cpl	1121	10			2			1
155	Plumb/WtrSupMan	LCpl	1121				2			
156	Plumb/WtrSupMan	Pfc	1121	10			6			3
157	Refrigeration Unit									
158	NCOIC	Sgt	1161				1			
158a	RefrigMech	Cpl	1161	11			1			1
159	RefrigMech	LCpl	1161				1			
160	RefrigMech	Pfc	1161				1			
161						1	84			25
New	Airfield Maint Unit									
New	Metal Wkr	SSgt	1316	12			1			1
New	ElectMan	Sgt	1141	12			1			1
New	A/C L/R Tech	Sgt	7011	12			1			1
New	Metal Wkr	Cpl	1316	12			2			2
New	Elect Man	Cpl	1141	12			1			1
New	Elect Man	LCpl	1141	12			1			1
New	ConstEquip&ShorePartyMan	Pfc	1300	12			4			4
New							11			11
162	Food Services Section *									
163	NCOIC	MSgt	3349				1			
164	Baker	SSgt	3311				1			
165	Cook	SSgt	3371				1			
166	Baker	Sgt	3311				1			
167	Cook	Sgt	3371				4			
168	Baker	Cpl	3311				1			
169	Cook	Cpl	3371	13			8			1
170	Baker	LCpl	3311				2			

LINE	BILLET DESCRIPTION	RANK	MOS	NOLE	RECOMMENDED			DIFFERENCE		
					NA	AG	ENL	NA	AG	ENL
171	Cook	LCpl	3371				8			
171a	Baker	Pfc	3311	13			1			1
172	Cook	Pfc	3371	13			6			2
173							33			4
	*MOS 3611 deleted									
174	LiquidOxygenMfgSec									
175	NCOIC	GSgt	7114				1			
176	CryoEquipTech	SSgt	7114	14			3			2
177	CryoEquipTech	Sgt	7114	14			9			7
178	CryoEquipTech	Cpl	7114	14			6			3
179							19			12
180	Motor Transport Section									
181	Admin Unit									
182	MT Off	Capt	3502				1			
183	N/A									
184	MT Chief	MGSgt	3516				1			
185	Supply Man	Sgt	3051	15			1			1
187	Maintenance Unit									
188	Maint Off	WO	3510	15			1		1	
189	Maint Chief	GSgt	3516				1			
190	EngEquipMech	SSgt	1341				1			
191	Machinist	SSgt	2161				1			
192	AutoMech	SSgt	3516	15			2			1
193	EngEquipMech	Sgt	1341				1			
194	AutoMech	Sgt	3516				7			
194a	Machinist	Sgt	2161				1			
195	BodyMech	Cpl	3513				1			
196	EngEquipMech	Cpl	1341	15			5			2
197	Machinist	Cpl	2161				1			
198	AutoMech	Cpl	3516	15			7			1
199	EngEquipMech	LCpl	1341	15			4			1
200	BodyMech	LCpl	3513	15			2			1
201	AutoMech	LCpl	3516	15			10			2
201a	EngEquipMech	Pfc	1341	15			3			1
201b	AutoMech	Pfc	3516	15			6			1
202	Operations Unit									
203	NCOIC	MSgt	3537				1			
204	Truckmaster	SSgt	3537				2			
204a	EngEquipOpr	Sgt	1345	16			1			1
204b	MtrVehOpr	Sgt	3531				3			
205	EngEquipOpr	Cpl	1345				1			
206	MtrVehOpr	Cpl	3531	16			5			2
207	EngEquipOpr	LCpl	1345	16			2			1
208	MtrVehOpr	LCpl	3531	16			25			2
209	EngEquipOpr	Pfc	1345				4			
210	MtrVehOpr	Pfc	3531	16			41			4
211							2 140		1	21
212	Ordnance Section									
213	OrdOff	Capt	6502				1			
214	AsstOrdOff	WO	6502				1			

LINE	BILLET DESCRIPTION	RANK	MOS	NOTE	RECOMMENDED			DIFFERENCE		
					NA	AG	ENL	NA	AG	ENL
214a	EOD Off	WO	2045		1					
215	OrdChief	MSgt	6511				1			
216	EOD Tech	GSgt	2336				1			
216a	AvnOrdMan	GSgt	6511	17			2			2
217	AvnOrdMan	SSgt	6511	17			3			2
217a	EOD Tech	SSgt	2336	17			1			1
218	EOD Tech	Sgt	2336	17			2			1
219	AvnOrdMan	Sgt	6511	17			8			4
220	AvnOrdMan	Cpl	6511	17			10			3
221	AvnOrdMan	LCpl	6511	17			20			14
222	AvnOrdMan	Pfc	6511	17			20			13
223					3		68			40
224	TAFDS Section									
225	TAFDS Off	WO	1390		1					
226	TAFDS Chief	MSgt	1391				1			
227	QualityContMan	GSgt	1391				1			
228	BulkFuelMan	SSgt	1391				2			
229	BulkFuelMan	Sgt	1391	18			6			3
230	BulkFuelMan	Cpl	1391	18			9			5
231	BulkFuelMan	LCpl	1391	18			10			3
232	BulkFuelMan	Pfc	1391	18			10			3
233					1		39			14

d. Early models had 1x12 louvers nailed on the lower half of the walls. This design was attractive but used large quantities of lumber, and was wet and drafty during the monsoons. All huts now have shutters on both the upper half and the lower half of the walls. Eight foot shutter frames are fabricated and covered with flat sheet tin for the lower walls, and with Vietnamese woven straw matting for the upper walls. Eight shutters for each side and four for each end are required, plus two doors covered with straw matting. The shutters are hinged at the top; the upper shutters can be hooked to the eaves, and the lower shutters propped open in warm weather, or quickly dropped during rain.

e. Huts are wired with 3 overhead light sockets and with 4 double wall outlets.

f. Steps of 2x12 dunnage are installed at each end.

g. The huts are dry and comfortable during the rains and much cooler than tents during warm weather. With the materials pre-cut in the carpenter shop, a 4 man crew can build a 16x32 hut from the ground up in 2½ to 3 days.

h. Materials used,

- (1) 1080 BdFt 2x4
- (2) 400 BdFt 1x6
- (3) 620 BdFt 1x12
- (4) 17 Sheets Tin, 1x2 meters
- (5) Dunnage for steps
- (6) Straw Matting and/or Flat sheet tin for shutters
- (7) 26 pair hinges

i. Other MAG-12 buildings are variations on this basic design with dimensions in multiples of 4 feet to conform to 4x8 ft plywood sheets. Twenty eight feet is the widest practicable building possible with 2x4 rafters. Louvers on the lower wall were used in Officer's Mess, Chapel, and Post Office/Disbursing buildings; entire walls were louvered in the Carpenter shop and Laundry. Straw matting ceilings were installed in Chapel and mess. ( See Photo)



f. In November water points and water towers were enclosed in barbed wire fences. All water buffaloes were modified with the breather ports plugged and with hasps and padlocks on the top two ports so that they could be kept locked, precluding poisoning by infiltrators.

g. Concertina wire will be emplaced between the taxiway and the runway the length of the airfield during April.

h. Sentry dogs are still being considered for close-in security. If they are ever acquired, MABS will probably build and run the kennel. (See Annex 3)

i. The pine trees within the camp sprout limbs profusely from the base. Periodically, all limbs are trimmed up to six feet on the trees to improve visibility and to reduce available cover for infiltrators.

j. During January-February, the 7th Marines constructed two barbed wire fences (concertina and double apron) around the landward perimeter of the airfield, approximately 1000 meters from the runway. Trip flares are emplaced between the fences; claymore mines are planned.

### 3. Head Construction.

a. Initially, holes for four-holer boxes were dug and sandbagged in the soft sand. In June, a system of barrels heads was started. Eight 55 gallon drums were welded together, 4 in a cluster, 2 deep. These barrels were sunk in holes in the sand and the four-holer boxes placed on top. Twenty-two screened sheds were constructed, half by MABS and half by the Seabees, with dexion frames, screened sides, and plywood roofs. The heads were limed each day, and burned out several times weekly. The average head lasted from 2 to 3 months, but then would have to be closed, filled, and relocated with new barrels. This system involved much labor digging holes, and also used up a lot of real estate. By October we were running out of new locations for heads.

b. In October construction of new half-barrel heads commenced. These consist of a plywood and screen building, with corrugated roof, enclosing a two-holer against each side. Hinged trap doors at each side permit half barrels, cut from 55 gallon drums, to be slid under each hole. Nothing is dug into the ground. Each day the four half barrels are removed and burned with diesel oil. Residue is minor, and the barrels must be trucked out and emptied only when burning is inadequately accomplished. Forty-two of these heads have been constructed by MABS. (See photo)

### 4. Billeting Hut Construction.

a. MAG-12 huts should replace all GP tents for billeting by July 1966. By trial and error, a standard design has evolved.

b. A 16x32 foot deck, 2 feet high, and covered with 3/4 inch plywood is constructed. Wall frames of 2x4, 6 feet high and with 4 foot centers, are erected. Doors are left in each end. Roof risers of 2x4 are erected, with 2 1/2 foot overhangs on the ends and 3 foot eaves on the sides. Rafters are nailed and cross-braced 7 feet from the deck.

c. Corrugated tin 1x2 meters, purchased in Saigon, is used for roofing.

1. Personnel. Personnel has been the big and continuing problem for MABS-12 since the beginning of the Chu Lai operation. In May 1965 the squadron had 384 men, and was short of personnel in almost every MOS. The manning level has been increased step by step, until on 1 March 1966, 610 men were assigned, including MATCU-67. This figure is still not adequate to do the job; a proposed manning level for MABS-12 at Chu Lai, with justification, was forwarded to MAG-12 and 1stMAW in February. A copy of this recommended manning level is included as Annex A to this study. As indicated therein, the only way many of the tasks at Chu Lai could be accomplished was by personnel augmentation from all squadrons. In March 1966, augmentation from the tactical squadrons, H&MS, and MABS totalled 125 men to Group Guard, 25 men to camp construction, 6 men to laundry, and 58 men to mess duty.

2. Security Construction.

a. Construction and facilities to enhance the camp and airfield security has been a top priority project throughout the Chu Lai operation, and has evolved in a number of directions.

b. Flight line revetments for protection of the aircraft were constructed as the taxiway was laid. Revetments consist of 106 55 Gallon drums stacked in a pyramid, with 3 rows on the bottom layer, 2 rows on the middle layer, and one row on top. The drums were filled with sand. The rows were banded both horizontally and vertically from the top layer to the bottom layer with one inch steel banding. Revetments were constructed between each two aircraft parking spaces. (See photo)

c. In June 1965 requirements for a full chain link fence to encompass the land perimeter of the airfield were submitted to 1stMAW. The cost was too high, and no further action was taken on the proposal.

d. Two 20 foot guard towers were constructed on the beach front during July. The towers were made of 55 gallon drums welded in a cluster of 4, then welded eight drums high; a search light was emplaced on top with a dexion cage added. The tower is manned 24 hours a day. (See photo)

e. In November a defensive lighting project commenced. Five hundred watt floodlights were purchased in Saigon for about ten dollars each. Twelve foot poles fabricated of 2x4's were emplaced 500 feet apart between the taxiway and the runway the length of the airfield. Two floodlights were angle mounted on each pole. By the first week in January a similar line of poles had been emplaced the 6000 foot length of the beach front. Additional lights were emplaced at the water point, at the north and south TAFDS areas, and on the north flank. The lights are controlled by the Group Guard, and are not used on bright moonlit nights. The Vietnamese lights are poor quality and require constant adjustment and replacement; better, but more expensive, lights are on order through the supply system. A similar light system for the airfield perimeter is now being installed by the 7th Marines. (See photo)

PART VI

ANNEXES

A. MANNING LEVEL REQUIREMENTS

NIE? B. PHOTOGRAPHS

C. SECURITY RECOMMENDATION

JUSTIFICATION FOR ADDITIONAL PERSONNELNOTE 1

1. Fifteen personnel, MOS 2511, are required to maintain and operate hundreds of miles of wire communications and to operate the main switchboard of Chu Lai Airfield (MAG-12). Other requirements are: four men crew for cable construction; four men for two crews on a 24 hr basis for troubleshooting; four men to operate the main switchboard and to handle the thousands of telephone calls from 200 installed telephones.

2. Eight men, MOS 2531, are needed to properly operate the below listed radio nets:

TAC Net	24 hours
Wing Cmd #2	12 hours
7th Marines Tactical	12 hours
LSO Net	24 hours

Three watch supervisors are required to assist the operators with generator problems and other communication difficulties. Although the Communications Section has and is required to maintain a CW capability, all nets are voice and thus the change in 2531's vice 2533's.

3. MAG-12 operates six SB-86 switchboards, seven SB-22 switchboards and has in use over 200 telephones, as well as teletype machines in Aerology and S-3 sections. A minimum of three 2811's to maintain this equipment is essential.

4. Four men (MOS 2841) are needed to maintain the complex communications equipment. The extreme conditions of sand, heat and humidity in Vietnam combined with heavy use of the equipment creates an abnormal amount of equipment failures which is beyond the repair capability of the one man now authorized in the current Manning Level. Two additional 2841's are required to keep abreast of the numerous maintenance problems. One additional 2841 is required to maintain and repair the radio receivers and converters in the Meteorology Van. He will also be used to maintain the facsimile machine in the van for which the squadron does not have or rate a trained repairman.

NOTE 2

1. Table of Organization M-8820 authorizes a Security Section consisting of one officer, MOS 9910, and 72 enlisted, MOS 8151, as part of the internal organization and personnel strength of Marine Air Base Squadron 12. The 1966 Manning Level does not provide for any Security Section.

2. At present MABS-12 has a security force of one officer MOS 7002 and 165 enlisted; 25 of these are (O3's) permanently assigned to the squadron and the remainder are personnel augmented from the four tactical squadrons, H&MS, and MABS.

ENCLOSURE (2)

3. 164 enlisted (8151) and three officers (9910) trained in infantry tactics, are required to provide adequate security and protection for the personnel, equipment and aircraft from infiltration and/or attack. Chu Lai Airfield requires a 360° defensive perimeter. The personnel recommended in this report will provide adequate security, and would release those personnel currently assigned security duty from the tactical and support squadrons to return to their parent units and resume their primary duties.

NOTE 3

1. It is proposed that the present Manning Level of 46 enlisted (7011) and 2 officers (7002) be increased by 42 enlisted (7011) and 1 officer (7002). This is necessary to adequately provide sufficient personnel to operate and maintain the two MK-21MOREST sets in Recovery Section and the CEL-3 catapult currently being installed.

2. The Launch and Recovery Section will include two separate crews, composed of two duty sections, each working on a 24 hr basis (one crew for launch, one crew for recovery).

3. Following is a break down of the requirements for additional personnel for the Launch Section:

- a. (1) WO - Officer in Charge.
- b. (1) E-7 - Supervise Launch and Recovery Operations.
- c. (1) E-6 - Console Operator, CEL-3 catapult.
- d. (4) E-5 - Deck edge control operator; plane director; deck crew leader; handle SATS supply function.
- e. (10) E-4 - For plane crews, deck edge repairman and deck hardware repairman, terminal end arrester watch.
- f. (14) E-3 - Crew members (plane crews, bridle hold back crews).
- g. (12) E-2/1 - Plane crew members.

NOTE 4

1. One Crash Crew Officer and 48 enlisted personnel are required to adequately provide protection and coverage for Chu Lai Airfield. Due to the tempo of 24 hours per day operations, port and starboard sections are required. Eight enlisted are needed in addition to the present Manning Level to adequately staff the MB-1, MB-5, Bay City Crane, and two M-76 Otters on a 24-hour basis.

2. Further, the MABS-12 Crash Crew is responsible for providing fire protection to the entire camp and airfield area, including TAFDS farms.

NOTE 5

Ref: (a) FMAW msg 280826Z Dec65

1. Twenty five enlisted (MOS 6811) are needed to provide weather service for Chu Lai Airfield and to operate the GMD-1B radiosonde equipment. MABS-12 Weather Section has been given the responsibility of operating the GMD-1B radiosonde equipment and TMQ-5 recording equipment to support TPQ-10/artillery units with upper air information. (Reference (a)).

2. The additional thirteen personnel are required to operate the GMD gear on a 24 hour basis, taking two soundings per 24 hour period. Two five man teams plus supervisors will be needed for each sounding. Personnel will operate receiver radar, TMQ-5 recorder, plotting board, wind recorder and provide for bottom filling and clean up of equipment.

NOTE 6

1. Reference (e) to the basic letter recommended a change to the Table of Organization for the Administrative Section of the Base Services Branch. This recommended change was forwarded to CMC, recommending approval, by CG, FMFPac, Third Endorsement of 13 December 1965.

NOTE 7

1. Thirty-four personnel (MOS 1371) and three (MOS 1316) required to construct, repair and maintain facilities throughout the vast MAG-12 complex. Additional personnel requested are needed over the next year to relocate approximately 25% of the present camp facilities; to construct over 290 semi-tropical buildings, and to construct other base facilities such as a barber shop, post office, disbursing, post exchange, and S-3 briefing building. The increase in personnel will eliminate the requirement for tactical squadrons to augment the base construction teams in the development of required facilities.

NOTE 8

1. Eighteen personnel (MOS 1141) required to install, maintain and repair electrical equipment, systems and accessory material located throughout the base camp. The present Manning Level is not sufficient to meet the continually increasing electrical power system of the camp and airfield. Electricians are presently attempting to maintain over thirty five generators, 50 miles of electrical power transmission lines and 70 security flood light units.

2. In addition, FMFPac Order P3000.1C assigns to MABS-12 the mission of maintaining airfield lighting systems and the fresnel lens optical landing system. (See NOTE # 12)

ENCLOSURE (2)

NOTE 9

1. Present Manning Level provides personnel to operate and maintain one field laundry unit. MABS has been operating and maintaining two complete laundry units, working seven days per week, washing and drying more than 8000 pounds of clothing and medical linen each week. The laundry personnel have been augmented by 6 men, one from each squadron; the recommended increase would permit return of this augmentation to parent squadrons.

NOTE 10

1. Additional personnel (MOS 1121) are required to operate and maintain two water purification points and four shower units. They are required to install and maintain transfer lines and dispensing points throughout the camp.

NOTE 11

1. Four personnel (MOS 1161) are required to install, maintain, and service over 20 items of refrigeration equipment. This equipment includes reefers, ice machines, and refrigerators in the General Mess, Officers Mess, and four "lounges" in the camp. The presently assigned personnel are unable to keep up with the maintenance requirements, which will increase during the tropic summer weather ahead.

NOTE 12

1. Commanding Officer, MAG-12 ltr 4:BJS:drd over 11132 of 20 December 1965 explains and justifies in detail the requirement for an Airfield Maintenance Unit.

NOTE 13

1. The Food Services Section is presently furnishing messing service and facilities at two separate locations, the General Mess and Officers Mess, feeding approximately 2100 personnel three meals each day. The increase in personnel subsisting at the General Mess and the present shortage of steward-cooks for the officers mess, with the anticipated deletion of that MOS (3611), requires an additional three cooks. The MABS bakery produces all bread for MAG-12 (approximately 5000 pounds per week) as well as all other bakery products and ice cream. One additional baker is needed for this major effort.

NOTE 14

1. The present Manning Level provides sufficient personnel (MOS 7114) to operate one HT-1A liquid oxygen plant. MAG-12 is presently operating two plants, supporting four tactical squadrons. The request for additional personnel will provide the LOX Section assistance in conducting the required 4th echelon repairs, in addition to producing both gaseous oxygen and

ENCLOSURE (2)

nitrogen. It will provide for separate operating and maintenance crews, capable of operating equipment on a 24 hour basis, while fully complying with LOX SOP's. (This recommended Manning Level has been previously concurred with by the Liquid Oxygen Officer, G-4, 1stMAW)

NOTE 15

1. The addition of one (3051) to the Admin Unit of the Motor Transport Section is required because of the need to submit and maintain requisitions on all Section "M" equipment. One (3051) is needed to properly maintain the required stub requisitions, initiate required tracer action and maintain stock levels at necessary levels.
2. The addition of five (MOS 3516) to the Maintenance Unit of the Motor Transport Section is required to provide second, third and limited fourth echelon maintenance for over 800 units of Section M equipment assigned to MAG-12, MASS-7, MACS-9, and CIT Team. The remarkably adverse operating conditions at Chu Lai has increased the motor vehicle maintenance man hours to the extent that this increase is necessary for the successful completion of MAG-12's mission.
3. Increase in (MOS 1341) is required to repair and maintain over 80 items of diesel powered engineer equipment. The increase will allow proper 2nd and 3rd echelon maintenance to be performed, and decrease the down time of deadlined equipment.
4. One additional (MOS 3513) is required to repair and maintain assigned equipment. Due to the weather conditions at Chu Lai increased rust and corrosion problems have magnified two fold. The addition of one more 3513 will aid in maintaining the maintenance program at the proper level.
5. One Maintenance Officer (MOS 3510) is required to supervise and assist the large Maintenance Unit within the Motor Transport Section.

NOTE 16

1. The proposed personnel increase for (MOS 1345) are necessary in order that this squadron may effectively operate and maintain 32 pieces of engineer construction equipment. Additional operators are needed to excavate and improve approximately 25% of the present camp facilities, in addition to clearing new areas for construction and maintaining roads and operating areas.
2. An increase in Manning Level of eight (MOS 3531) is required to operate and maintain over 73 major automotive vehicles, including 15 pieces of new equipment. At the present time lack of motor vehicle operators has seriously hampered the efficiency of the Motor Transport Section.

NOTE 17

1. An increase of thirty eight (MOS 6511) are required in the Ordnance

ENCLOSURE (2)



Section due to the increased sortie rates of the MAG-12 tactical squadrons, requirement to provide ordnance storage and handling in support of MAG-36, and the increase from the present 9 day stock level to a forty five day stock level. These personnel will allow the Ordnance Section to effectively meet the increased tempo of 24 hour a day flight operations and still meet the class V(A) requirement for four attack squadrons.

a. In addition, the Ordnance Section is now supporting fifteen (15) MK-4 Gun Pods. Forty five more gun pods are programmed for MAG-12 squadrons. A crew of 14 ordnancemen is required to man the two MK-11 belting machines to keep ahead of the operational use of the present 15 gun pods.

2. Four personnel (MOS 2336) are required to establish and maintain two Explosive Ordnance Disposal Teams in support of four tactical squadrons operating in two separate areas. (Four personnel are currently assigned)

NOTE 18

1. Thirty nine personnel, (MOS 1391) are required to maintain and operate three TAFDS Farms in support of flight operations. The three TAFDS Farms are widely dispersed along an 8000 foot taxiway and are not mutually supporting. A minimum of eight personnel are required to operate one TAFDS Farm on a 24 hour basis.

2. Wing Order P10340.2 requires four personnel be stationed at each TAFDS Farm during hot refueling operations.

3. Of the thirty nine personnel required, four will be necessary for TAFDS support of the CEL-3 catapult presently being installed.

ENCLOSURE (2)

RECAPITULATION BY MOS

MOS	Gen E-9	Col E-8	LtCol E-7	Maj E-6	Capt E-5	Lt E-4	WO E-3	E-2/1	TOTAL
Off - NA									
7381					1				1
7383					1				1
9912			1	2	1	1			5
			1	2	3	1			7
Off - AG									
0130					1				1
0402				1	1				2
1320							1		1
1330					1				1
1390						1			1
2045						1			1
2502					1				1
3502					1				1
3510							1		1
6406							1		1
6502					1		1		2
6802							1		1
7002							3		3
9910					1	2			3
				1	7	2	10		20

(S) ENCLOSURE

MOS	<u>E-9</u>	<u>E-8</u>	<u>E-7</u> 1	<u>E-6</u> 1	<u>E-5</u> 1	<u>E-4</u> 2	<u>E-3</u> 5	<u>E-2/1</u> 3	<u>TOTAL</u> 13
0141							1		1
0431									2
0441					1	1			12
1121					2	2	2	6	21
1141					3	5	6	7	4
1161					1	1	1	1	3
1169		1		2					4
1300								4	5
1316				2		1	2		14
1341				1	1	5	4	3	8
1345					1	1	2	4	34
1371			1		4	5	8	16	39
1391		1	1	2	6	9	10	10	1
1411						1			1
1413						1			3
2161				1	1	1			4
2336			1	1	2				15
2511				1	1	4	5	4	1
2529		1							8
2531						2	3	3	4
2533					2	1	1		1
2539			1						6
2541						3	1	2	6
2543			1	2			1	2	2
2561				1	1				3
2811					1	1	1		2
2822						1	1		4
2841						2	2		4
2861				1	3				1
2862				1					4
3041					1		2	1	1
3051					1				11
3071			2	1	1	1	4	2	11
3261				1		2	3	5	6
3311				1	1	1	2	1	1
3349		1							27
3371				1	4	8	8	6	3
3513						1	2		34
3516	1		1	2	7	7	10	6	74
3531					3	5	25	41	3
3537		1		2					1
4631					1				1
5711					1				48
6461		1	1	4	6	9	13	14	64
6511		1	2	3	8	10	20	20	2
6671				1			1		25
6811			2	3	3	6	6	5	89
7011		1	3	6	9	20	28	22	7
7041		1		1	1		3	1	19
7114			1	3	9	6			164
8151			1	3	6	12	50	90	1
8911						1			1
9999	1								1
TOTAL	2	9	19	48	93	138	233	279	822

ROUTINE  
R 100201Z  
FROM: MARAIRGRU ONE TWO  
TO: CG FMAW

UNCLAS EFTO  
SECURITY REQUIREMENTS, REVISION OF  
1. REQUEST PREVIOUSLY SUBMITTED REQUIREMENT FOR PLATOON  
SENTRY DOGS BE MODIFIED AS FOLLOWS.

A. REDUCE NUMBER DOGS FROM 30 TO 15

B. ENSURE DOGS ARE WATER SPANIELS OR LABRADOR  
RETRIEVERS. OTHER BREEDS CONSIDERED UNSUITABLE FOR  
EXISTING CONDITIONS (SUBMERGED) OF TERRAIN.

2. IN LIEU OF 15 DOGS DELETED FROM ORIGINAL REQUIREMENT  
REQUEST SUBSTITUTE CROCODILES. ENDLESS LAGOONS EXISTING  
BOTH SIDES AND UNDER TAXIWAY AND RUNWAY CONSIDERED IDEAL  
AREA FOR HUNGRY AMPHIBIANS. WOULD GREATLY ENHANCE  
DEFENSES AGAINST VC INFILTRATION. IF NECESSARY TO COMPLY  
WITH SPIRIT OF "BUY AMERICA" CAMPAIGN FLORIDA ALLIGATORS  
CONSIDERED SUITABLE SUBSTITUTE CROCODILES.

3. NO ADDITIONAL LOGISTIC SUPPORT ENVISIONED NECESSARY  
FOR CROCODILES. CATFISH IN LAGOON PLUS TRANSIENT VC  
ADEQUATE CLASS I SUPPORT IN IMMEDIATE FUTURE.

-----  
DIST: S-1; MABS-12  
GENERAL

/s/ L. E. Brown  
L. E. BROWN  
COLONEL, USMC  
RELEASER

100201Z NOV 65.

ANNEX C

VI-C-1



UNITED STATES MARINE CORPS  
HEADQUARTERS, FLEET MARINE FORCE, PACIFIC  
FPO, SAN FRANCISCO, 96601

In the name of the Secretary of the Navy, the Commanding General,  
Fleet Marine Force, Pacific takes pleasure in awarding the NAVY COM-  
MENDATION MEDAL to

STAFF SERGEANT VAN C. LAFFOON

UNITED STATES MARINE CORPS

for service as set forth in the following

CITATION:

"For meritorious achievement while serving as Radar Approach Controller with Marine Air Traffic Control Unit Sixty-seven, Marine Air Base Squadron Twelve at Chu Lai, Republic of Vietnam. On 22 June 1965, upon receiving information that a flight of four United States Air Force F-100 jet aircraft were dangerously low on fuel and unable to land at the DaNang Air Base, Staff Sergeant LAFFOON immediately established radar and radio contact with the flight and calmly directed their approach to the Chu Lai Airfield. When the flight was twelve miles from the field, one pilot was forced to eject when his aircraft ran out of fuel. After recording the spot of ejection, Staff Sergeant LAFFOON notified search and rescue units, and continued to guide the remaining three aircraft to a safe landing. By his immediate, professional response to a demanding and challenging situation and exceptional presence of mind, Staff Sergeant LAFFOON was responsible for saving three pilots and their aircraft and assisting in the successful rescue of the downed pilot. His actions throughout upheld the finest traditions of the United States Naval Service."

Staff Sergeant LAFFOON is authorized to wear the Combat "V".

FOR THE SECRETARY OF THE NAVY,

V. H. KRULAK  
LIEUTENANT GENERAL, U. S. MARINE CORPS  
COMMANDING

TEMPORARY CITATION