

9th MEDICAL LABORATORY

U.S. ARMY

VIETNAM

JUNE 1966 - MAY 1967

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TABLE OF CONTENTS

	Page
Report.	1
Comments and Recommendations.	4
Photographs G1 and G2 by SSG R. S. Green	11
Photographs H1-H14 by SP4 D. M. Hart.	14
Photographs F1-F22 by LTC P. A. Finck.	29
Photographs H15-H18 by SP4 D. M. Hart.	53
Appendix with photographs A1-A7 of stamps from South Vietnam, 1963.	58
Distribution.	66

NINTH MEDICAL LABORATORY, VIETNAM, 1966-1967

This report illustrates the first year of the 9th Medical Laboratory (9th Med Lab) in Vietnam.

An advance party of 1 captain and 1 sergeant left Ft. McPherson, Georgia, and flew to Saigon on 24 May 1966 to plan for the arrival of the group coming by sea.

On 4 June 1966, after 18 days on the USNS GORDON, 2700 troops, including 13 officers and 56 enlisted men of the 9th Med Lab, arrived in Vietnam. Portholes were closed against grenades that might possibly be thrown by the Viet Cong. At Vung Tau (in French, Cap Saint Jacques), the personnel of the 9th Med Lab went ashore in a Landing Craft Utility (LCU), each with helmet, helmet liner, duffle bag, combat pack, ammunition and weapon (M14 rifle or caliber .45 pistol).

The road between Vung Tau and Saigon was not secure so a cargo plane flew the personnel to Tan Son Nhut, the Saigon airport, in 20 minutes.

The rations, equipment, and additional ammunition, which were on board the ship (to accompany troops or "TAT"), were guarded and delivered by laboratory personnel within the week by means of waterways and trucks. Yellow and red TAT were in two CONEXES. ("Yellow" and "red" refer to different degrees of requirements in the immediate availability of TAT equipment and supplies. The word "CONEX" is a contraction for containerized exchange.) The 37 CONEXES, with tentage, other equipment, and laboratory material, arrived in a separate shipment from the U. S. on 1 July 1966.

The value of the equipment of the 9th Med Lab was 500,000 U. S. dollars; the weight was 64 tons. The equipment was transported and installed by laboratory personnel on land rented from a Vietnamese owner and in a building shared with the 20th Preventive Medicine Unit. The location of the first site of the 9th Med Lab - approximately 3 kilometers south of Tan Son Nhut towards Cholon - was 14-28 Nguyen Van Thoai (called "Old Plantation Road" by U. S. personnel because of its location in a former rubber plantation of the French). The proximity of the dusty road with heavy traffic and the lack of air-tight windows and air-conditioning, as well as the 4 cave-ins experienced in 10 weeks, made the premises unsuitable for the operation of a laboratory.

In July 1966, the laboratory NCO noticed a building under construction that was designated for U. S. billets on Lot 24, Zone B, Phu Tho Hoa, 500 meters north of the first site and 200 meters east of Old Plantation Road.

On 31 August, the Laboratory Commander and Executive Officer showed the CO of the 44th Medical Brigade the damage that had been caused by leaking plastic pipes in three departments and by cave-ins in two departments. Then, they went to Phu Tho Hoa, Lot 24, to show the potential new site of the 9th Med Lab to the Brigade Commander. Headquarters Area Command (HAC) officially assigned the building on Lot 24 to the 9th Med Lab in September. On 21 September, the Laboratory Commander went to see the Province Chief, a major in the Vietnamese Army Medical Corps, to acquire Lots 23 and 25 adjacent to the building and needed to establish bunkers, storage area, space for generators, and parking lots. The land belonged to private Vietnamese owners and had to be rented through Military Assistance Command

Vietnam (MACV). The MACV's top price for land rent was 30 piastres per square meter per month. (NOTE: In 1966-1967, the rate of exchange for U. S. Government contracts was 72 piastres for 1 U. S. dollar. The rate for private transactions was 118 piastres. Black market ratio was still higher.) The Executive Officer of the 9th Med Lab immediately took steps to transform into a laboratory the Phu Tho Hoa building designed for billets. He requested the required modifications from the Department Chiefs and consolidated and modified them in liaison with Post Engineer Staff, HAC, Saigon.

The Post Engineer rejected the building 5 times between September and December 1966, because of the numerous discrepancies between the HAC-owner contract and the work accomplished by the Vietnamese contractor. Finally, the building was approved for occupancy in December 1966. The personnel of the laboratory moved all the equipment and supplies within 10 days. The new site - including the two rented lots - was occupied by Christmas 1966.

The air-conditioning units requested in June and September 1966 were delivered on 4 May 1967. They could not be used because the receipt of the additional electric power (300 kw) requested in October 1966 and approved in March 1967 was still pending. The modifications of the building on Lot 24 to house the laboratory, also requested in October 1966 and approved in March 1967, had not been started by the engineers when the undersigned left the 9th Med Lab on 5 May 1967.



PIERRE A. FINCK
LTC, MC, USA
9th Medical Laboratory
Commanding*

*6 May 1966 to 3 April 1967

COMMENTS AND RECOMMENDATIONS

These recommendations are based on experience and observations made in Vietnam from 4 June 1966 to 7 May 1967. Colonel Hinton J. Baker relieved me on 3 April 1967 as Commanding Officer of the 9th Medical Laboratory (9th Med Lab).

1. ASSIGNMENT OF LABORATORIES. All U. S. Army Laboratories in Vietnam should be under the jurisdiction of U. S. Army Vietnam (USARV). The 406th Mobile Laboratory (Tan Son Nhut) and the 406th Mobile Laboratory (Nha Trang) assigned to the 406th Medical General Laboratory (Japan) created administrative difficulties for appointment, promotion, and transfer of personnel. A Modified Table Organization and Equipment (MTOE) was submitted in January 1967 to place the two 406th units under the control of the 9th Med Lab.

2. MOBILE LABORATORIES. The so-called "mobile" laboratories of Vietnam cannot move. The 406th Medical Laboratories of Tan Son Nhut and Nha Trang were designated "mobile", and one mobile section was also included in the TOE of the 9th Med Lab in Saigon. This concept of "mobile" was misunderstood by several officers of the Army Medical Service, who requested that the 9th Med Lab dispatch immediately its mobile unit to an area in need of laboratory support. The personnel and equipment could not be sent through insecure areas with land vehicles. They had to be flown, and aircraft was not always available. One of my chemistry

officers was told by aviation personnel that, because of lack of aircraft, they could not move three people and 200 pounds of equipment. It is RECOMMENDED that a mobile laboratory - INCLUDING AUTOPSY CAPABILITIES - similar to the Medical Unit Self-contained Transportable (MUST) be considered for future laboratory requirements.

3. ON-SITE EVALUATION OF LABORATORY PROBLEMS. It is RECOMMENDED that representatives of North American Aviation which is developing a field laboratory under contract with the Medical Research and Development Command be allowed to evaluate the laboratory conditions in Vietnam.

4. EQUIPMENT. It is RECOMMENDED that laboratory equipment be standardized to facilitate operation and maintenance. One "mobile" laboratory in Vietnam had three flame photometers made by three different manufacturers. All broke down and no maintenance was possible. Voltage fluctuations damaged equipment. A voltage stabilizer is RECOMMENDED. Frequency converters should be available because of the discrepancy between 50 and 60 cycles.

5. RADIOLOGY. It is RECOMMENDED that x-ray equipment be made available for radiologic examination of cadavers. All the autopsies of the 9th Med Lab were performed at the U. S. Army Mortuary, Tan Son Nhut. An x-ray apparatus ordered in July 1966 was never received. A few cadavers were x-rayed at the Third Field Hospital, Tan Son Nhut, but it is not suitable to do radiologic surveys of cadavers among the clinical cases. It interferes with the care of patients and creates a morale problem. The bodies were transported from the mortuary to the Third Field Hospital, x-rayed, and returned to the mortuary prior to autopsy. Such awkward and

time-consuming procedure was limited to a few cases. The portable x-ray device ("X-Ray Apparatus, Lightweight, Field," developed by the R&D Laboratory, Fort Totten, New York) which the undersigned saw in Vietnam in 1963 did not function properly. The so-called "rechargeable" battery was drained, and the Army specialist accompanying the machine and supposedly trained to operate it was unable to make it work. Before departing for Vietnam in 1966, I inquired about the status of this machine and was told that it was not quite ready. It is RECOMMENDED that the x-ray equipment to be used in Vietnam be of the type capable of detecting light metals, such as aluminum and magnesium. Foreign bodies from these metals are often missed on the "screening x-ray". The pathologist should be able to safely examine cadavers by fluoroscopy and to take films of the areas suspected of containing foreign bodies. Equipment should be designed to minimize the radiation hazards inherent to prolonged fluoroscopy. The materials and supplies used in x-ray should be easily available through supply channels and should be capable of withstanding tropical conditions.

6. PHOTOGRAPHY. The tropical environment causes failures in flash photography. It is RECOMMENDED that photographic equipment be of the type designed to be operational in a tropical environment and allow general, close-up photography, and photomicrography. It is further RECOMMENDED that an accurate ruler be made available as a standard item. The standard item graduated in inches and millimeters, "Rule, laboratory, 6-inch" (FSN 6640-439-0400), is no longer acceptable. The rulers obtained over the years by the undersigned under the same stock number were satisfactory when the name of the manufacturer was not too obvious

(Sillcocks Miller Company, Maplewood, New Jersey and C-Thru Company, Hartford, Connecticut, USA). The sample obtained through supply channels in October 1967 shows data on the supplier (J&H Berg, Inc., Laboratory Apparatus and Reagent, 4111 South Clinton Avenue, South Plainfield, New Jersey 07080) in too large letters. When I returned from Vietnam, I mentioned this problem to a supply officer who stated that this standard item is not intended for photography and that a nonstandard item should be ordered. However, when we go to Vietnam, we are told not to request nonstandard items. A set of standard-item rulers should be developed for medical photography, including a millimeter-graduated ruler and a holder for a case-identification number with each photograph. Depending upon the size of the object to be photographed, one of 5 rulers should be used: 5 millimeters, 10 millimeters, 50 millimeters, 100 millimeters, or 250 millimeters. This subject was discussed with Mr. Julius Halsman, Chief of the Photography Division, Armed Forces Institute of Pathology, who is aware of the requirements and who has obtained very promising results with the use of "Metal-Photo" rulers of two different colors, depending upon the background used in various circumstances. This material is accurate, rigid, sturdy, washable, and scratch-resistant.

7. SUPPLIES. A ranking S4 officer told the Commander and the officers of the 9th Med Lab that the request of nonstandard items was discouraged. The prolonged waiting period to obtain standard items and the road blocks encountered in the procurement of nonstandard items created additional difficulties in the accomplishment of our laboratory mission. Supply

requests originating in the 9th Med Lab were forwarded to USARV through the 44th Medical Brigade. In the case of laboratories attached to hospitals, the requests went through the medical group and the medical brigade to USARV. When supplies were not available in Vietnam, the supply requests were processed through the Army Depot System, depending upon the availability of the item. It is RECOMMENDED that any team doing research in Vietnam be completely equiped and resupplied by the agency sponsoring the research.

8. DICTATING-TRANSCRIBING EQUIPMENT. Among the clerk-typists of the 9th Med Lab, none was able to provide an accurate transcription from shorthand. It is RECOMMENDED that dictating-transcribing equipment be part of TOE equipment of field laboratories. It will improve the efficiency of correspondence and reports. The pathologists of the 9th Med Lab were very much handicapped by the lack of such equipment. The apparatus should work on batteries or alternating current (110 and 220 volts). The transcribing device should provide back space which will allow the clerk to replay a passage not clearly understood at first. Playback of the stop/go type only is not satisfactory for most transcriptions.

9. ANALYSIS OF GASES. It is RECOMMENDED that an army in the field be able to carry out analyses of air samples to determine the amount of oxygen, carbon dioxide, nitrogen, and toxic gases, such as carbon monoxide and tear gases (CN, CS, and CS2 [the effect of CS2 lasts longer than CS]). In military operations as well as in medicolegal cases, it is often the analysis of an air sample at the scene that determines the nature of the air breathed in a certain environment. The results of analyses of gases from autopsy samples are not always a reflection of the circumstances, because of the time lapse and/or contamination. A field laboratory should also

be able to analyze the gaseous contents of cylinders used in hospitals. Such cylinders may contain a gas not properly identified by the label or one that may be contaminated.

10. COMPUTERIZED SCREENING OF MALARIA SMEARS. The patient load of the 6th Medical Center (Convalescent) in Cam Ranh Bay rose from approximately 200 to 1000 within a few weeks, and the laboratory was overwhelmed by malaria smears. Additional technicians were requested from the 9th Med Lab. The parasitologist of the latter spent many evenings checking malaria smears from Cam Ranh Bay. It is RECOMMENDED that electronic computer methods be devised to screen large numbers of malaria smears or other malaria samples. I discussed this idea with G. F. BAHR, MD, Chief of the Biophysics Branch, Armed Forces Institute of Pathology, who found it practical and realizable.

11. ORIENTATION OF PERSONNEL

A. It is RECOMMENDED that a military DRIVER'S LICENSE be obtained by personnel before their arrival in Vietnam. The 9th Med Lab did not have enough drivers. We experienced difficulties in obtaining a driver's license because there was no testing facility.

B. It is RECOMMENDED that the safety procedures in the handling of and familiarization with weapons, including rifles, pistols, revolvers, and grenades, be taught to personnel of the medical services of the Army. An Army sergeant, with several years service in the medics, negligently discharged a caliber .45 pistol while coming off guard duty, and he stated "I was not familiar with it."

C. It is RECOMMENDED that personnel be made aware of the political aspects of black market. It must be emphasized that the possession of travelers checks is illegal in Vietnam because of their potential use by the Communists.



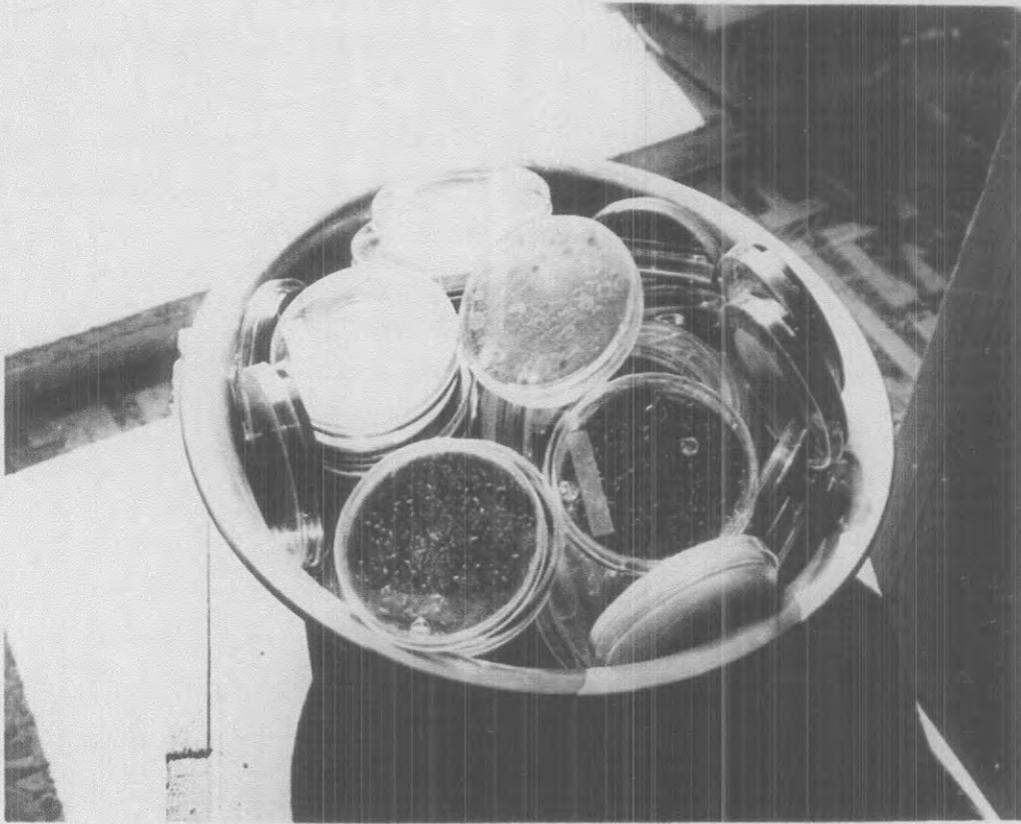
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SSG R. S. Green took the following photographs, numbered G1 and G2, in September 1966, at the first site of the 9th Medical Laboratory, 14-28 Nguyen Van Thoai ("Old Plantation Road") between Tan Son Nhut and Cholon.



G1

Sept 66. Vietnamese houses photographed from the guardpost on the roof of the billets of the 20th Preventive Medicine Unit. The latter and the 9th Med Lab shared buildings and land.



G2

Sept 66. The dusty "Old Plantation Road" caused all of the media to be contaminated by bacteria and molds. Note maggots on lower plate.

SP4 D. M. Hart took the following photographs, numbered H1 through H14, in October and November 1966, at the first site of the 9th Med Lab, 14-28 Nguyen Van Thoai ("Old Plantation Road") between Tan Son Nhut and Cholon.

Camera: Speed Graphic



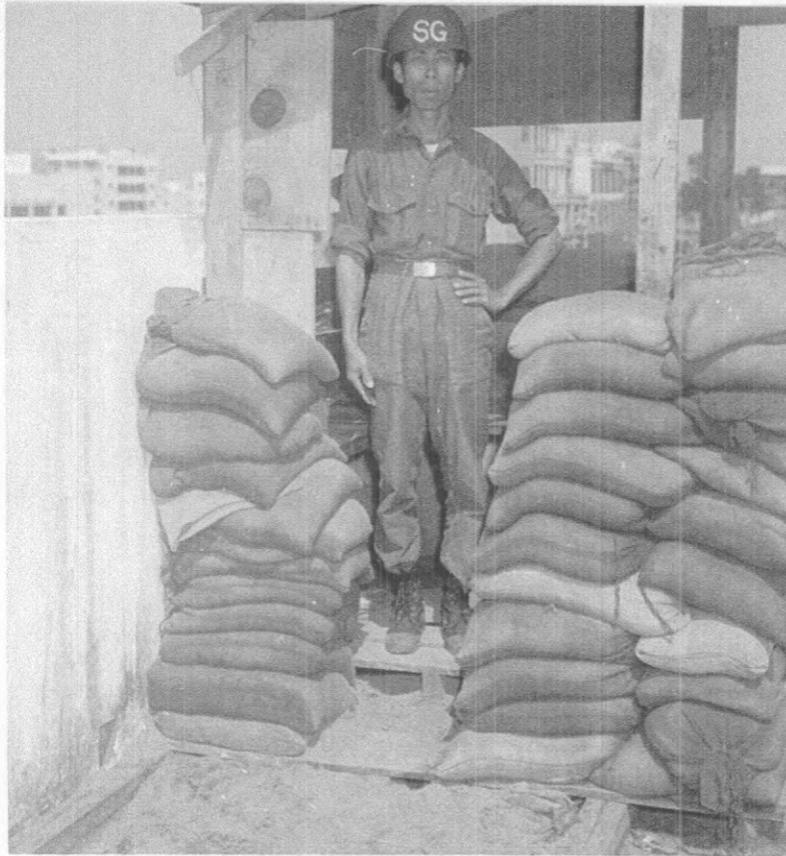
H1

Nov 66. Traffic jams were common on Nguyen Van Thoai at the gate of the 9th Med Lab. At times, vehicles could not leave the compound.



H2

Nov 66. Gate of 9th Med Lab and 20th Preventive Medicine Unit. Buildings were built in 1964 but were not sturdy. In 1966, four cave-ins were experienced in ten weeks. The total land area was 13,000 square meters. The floor space allotted to the 9th Med Lab was approximately 1150 square meters. Annual rent for buildings and land was 100,000 U.S. dollars. Note the guard posts on the roof and at the gate.



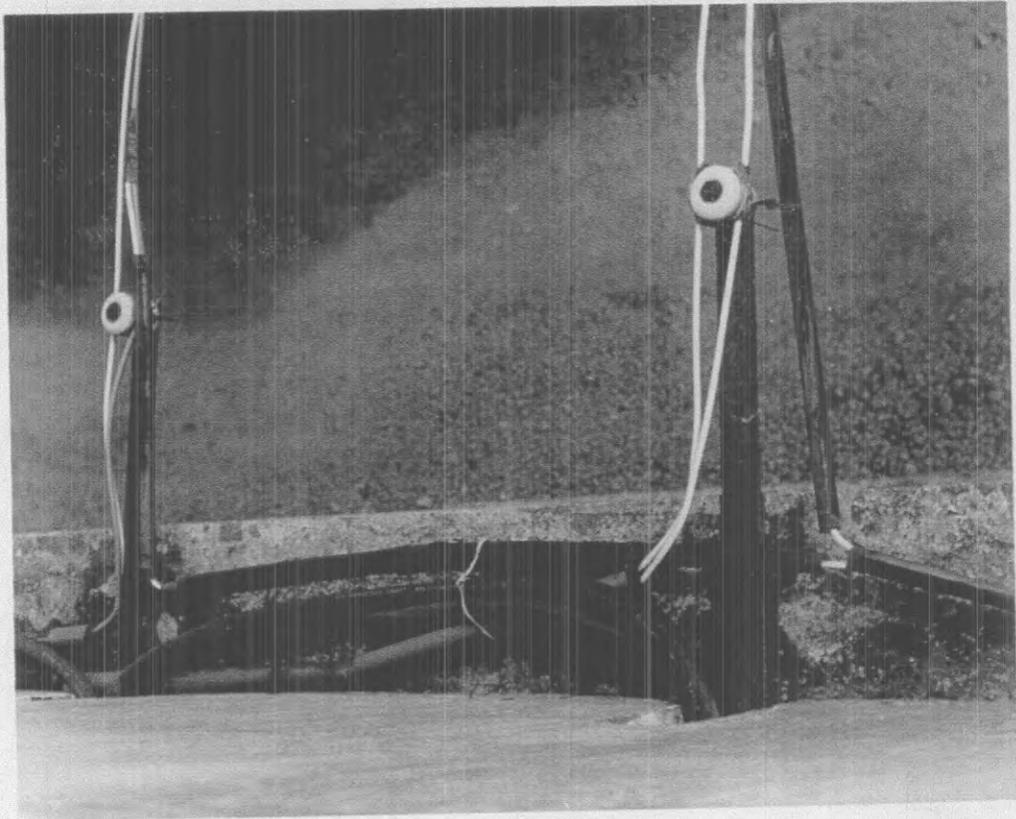
H3

Nov 66. Security Guard on roof of 9th Med Lab. This man belongs to the Nung Tribe. Twenty Nungs were hired for guard duty. They could not obtain a Vietnamese sponsor and therefore were granted no security clearance. Not having been cleared, they were not allowed to be armed. They were alert guards and useful in the prevention of pilferage. They had whistles to sound the alarm. During the day, one U. S. soldier from the laboratory or 20th Prev Med Unit, armed with an M14 rifle, was at the gate. At night two armed soldiers were on guard. There were a total of five guard posts. In his Letter of Instruction issued by the 44th Med Brigade, the Commanding Officer of the 9th Med Lab was responsible for the physical security of the laboratory buildings and billets.



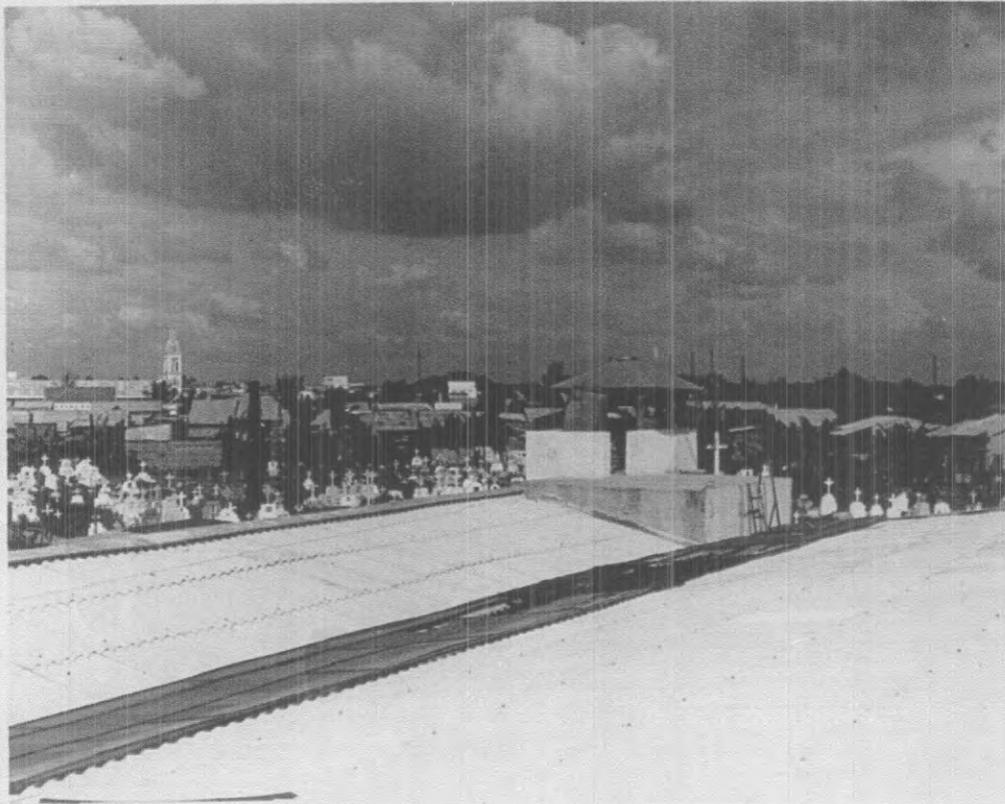
H4

Nov 66. On the left is medical maintenance and microbiology. On the right is door to shipping and receiving and to upstairs Headquarters. Across the street on Nguyen Van Thoai is the Saigon Depot of the Post Exchange. Depot sells in one day 25,000 cases of beer and 25,000 cases of soft drinks to troops coming from the field units.



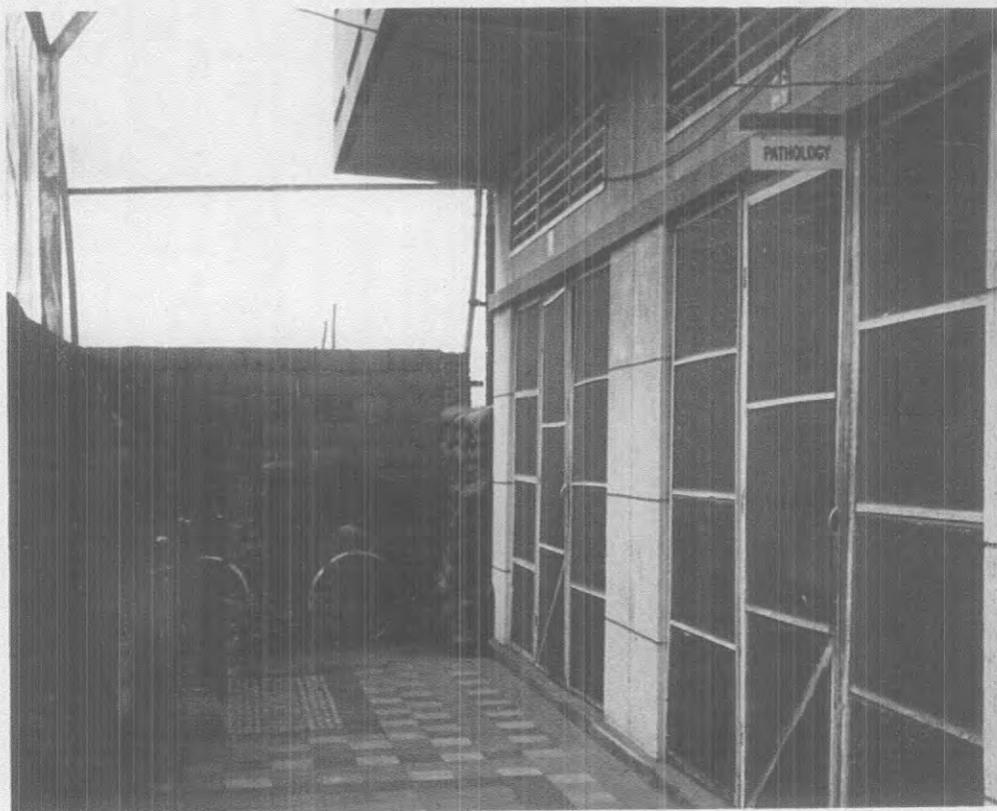
H5

Nov 66. View from roof, showing the ground adjacent to the laboratory. Wiring installed by 9th Med Lab personnel. Individuals paid for electric outlets. The TOE power of the 9th Med Lab is 98 kw.



H6

Nov 66. Guard post on the roof of the billets of the 20th Prev Med Unit, overlooking Vietnamese cemetery. This situation created a security risk. In January 1967, while the 20th Prev Med Unit was still occupying the site, after the 9th Med Lab moved out, a grenade was thrown against the U. S. guard to the right of this post. He was injured.



H7

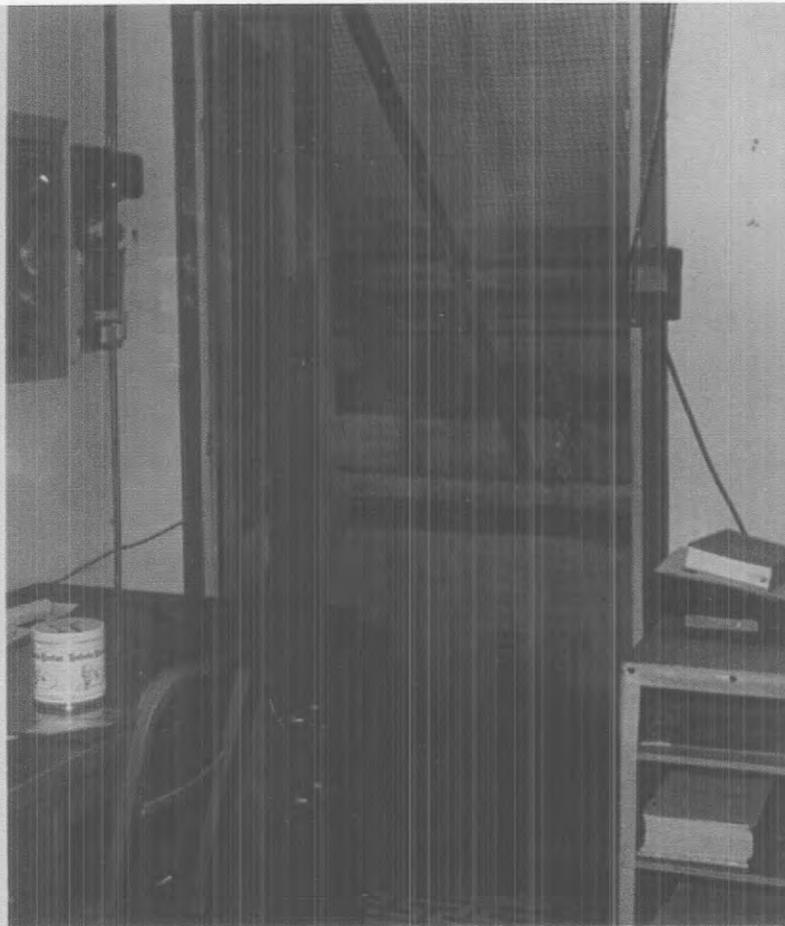
Nov 66. The 9th Med Lab arrived in Vietnam on 4 June 1966. On 11 June, the pathologists performed the first autopsies of the 9th Med Lab, at the USAF Mortuary, Tan Son Nhut. (The Army controlled the Mortuary after 1 July 1966.) In July 1966 the 9th Med Lab provided histologic services. From June to December, 168 autopsies were performed, all at the mortuary, 6 kilometers away round trip. From July to December, 707 surgical specimens were examined. The 9th Med Lab is the first histopathology center established in Vietnam and forwards cases to the Armed Forces Institute of Pathology.



H8

Nov 66. Medical Zoology Department (Parasitology and Entomology).
Biochemistry Department (Clinical Chemistry and Toxicology).
Veterinary Department (Food Hygiene, Animal Disease Investigation,
Laboratory Animal Production, and Maintenance).

Dust and humidity damaged equipment. In Entomology, molds were growing on mosquitoes, interfering with their identification. Molds grew inside microscope boxes and on lenses. Requests for air conditioning were denied because of the limited budget. The Commander of the 9th Med Lab was told by an S4 Officer to "get a couple of fans, just to become operational." Operational date of 1 Aug 66 was met accordingly. In the Veterinary and in the Biochemistry Departments, bursting plastic pipes damaged equipment.



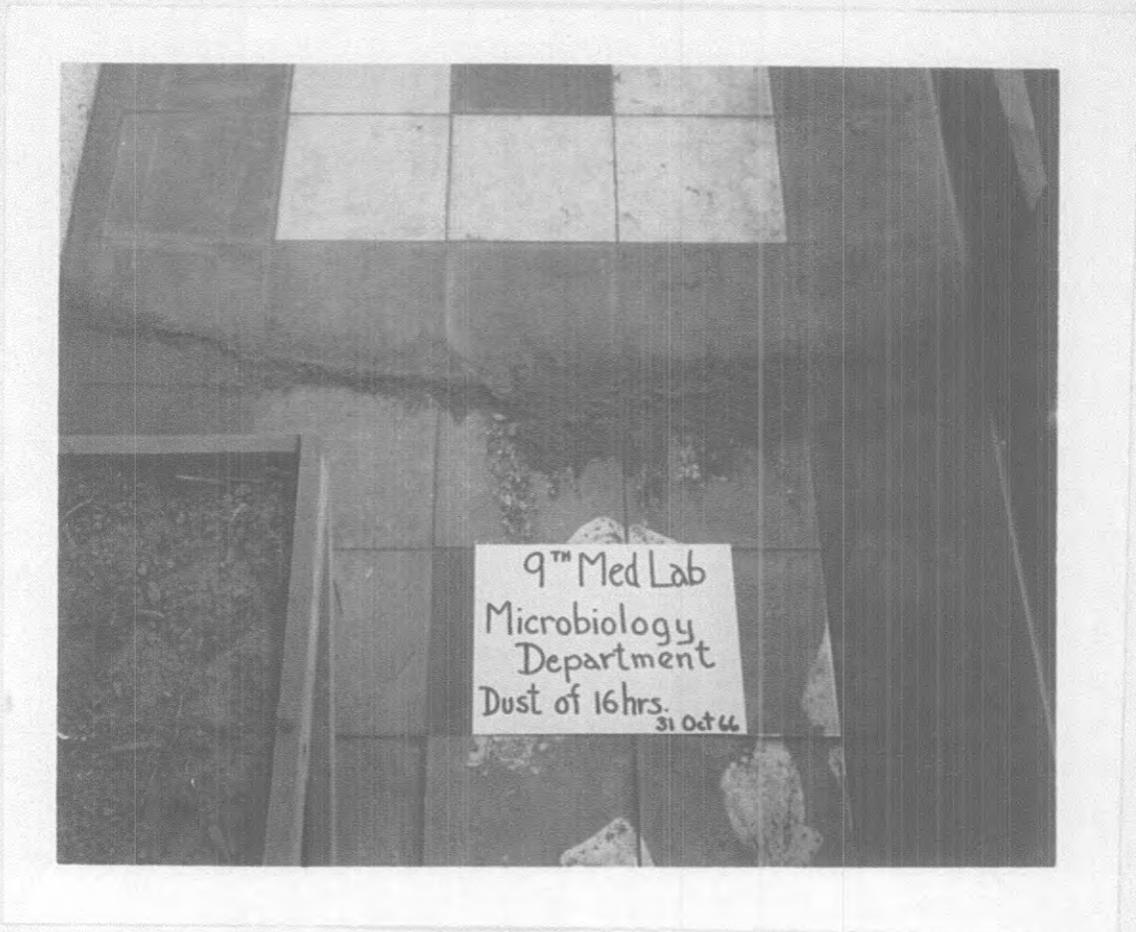
H9

Nov 66. Microbiology Department (comprises Bacteriology Section and Immunology-Virology Section).

Balcony and grenade fence facing dusty Plantation Road.

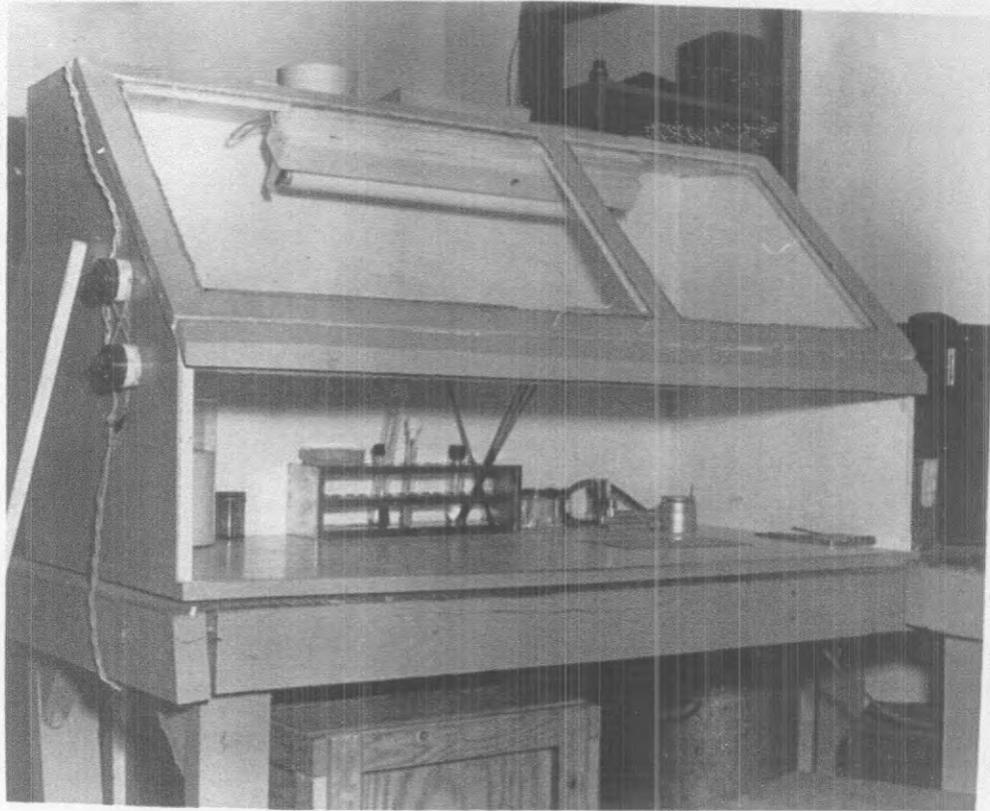
On the left: Vietnamese wiring.

On the right: Wiring installed by 9th Med Lab personnel.



H10

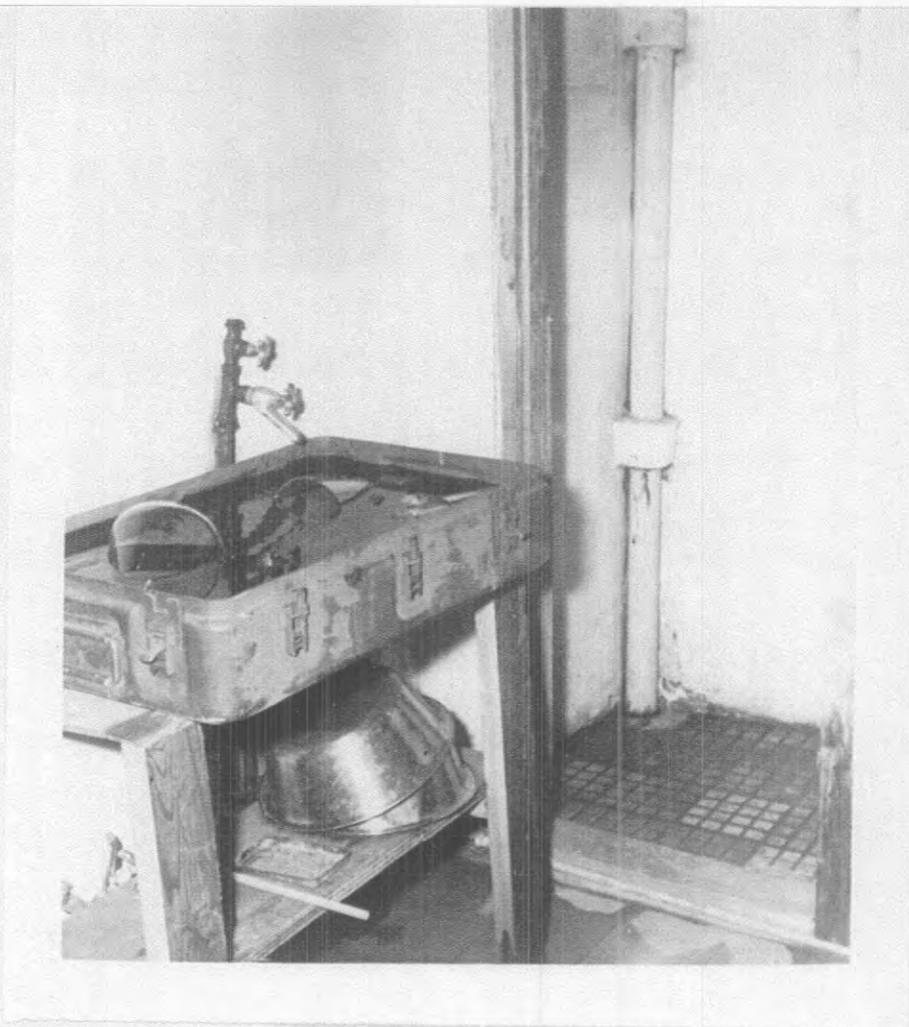
Oct 66. This dust was responsible for the contamination of all the media by molds and bacteria.



H11

Nov 66. Hood designed and constructed by personnel of the Microbiology Department to handle cultures of tuberculosis and mycoses.

Ultraviolet tube for disinfection is not seen on this photograph.



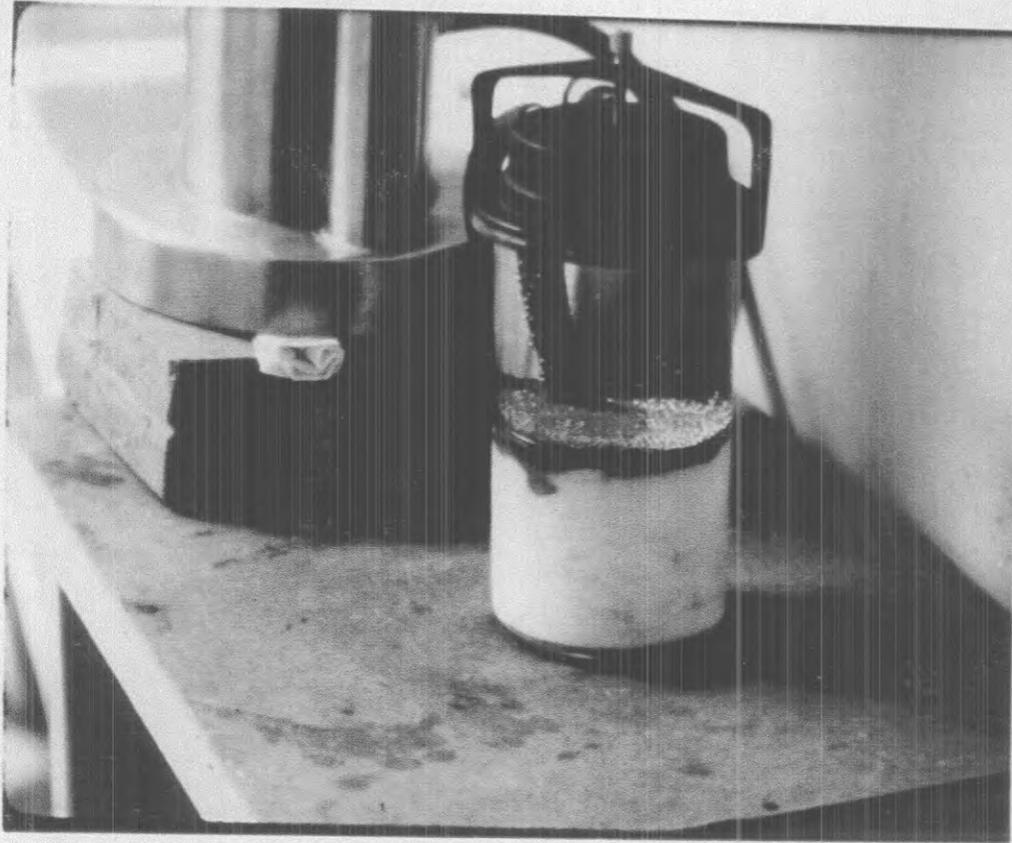
H12

Nov 66. All Departments used medical supply chests to wash glassware.



H14

Nov 66. Desk built by personnel of the Veterinary Department for LTC Murnane, VC, Department Chief and Executive Officer. On the left is a box with an electric bulb to protect microscopes from dust and humidity. To the left of the microscope is a hand fan.



F1

Nov 66. Immunology-Virology Section. Device used to purify the water to clean pipettes. The municipal water of the Saigon area is so rich in iron oxide that the cotton of the filter was stained ochre in a few hours. The iron content of the municipal water is 30 parts per million.

(From a 35-mm color transparency of LTC P. A. Finck, Nov 66. AFIP Neg. 67-7328).