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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (31 Aug 70) FOR OT UT 702085 2 September 1970

SUBJECT: Operational Report - Lessons Learned, Headquarters, 62d Engineer Battalion (Land Clearing), Period Ending 30 April 70

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 4b, AR 525-15. Information of actions initiated as a result of subject report should be forwarded to ACSFOR OT UT within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

1 Incl
as

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ASSISTANT CHIEF OF STAFF FOR FORCE DEVELOPMENT
(ARMY) ATTN: FOR OT UT, WASHINGTON, D.C. 20310

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DEPARTMENT OF THE ARMY
HEADQUARTERS 62D ENGINEER BATTALION
APO San Francisco 96491

EGEB-3 15 May 1970

SUBJECT: Operational Report - Lessons Learned of 62d Engineer Battalion (Land Clearing) for period ending 30 April 1970, RCS CSFOR-65 (R2)

THRU: Commanding Officer
79th Engineer Group
ATTN: EGE-3
APO 96491

Commanding General
20th Engineer Brigade
ATTN: AVBI-COS
APO 96491

Commanding General
United States Army, Vietnam
ATTN: AVHCG-DST
APO 96375

Commanding General
United States Army, Pacific
ATTN: GPOP-OT
APO 96588

TO: Assistant Chief of Staff for Force Development
Department of the Army (ACSFOR-DA)
Washington, D.C. 20310

FOR OT UT
702085

Inclosure

EGEB-3 15 May 1970

SUBJECT: Operational Report - Lessons Learned of 62d Engineer Battalion (Land Clearing) for period ending 30 April 1970, RCS CSFOR-65 (R2)

1. Section I, Operations: Significant Activities:

a. During the reporting period 1 February to 30 April 1970, the 62d Engineer Battalion (LC), commanded by LTC Paul C. Driscoll, continued to conduct land clearing operations throughout the III Corps Tactical Zone that were vital to the tactical, strategical, political, and economic success of the Vietnam War. This reporting period included the latter half of the dry season. Weather was generally an insignificant factor as far as trafficability was concerned but the extremely hot days caused some overheating problems and made water both for coolant and extinguishing belly pan fires a critical item of supply. In addition to completing five land clearing operations during this period, the battalion accomplished a test and evaluation of secondary growth clearing equipment. Throughout the period training of the 318th ARVN LCC progressed well and is nearing completion. The 118th ARVN LCC arrived from ICTZ on 1 April and training of that unit commenced immediately.

b. The 60th LCC, 62d Engr Bn, continuing an operation begun in the Nhon Trach area on 29 December 1969, cut in the Hat Dich area in support of the Royal Thai Army Volunteer Force until 17 February 1970. During the 50-day operation, 6 days of which were move days, the unit cleared a total of 9507 acres, averaging 216 acres per cutting day, and destroyed 500 enemy bunkers and fighting positions. The unit also captured 100 enemy hand grenades, 250 lbs of rice, and 1 AK-47 rifle. Enemy mortar attacks on the unit's NDP on 18 January and 6 February 1970 resulted in 38 WIA and damaged 7 D7E tree dozers. The unit also lost 2 D7E'S to mines and one to an enemy RPG round during this operation. Two other men were wounded by small arms fire during enemy attacks on the cut on 10 and 12 February. (See After Action Report, 60th LCC, 7 March 70, Incl 2), (Map, Nhon Trach - Hat Dich, Incl 3). After a maintenance stand down in Long Binh from 18 February thru 4 March, the 60th moved to the Vo Dat area in Long Khanh Province, 25 kilometers northeast of Xuan Loc where it engaged in road cutting operations in support of the 18th Infantry Division (ARVN). On 2, 3, and 4 April the unit moved to the Gang Toi area (YT 7335) where it did strip cutting in support of the 318th ARVN Task Force and the 199th Light Infantry Brigade. In 38 cutting days, the unit cleared 5,642 acres, an average of 148 acres per cut day. During this operation the 60th LCC destroyed 50 enemy bunkers and fighting positions and captured twelve 60 mm mortar rounds, 7 AK-47 rifles and 2 B-40 rocket launchers. The unit sustained no casualties to its personnel but lost 1 D7E tractor to an enemy mine. On 20 March the security force engaged an enemy battalion sized element for 3 hours and killed 28 enemy. Throughout the Vo Dat - Gang Toi operation, the 60th LCC had a platoon of the 318th LCC (ARVN) attached for operations and training. (See After Action Report, 60th LCC, 2 May 70, Incl 4, and Maps, Vo Dat and Gang Toi, Incl 5 and 6). At the close of this reporting period, the 60th LCC was on maintenance stand down in Long Binh (YT 0605).

c. The 501st LCC, 62d Engr Bn, operating in northern Tay Ninh Province in support of the 1st Air Cavalry Division since 15 January 1970, cleared a total of 8,513 acres in a 50-day operation in War Zone C ending 6 March 1970. Eight of the 50 days were move days. For the 42 cutting days, the unit averaged 202 acres cleared per day. The 501st destroyed 2600 enemy bunkers and fighting positions and found 100 120 mm mortar rounds, 80 62 mm mortar rounds, 30 enemy mines and grenades, 2.30 cal machine guns, 11,980 rounds of small arms ammunition, and 1070 lbs of rice. The unit suffered three WIA and lost 2 D7E tree dozers during the operation due to mines and booby traps. One EM was killed on 7 March 70 when he picked up a US ordnance device along the road. (See After Action Report, 501st LCC, 19 March 70, Incl 7), (Map, War Zone C, Incl 8). After a maintenance stand down in Long Binh from 8 March to 23 March, the unit went to the Duc Phong area (YU 4307) to clear along QL 14 from Duc Phong to the II Corps border in support of the 1st Air Cavalry Division and the 5th ARVN Division. The unit cleared 2134 acres during 12 cutting days for an average of 179 acres per day and destroyed 300 bunkers and fighting positions. While enroute to a new NDP on 7 April the unit received mortar, RPG, and mortar fire; however, no casualties to personnel or equipment were recorded during the Duc Phong operation. (See After Action Report, 501st LCC, 6 May 70, Incl 9) and (Map, Duc Phong, Incl 10). The 501st was accompanied on both the War Zone C and Duc Phong operations by a platoon of the 318th LCC (ARVN) attached for operations and training. On 8 April 1970, while the 501st was enroute to a new location, the unit was inactivated in accordance with Section II of USARPAC General Order 26, dated 4 February 1970. In accordance with instructions from higher headquarters, the equipment and personnel assets of the 501st were transferred to Company A, 62d Engineer Battalion and formed into a temporary land clearing detachment until the end of the scheduled 45-day cutting cycle. At the end of the reporting period, the Land Clearing Detachment was conducting clearing operations in the Renegade Woods in southwestern Tay Ninh Province. The results of the operation and the report of the unit's inactivation process will be included in the next ORLL.

d. The 984th LCC, 62d Engr Bn, concluded a maintenance stand down in Long Binh on 14 February 1970 and moved the next day to northern Tay Ninh Province to commence Phase II of the battalion's cutting operations in War Zone C in support of the 1st Air Cavalry Division. During 42 cutting days and 4 move days, the 984th cleared 6,714 acres, an average of 160 acres per cutting day, and destroyed 500 bunkers. The unit suffered 14 WIA during the operation due to enemy booby traps and mines. One D7E tractor was also lost to mine damage. The 984th was accompanied throughout this operation by a platoon of the 318th LCC (ARVN) attached for operations and training. (See After Action Report, 984th LCC, 13 April 70, Incl 11) and (Map, War Zone C, Phase II, Incl 12). The unit returned to Long Binh for a 15 day maintenance stand down on 4 April and moved out 21 April to commence a 45-day cutting cycle in the "Dog's Face" area of northwestern Tay Ninh Province on 23 April. The results of this operation will be included in the next ORLL.

e. In addition to the above land clearing operations, the 62d Engineer Battalion conducted a test and evaluation of the Marden B-7 brush cutter and the Rome Plow Disc Harrow TR-16 for use in cutting secondary growth in areas that had been previously cleared. For this test, a provisional brush cutting team was formed with four D7E tractors and two items each of the equipment to be tested together with necessary operators, mechanics, and an officer-in-charge. Between 20 February and 8 April 1970, the team cut secondary growth in three different areas, the Boi Loi Woods (XT 4839), the Crescent area (XT 4451), and in the vicinity of Bunard (YT 2590). During 37 actual cutting days, the team cleared a total of 884 acres, an average of 24 acres per day. Both items of equipment tested required a D7E tractor as a prime mover. Neither item of equipment proved to be as efficient for secondary growth cutting as the D7E tractor with Rome K/G blade. (See After Action Report, Secondary Growth, 24 April 70, Incl 13, and Maps, Boi Loi - Crescent and Bunard, Incl 14 and 15).

f. In addition to providing on-the-job training for the 318th Land Clearing Company (ARVN) throughout the period, the 62d Engineer Battalion commenced a similar training program for the 118th Land Clearing Company (ARVN) on 28 March 1970. (See OPLAN 1-70 (Operation Switchblade II), Incl 16).

Section 2, Lessons Learned: Commander's Observations, Evaluation, and Recommendations.

a. Personnel: None

b. Intelligence: None

c. Operations: None

d. Organization: None

e. Training:

(1) Observation: The training of the ARVN engineer troops in the skills of land clearing has progressed well both at home station and in the field. In every aspect of the training, we have found the ARVN soldiers to be most receptive and eager. They have progressed most rapidly and with more obvious spirit when we have been able to organize the trainees as a separate platoon having its own equipment and support capability. This fosters unit identity and competitive spirit. While these ARVN training platoons normally are less efficient in cutting than their American Counterparts, they are consistently able to maintain a higher percentage of operational tractors. The principal training obstacle is the language barrier when attempting to teach maintenance personnel diagnostic techniques. Interpreters, who are not themselves experts in the field, are of little assistance. Surprisingly, the language barrier is an insignificant handicap in almost all other aspects of our training program.

(2) Evaluation: The key to a successful training program is motivation. In particular, the US soldier must understand that his role is paramount to success. In cases where GIs have resented ARVN soldiers taking over their equipment, the program foundered. When these men were made to understand how important their job was, the improvement was dramatic. An on-the-job training program such as ours depends initially on the individual soldiers involved.

(3) Recommendations:

(a) That commanders who are given an ARVN training mission place full emphasis on the indoctrination and motivation of their troops before training begins.

(b) That ARVN units that join US units for training be thoroughly indoctrinated as soon as possible. Every effort should be made to make them feel like a part of the organization yet they should maintain their unit identity within that organization to foster competitive spirit and unit morale.

(c) Off duty activities for ARVN troops should be well organized. A liberal pass policy is important if the troops have families in the vicinity. Volley ball seems to be the single most important recreational activity, and a GI team can seldom beat an ARVN team under the official rules of the game. This gives the ARVN stature and improves relationships. Mixed games are also valuable in fostering comradeship. Many ARVN soldiers enjoy watching American movies and live shows that play at the clubs. They should be made welcome at these performances.

(d) Under existing regulations, ARVN troops that are quartered on US installations are denied the privileges of their US counterparts regarding use of PX, snack bar, and club facilities. This is a major morale factor that should be dealt with on an extensive scale as the ARVN training programs increase in scope. While many US soldiers have been more than generous in taking care of their counterparts, ARVN troops often resent gratuities.

(e) Actions taken are as follows:

1. A complete summary of lessons learned by this battalion in training ARVN troops is being prepared and will be forwarded to USARV for possible dissemination to other US units.

2. A request for changes to current regulations regarding ARVN use of US facilities has been forwarded to USARV.

f. Logistics: None

g. Communications: None

ECEB-3 15 May 1970

SUBJECT: Operational Report - Lessons Learned of 62d Engineer Battalion (Land Clearing) for period ending 30 April 1970, RCS CSFOR-65 (R2)

h. Material:

(1) Observation: This battalion completed testing and evaluation of the Marden Brush Cutter Model B-7 and the Rome Plow Disc Harrow TR-16 as means of dealing with the problems of regrowth in areas that had been previously cleared of primary growth. Under a variety of conditions these items proved far inferior to the prime mover used alone and equipped with either a bull dozer or Rome Plow blade (Inclosure 13, After Action Report, Secondary Growth, 24 April 70).

(2) Evaluation: Neither the Marden Brush Cutter nor the disc harrow are suited to the land clearing requirements of this area of operation. Furthermore, during the rainy season, they would be completely useless.

(3) Recommendations:

(a) That the Marden Brush Cutter B-7 and Rome Plow Disc Harrow TR-16 be eliminated from consideration as standard land clearing equipment.

(b) That secondary growth clearing be accomplished by land clearing tractors fully equipped with tree dozer attachments.

(c) A full report including the above recommendations has been forwarded to USARV and ACTIV.

i. Other: None

Paul C. Driscoll

PAUL C. DRISCOLL
LTC, CE
Commanding

16 Incl

1. Organization Chart
2. After Action Report, 60th LCC, 7 March 70
3. Map, Nhon Trach - Hat Dich
4. After Action Report, 60th LCC, 2 May 70
5. Map, Vo Dat
6. Map, Gang Toi
7. After Action Report, 501st LCC, 19 March 70
8. Map, War Zone C
9. After Action Report, 501st LCC, 6 May 70
10. Map, Duc Phong
11. After Action Report, 984th LCC, 13 April 70
12. Map, War Zone C, Phase II
13. After Action Report, Secondary Growth, 24 April 70
14. Map, Boi Loi - Crescent
15. Map, Bunard
16. ~~OPLAN 1-70, Operation Switchblade II~~

Incl 16 wd HQ DA

EGE-3 (15 May 70) 1st Ind
SUBJECT: Operational Report - Lessons Learned of 62d Engineer Battalion (Land Clearing) for period ending 30 April 1970, RCS CSFOR-65 (R2)

DA, HEADQUARTERS, 79TH ENGINEER GROUP, APO 96491 20 May 1970

TO: Commanding Officer, 20th Engineer Brigade, ATTN: AVBI-OS, APO 96491

1. This report contains an excellent summary of the 62nd Engineer Battalion's operational activities during the 1 February - 30 April 1970 period.

2. Regarding LTC Driscoll's recommendations on the conduct of ARVN training, 79th Engineer Group concurs; the training and support procedures which he employed are being incorporated into the 79th Group Supplement to USARV Reg 350-1.

FOR THE COMMANDER:

ROBERT M. SUGGS, III
CPT, CE
Adjutant

AVBI-OS (15 May 70) 2nd Ind
SUBJECT: Operational Report - Lessons Learned of 62nd Engineer Battalion (Land Clearing) for Period Ending 30 April 1970, RCS CSFOR-65 (R2)

DA, HEADQUARTERS, 20TH ENGINEER BRIGADE, APO 96491 14 JUN 1970

TO: Commanding General, United States Army Vietnam, ATTN: AVHGC-DST, APO 96375

1. Submitted in accordance with USARV Regulation 525-15, dated 13 April 1968.

2. Subject report has been reviewed by this headquarters and is considered adequate.

FOR THE COMMANDER:

D. L. McBride

D. L. MC BRIDE
1LT, CE
Assistant Adjutant

Copies Furnished:
CO, 79th Engr Gp
CO, 62nd Engr Bn

AVHGC-DST (15 May 70) 3d Ind
SUBJECT: Operational Report-Lessons Learned of 62d Engineer Battalion (Land Clearing) for period ending 30 April 1970, RCS CSFOR-65 (R2)

Headquarters, United States Army Vietnam, APO San Francisco 96375 26 JUN 1970

TO: Commander in Chief, United States Army Pacific, ATTN: GPOP-DT, APO 96558

1. This Headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 30 April 1970 from Headquarters, 62d Engineer Battalion (Land Clearing) and comments of indorsing headquarters.

2. Comments follow:

a. Reference item concerning "Material", page 6, paragraph h: concur. Paragraph h(3b) should be modified to state that secondary growth clearing be accomplished by dozers using either the bull or Rome blade depending on the priorities set for primary land clearing.

b. Reference item concerning "privileges", page 5, paragraph f(3)(d): nonconcur. While RVNAF personnel are not permitted exchange privileges, USARV Reg 350-8 provides for them to use clubs and messes, obtain medical and dental care, and receive Ration Supplement Sundry Packs as well as US billets.

FOR THE COMMANDER:

C. E. MICHELS
MAJ, AGC
Assistant Adjutant General

Cy furn:
20th Engr Bde
62d Engr Bn

GPOP-DT (15 May 70) 4th Ind
SUBJECT: Operational Report of HQ, 62d Engineer Battalion (Land Clearing) for Period Ending 30 April 1970, RCS CSFOR-65 (R2)

HQ, US Army, Pacific, APO San Francisco 96558 17 JUL 70

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

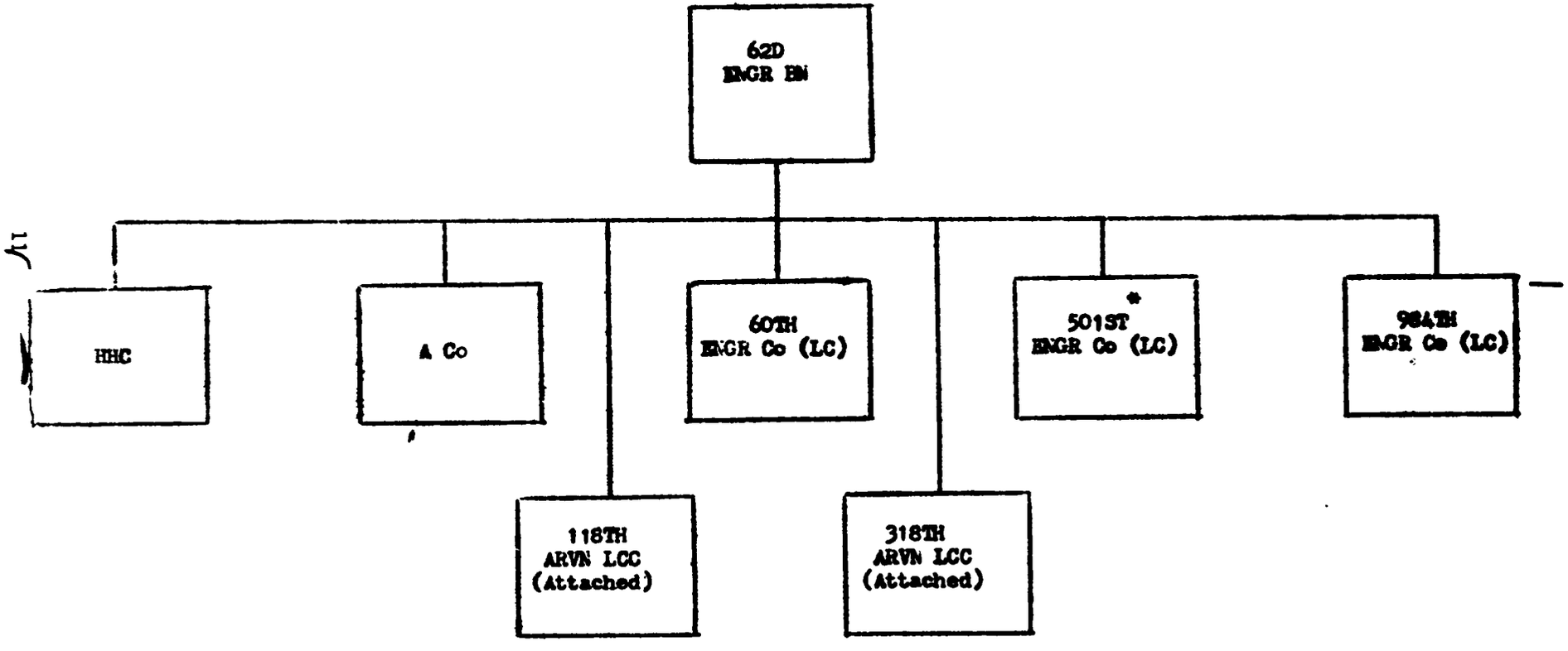
This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

D.D. CLINE
2LT, AGC
Asst AG

Incl 1

THE 62D ENGINEER BATTALION ORGANIZATION CHART



* Inactivated 8 Apr 70

DEPARTMENT OF THE ARMY
60th Engr Co (LC) 62d Engr Bn
APO San Francisco 96491

EGEB-60 7 March 1970

SUBJECT: After Action Report - Nhon Trach - Hat Dich

Commanding Officer
62d Engineer Battalion
APO SF 96491

The following is an after action report for Nhon Trach - Hat Dich in which this unit participated during the period 29 December 1969 to 17 February 1970.

a. Name of operation: Nhon Trach - Hat Dich.

b. Dates of operation: 29 December 1969 - 17 February 1970.

c. Location of operation:

(1) Nhon Trach (NT) - West of highway 319 and south of LTL 25 extending south for 8 kilometers and west for 10 kilometers.

(2) Hat Dich (HD) - 14 kilometers south of Long Binh Post and the east of QL 15 on the western edge of the Binh San rubber plantation.

d. Command Hesdquarters: 62d Engineer Battalion (Land Clearing).

e. Task Organization:

(1) Organizational Unit: 60th Engineer Company (Land Clearign).

(2) Attachments: None

(3) Supporting Units: 62d Engineer Battalion (Land Clearing).

(4) Supported Units:

(a) NT: Trp 2/5 Cav (ARVN)
Co B, 3/43 Inf. Regt. (ARVN)
Co C, 1/43 Inf. Regt. (ARVN)

(b) HD: Royal Thai Army Volunteer Force (RTAVF) Armored Cavalry Squadron 3rd Bn/1st Infantry Brigade (RTAVF).

f. Intelligence: The following units are known to operate in the Nhon Trach and Hat Dich area. They are capable of harassing attack and ambushes.

(1) 2d VC Inf. Bn.

(2) 4th VC Heavy Weapons Bn.

(3) 274th VC Inf. Bn.

(4) 274th NVA Inf. Reg.

(5) D2 Nhon Trach Sapper Co.

g. Mission:

(1) Initial mission: To conduct land clearing operations in the Nhon Trach and Hat Dich areas.

(2) Revised mission: To expose enemy positions and infiltration routes.

h. Concept of Operation: To clear approximately 9500 acres of light to heavy jungle in the area perscribed in paragraph three (3) above.

i. Movements:

(1) Start: 29 December 1969 from Long Binh Post to NDP Nhon Trach I.

(2) NDP'S:

(a) NDP NHON TRACH I: VIC YS 126893 (29 Dec 69-5 Jan 70)

(b) NDP NHON TRACH II: VIC YS 147846 (5 Jan 70-10 Jan 70)

(c) NDP NHON TRACH III: VIC YS 140814 (10 Jan 70-19 Jan 70)

(d) NDP NHON TRACH IV: VIC YS 054873 (19 Jan 70-26 Jan 70)

(e) NDP HAT DICH V: VIC YS 250861 (27 Jan 70-3 Feb 70)

(f) NDP HAT DICH VI: VIC YS 192905 (3 Feb 70-17 Feb 70)

(3) Completion: 17 February 1970 to Long Binh Post from NDP Hat Dich VI.

j. Extensions to Operation:

(1) NT: 7 days (From 22 to 29 days).

(2) HD: None (Remained 22 days)

k. Enemy Action:

(1) Enemy Losses: Unknown

(2) Friendly Losses:

(a) 60th LCC: NT, 0 KIA, 29 WIA, HD, 0 KIA, 10 WIA.

(b) Co. A, 62d Engr. Bn. (LC): NT, 0 KIA, 1 WIA, HD, None.

(c) U.S. Advisors (ARVN): NT - 0 KIA, 2 WIA.

(d) Security Forces: NT, 11 KIA, 9 WIA, HD, 0 KIA, 2 WIA.

(3) Incoming rounds:

(a) NT: 43 82mm and 60mm mortars, 0 rockets.

(b) HD: 51 82mm and 60mm mortars, 0 rockets.

(4) RPG's:

(a) NT: 6

(b) HD: 5

(5) Mines:

(a) NT: 60th LLL - 2, Security Forces - 1.

(b) HD: 60th LCC - 0, Security Forces - 1.

(6) Booby Traps:

(a) NT: 6

(b) HD: 1

(7) Friendly Equipment Loss:

(a) 60th LCC: NT, 2 D7E's to mines, 1 D7E to RPG, 7 D7E's to mortars, 1 2½ ton tanker to vehicular accident, 2 portable water trailers to mortars. HD, None.

(b) Security forces: NT, 1 APC to RPG, HD, 1 APC to mines.

(8) Enemy Equipment Captured:

(a) NT: 250# Rice
5# Documents
1 Chicon Claymore
1 AK-47 Rifle (damaged)
1 .38 cal. Pistol (damaged)
small quantities of ammunition and grenades
many cooking utinsels
assorted clothing

7 March 1970

(b) HD: Cooking Utinsels
100 VC Grenades
Clothing

(9) Enemy Structures Destroyed:

(a) NT: Approximately 400 bunkers, tunnels, trenches, and fighting positions. Some were used recently.

(b) HD: Approximately 100 bunkees, trenches, and fighting positions. Some were used recently.

1. Operational Statistics:

(1) Total Cutting Days: 43

(a) NT: 24

(b) HD: 19

(2) Total Acres Cleared: 9507

(a) NT: 6120

(b) HD: 3387

(3) Total Acres to Date: 146,087

(4) Average Daily Cut: 221.14 acres

(a) NT: 255.00

(b) HD: 178.26

(5) Average Daily Plows in Cut: 25.33

(a) NT: 27.38

(b) HD: 22.74

(6) Type of Growth:

(a) NT: Light jungle - extemely dense undergrowth.

(b) HD: Light to heavy jungle, wet in spots with some heavy bamboo.

(7). Average Acres/Plows/Day: 8.73

(a) NT: 9.31

(b) HD: 7.83

m. Administration and Logistics:

(1) Rations:

(a) NT: Hot "A" rations for breakfast and supper meals. "C" rations for dinner meals. Rations were drawn on the basis of company field strenght through the 62d Engr Bn (LC) S-4 channels.

(b) HD: Hot "A" rations for breakfast and supper meals. "C" rations for dinner meals. Rations were drawn on the basis of company field strenght through security forces channels.

(2) Ice:

(a) NT: Daily ration of ice was delivered to NDP on the daily company resupply convoy from the 60th LCC rear at Long Binh Post.

(b) HD: Daily rations of ice was flown in and supplied by the security forces.

(3) Ammunition: Supplied by Unit Supply.

(4) Uniform and Equipment: Supplied by Unit Supply

(5) Repair Parts: Supplied through Unit Supplyand Co. A Tech. Suppy, 62d Engr Bn (LC).

(6) POL:

(a) NT: All POL supplied through Unit Supply.

(b) HD: All POL supplied through security forces supply channels.

(7) Water:

(a) NT: Water supplied by Unit Supply utilizing one (1) 1200 gal. tanker and four (4) portable water trailers.

(b) HD: Water supplied by security forces utilizing water ccds which woro flown in.

n. Commander's Evaluation and Lessons Learned:

(1) The Nhon Trach cut proved to be light cutting in general. The lightness of the terrain caused the D7E operators to cut at a speed which was faster than the speed employed in heavier jungle. The increased speed had a number of undersirable effects. From a maintenance standpoint, the dozers heated up more quickly than usual, thus limiting production. Also, the added speed caused an increase in the physical abuse suffered by both the tractor and operator. In regards to security, this increased speed caused the dozers to

become separated bt a greater distance than that experienced at lower speeds. This made the cut area more difficult to secure. The operators were instructed to keep their D7E tractors in some other gear than third gear while cutting.

(2) It was also found that in the area west of route 319, in the vicinity of TS 1380 that the area contained many drainage ditches and low dikes. Those obstacles slowed progress and caused several operators to be injured when their tractors overturned. Any other unit operating in this area should be informed as to the location of this area and the danger potential. These ditches were used by the enemy as supply and travel routes.

(3) It is advised that some EOD capabilities be assigned or intergrated into the land clearing companies. There were several instances in the Nhon Trach area where unexploded rounds had to be left behind due to this lacking capability. At one point, a large unexploded bomb was left until the next day because the EOD team sent to this area did not have time to destroy it. Such a situation presents a potentially dangerous situation to all units in this area.

(4) Under no circumstances should any pattern be set in either movement or activities in or around the NDP. Departure times to and from the NDP should also be varied. The same route should not be followed on successive days due to the possibilities of ambush or mines.

(5) Large troop concentration should be avoided in the NDP due to the possibility of mortar attack and indirect attack.

(6) The high temperature of the areas of operation caused the D7E tractors to overheat rapidly and to catch fire in the belly pans. Fire extinguishers and large quantities of water must be available in the cut. Several 55 gallon barrels filled with water and mounted on M-548 cargo carriers proved satisfactory to keep radiators filled and fight fires if necessary.

(7) If a stream which is difficult to ford must be crossed repeatedly, an expedient bridge such as a M4T6 dry span is recommended. This unit lost several hours daily in the preparation of a suitable fording site near NDP Hat Dich VI. An expedient bridge would have saved vlauable time in this situation.

(8) The use of 4-5 feet deep trenches to house the troops proved to be extremely satisfactory in the area of operation. These trenches gave added protection to the troops during the mortar attacks on the unit on 18 January 1970 and 6 February 1970. These trenches also expedited bunker construction in the platoon areas.

o. Commanders Comments:

(1) General Comments on Entire Operation:

(a) The security forces which worked with us are of the highest caliber. Even though we are working with forces of other nations, no language barrier developed. The cavalry units immediately mastered the techniques of securing the cut area. Their quick reaction in the event of contact forced the enemy to withdraw before he could inflict heavy casualties. Their commanders and non-commissioned officers proved to be of the highest caliber. These security forces are among the best to have operated with the 60th LCC.

(b) Excellent communication existed between the 60th LCC and the security forces, especially in the Nhon Trach. The security forces were constantly monitoring the company radio net. This proved to be extremely beneficial in the cut since it afforded the best possible control of both the cutting team and the security element. This procedure was followed during the entire operation, but it was used more extensively in the Nhon Trach. There were times in the Hat Dich where communications were inactive between the 60th LCC and security forces.

(c) An exceptionally fine working relationship existed between the 60th LCC and all personnel connected with the security forces. This relationship was best displayed in the Nhon Trach. A high spirit of cooperation existed among all parties concerned. Security advisors always attended our daily planning meeting, and their frequent suggestions helped keep the operation running smoothly. The NDP was always visited by district personnel who were carefully monitoring our progress and any problems encountered. This type of cooperation existed throughout the entire operation, but the scale of cooperation was greater in the Nhon Trach.

(d) One piece of equipment which proved to be a great asset to this unit was the small, gasoline powered refrigerator used in the field mess section. This refrigerator enabled food to be kept cold and protected from dirt and dust which was so prevalent. The mess personnel were able to prepare salads, etc. prior to severing and keep them fresh. The excellant mess of this unit contributed to the moral of the men.

(2) Comments on the Nhon Trach

(a) The air support was exceptional. We could always depend on an aircraft arriving on schedule with enough flight time available to obtain maximum production. The helicopter pilots were extremely cooperative in all phases of the Nhon Trach operation. One OH-23 pilot repeatidly volunteered to fly for the 60th LCC. The support and cooperation obtained from the Forward Air Controller (FAC) and gunships was also instrumental in the sucess of the operation.

(b) It was necessary to resupply the unit solely by daily vehicular convoy while in the Nhon Trach. This type of resupply is unsatisfactory from a number of standpoints. A pattern was set in movement. Since the roads were generally unsecure, this pattern presented a potential ambush situation. On several occassions, our

security forces were required to supply security vehicles to secure our convoys. This depleted our cut and NDP security. Since this unit was required to supply rear area personnel for the convoy, our work capabilities in the rear were greatly reduced. Resupply by air appears to be much more desirable than resupply by convoy.

(c) It was found that the supporting infantry troops caused several problems. During the day, they sent out several ambush patrols. The problem arose in the controlling of these patrols. Security had difficulty in establishing the location of these patrols. When enemy contact was made, returned fire was often delayed because these security forces were not sure of the location of friendly troops. This occured several times.

(3) Comment on the Hat Dich:

(a) Air support in general was inadequate in many respects. Although a definite schedule had been established, the aircraft seldom arrived on time. This varied from 15 minutes late to not arriving at all. We often recieved inadequate flight time. Definite communications problems existed between this unit and the resupply aircraft. On severalinstances they had the wrong call sign and frequency the wrong location. The back haul to Long Binh was always irratic in arrival time.

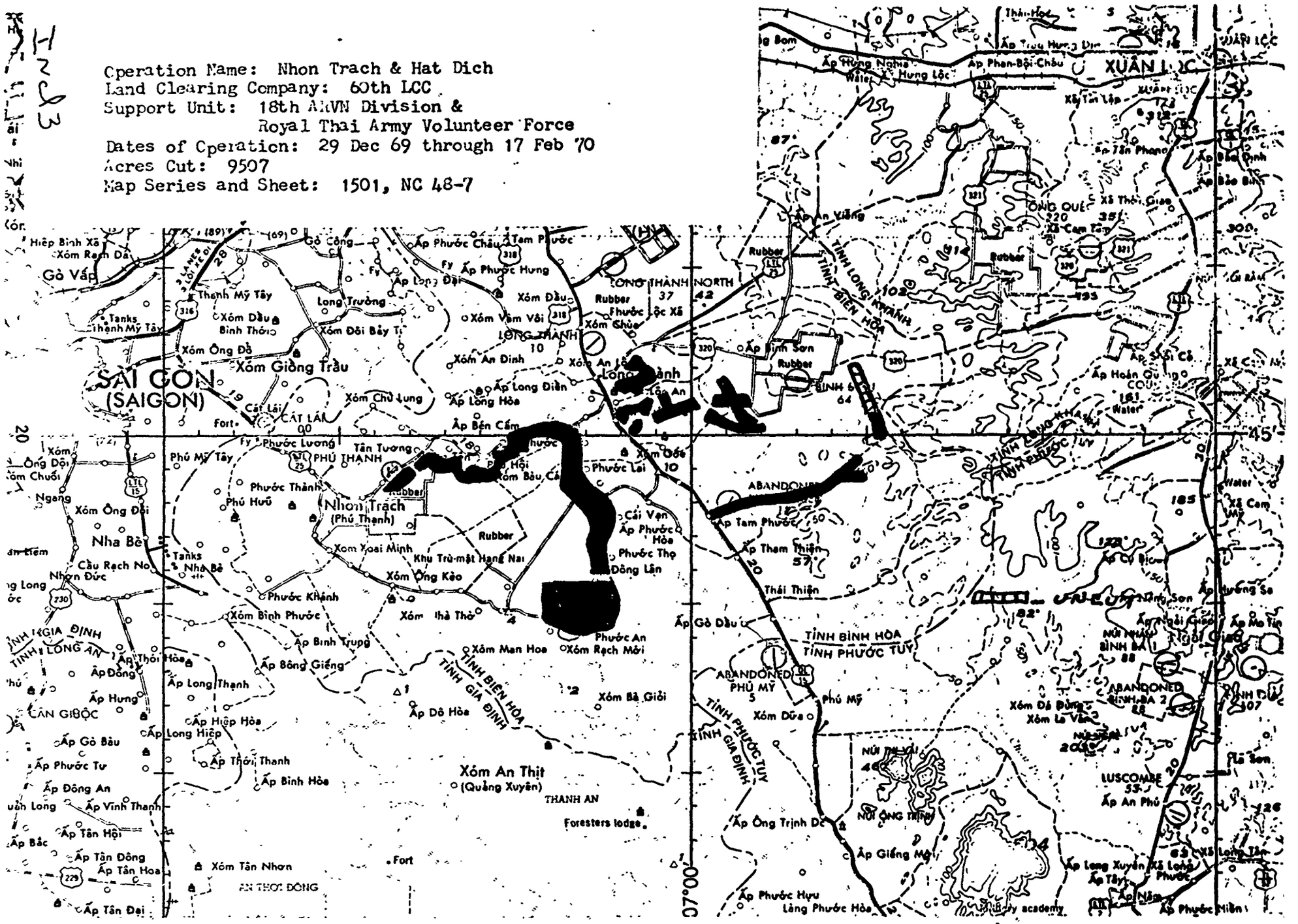
(b) Resupply by the security forces was generally acceptable, though it proved to be irratic and sometimes inadequate. We had a definite problem in securing enough HDO-30 oil. Not enough ice was supplied daily. Rations arrived at different times daily. This presented planning problems for the mess section. Once water was mistakenly placed in the diesel pods and put into the D7E fuel tanks. Time was lost in draining several fuel tanks.

(c) The security forces had a small strob light which they used to direct aircraft to our area at night. On the night of 6 February 1970, this light was responsible for the quickness in which a dust off helicopter evacuated wounded personnel from the NDP. It is recommended that every land clearing unit be issued one of these strob lights.

(d) Excellent artillery support was provided in the Hat Dich. The supporting fire was called in exceptionally fast and close. This support was used effectively on several occasions to eliminate suspected enemy activity in our immediate area at NDP Hat Dich VI.

Ernest B Cleveland
for JAMES C. HINEBAUGH JR.
CPT, CE
Commanding

Operation Name: Nhon Trach & Hat Dich
Land Clearing Company: 60th LCC
Support Unit: 18th ARVN Division &
Royal Thai Army Volunteer Force
Dates of Operation: 29 Dec 69 through 17 Feb 70
Acres Cut: 9507
Map Series and Sheet: 1501, NC 48-7



DEPARTMENT OF THE ARMY
60th Engr Co (LC) 62d Engr Bn
APO San Francisco 96491

EGEB-60 2 May 1970

SUBJECT: After Action Report

Commanding Officer
62d Engineer Battalion
ATTN: EGEB-3
APO San Francisco 96491

The following is an After Action Report for the Vo Dat - Gang Toi Land Clearing Operation in which the 60th Lan Clearing Company participated during the period 5 March 1970 through 20 April 1970.

a. Name of operation: Vo Dat - Gang Toi; Directive number 190-5472-0-20

b. Dates of operation: 5 March 1970 through 20 April 1970

c. Location of operation:
(1) Vo Dat - Road cut along the east and west sides of Highway 333 from Gia Ray to Vo Dat and a road cut along both sides of Highway 335 from Vo Xu to Tanh Linh.
(2) Gang Toi - Area cut along the Dong Nai river from YT230270 to YT260220, south along the western side of the Cay Gao Rubber Plantation to YT215205 and west to YT230195.

d. Command Headquarters: 62d Engineer Battalion (Land Clearing)

e. Task Organization:
(1) Organizational Unit: 60th Engineer Company (Land Clearing)
(2) Attachments: One platoon of the 318th ARVN LCC.
(3) Supporting Units:
(a) Vo Dat: 3/5 Cav (ARVN), 318th ARVN
(b) Gang Toi: 3/18 Task Force (ARVN), 199th Light Infantry Brigade

f. Intelligence:
(1) In Vo Dat area, enemy resistance was from regular NVA units of the 33rd NVA Infantry Regiment, whose capabilities include mines, booby traps, ambushes, mortars, RPG's, .51 cal machine guns and AK47 rifles. Following is a daily contact report: 7 Mar - 3 packs found containing 3 ea hand grenades and fresh salt. 8 Mar - found 12 ea 60 mm mortar rounds. 12 Mar - found 7 fresh fighting positions and detained 4 suspects. 12 Mar - LC55 detonated mine with no casualties, heavy damages. 17 Mar - found 2 ea booby traps and 4 foxholes. 17 Mar - LC 31 detonated booby trap with no damage or casualties. 17 Mar - boobytrapped M72 LAW was found and destroyed. 20 Mar - contact

in cut, results: 2 KIA and 5 WIA - 3/5 Cav (ARVN); enemy losses: 28 KIA and 2 POW; captured 1 ea B41 launcher with 3 rounds, 7 ea AK47 rifles with 40 magazines; 6 ea Chinese hand grenades; 3 kilos of documents. 25 Mar - destroyed 40 fighting positions. 1 Apr - received 20-30 rounds of 82mm mortar and machine gun fire - all outside NDP and no casualties or damage.

(2) In the Gang Toi area, the only sign of enemy activity was a hand grenade type booby trap detonated by LC 47 on 12 April resulting in no casualties or damage.

g. Mission: To make cuts as listed in paragraph c above. To improve security along roads and to deny the enemy of major infiltration routes in the above mentioned areas.

h. Concept of the Operation: On 5 March 1970 the 60th Engineer Company (LC) moved by convoy from Long Binh Post to the cutting area, set up NDP #1 and began cutting on 6 March 1970. While making cuts along highway 333 and 335, the company moved and set up new NDP's on 11 March 1970, 16 March 1970, and 27 March 1970. On 2,3, and 4 April 1970, the unit moved from the Vo Dat to the Gang Toi area, where NDP #5 was set up and cutting began on 5 April 1970. The final move was made to NDP #6 on 14 April 1970 and cutting completed in that area before returning to Long Binh Post by convoy on 20 April 1970.

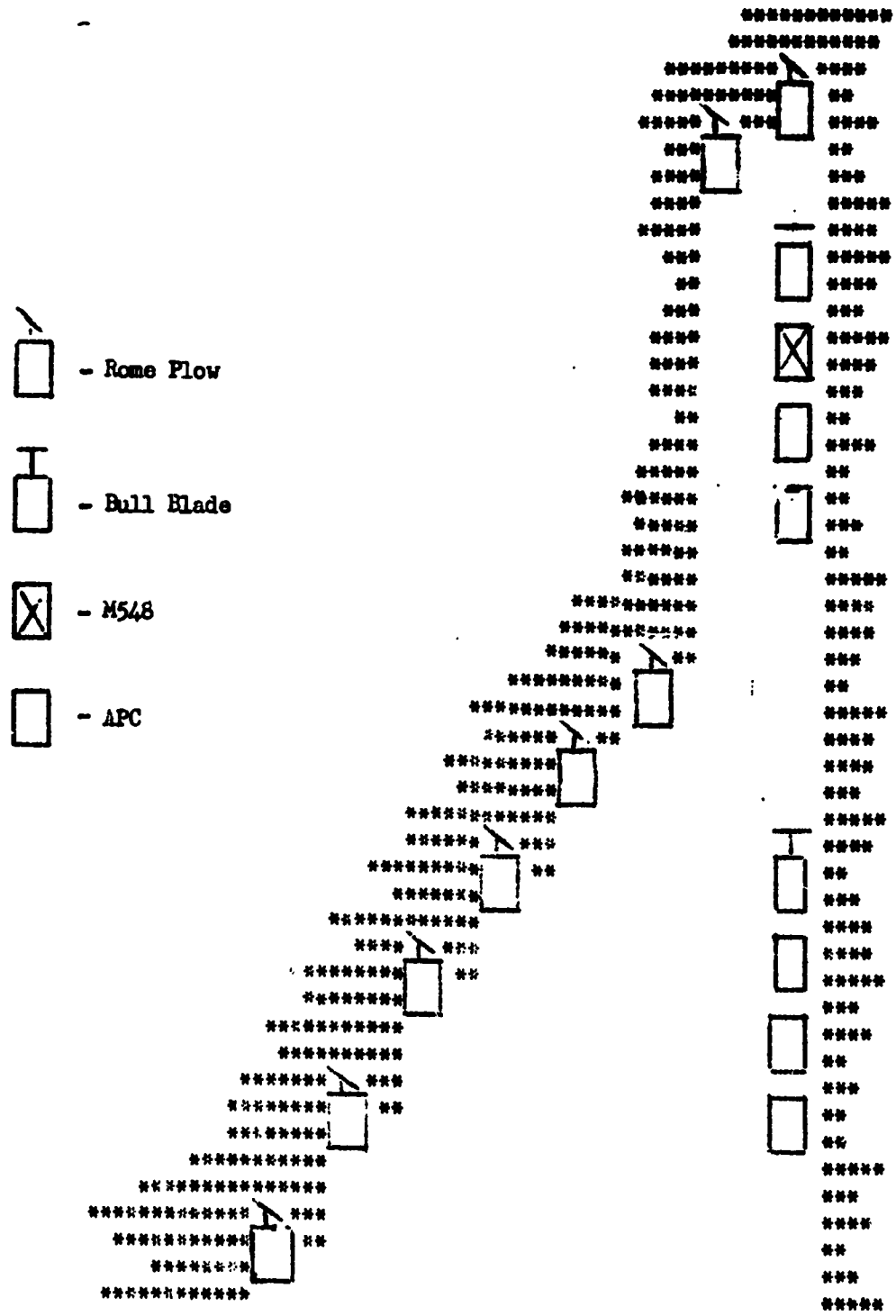
i. Execution:
(1) 5 March 1970: Move by convoy and set up NDP #1 (YT665186)
(2) 11 March 1970: Move to NDP #2 (YT734254)
(3) 16 March 1970: Move to NDP #3 (YT810364)
(4) 27 March 1970: Move to NDP #4 (YT901327)
(5) 2-4 April 1970: Move to NDP #5 (YT260273)
(6) 14 April 1970: Move to NDP #6 (YT901327)
(7) 20 April 1970: Move to pick up point (YT382265) for convoy back to Long Binh Post.

j. Results:
(1) Friendly losses:
(a) Personnel: 2KIA (ARVN); 5WIA (ARVN)
(b) Equipment: 1 ea D7E (mine damage)
(2) Enemy losses:
(a) Personnel: 28KIA, 1 POW, 4 Detainees
(b) Captured equipment:
1 ea B41 rocket launcher with 3 rounds
1 ea B40 rocket launcher with 5 rounds
7 ea AK47 rifles with 40 magazines
12 ea 60mm mortar rounds
9 ea chicom hand grenades
6# documents
(c) Structures destroyed: Approximately 50 recently used bunkers and fighting positions.

(3) Operational statistics:
(a) Total cutting days: 37 days
(b) Total acres cut: 5642 acres
(c) Average daily cut: 153 acres/day
(d) Average daily plows in cut: 25 plows/day
(e) Average acres/plows/day: 6.12 acres/plows/day

k. Logistics:
(1) Rations: "A" rations for breakfast and supper and MCI's for dinner meals were provided by 199th Infantry Bridge.
(2) Ice was furnished by 62d Engineer Battalion (LC) by daily resupply CH47 sorties.
(3) Ammunition: Unit supply
(4) Uniforms and equipment: Unit supply
(5) Repair parts: Unit Supply and Tech Supply of Company A, 62d Engineer Battalion (LC).
(6) POL: All POL, with exception of HD30 motor oil, was provided by 199th Infantry Brigade. HD30 provided by unit supply.
(7) Water was supplied by 199th Infantry Brigade.
(8) All other support was obtained from 62d Engineer Battalion (LC).

l. Special equipment and techniques:
(1) Special equipment: No special equipment was utilized during the operation.
(2) Techniques:
(a) In areas where enemy activity was heavy, the unit's cutting pattern was varied randomly. No pattern was set in cutting areas and cutting techniques. On several occasions, the unit cut from the center of the trace to the outside of the trace when we were operating along the roads. This was done to confuse the enemy.
(b) In the Gang Toi area, a serious problem was encountered because of the large trees falling on the security element's APC's, causing damage to vehicles and serious injury to personnel. The extremely rough terrain and thick undergrowth caused reduced visibility, making the APC's very hard to see. The problem was solved by utilizing a special cutting formation. This formation consisted of two cutting elements. The lead element was made up of two dozers with rome cutting blades, one conventional bull blade, one M548 control vehicle, and two APC's. The trail element consisted of all the remaining Rome Plows and APC's. These cutting units were utilized in the following manner. The lead element began the cut in a standard echelon left formation with the bull blade making a road for the M548 and the APC's. After the lead element entered the cut, the trail element followed so that the lead plow of the trail element stayed far enough behind the lead element as not to hit any vehicles with falling trees. A bull blade traveling with the trail element followed the previously built road, reopening it if necessary. The remaining APC's followed the bull blade. The APC's stayed far enough behind so that the plows nearest the road did not hit the APC's with the falling trees. A diagram of the cutting formation is as follows:


- Rome Plow
- Bull Blade
- M548
- APC

This cutting formation eliminated casualties due to falling trees. It should be noted that this special formation should be used only when there is no immediate danger of enemy contact due to the dispersed formation.

m. Commander's Analysis and Lessons Learned:

(1) The security of the Vo Dat phase of the operation was excellent. The 3/5 Armored Cavalry (ARVN) adapted completely to the land clearing operation. A high degree of cooperation existed between all parties, with no severe problems arising.

(2) The air support during the entire operation was excellent. The aircraft usually arrived on schedule. All pilots were extremely professional and cooperative.

(3) During the Gang Toi phase of the operation the 3/8th Task Force (ARVN) presented some problems; the most pressing of which was thievry. On numerous occasions, personal property was stolen from personnel in this unit. The primary suspects were the security element. No solution was ever found for this problem.

(4) The third platoon of the 318th ARVN Land Clearing Company performed very well while they trained with this unit. No problem ever arose between the ARVN and the American soldiers. The ARVN's proved to be hard workers and eager students. Their professionalism was aptly shown when the ARVN's were assigned their own D7E Rome Plows. Their tractors were consistently operational. Those who were deadlined were repaired quickly by the ARVN mechanics. At the end of the operation, the ARVN mechanics successfully changed an engine in the field.

(5) Cooperation between the Vo Dat District advisors and this unit was outstanding. Whenever we requested support from the district for convoy security, or in one instance, NDP defense, our request was always granted, if possible. Their helpfulness in supplying information concerning the area was extremely beneficial.

(6) The ARVN Training Program employed by this unit proved beneficial. An informal program of daily classes was used to inform the ARVN engineers about the D7E tractor and land clearing operations in general. The units interpreters were utilized in these classes.

(7) In the phase of the Vo Dat operation when we changed from the daily resupply convoy from FSB Mace to resupply helicopter, some problems arose. On several occasions, we did not receive adequate water or fuel. Adequate resupply sorties were also lacking on several occasions. When we moved to the Gang Toi, our resupply was excellent. The resupply from FSB Verna was always adequate and on schedule.

n. Recommendations:

(1) A land clearing company must have time to do some advanced planning for a new operation. Several liaison meeting and a good recon are essential. This time for our advanced planning was not available at the start of the operation due to the late arrival of the of the operation directive. Consequently, a very sketchy recon was

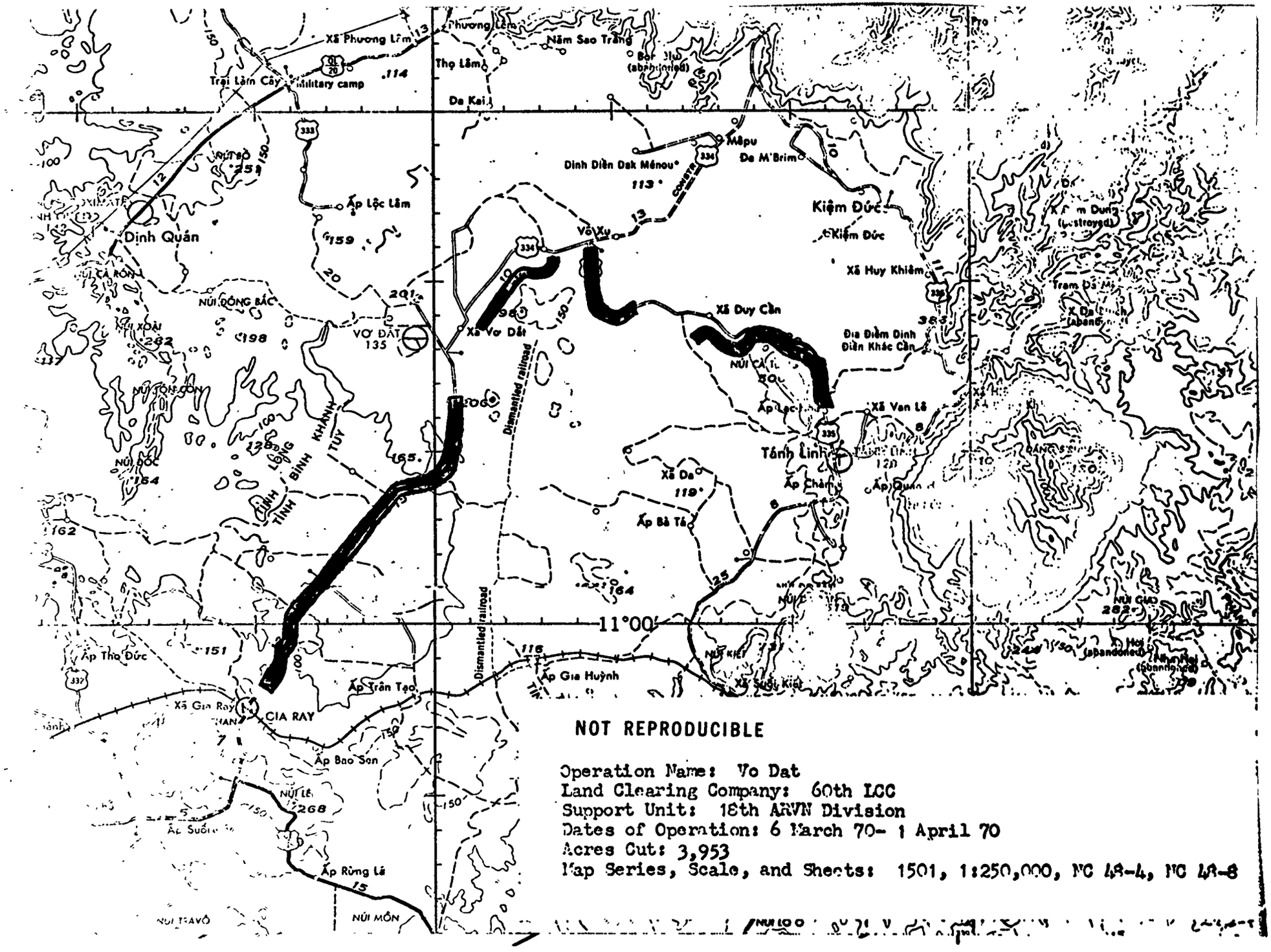
made, and we moved into the area rather unprepared. More time for planning would have made everything go smoother.

(2) The LOH supplied for this operation were flown by scout pilots. It is recommended that this type of pilot be utilized whenever possible. Their scout experience proved helpful in identifying landmarks and discovering signs of enemy activity.

(3) When proposed additions were made to the cut, this unit was immediately contacted by a representative of II FFV. At that time, the unit was able to give our recommendation as to the plausiblity and problems involved in the new proposal. It is recommendated that this program be continued by II FFV, as it was beneficial to all concerned.

(4) A good liaison between all supporting elements and the land clearing company is essential. The company should know prior to departure on the operation who can be contacted concerning the unit's problems. Some confusion was present during the early part of the operation about who our contacts were and how to get in touch with them.

JAMES C HINEBAUGH JR
CPT CE
Commanding


Xã Phương Lâm
Phương Lâm
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Thọ Lâm
Trại Lâm Cây
military camp
Da Kai
Mẩpu
Da M'Brim
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135
Dismantled railroad
Địa Điểm Dinh Điền Khắc Cần
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Ấp Thọ Đức
Ấp Trần Tạo
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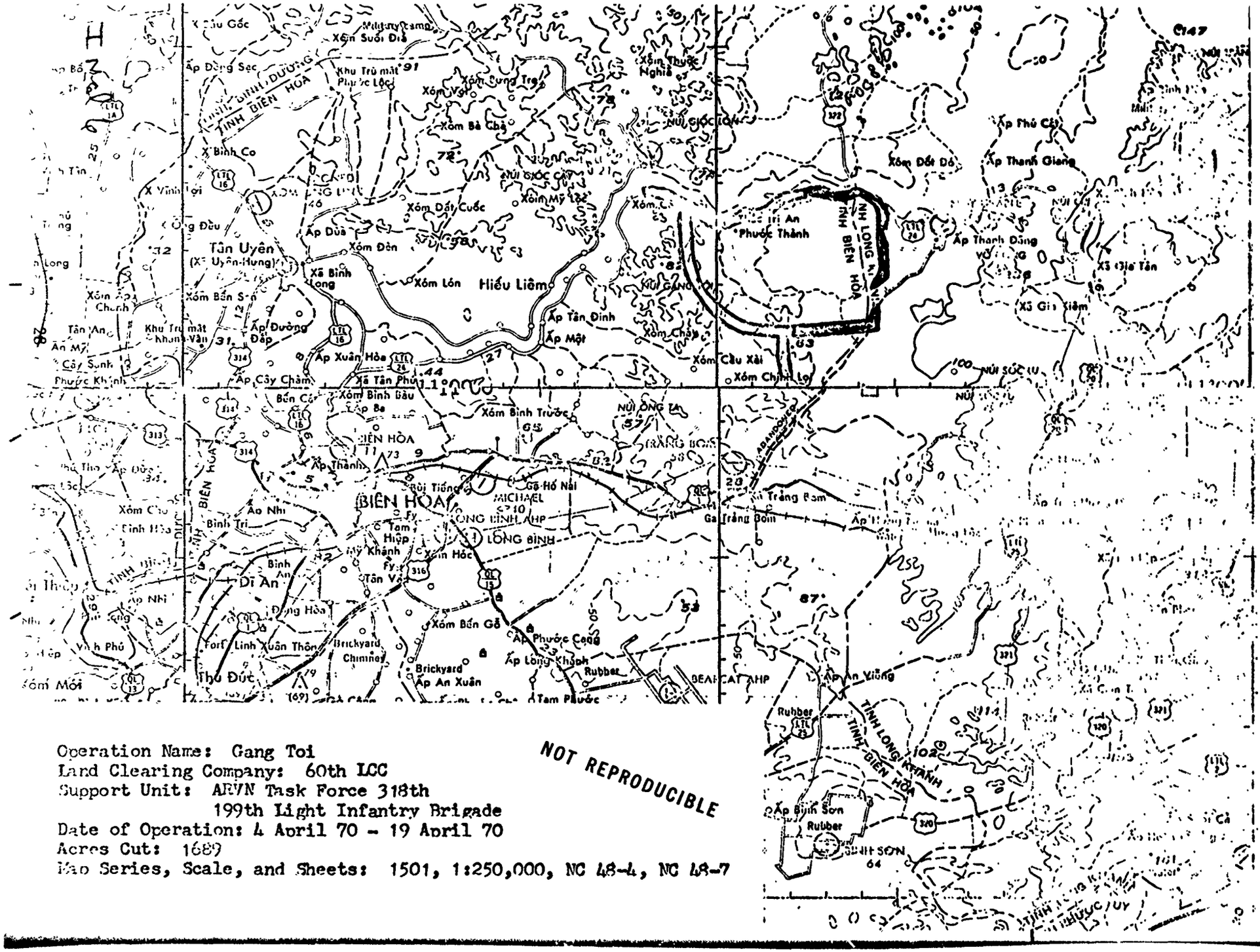
Operation Name: Vo Dat
Land Clearing Company: 60th LCC
Support Unit: 18th ARVN Division
Dates of Operation: 6 March 70- 1 April 70
Acres Cut: 3,953
Map Series, Scale, and Sheets: 1501, 1:250,000, NC 48-4, NC 48-8


Tân Uyên
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Phước Thành
BIÊN HÒA
LONG BÌNH
Dĩ An
Thủ Đức
Trảng Bom
Xóm Lớn
Xóm Đất Cuốc
Xóm Đền
Xóm Bà Chà
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Xóm Cầu Xài
Xóm Chính Lợi
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Núi Sóc Lu
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Núi Sóc Lớn
Rubber
Brickyard
Brickyard Chimney
Fort Linh Xuân Thôn
Gò Hố Nai
Bùi Tiếng
Tam Hiệp
Tân Vạn
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Tân An
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Khu Trù mật Thanh Vân
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Xóm Bình Đầu
Xóm Bình Trước

DEPARTMENT OF THE ARMY
501ST ENGINEER COMPANY (Land Clearing)
APO San Francisco 96491

EGEB-501 19 March 1970

SUBJECT: AFTER ACTION REPORT

Commanding Officer
62d Engr Bn
ATTN: EGEB-3
APO 96491

The following is an After Action Report for the French Fort to Katum to Loc Ninh land clearing operation in which the 501st Land Clearing Company participated during the period 15 January 1970 through 7 March 1970.

a. Name of Operation: War Zone "C"

b. Dates of Operation: 15 January through 7 March 1970

c. Location of Operation:
(1) Road cut between French Fort and Katum along TL 4
(2) A road cut West from TL 4 on TL 247
(3) A tactical cut East and Southeast of Katum
(4) A road cut between Katum and Loc Ninh on TL 246

d. Command Headquarters: 62d Engineer Battalion (LC)

e. Task Organization:
(1) Organizational Unit: 501st Engineer Company (LC)
(2) Attachments: Contact Team from A Company, 62d Engr Bn
(3) Supporting Units:
(a) 11th Armored Cavalry Regiment
(b) 1st Air Cavalry Division

f. Intelligence:
(1) Road cut on TL 4 and TL 247: Enemy resistance encountered was in the form of regular NVA units. Their capabilities were mining, RPG, mortars, 51 cal. machine guns, and AK-47 fire.
The following is a daily contact report: 18 Jan 70, received sniper fire at NDP, negative casualties or damage. 20 Jan 70, Plow LC 92 hit mine, one operator wounded, heavy damage. 23 Jan 70, Received 20 rounds of 60mm mortars in cut at 1440 hrs, negative casualties or damage. 23 Jan 70, received 6 rounds of 60mm mortar in NDP at 2015 hrs, negative casualties or damage. 24 Jan 70, plow LC 69 hit mine, negative casualties, heavy damage. 30 Jan 70, plow LC 79 hit mine, negative casualties, heavy damage. 31 Jan 70, plow LC 72 hit mine, negative casualties, heavy damage.
(2) Tactical cut East of Katum and Southeast: Enemy capabilities included mining, mortars, RPG's, 51 cal. machine guns and AK-47 fire. Confirmed enemy base camp 2 kilometers North of NDP #4.
The following is a daily contact report: 2 Feb 70, cache of 5000 rounds AK-47, 800a 82mm motars and 6ea B-40 RPG rounds found.

Incl 7

3 Feb 70, cut LOH received AK-47 fire, negative damage and casualties. 3 Feb 70, cache of 80ea 60mm mortars, 5280 30 cal. rounds and 7 ea RPG rounds w/boosters found. 4 Feb 70, plow LC 77 hit mine, negative casualties and damage. 6 Feb 70, cache found 20lbs rice, 500 rounds of small arms, 2ea 82mm mortar rounds, 1ea RPG, 3 chicom grenades, 2ea 30 cal. machine gun. 7 Feb 70, rome plows uncovered active enemy base camp, received small arms, 51 cal. machine gun and RPG fire- 3 rome plows damaged, and 1 PRC 25 destroyed, one operator wounded, 14 confirmed enemy KIA and cache captured. 13 Feb 70, cache found- 2 RPG's, 1000 rounds of SKS, 2 lbs documents, 100ea 120mm mortars rounds, 300 lbs rice, 2 chicom grenades. 16 Feb 70, cache of 600 lbs rice found. 18 Feb 70, found 2ea chicom grenades.

(3) A road cut between Katum and Loc Ninh: Enemy capabilities included mining, mortars, RPG, 51 cal. machine gun and AK-47 fire.
The following is a daily contact report: 21 Feb 70, plow hit booby trap, negative casualties or damage. 26 Feb 70, received RPG fire in cut, negative casualties or damage. 27 Feb 70, uncovered recently used bunker complex, found 1 bycycle and clothing. 1 Mar 70, engaged enemy 200 on outside NDP, negative casualties or damage. 2 Mar 70, small arms in cut, 2 VN operators wounded, negative damage. 7 Mar 70, US EM picked up US ordnance bomb, 1 KIA, 2 WIA.

g. Mission:
(1) Road cut on TL 4 and 247: to clear roughly 3500 acres of land used primarily for infiltration routes for NVA supplies and personnel.
(2) Tactical cut East and Southeast of Katum: to uncover and destroy active enemy base camps used by NVA as rest point during infiltration.
(3) Road cut on TL 246 from Katum to Loc Ninh: to clear roughly 3500 acres of land used primarily for infiltration by NVA.

h. Concept of Operation: On 15 Jan 70, the 501st Engr Co (LC), deployed to French Fort to begin the road cut on TL 4. On 16 Jan 70 the unit set up NDP #1 and stayed there until 22 Jan 70 and moved to NDP #2 on TL 247. On 28 Jan 70 the unit moved to NDP #3. The 4th of Feb 70 the unit moved to NDP #4 where it conducted tactical cuts and built approximately 6 Fire Support Bases. On 8 Feb 70 the unit moved to NDP #5. On 14 Feb 70 the unit moved to NDP #6 and continued the tactical cut. On 17 Feb 70 the unit moved to NDP #7 to complete the tactical cut East of Katum. On the 24th of Feb 70 the 501st LCC moved to NDP #8 to continue clearing land on the original trace. On 1 Mar 70 the 501st moved to NDP #9 and finished the original trace from Katum to Loc Ninh. On 7 Mar 70 the unit moved to Loc Ninh where it was picked up by A Company, 62d Engineer Battalion and returned to LBP that evening.

i. Execution:
(1) Start 15 Jan 70; Convoy to French Fort (XT279673)
(2) 16 Jan 70; French Fort to NDP #1 (XT264745)
(3) 22 Jan 70; NDP #1 to NDP #2 (XT179763)
(4) 28 Jan 70; NDP 2 to NDP #3 (XT308856)
(5) 4 Feb 70; NDP #3 to NDP #4 (XT373862)
(6) 8 Feb 70; NDP #4 to NDP #5 (XT409841)
(7) 14 Feb 70; NDP #5 to NDP #6 (XT445819)

(8) 17 Feb 70; NDP #6 to NDP #7 (XT759375)
(9) 24 Feb 70; NDP #7 to NDP #8 (XT409841)
(10) 1 Mar 70; NDP #8 to NDP 39 (XT407691)
(11) Convoy to Loc Ninh for pickup 7 Mar 70
(12) Convoy to LBP on 7 Mar 70

j. Results:
(1) Enemy Personnel losses: 14 KIA
(2) Friendly Personnel Losses: 7 WIA
1 KIA
(3) Enemy equipment captured:
(a) 11, 980 rounds of small arms
(b) 1,070 lbs rice
(c) 80ea 60mm mortars
(d) 82ea 82mm mortars
(e) 100ea 120mm mortars
(f) 26ea chicom grenades
(g) 20ea RPG
(h) 7ea chicom rifles
(i) 24 lbs explosive w/ 600 ft time fuse
(j) 2ea 30 cal machine guns
(k) 1ea AK-47
(l) 50 lbs clothing
(m) 10ea ponchos
(n) 1ea gas mask, bicyle
(o) 6ea US claymores & M-79 Heads
(p) 2ea US frag grenades
(4) Friendly Equipment Losses: 1 PRC 25
3 M-16 rifles
2 combat loss dozers
8 dozers heavy damaged
(5) Enemy structures destroyed:
(a) 920ea one man bunkers
(b) 624ea two man bunkers
(c) 958ea 4' x 10' bunkers w/ 4-5' overhead cover
(d) 158ea Machine gun positions
(e) 7ea tunnel complexes
(f) 7ea Bunker complexes
(g) Acres cleared- 8513
(6) Significant engineer accomplishments: During the operation we aided our support in constructing 5 culvert sites. These culverts are now permanent structure on the road used by the 11 ACR for access to the two Fire Support Bases we built for their use.

k. Logistics:
(1) Rations: Rations were supplied by the security unit. Hot "A" rations were served for breakfast and supper each day. "C" rations were served for lunch. During stand down the company was served hot "A" rations by HHC, 62d Engr Bn.
(2) Ammunition: Resupplied by security element and rear detachment.
(3) POL: Resupplied by security element.
(4) Uniform & equipment: Supplied by rear detachment unit supply.
(5) Repair parts: Supplied through rear detachment unit supply.
(6) Training: Conducted during MSD.

1. Special equipment and techniques: Along the lines of special equipment, I feel that the most important piece of equipment that we have implemented is the "A" frame for the 10 ton tractor. It has proven to be extremely useful during stand down and in the field.

m. Commanders Analysis and Lessons learned: Security, the 11 Armored Cav supplied excellent security during the operation. The fact that they are a Mechanized unit only amplifies the fact that this is what is necessary for a well secured operation. The security commander was in constant contact with our OIC and was able to react immediately upon contact. The only problem being some resupply and the fact that security was pulled several times to go on an operation and we lost cutting days. Class 1 resupply was lacking in some instances but was quickly resolved by the security Commander.

n. Recommendations: To continue to keep plows in the field a good 10 day maintenance stand down must be inforced. This enables the company to keep a much larger percentage of plows in the cut throughout the operation. The Company needs to know where we are going earlier than we are normally notified. It is very difficult to wait untill the last day prior to moving out to get our assignment. A good recon by myself would simplify matters when trying to set up the first NDP and first days of operation.

RICHARD B KEENE
CPT CE
Commanding

2 Incl
1. MSD Schedule
2. Overlay of Cut

Operation Name: War Zone C
Land Clearing Company: 501st LCC
Supported Unit: 1st Cav Division
Dates of Operation: 15 Jan - 6 Mar 70
Acres Cut: 8513
Map Series and Sheet: 1510. NC 48-3

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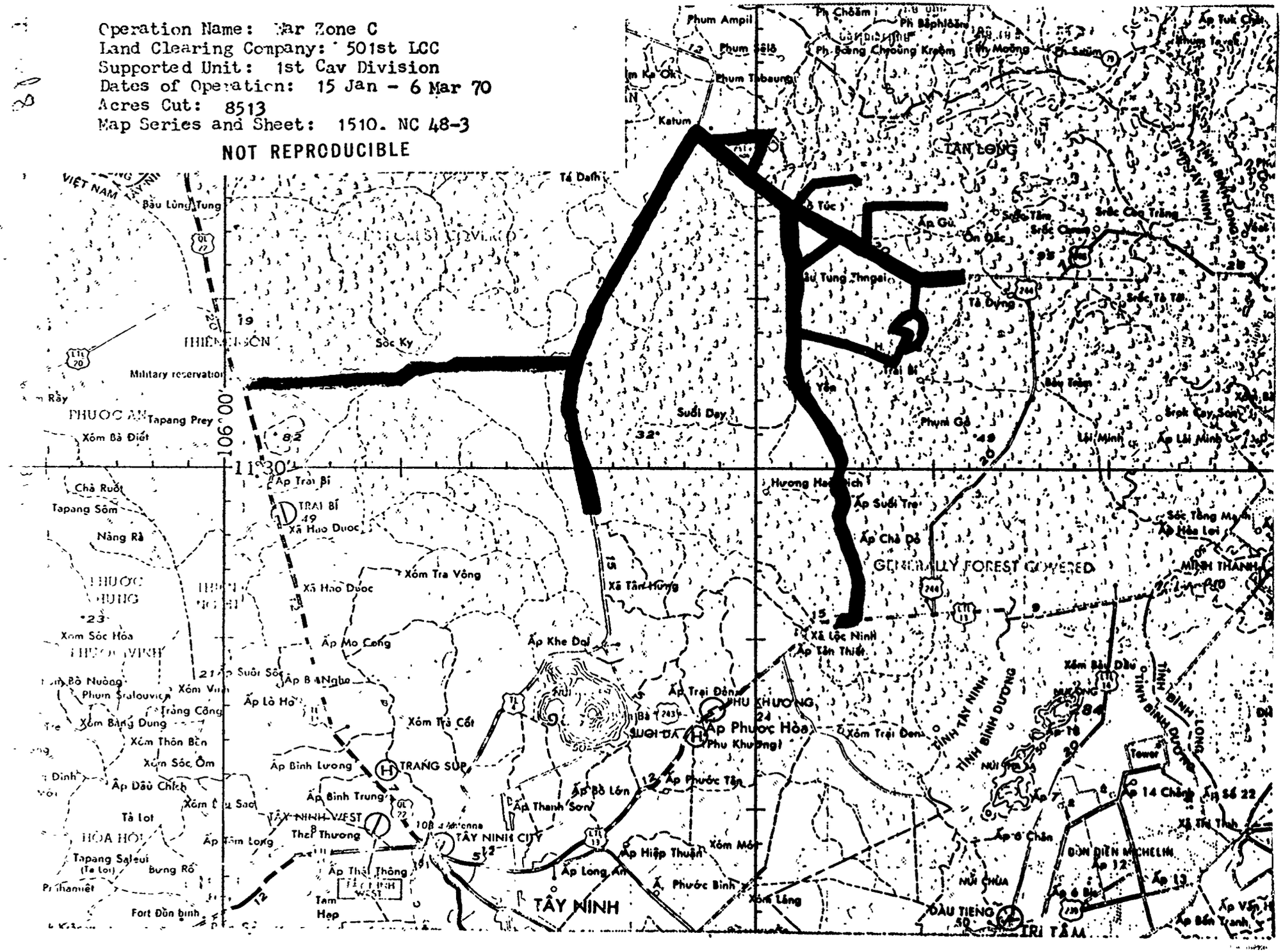
TÂN LONG
GENERALLY FOREST COVERED
TÂY NINH
TÂY NINH CITY
TÂY NINH WEST
TRANG SUP
TRAI BÌ
Military reservation
Tapang Prey
Xóm Bà Điết
Chà Ruốt
Tapang Sôm
Nàng Rà
Xóm Sóc Hòa
Xóm Tra Vông
Xã Hảo Đước
Ấp Mo Công
Ấp Khe Dai
Ấp Trại Đèn
Ấp Phước Hòa
Xóm Trại Đèn
Ấp Bình Lương
Ấp Bình Trung
Ấp Thanh Sơn
Ấp Bồ Lớn
Ấp Phước Tân
Ấp Hiệp Thuận
Ấp Long Ân
Ấp Phước Bình
Xóm Lăng
Xóm Mới
Ấp Thái Thông
Tam Hiệp
Tà Lot
Tapang Saleui
Bưng Rố
Fort Dồn binh
Ấp Dầu Chích
Xóm Bàng Dung
Xóm Thôn Bền
Xóm Sóc Ổm
Ấp Lò Ho
Xóm Trà Cốt
Ấp Suối Sâu
Xã Tân Hưng
Xã Lộc Ninh
Ấp Tân Thiết
Ấp Suối Tre
Ấp Chà Đỏ
Xóm Bàu Dầu
Ấp 14 Chàng
Ấp 6 Chân
Ấp 6 Bàu
Ấp 13
Ấp Bến Tranh
ĐỒN ĐIỀN MICHELIN
NÚI CHÚA
DẦU TIẾNG
TÂM
Suối Dây
Phum Gò
Ấp Lái Minh
Ấp Tuk Chít
Sóc Tầm
Sóc Cây Trắng
Sóc Tà Tô
Bầu Tràm
Srok Cây Sơn
Sóc Tổng Mạnh
Ấp Hòa Lợi
MINH THÀNH
TỈNH BÌNH DƯƠNG
TỈNH TÂY NINH
Tower
Sóc Ky
Tá Danh
Bầu Lùng Tung
Katum
Phum Ampil
Phum Tà Dơ
Phum Tobaung
Ấp Gò
Ấp Trai Bi
Xã Hảo Đước
Hương Hiếu Thích
Ấp Khe Dai
Ấp Trại Đèn
Ấp Phước Hòa
Ấp Phước Tân
Ấp Thanh Sơn
Ấp Bồ Lớn
Ấp Hiệp Thuận
Ấp Long Ân
Ấp Phước Bình
Ấp Thái Thông
Ấp Bình Lương
Ấp Bình Trung
Ấp Lò Ho
Ấp Dầu Chích
Ấp Tân Long
Ấp Thanh Sơn
Ấp Lái Minh
Ấp Tà Dơng
Ấp Gò
Ấp Chà Đỏ
Ấp Suối Tre
Ấp Tân Thiết

DEPARTMENT OF THE ARMY
501ST ENGINEER COMPANY (LAND CLEARING)
APO San Francisco 96491

EGEB-501 6 May 1970

SUBJECT: AFTER ACTION REPORT - DUC PHONG 190-5490-0-20

Commanding Officer
62d Engr Bn
ATTN: EGEB-3
APO 96491

The following is an After Action Report for the Duc Phong land clearing operation in which the 501st Land Clearing Company participated during the period 23 March 1970 through their inactivation 8 April 1970.

a. Name of Operation: Duc Phong 190-5490-0-20

b. Dates of Operation: 23 Mar 70 through deactivation on 8 Apr 70

c. Location of Operation:

(1) Road cut between Duc Phong and II Corps Border along QL 14

(2) Ambush sites along QL 14 and TL 311

d. Command Headquarters: 62d Engineer Battalion (LC)

e. Task Organization:

(1) Organizational Unit: 501st Engineer Company (LC)

(2) Attachments: Contact Team from A Company, 62d Engr Bn; 1 Platoon, 318th ARVN LCC.

(3) Supporting Units:

(a) 1st Air Cavalry Division

(b) 1/15 Mech (ARVN)

f. Intelligence:

(1) Road cut between QL 14 and II Corps Border: Enemy resistance encountered was in the form of regular NVA units. These capabilities were mining, RPG, mortars, and AK-47 fire. On 30 Mar 70, plow # 77 hit an AP mine negative damage, no injuries.

Incl 9

(2) Ambush sites along QL 14 and TL 311: Enemy capabilities included RPG, 51 Cal machine guns and AK-47 fire on 7 Apr 70, the unit march column was ambushed with RPG, and small arms fire, negative casualties or damage.

g. Mission:

(1) Road cut on QL 14 to clear roughly 1624 acres of land used primarily for infiltration routes for NVA supplies and personnel.

(2) Ambush sites along QL 14 and TL 311: To clear roughly 457 acres of land used primarily for ambushes along QL 14 and TL 311.

h. Concept of Operation: On 23 Mar 70, the 501st Engr Co (LC) moved by convoy to Duc Phong and on to the first NDP site. On 24 Mar 70, the company moved to the cut area and set up first NDP to begin operation on QL 14. The unit stayed in the first NDP until 30 Mar 70, then moved to NDP # 2. On the 3rd of April 70, unit moved to the 3rd NDP to start cutting potential ambush positions along QL 14 and TL 311. On 7 Apr 70, unit moved to 4th NDP to wait for A Company to pick us up for our move. The primary mission was a road cut from II Corps border to Duc Phong and ambush cuts south of Duc Phong and Bunard. The move took two days with a R.O.N. south of Duc Phong then the remainder of the move the following morning.

i. Execution:

(1) Start 23 Mar 70; convoy to Duc Phong (YU 433066)

(2) 24 Mar 70; Duc Phong to NDP # 1 (YU 548168)

(3) 30 Mar 70; NDP # 1 to NDP # 2 (YU 488095)

(4) 3 Apr 70; NDP # 2 to NDP # 3 (YU 284982)

(5) 7 Apr 70; NDP # 3 to NDP # 4 (YU 255896)

j. Results:

(1) Enemy personnel losses: 1 KIA on 8 Apr 70, killed when ambushed on move.

(2) Friendly personnel losses: 1 KIA on 5 Apr 70, security had one ~~killed when tree fell on~~ APG in cut. 1 WIA, on 24 Mar 70, one security injured in first NDP by booby trap.

(3) Enemy Equipment Captured: None

(4) Friendly Equipment Losses: None

(5) Enemy Structures Destroyed:

(a) 240 one and two man bunkers

(b) 30 machine gun positions

(c) 10 tunnel complexes

(d) Acres Cleared: 2134

(6) Significant engineer accomplishments: During the operation the unit cleared jungle along the road opening the road for civilian traffic to travel to II Corps. The unit also repaired breaks in the road to open it fully to traffic.

k. Logistics:

(1) Rations: Rations were supplied by the security unit. Hot "A" rations were served for breakfast and supper each day. "C" rations were served for lunch.

(2) Ammunition: Resupplied by 1st Air Cav Div and rear detachment.

(3) POL: Resupplied by security element.

(4) Uniform and equipment: Supplied by rear detachment unit supply.

(5) Repair Parts: Supplied through rear detachment unit supply.

(6) Training: None

l. Special equipment and techniques: The biggest aid to the operation was the use of the anchor chain. It expedited the cutting where plows would normally have to spend a great deal of time cutting in very light jungle.

m. Commander's Analysis and Lessons Learned: There were some minor problems with the resupply having ARVN's for security. We had to draw ammo through our sources to give them enough to expend at night. They only carried a basic load and it was not replenished rapidly enough.

n. Recommendations: For a complete turnover, the ARVN's need more time to run the operation rather than work along with us. Observing alone does not teach the supervisors how to run the operation. When they get time to run an operation themselves they will understand the hardships and troubles in the actual operation of the company both in the rear and in the field.

RICHARD B. KEENE
CPT, CE
Commanding

Inc 10

Operation Name: Duc Phong, Ambush Sites
Land Clearing Company: 501st LCC
Support Unit: 1st Cavalry Division
Date of Operation: 25 March 70 - 8 April 70
Acres Cut: 2134
Map Series, Scale, and Sheets: 1501, 1:250,000, NC 48-4

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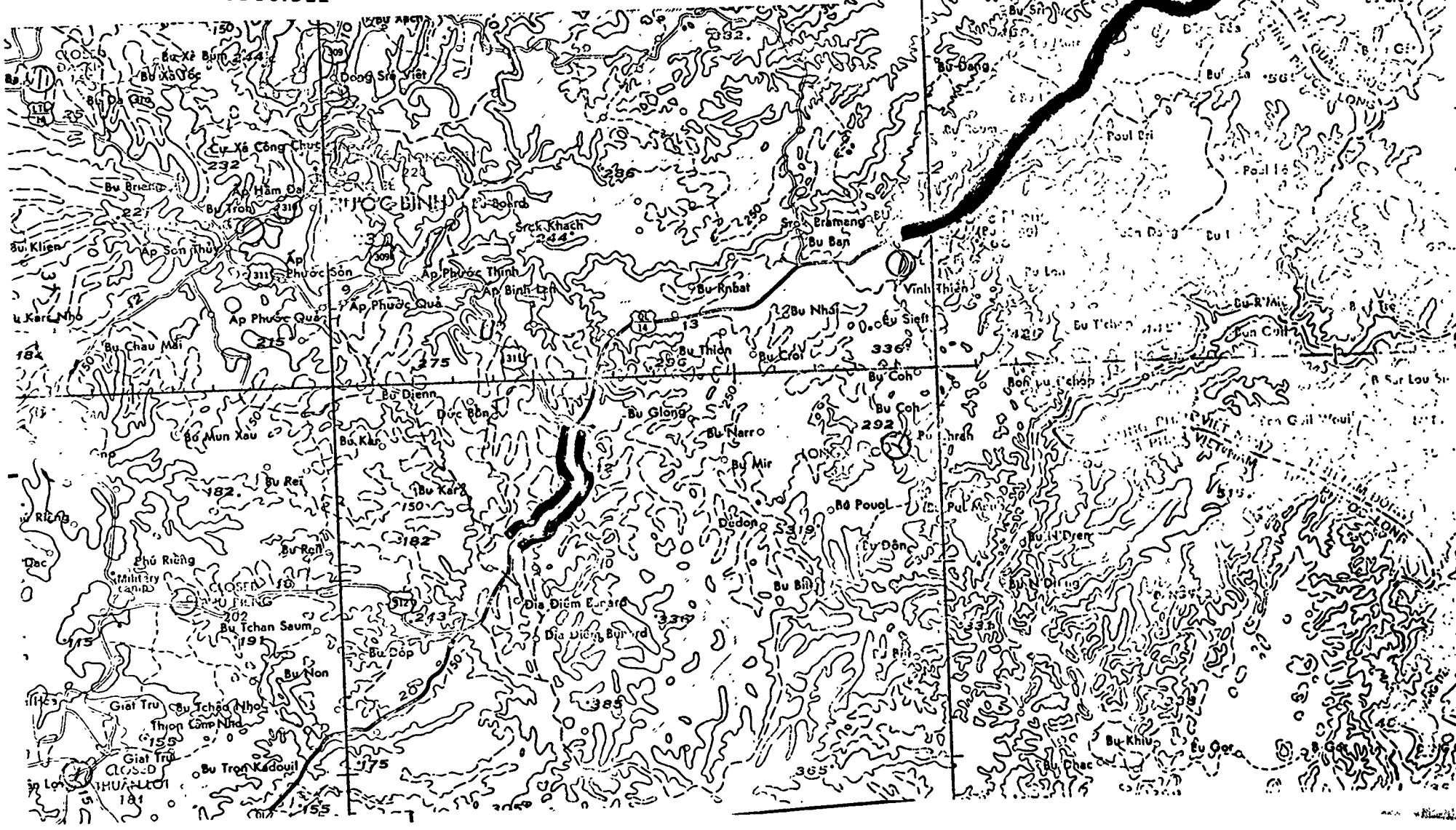
Bu Xa Bum
Bu Xa Tóc
Bu Da Gia
Cu Xá Công Chức
Bu Brieng
Ap Hàm Dà
Bu Tron
Bu Klien
Ap Son Thủy
Ap Phước Sơn
Ap Phước Thịnh
Ap Bình Lợi
Ap Phước Quả
Srok Khach
Srok Bramang
Bu Ban
Bu Rnbat
Vinh Thiện
Bu Nhơ
Bu Sieft
Bu Chau Mai
Bu Thion
Bu Croi
Bu Coh
Bu Dienn
Dức Bon
Bu Glong
Bu Narro
Bu Mir
Bu Mun Xau
Bu Kar
Bu Rei
Bu Karo
Bu Pouol
Dudon
Bu Dôn
Bu Bil
Phú Riềng
Military Camp
Bu Tchan Saum
Bu Cop
Bu Non
Giat Tru
Bu Tchao Nhoc
Thon Cong Nhu
Bu Tron Kadouil
Dia Diem Bunard
Bu Khiu
Bu Chac
Bu Gor
Poul Dri
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Bu Sra
Bu Dang
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DEPARTMENT OF THE ARMY
984TH ENGINEER COMPANY (LC) 62D ENGINEER BATTALION
APO SAN FRANCISCO 96491

EGEB-984 13 April 1970

SUBJECT: After Action Report - War Zone C, Phase II, 175-5562-0-20

Commanding Officer
62d Engineer Battalion
APO SF 96491

The following is an after action report for the War Zone C, Phase II land clearing operation in which the 984th Land Clearing Company participated during the period 15 Feb 70 through 4 Apr 70.

a. Name of operation: War Zone C, Phase II, 175-5562-0-20

b. Dates of operation: 15 Feb 70 through 4 Apr 70

c. Location of operation:

(1) Local road 240 from XT 463819 to XT 677862.

(2) Local road 244 from XT 454637 to XT 499818.

(3) LTL 13 from XT 414633 to XT 485639.

(4) Tactical cut from XT 560846 to XT 546882 to XT 517868.

(5) Tactical cut from XT 490860 to XT 497875 to XT 513870 to XT 490860.

(6) Tactical cut from XT 540846 to XT 515858 to XT 503846 to XT 487852 and to XT 503820.

(7) Cut around Fort Defiance.

(8) Tactical cut from XT 431635 to XT 431655 and circular cut at XT 431655.

d. Command Headquarters: 62d Engr Co (LC)

e. Task organization:

(1) Organizational Unit: 984th Engr Co (LC)

(2) Attachments: Plt of 318th ARVN (LCC) (Personnel only)

Incl 11

(3) Supporting Units

(a) 11th Armored Cavalry Regiment - F troop

(b) 1st Air Cavalry Division

f. Intelligence:

During the operation, enemy resistance encountered was in the form of regular NVA units. Their capabilities were mining, mortars, RPG, 51 caliber machine gun, and AK47 fire.

g. Mission

(1) Road cuts along roads 246, 244, and LTL13

(2) Tactical cuts as required by security.

h. Concept of Operation:

On 15 Feb 70, the 984th LCC deployed to take up a position in an NDP (XT 646829) for the road cut on road 246. The unit stayed there until 18 Feb 70 when it moved to another NDP (XT 553846). While in this location the unit made various tactical cuts uncovering more than four-hundred (400) enemy bunkers. On the 4th of Mar 70, the unit moved to another NDP (XT 502793). On 20 Mar 70, the unit moved to another NDP (XT 483713). On the 27th of Mar 70, the unit moved to the last NDP (XT 460635). While at this NDP the unit also made additional tactical cuts. On the 3rd of Apr 70, the unit moved to XT 388626 XA Loc Ninh, where it was picked up by A Co 62d Engr Bn and taken to Tay Ninh. On 4 Apr 70, the convoy left Tay Ninh and returned to LBP. The unit recorded a total of 6,712 acres for the operation.

i. Execution:

(1) Start - 15 Feb 70 - Convoy to NDP (XT 646829)

(2) 18 Feb 70 - move to NDP (XT 553846)

(3) 4 Mar 70 - move to NDP (XT 502793)

(4) 20 Mar 70 - move to NDP (XT 483713)

(5) 27 Mar 70 - move to last NDP (XT 460635)

(6) 4 Apr 70 - move to Tay Ninh

(7) 4 Apr 70 - Convoy to Long Binh

j. Results:

(1) Friendly Losses:

(a) Personnel: 2 KIA, 24 WIA

(b) Equipment: 1D7E, various gear, 1 3 ton crane, 1 reafer, 1 524 radio, 2 CVC helments, 2 meramite cans, 1 1.5KW generator, 6 grease guns, 2 torque wrenches.

(2) Enemy Losses:

(a) Personnel: Unknown

(b) Structures Destroyed: Over 455 bunkers were uncovered and destroyed. Numerous ambush positions were destroyed along the roads.

(3) Acreage cleared: 6,712 acres

k. Administration and Logistics:

(1) Rations: Rations were supplied by the security unit. Hot "A" rations were served for breakfast and evening meal each day. "C" rations were served for lunch. During stand-down the company was served hot "A" rations for all meals by HHC 62d Engr Bn.

(2) Ammunition: Resupplied by security element.

(3) POL: Resupplied by security element.

(4) Uniform and equipment: Supplied by unit supply element.

(5) Repair parts: Supplied by unit supply system.

(6) Training: Conducted during MSD.

l. Commanders analysis and lessons learned.

(1) Tactical cuts can be made by compass only if the communication by radio is excellent between the lead 548, lead plow, drag 548, and drag plow. It is greatly recommended that an aircraft be used for the entire cut to control the lead plow and lead 548. This use of the aircraft enables the lead plow to avoid obstacles and provides better overall command and control.

(2) When communication is poor, a road cut is the best method of operation. This enables the lead 548 to ride along side the lead plow. It also gives the cut commander a good perspective of the work being accomplished and provides better control.

(3) Communication within Land Clearing units is of critical importance. Without communication there is no control over the cut and precious cutting hours are wasted. Also, repair parts must be called into both the NDP and LBP. In this respect communication determines the number of operational plows.

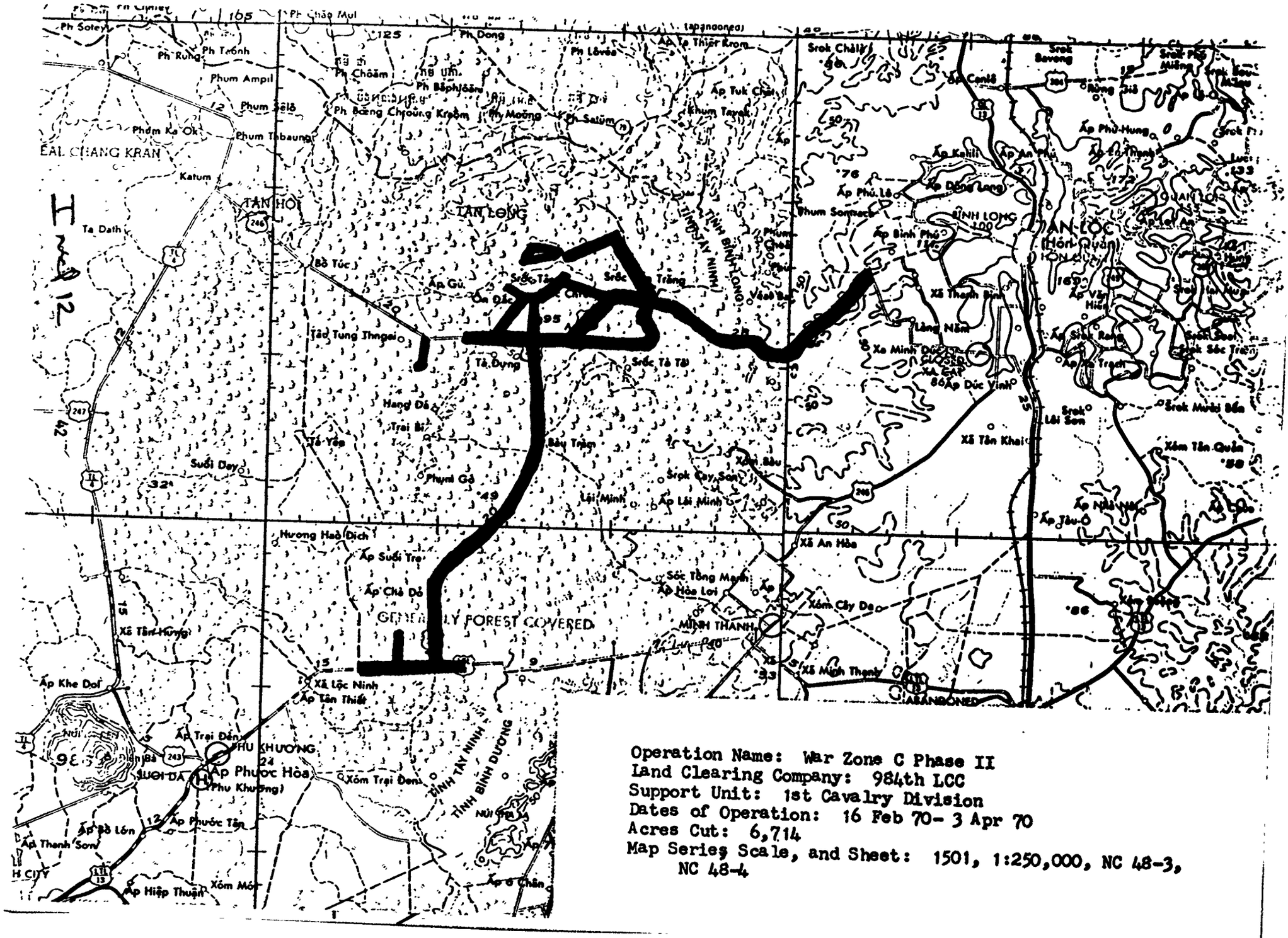
(4) Supply is another critical area as follows:

(a) Repair parts must be expedited in order to accomplish the mission.

(b) Ice is absolutely required to prevent spoilage and provide relief from the heat.

(c) Water, both potable and non-potable, is one of the single most critical items. The plows require non-potable water for the cooling system and the control of fires. The men require non-potable water for sanitation. Drinking water must be provided in adequate quantities. An estimate of the amount of water drunk by a cutting crew, at two and one-half quarts a day per man is 31 gallons a day. This does not include the drinking water used in the NDP or that used for drink during the morning and evening meals. Water mixed with diesel fuel, as supplied during this operation, is totally unsuitable for any application. This unfortunate situation occurred due to a shortage of bladders and lasted for the last week and a half of the operation. The mixture of diesel and water occurred when potable water was pumped into potable bladders which had been used for the transportation of diesel fuel ~~and which were not completely empty.~~

JOSEPH E. BACKOFEN JR.
1LT, CE
Acting Commander



Operation Name: War Zone C Phase II
Land Clearing Company: 984th LCC
Support Unit: 1st Cavalry Division
Dates of Operation: 16 Feb 70- 3 Apr 70
Acres Cut: 6,714
Map Series Scale, and Sheet: 1501, 1:250,000, NC 48-3, NC 48-4

DEPARTMENT OF THE ARMY
HEADQUARTERS 62D ENGINEER BATTALION
APO San Francisco 96491

EGEB-3 24 April 1970

SUBJECT: After Action Report for Secondary Growth Clearing.

Commanding Officer
79th Engineer Group
ATTN: EGE-3
APO SF 96491

1. The following is an After Action Report for Secondary Growth Clearing of Boi Loi Woods, Crescent and Bunard areas during the period 20 February 1970 to 8 April 1970.

a. Names of Operations:

(1) Boi Loi Woods

(2) Crescent

(3) Bunard

b. Dates of Operations:

(1) 20 Feb - 9 Mar 70 (Boi Loi)

(2) 9 Mar - 12 Mar 70 (Crescent)

(3) 12 Mar - 19 Mar 70 (Stand Down at Long Binh)

(4) 19 Mar - 8 Apr 70 (Bunard)

c. Locations:

(1) LTL 19 - West and Southwest of Dow Tieng (Boi Loi and Crescent)

(2) QL 14 - North and South of Bunard (Bunard)

d. Task Organization:

(1) Organizational Units: Brush cutting team, 62d Engr Bn; contact team A Company, 62d Engr Bn.

(2) Equipment:

(a) 2 each Marden B-7 brush cutters model B-7.

Incl 13

(b) 2 each Rome Plow Disc Harrows TR - 16.

(c) 4 each Caterpiller D-7E tractors with Rome Plow.

(1) 2 each with Bull Kits Blades.

(2) 2 each with Rome Plow K/G Blades.

(3) Attachments: C Co, 588th Engr Bn, 1-250 CFM air compressor with operator.

(4) Detachments: None

(5) Supported Units:

(a) 25th Infantry Division (Boi Loi & Crescent)

(b) 1st Cavalry Division (AMBL) (Bunard)

e. Intelligence:

(1) Boi Loi - Crescent areas: The only known enemy unit in either area is the 268th VC Infantry Regiment, which has an approximate strength of 350. This unit had the capability to mount indirect fire attacks, ambushes and mining operations in this area.

(2) Bunard area: The 1st Bn of the 174th NVA Infantry Regiment is known to operate in this area. They have the capability to mount indirect fire attacks, ambushes and mining operations in this area.

f. Mission:

(1) Boi Loi - Crescent: Clear secondary growth from two areas along route LTL 19 West and Northwest from Dow Tieng (See Incl 1, overlay of Boi Loi - Crescent areas).

(2) Bunard. Clear secondary growth from QL-14 North and South of Bunard. (See Incl 2, Overlay of Bunard areas).

(3) Conduct a test and evaluate the merits of the following equipment:

(a) Rome Plow Disc Harrow model TR 16-30.

(b) Marden Brush Cutter model B-7.

g. Concept of Operation.

(1) Boi Loi: Move the secondary growth clearing team to the Boi Loi Woods area and conduct clearing operations for approximately 30 days beginning 20 February 1970. Compile test data through use of photos, questionnaries, daily narratives and jungle clearing reports.

(2) Crescent: Move the secondary growth clearing team to the Crescent area from the Boi Loi Woods for further test in different terrain, on 9 March 1970.

(3) Maintenance Stand Down: Move the secondary growth clearing team to Long Binh Post for a 5 day maintenance stand down on 13 March 1970.

(4) Bunard: Depart Long Binh Post on 19 March 1970 and conduct secondary growth clearing and further test and evaluation of the equipment in still another area.

h. Execution:

(1) 20 February 1970 move from LBN to NDP vicinity XT 477391 (Boi Loi Woods).

(2) 21 February to 8 March 1970 conducted clearing, test, and evaluation in the Boi Loi Woods area.

(3) 9 March move to NDP vicinity XT 443508 (Crescent area).

(4) 10 March to 12 March 1970 conducted clearing, test and evaluation in the Crescent area.

(5) 13 March 1970 the team returned to Long Binh for a maintenance stand down.

(6) 19 March 1970 departed LBN to NDP vicinity YT 255899 (Bunard).

(7) 20 March 1970 to 8 April 1970 conduct, clearing, test and evaluation operations along QL 14.

(8) 9 April 1970 return to Long Binh for termination of operation, test and evaluation.

i. Results:

(1) Enemy Personnel Losses: 0 WIA, 0 KIA.

(2) Friendly Personnel Losses: 0 WIA, 0 KIA.

(3) Enemy Equipment Captured: None

(4) Friendly Equipment Losses: None

(5) Operational Results:

(a) Boi Loi - Crescent

(1) 470 acres cleared.

(2) Total cut days - 19 days.

(3) Average acres cut/day - 24.7

(4) Average number cutters operational/day - 3 each.

(b) Bunard:

(1) 414 acres cleared.

(2) Total cutting days - 18 days.

(3) Average acres cut/day - 23.0.

(4) Average cutters operational/day - 3 each.

(6) Significant Engineer Accomplishments: None

j. Administration and Logistics:

(1) Rations were supplied by:

(a) 25th Infantry Division: Boi Loi - Crescent.

(b) 1st Cavalry Division: Bunard.

(2) Water and Ice were supplied by:

(a) 25th Division - Boi Loi - Crescent.

(b) 1st Cav: Bunard.

(3) POL supplied by:

(a) 25th Division: Boi Loi - Crescent.

(b) 1st Cav: Bunard.

(4) Clothing and equipment was supplied by the 62d Engr Bn.

(5) Repair parts were supplied by the 62d Engr Bn.

k. Special Equipment and Techniques:

(1) Boi Loi - Crescent area:

(a) During this period of operation the secondary growth clearing team utilized the following equipment:

(1) 2 each Marden Brush Cutter model B-7.

(2) 2 each Rome Plow Disc Harrows model TR - 16.

(3) 4 each Caterpillier model D-7E equipped with Rome Plow cabs and brush guards.

(a) 2 each with bull blades.

(b) 2 each with Rome Plow K/G clearing blades.

(2) Bunard Area: During the period of operation the team used the same equipment as before with the exception of the Marden Brush Cutter model B-7. This piece of equipment was eliminated due to it's high deadline rate and ineffectiveness. See paragraph "I", Commander's Analysis of Lessons Learned.

(3) The techniques used were as follows: The secondary growth team used a few special techniques for evaluating the speed that the different types of equipment could operate; areas to be cut were laid out in equal areas. The equipment was then timed as to how much time was taken by each piece of equipment to cut each area. Break down time was adjusted if the down time was caused by the prime mover. If the actual cutter was the cause of the cutting halt annotations were made as to the total numbers of hours lost for maintenance.

1. Commander's Analysis and Lessons Learned:

(1) Even though testing was not conducted in wet areas, it is our firm conviction that the devices tested would meet with disaster during the rainy season. Based on our experience in attempting to operate tractors over wet terrain, we can guarantee that neither the brush cutter nor the harrow would see action between June and November. We have proven, however, that blades can operate with some effectiveness in the monsoon.

(2) Both the brush cutter and the disc harrow require a tracked prime mover with at least the draw bar capacity of a D7 tractor. In addition, the high density of D7 tractor already in country would indicate that the D7 should be selected as the towing implement. Paradoxically, however, a D7 with a bull blade will clear a wider lane at a faster rate than a D7 towing either of the clearing devices tested. A D7 with a Rome Plow blade is even more productive.

(3) It would not seem logical, therefore, to take a piece of equipment capable of doing the job and reduce its effectiveness by hauling something behind it.

(4) The terrain that will be encountered during secondary growth clearing is also a vital consideration. When working in heavily cratered areas or in rough terrain the brush cutter is literally unmanageable, and subject to extensive damage. The brush cutter and tractor together total about 100,000 pounds and the task of hauling this combination out of a crater or ravine is monumental. The disc harrow poses only a slightly lesser problem under these conditions.

(5) Where primary growth cutting has left fallen trees scattered about, neither the brush cutter nor the disc harrow is of any value whatsoever. The best means of dealing with this problem appears to be the employment of either bull blades or plow blades to windrow the trees while simultaneously taking out the secondary growth. A D7 does not have the capacity to move fallen trees and pull a brush cutter or harrow at the same time.

(6) Both the cutter and the harrow are straight ahead devices. In particular, where frequent backing off becomes necessary because of terrain or other obstacles, the manuever is often impossible to make without help from other tractors.

(7) The loading, unloading and setting up of secondary growth equipment is a serious problem. The brush cutter is especially troublesome and requires several hours to remove from the flat bed and prepare for service provided no damage has ensued. The D7 itself can walk off and be cutting in minutes.

(8) The use of the secondary growth items tested more than doubled requirements for critical tractor trailers because neither item can be transported on the same trailer as the D7. Similarly, maintenance requirements are significantly increased, especially for the brush cutter which literally falls apart at the first sign of adversity. When barbed wire is encountered in the cut, the harrow becomes totally ineffective as the wire winds tightly around the axles and must be cut away with a torch.

(9) By every criterion used during testing the brush cutter and harrow fell well behind the blades with the exception that under good conditions the harrow has the most damaging effect on root systems.

(10) The Rome Plow blade is the most effective means of clearing secondary growth because of its configuration that promotes shearing without digging into the earth. The bull blade is a fairly close second but requires greater operator effort because the blade tends to dig in rather than float at ground level.

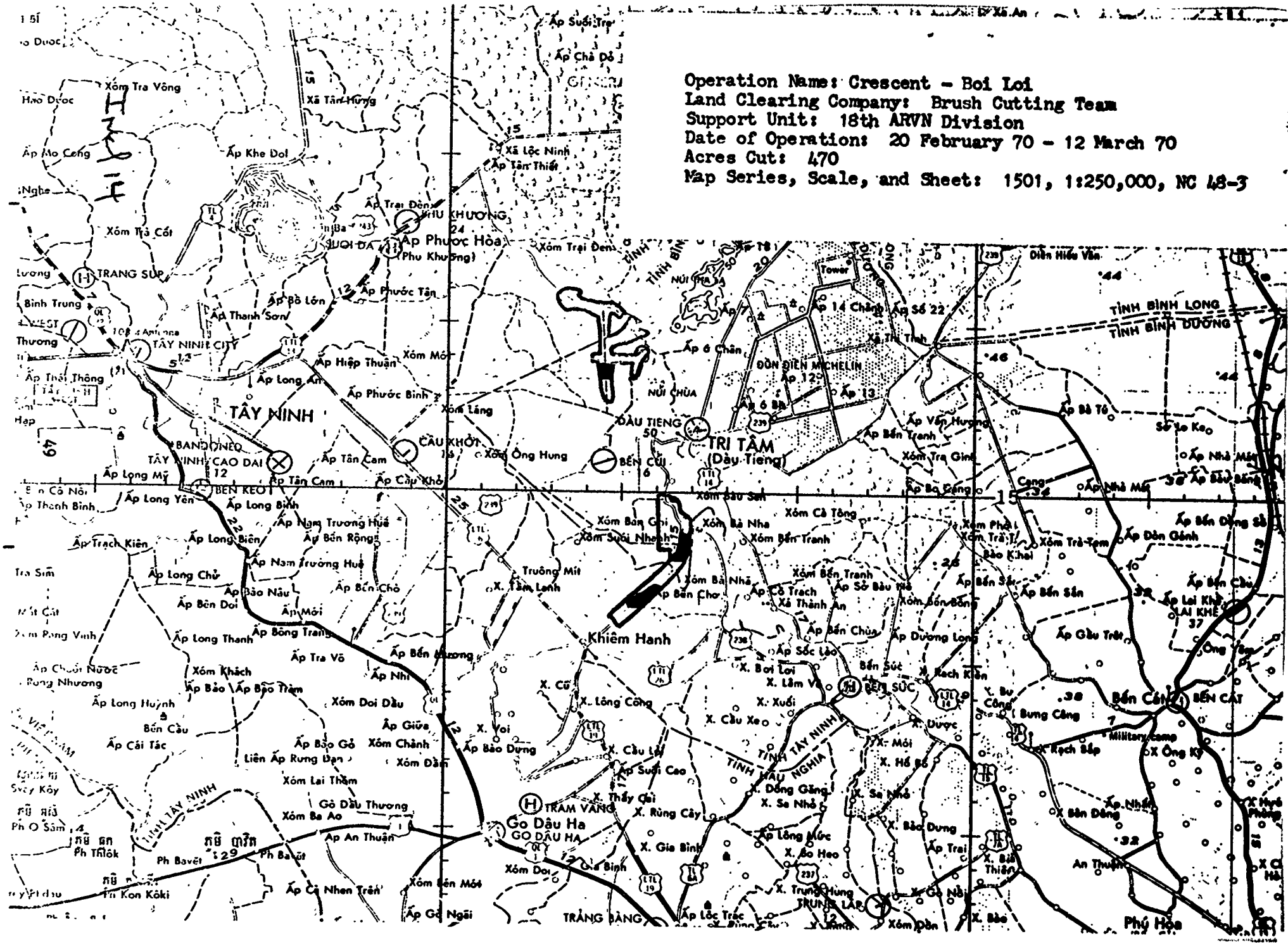
(11) Safety is a major consideration. The prime mover should be equipped with a reinforced Rome Plow cab and all of the protective modifications employed by land clearing units. Without this protection, operating personnel would be exposed to small arms fire and mine fragments as well as injury from tall undergrowth.

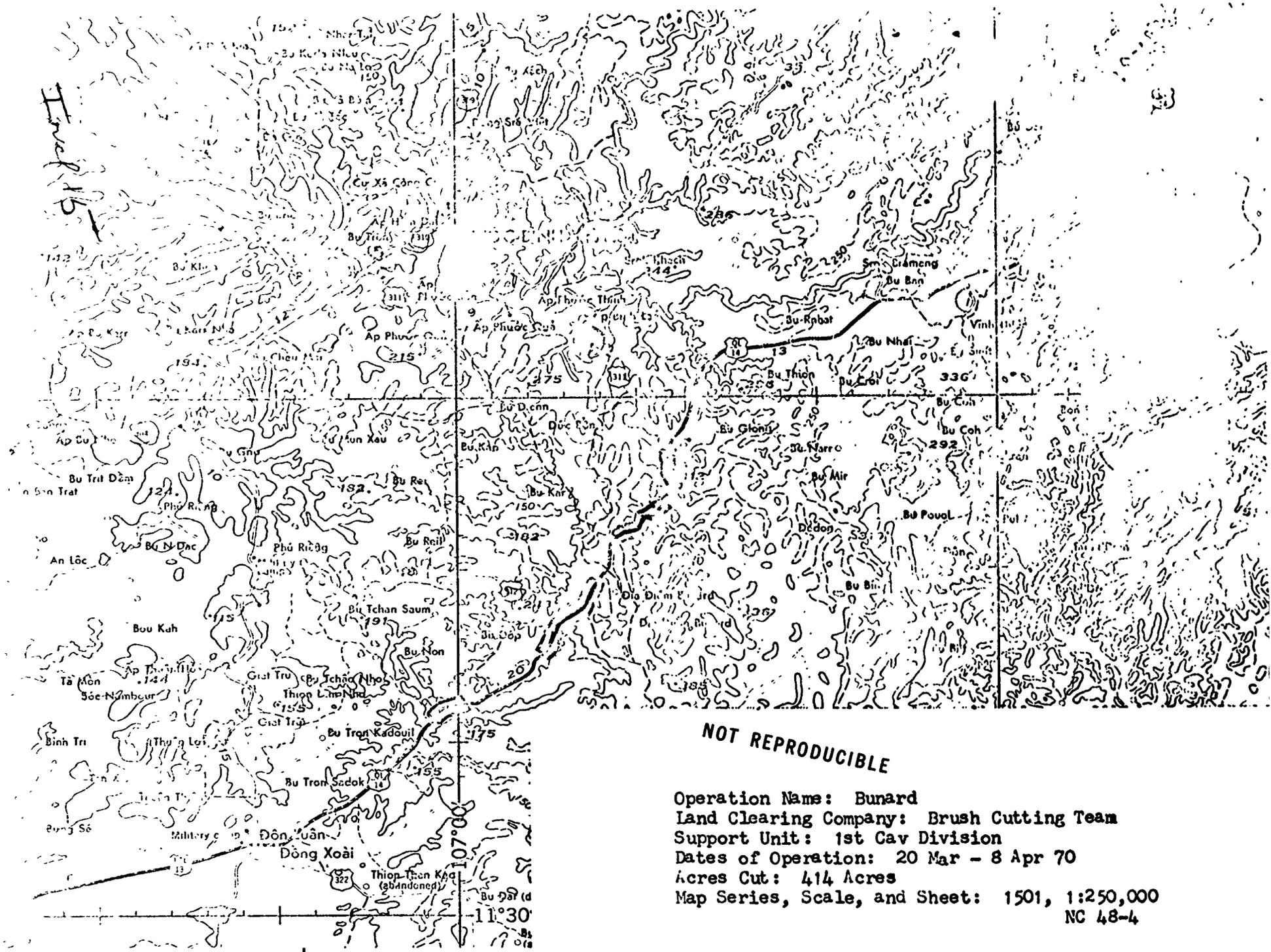
(12) Our conclusion is that neither of the devices tested have overall capabilities that can even remotely compare with the capabilities of the essential prime movers themselves.

2 Incl
as

WILLIAM T. PETERS
CPT, CE
Operations Officer

Operation Name: Crescent - Boi Loi
Land Clearing Company: Brush Cutting Team
Support Unit: 18th ARVN Division
Date of Operation: 20 February 70 - 12 March 70
Acres Cut: 470
Map Series, Scale, and Sheet: 1501, 1:250,000, NC 48-3





NOT REPRODUCIBLE

Operation Name: Bunard
Land Clearing Company: Brush Cutting Team
Support Unit: 1st Cav Division
Dates of Operation: 20 Mar - 8 Apr 70
Acres Cut: 414 Acres
Map Series, Scale, and Sheet: 1501, 1:250,000
NC 48-4

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