

General Subjects Section
ACADEMIC DEPARTMENT
THE INFANTRY SCHOOL
Fort Benning, Georgia

ADVANCED INFANTRY OFFICERS COURSE
1948 - 1949

OPERATIONS OF THE 109TH ENGINEER COMBAT BATTALION
(34TH INFANTRY DIVISION) CROSSING THE VOLTURNO
RIVER NEAR CALAZZO, ITALY, 12 - 14 OCTOBER 1943
NAPLES-FOGGIA CAMPAIGN
(Personal Experience of a Battalion Supply Officer)

Type of operation described: ENGINEER COMBAT
BATTALION IN A RIVER CROSSING

Major Lee S. Stoneback, Infantry
ADVANCED INFANTRY OFFICERS CLASS NO II

TABLE OF CONTENTS

	<u>PAGE</u>
Index.....	1
Bibliography.....	2
Introduction.....	3
General Situation.....	4
34th Division Situation.....	8
Situation and Planning Phase, 109th Engineer Combat Battalion, 9-12 October.....	11
Reconnaissance and Preparation for Assault Crossings and Bridging Phases, 109th Engineer Combat Battalion, 9-12 October.....	12
Infantry Assault Crossings, 12-14 October.....	14
Engineer Operations, 12-14 October.....	17
Analysis and Criticism.....	23
Lessons Learned.....	25
Map 1 - Invasion of Italy	
Map 2 - Salerno to the Volturno	
Map 3 - Movement of 34th Division to Volturno River	
Map 4 - VI Corps Plan of Attack and Enemy Positions	
Map 5 - 34th Division Plan of Attack and Positions	
Map 6 - Engineer Operations	

BIBLIOGRAPHY

- A-1 The Strategy of the 1943 Invasion of Italy
Colonel Conrad H. Lanza
Military Review, April 1944 (TIS Library)
- A-2 Fifth Army History, Part I
U. S. Army, Fifth Army (TIS Library)
- A-3 From the Volturno to the Winter Line
MID 6 October - 15 November 1943
U. S. War Department (TIS Library)
- A-4 The World Almanac and Book of Facts for 1946
The New York World Telegram (TIS Library)
- A-5 Fifth Army History, Part II
U. S. Army, Fifth Army (TIS Library)
- A-6 Student Monograph "The Operations of the 34th Infantry Division
Volturno River Crossing, 5 - 12 October 1943
Lt Colonel Robert E. Coffey, Infantry (TIS Library)
- A-7 Crossing the Volturno
Captain Lauren E. McBride
Infantry Journal, September 1944 (TIS Library)
- A-8 The War in Italy September 21 to October 20, 1943
Colonel Conrad H. Lanza
The Field Artillery Journal, December 1943 (TIS Library)
- A-9 The Fifth Army Learned
Colonel Robert J. Wood
Military Review, October 1944 (TIS Library)
- A-10 Interview with Lt Colonel R. P. Miller
D 769.3 M617 Infantry School Library
- A-11 Engineer History, Mediterranean Theater, Volume I
U. S. Fifth Army (TIS Library)

OPERATIONS OF THE 109TH ENGINEER COMBAT BATTALION
(34TH INFANTRY DIVISION) CROSSING THE VOLTURNO
RIVER NEAR CAIAZZO, ITALY, 12 - 14 OCTOBER 1943
NAPLES-FOGGIA CAMPAIGN
(Personal Experience of a Battalion Supply Officer)

INTRODUCTION

This monograph covers the operation of the 109th Engineer Combat Battalion, 34th Infantry Division, crossing the Volturno River near Caiazzo, Italy, 12-14 October 1943.

Some of the events which preceded this operation will be discussed briefly in order to orient the reader with respect to time and place of this action.

The conquest of Tunisia, North Africa, ended on 12 May 1943, and on 10 July 1943 the invasion of Sicily began. On 17 August 1943, just 38 days later, the battle for Sicily was over. (1)

The invasion of Italy by the 15th Army Group followed. On 3 September 1943, elements of the British Eighth Army, from their base in Sicily, struck at the toe of Italy, and on 9 September 1943 elements of the U. S. Fifth Army, from their bases in Sicily and North Africa, struck the beaches of Salerno. (2) (See Map No 1)

The Germans, with several divisions disposed throughout southern Italy, moved forces to the Salerno area to contain, and if possible, to destroy the Fifth Army forces in the beachhead.

From 12 September to 14 September the Fifth Army repelled numerous attacks which threatened to push the beachhead into the sea. (3)

On 15 September it appeared that the crisis was past. The German forces, having failed to eject the Fifth Army from Italian soil, and with their left flank threatened by the steady pressure of the Eighth Army from the south, decided to withdraw to the north. (4)

Fifth Army, with the British Eighth Army on its right, took up the pursuit. (5)

(1) A-1, p. 3; (2) A-5, p. 1; (3) A-2, p. 37, 38, 39, 40; (4) A-2, p. 41; (5) A-5, p. 1.

Although the Germans were committed to a delaying action, they bitterly contested every foot of ground and stubbornly defended all river lines, mountains and other obstacles as they fell back before the Fifth Army.

In order to effect a maximum delay with a minimum use of forces the Germans used mines and demolitions extensively. Bridges and culverts on all main and secondary roads were blown; buildings were demolished in villages to block the streets; road blocks were made by felling trees across the roads wherever possible; road intersections and shoulders were mined; in short, every device known to an ingenious enemy was employed to effect delay. (6)

Fifth Army continued the advance to the north and by 5 October had driven the Germans back to the Volturno River. (See Map No 2)

Naples fell to the British 10th Corps on 1 October. The U. S. VI Corps, on the right flank of 10th Corps, secured Benevento on 2 October. Meanwhile the British Eighth Army had made excellent advances on the Adriatic side of the peninsula; they took Foggia on 1 October, and by 3 October had advanced to Termoli on the Biferno River, where their right flank was anchored on the Adriatic Sea. Thus the Port of Naples and the airfields on either side of the peninsula were secure and were being repaired for use in future operations. (7)

GENERAL SITUATION

When Fifth Army reached the Volturno and Calore Rivers, the forces immediately opposing them were tentatively identified as elements of Field Marshal Albert Kesselring's Tenth German Army. The Fourteenth German Army, commanded by Field Marshal Erwin Rommel, was in northern Italy with its southern boundary some distance north of Rome. The Tenth German Army consisted of the XIV Panzer Corps which was opposing the Fifth Army, and the LXXVI Panzer Corps, opposing the British Eighth Army. The Fourteenth

(6) A-5, p. 5; (7) A-2, p. 1, 2.

German Army was believed to have 12 divisions. There was some possibility that it had been reinforced with 4 additional divisions. With the 8 divisions of the Tenth German Army, it was believed that the total Axis forces in Italy might reach a total of 24 divisions. (8)

The German forces immediately opposing the Fifth Army on the Volturno and Calore River line were identified and positioned as follows: The 15th Panzer Grenadier Division and the Hermann Goering Panzer Division on the left, generally in front of the British 10th Corps; the 3d Panzer Grenadier Division and the 26th Panzer Division on the right, generally in front of the VI Corps. (9) (See Map No 4)

These elements of the 10th German Army were a smaller force than the Fifth Army, but were fighting in terrain and weather which gave every advantage to the defender. (10)

The enemy, well-positioned behind the Volturno and Calore River line, clearly intended to make a stubborn stand to delay the advance of the Fifth Army. (11)

The Allied forces in Italy consisted of the 15th Army Group under command of General Sir Harold R.L.G. Alexander. The 15th Army Group consisted of the British Eighth Army under command of General Sir Bernard L. Montgomery and the U. S. Fifth Army under command of Lt General Mark W. Clark. Fifth Army consisted of the British 10th Corps commanded by Lt General Sir Richard L. McCreery, and the U. S. VI Corps commanded by Major General John P. Lucas. (12)

not shown
Fifth Army's plan for future operations was to advance to the Isernia-Venafro-Sessa line. The drive toward this objective was to be made with VI Corps on the right and 10th Corps on the left along the sea. The boundary between the two corps extended from Formo to the Volturno east of Capua, thence northwest across the plain of Sessa. (See Map No 2) This boundary gave VI Corps the lower Volturno Valley from Capua east to the Upper Volturno, the valley of the upper Volturno, the hills north of the lower

(8) A-5, p. 7; (9) A-5, p. 8; (10) A-3, p. 5; (11) A-3, p. 2; (12) A-3, p. 5.

not shown
Volturno, and the steep foothills of the Appennines up to the Matese Mountains, northeast of Amorosi, to the boundary between Fifth and Eighth Armies.

The immediate plan of operation was to force crossings of the Volturno River with the main effort between Triflisco and the junction of the Volturno and Calore Rivers. VI Corps was to force a crossing between Triflisco and the Volturno-Calore junction on the night of 9-10 October. 10th Corps was to force a crossing between Capua and the sea on the night of 10-11 October. (13)

The area of operations assigned to Fifth Army was one of widely varied terrain. On the west of the sector is found a broad stretch of level farm land fifteen to twenty miles wide. Inland from the coastal plains there are a combination of valleys and low hills covered with olive trees, interspersed on the right with jagged barren rocky peaks towering up to six thousand feet in height. The Volturno River, beginning in the mountains north of Venafro, winds its way southward through the mountains to Amorosi, where it joins the Calore River, which winds its way from the south and east through Benevento. Where the two rivers meet at Amorosi, the Volturno makes a right angle turn and flows westward to the Tyrrhenian Sea. These two rivers extend from almost sixty miles inland to the Tyrrhenian Sea, and constitute a very effective barrier to any force advancing to the north. (14)

Continued
Fifth Army had accomplished one of the most difficult of military operations -- a successful landing on a hostile shore. It also had accomplished the difficult task of advancing continuously northward against a strong enemy despite the many adverse conditions of weather and terrain. These past accomplishments, and those of the near future, were made more difficult by the lack of an adequate base from which to support the operations. (15) The Germans had determinedly delayed the Fifth Army's

(13) A-5, p. 11, 12; (14) A-5, p. 2, 3, 4; (15) A-2, p. 49.

capture of Naples in order to gain time in which to demolish the port facilities and block the entrances to the harbors by sinking ships of various types. (16)

VI Corps, under command of Major General John P. Lucas, was composed of three seasoned Infantry Divisions; the 3d, 34th and 45th Divisions. (17)

On 8 October the 3d and 45th Divisions were on the line, with the 3d Division in position along the Volturno from Capua to the junction of the Volturno and Calore. The 45th Division was advancing north from Benevento on the right of and along the Calore River to secure the right flank of the Army. The 34th Division, in Corps reserve, was closing into an assembly area at Montesarchio. VI Corps issued orders the same day, directing the 34th Division to relieve the 30th Infantry Regiment, 3d Division, and take positions along the Volturno from the junction with the Calore to a point south of Caiazzo. (18)

When it became apparent on 9 October that units were having difficulty in getting into line and bringing up sufficient supplies for the operation, General Clark postponed the Fifth Army attack. He ordered a coordinated attack of both Corps all along the river for the night of 12-13 October. (19)

VI Corps' final plans for the attack called for two divisions to force a crossing of the Volturno at 0200 on the morning of 13 October. (See Map No 4) The 3d Division, reinforced, on the left was to force a crossing of the river and establish a beachhead between Triflisco and a point south of Caiazzo. The 34th Division, reinforced, was to force crossings between Amorosi and a point south of Caiazzo, secure a bridgehead, assist the advance of the 45th Division and be prepared to attack on Corps' order toward Teano. The 45th Division, reinforced, on the right, was to advance vigorously northwest and protect the right flank of Fifth Army, and be prepared on Corps' order to attack toward Teano. (20)

(16) A-2, p. 43; (17) A-3, p. 5; (18) A-3, p. 10; (19) A-5, p. 16;
(20) A-5, p. 16.

34TH DIVISION SITUATION

The 34th Infantry Division, commanded by Major General Charles W. Ryder, consisted of the 133d Infantry Regiment, the 135th Infantry Regiment, the 168th Infantry Regiment, the 151st Field Artillery Battalion (105 How), the 175th Field Artillery Battalion (105 How), the 185th Field Artillery Battalion (155 How), the 109th Engineer Combat Battalion, the 109th Medical Battalion, the 34th Reconnaissance Company, the 734th Ordnance Company, the 734th Quartermaster Company, the 34th Signal Company, the 34th Division Band, and the Headquarters and Headquarters Company 34th Division. (21)

On 3 October the 45th Division passed through the 34th Division at Benevento and the 34th Division reverted to VI Corps reserve. The same day orders were issued directing the division to move to an assembly area in the vicinity of Montesarchio. (22) (See Map No 3)

The movement was beset with difficulties from the beginning. All bridges and culverts on the roads over which the division was to move had been demolished by the Germans. Bridging material at hand was insufficient to repair or construct bridges, consequently by-passing expedients had to be resorted to. Heavy rains, which had begun on 28 September and continued almost daily, made the construction and maintenance of these by-passes extremely difficult, resulting in delay of the movement of the division. The movement which had begun on 5 October was not completed until 2000 hours, 8 October. (23)

On 8 October, VI Corps, ordered the 34th Division to relieve the 30th Infantry Regiment, 3d Division, then on the Volturno River line, and to take positions along the river extending from the junction with the Calore to a point south of Caiazzo. This mission was assigned by General Ryder to the 135th Infantry. Due to difficulties of movement, caused by the continual rains which delayed both units, the relief was not completed until 10 October. (24)

(21) Personal knowledge; (22) A-3, p. 8; (23) A-3, p. 11 and personal knowledge, eye witness, self; (24) A-3, p. 11, 13, 19.

This delay contributed to General Clark's decision to postpone the river crossing until the night of 12-13 October. (25)

The additional time enabled the division to assemble troops and equipment, make the necessary reconnaissance, and prepare detailed plans for the operation.

On 11 October General Ryder issued his order for the attack. The 168th Infantry on the left was to make the main effort toward Caiazzo to secure the division main objective -- the high ground to the northwest. The 135th Infantry was to force crossings on the right between Squille and the Volturno-Calore River junction to secure Hill 131 and the high ground between Castel Campagnano and San Giovanni. (See Map No 5) The 133d Infantry was to be in division reserve with one battalion prepared to move whenever directed. Division artillery and supporting artillery units were to fire in support of the attack with emphasis on the sector of the 168th Infantry. The 109th Engineer Combat Battalion and supporting units were to assist the assault infantry regiments in their crossings and to construct two bridges, an infantry assault bridge and a 30-ton treadway bridge. Since the terrain immediately north of the river precluded the use of tanks, the 776th Tank Destroyer Battalion was to remain in reserve, prepared to displace forward without delay to defend against possible enemy armored counterattack. H-hour was set as 0200, 13 October, and was to be preceded by a 15-minute artillery preparation beginning at 0145, 13 October. (26)

The 168th Infantry ordered its 1st and 2d Battalions to cross the river northwest of Limatola to capture the village of San Giovanni and then to drive northwest through Caiazzo. The 135th Infantry, ordered its 1st Battalion and Company E to lead the assault below the Volturno-Calore River junction. Company E was to ford the river south of Squille and to take Hill 131, while the 1st Battalion crossed the Volturno just below the
(25) A-5, p. 16; (26) A-3, p. 19, 20.

junction, and advanced northwest over the rolling hills beyond Squille. The remainder of the 2d Battalion would then cross over and drive on Hill 283 ~~south~~ east of San Giovanni. (27) (See Map No 5)

The terrain in front of the Division consisted of a group of low hills extending southeast toward the higher mountains of the Appennines. Between these hills and the Division the Volturno River flows from east to west across the front of the division forming an effective obstacle to protect the enemy positioned in the hills. With the 34th Division troops in the valleys and the enemy holding the hills behind the river, all the advantage of observation was with the enemy. It would be necessary to drive him back from this dominating terrain before it would be possible to build any bridges across the river or even use the roads leading to the bridge sites. All bridges over the river in this sector had been blown, and approach roads were mined. (28) The Volturno River in this area varies in width from 150 to 200 feet. Its depth is from 3 to 6 feet, its current 6 to 10 miles per hour, and its steep banks rise up to from 5 to 15 feet. The river being contained by its high banks and narrow valley has little room for expansion. Consequently it rises very rapidly and the current increases greatly during periods of heavy rain. During such periods fording by foot troops and vehicles is not possible. Normally, however, the river is fordable in certain places by foot troops. Fording of vehicles, while possible in spots, is not practicable because of the steep, muddy banks and the sandy bottom. (29) The road net, available for use of the Division, was wholly inadequate. The only roads of any consequence, being the muddy road which branches off from Highway 7 near Montesarchio, runs northwest through Saint Agata to Limatola, and continues to Caiazzo; and the muddy road which branches off from Highway 7 at Maddaloni and runs northeast to Dugenta and Amorosi. All bridges and culverts on both of these roads had been blown, and in many instances the by-passes which had been built were made almost impassable by the continual rains. (30)

(27) A-5, p. 19; (28) A-3, p. 19; (29) Personal observation; (30) A-5, p. 17.

SITUATION AND PLANNING PHASE
109TH ENGINEER COMBAT BATTALION
9 - 12 OCTOBER

On 9 October the 109th Engineer Combat Battalion, under command of Lt Colonel Coffey, with its headquarters near Saint Agata, was disposed throughout the Division sector, busy at its task of assisting the Division in its advance.

For the past two weeks, during the advance of the Division from Salerno to its positions on the Volturno River, the 109th Engineers had been engaged in opening routes for the Division. The accomplishment of these tasks required constant use of all Engineer Companies on almost around-the-clock operation with a very minimum of rest. Now, without time to relax, the Battalion found that it had another very difficult mission to prepare for and execute -- that of assisting the Division in crossing the Volturno River and continuing the advance to the north.

To assist the battalion in the crossing operations the VI Corps Engineer attached Company A, 36th Engineer Regiment, and Company B, 16th Armored Engineer Battalion, the latter to have one 30-ton, M-1 Armored Force Treadway bridge. (31)

Col Coffey, knowing that the Division would have to make a crossing of the Volturno River, had begun to make plans and preparations before the Division order was received on 11 October. His plan divided the operation into three phases: the reconnaissance and preparation phase, the assault crossing phase, and the bridging phase to enable the supporting elements to displace forward. Meanwhile the maintenance of the division road net had to be carried on. (32)

To accomplish the missions assigned, and to enable subordinates to make the necessary reconnaissance and preparations, the following tasks were assigned to organic and attached engineer companies:

(31) Personal knowledge; (32) Personal knowledge.

Company A, 109th Engineer Combat Battalion, to assist the 135th Infantry in its crossing, and to construct a ferry south of the Volturno-Calore junction. One platoon, to assist the division artillery into position to support the attack by conducting the necessary road repair.

Company B, 16th Armored Engineer Battalion, to construct the class 30, treadway bridge.

Company B, 109th Engineer Combat Battalion, to assist Company B, 16th Armored Engineer Battalion in the construction of the class 30 bridge, and to prepare the approaches to and exits from the bridge.

Company C, 109th Engineer Combat Battalion, to assist the 168th Infantry in its crossings and to clear the Limatola Road of mines as far north as the bridge site.

Company A, 36th Engineer Regiment, to construct the infantry assault bridge.

Headquarters and Service Company, 109th Engineer Combat Battalion, to assist Company A, 36th Engineer Regiment in construction of the infantry assault bridge, and to establish and operate a forward engineer dump.

(33)

RECONNAISSANCE AND PREPARATION
FOR ASSAULT CROSSINGS AND BRIDGING PHASES
109TH ENGINEER COMBAT BATTALION
9 - 12 OCTOBER

Throughout the period 9-12 October engineer and combined engineer infantry reconnaissance was conducted along the Volturno River line, to select locations for the regimental assault crossings and for ferry and bridge sites. (34) Reconnaissance was limited to the hours of darkness and to small parties so as not to give away the detailed plans to the Germans. (35)

Officers from Companies A and C, 109th Engineer Combat Battalion, conducted reconnaissance with officers of the 135th and 168th Infantry Regiments, respectively, for the purpose of selecting foot troop crossings,

(33) A-6, p. 14, 15 and Personal knowledge; (34) A-6, p. 12 and Personal knowledge; (35) A-6, p. 16.

assault boat crossings and ferry sites. By the morning of 12 October they had succeeded in selecting the necessary sites. (36) As a result of this reconnaissance it was decided to cross the 1st Battalion, 168th Infantry, less one company, by assault boat about 600 yards down stream from Limatola, the remaining company to cross on foot at a ford north of Limatola. The 2d Battalion, 168th Infantry was to cross on foot at a ford north of L'Annunziata. The 1st Battalion, 135th Infantry, was to ford at a point just below the Volturno-Calore junction, and Company E, 135th Infantry, was to cross at a point selected just west of Caiazzo. A ferry was to be operated about 800 yards southwest of the Volturno-Calore junction. (37)

(See Map No 6)

Meanwhile the battalion commander and staff officers from the battalion and attached companies conducted reconnaissance to select bridge sites. Because of the difficulty of construction and maintenance of roads in the soft, muddy ground along the river, it was very desirable that sites be found near the existing road net. Such sites were found, one near L'Annunziata, for the assault bridge, and one above Limatola for the 30-ton treadway bridge. (38) (See Map No 6) ? *map #5*

After crossing sites were selected for the 168th Infantry and the method of crossing was determined, Company C moved personnel to the assembly areas of the 1st and 2d Battalions and gave dry land practice with the assault boats to all companies of these battalions. (39)

Company A, 109th Engineers, after assisting the 135th Infantry in selecting and marking crossing sights, assembled the necessary equipment and made plans for the construction of the ferry on the night of 12-13 October.

Early action was taken by the battalion to assemble such engineer equipment as was available and necessary for the operation. Bridge equipment and timber were very scarce, as the Army Engineer Depots were not well stocked at this time.

(36) A-6, p. 16 and Personal knowledge; (37) A-3, p. 20; (38) Personal knowledge; (39) A-3, p. 20.

A forward engineer dump was established in the vicinity of Saint Agata (See Map No 6) and was stocked with all available bridging materials and ferrying materials not already assigned to companies, and such other equipment and supplies as could be of assistance to the operating companies. This included assault boats, a D-7, Angle-dozer, extra rope and mine detectors. Such personnel as were required to operate the dump and the Angle-dozer were assembled and kept at the dump. Smoke pots and operators from the 133d Infantry Regiment were also placed in the dump area. (40)

Once the missions had been assigned to engineer companies, commanders made the necessary contacts to effect the closest cooperation for the coming operations. Units moved into assembly areas so located as to facilitate the accomplishment of their mission. Equipment necessary for the operations was moved into allocated areas at this time. (41)

On 12 October all companies were in their respective assembly areas. Company B, 109th Engineers, and Company B, 16th Engineers, were assembled 4 miles north of Maddaloni on the west side of the road. The Bridge and Boat Section of Headquarters and Service Company, 109th Engineers, and Company A, 36th Engineers, were assembled 6 miles north of Maddaloni on the west side of the road. Company C, 109th Engineers, moved into the assembly area of the 168th Infantry. Company A, 109th Engineers, less 1st Platoon, were in the area of the 135th Infantry. (42) (See Map No 6)

Final plans for the construction of the bridges called for the infantry assault bridge to be built on 13 October as soon as the 168th Infantry secured the high ground between San Giovanni and Caiazzo, and the 30-ton treadway bridge to be put in during the hours of darkness 13-14 October. (43)

INFANTRY ASSAULT CROSSINGS

12 - 14 OCTOBER

After dark 12 October the 1st and 2d Battalions, 168th Infantry, moved to their forward assembly areas along the Limatola Road. They were joined (40) Personal knowledge; (41) Personal knowledge; (42) A-6, p. 20; (43) A-6, p. 14 and Personal knowledge.

by the 1st and 2d Platoons of Company C, 109th Engineer Battalion, who were to assist them in the crossing. At the same time the 3d Battalion, 168th Infantry, located along the slopes of the hills above Limatola, was positioning its 37-mm guns and moving automatic weapons and riflemen near the river to support the attack of the 1st and 2d Battalions by fire. (44)

Meanwhile on the right flank the 135th Infantry completed their plans, and, shortly before H-hour, Company E and the 1st Battalion moved to their forward assembly areas near the river. (45)

The scheduled artillery preparations began at 0145, 13 October, when ninety-six guns of Division artillery and the supporting units opened fire on the enemy positions across the river. At 0200 the fire lifted, and all along the front a series of concentrations were fired to hit the roads and cover the crossing points. Company A, 2d Chemical Battalion, laid a blanket of smoke in the 168th Infantry sector. Under the cover of this artillery fire and smoke the assault elements of both the 168th and 135th Infantry Regiments launched their attacks. (46)

The 168th Infantry experienced several difficulties as they began the attack. One company of the 1st Battalion, which was to cross at the ford north of Limatola, proceeded according to plan. Good progress was made until they encountered a mine field on the far bank which caused several casualties and slowed their advance. The balance of the 1st Battalion attempted to cross by assault boat. However, they were forced to resort to fording when it was found that the assault boats drifted too far down stream to be of much use. The Battalion, having no alternate crossing site, proceeded to ford the river at a point near their assembly area. The water was shoulder deep and before the crossing was completed at 0400, two men drowned, and much radio and mine detector equipment was rendered inoperative. Company L, 168th Infantry, protecting the left flank of the regiment, crossed at an old ferry site below Caiazzo at 0530. The 2d Battalion crossed at a ford northeast of L'Annunziata. Hampered by darkness (44) A-3, p. 42; (45) A-3, p. 45; (46) A-3, p. 43.

and smoke, the men of the 2d Platoon, Company C, 109th Engineers, missed the crossing site which had been selected by the infantry during previous reconnaissance. Due to this error, guide ropes were strung across at a point where the water was deeper than at the correct crossing site. The height of the far bank occasioned unexpected difficulty. Every man required the assistance of five others to surmount this obstacle. Even though the first company forded quickly, it was 0645 before the entire battalion was across the river. The battalion reported that they had reached their objective -- the high ground east of San Giovanni -- at 0730. The 1st Battalion, 168th Infantry, was held up throughout the morning 400 yards beyond the river by the enemy, who was determined to hold the dominating terrain between San Giovanni and Caiazzo. At 1400, 13 October, a coordinated attack was launched with the artillery firing a rolling barrage up the ridge. The 1st Battalion, pressing close behind the barrage, fought its way up into the hills and by dark had reached its objective above San Giovanni. After securing the hills above San Giovanni, the 168th Infantry drove on toward Caiazzo, the main objective of the Division. At 1700, 13 October, the 3d Battalion, 168th Infantry, was ordered to cross the river on the right of the 1st Battalion, swing around to the left through Caiazzo and secure the high ground to the northwest. This mission was accomplished in the early hours of 14 October. (47) (See Map No 5)

Meanwhile, the 1st Battalion and Company E, 135th Infantry, who had begun their assault at 0200, 13 October, were making good progress. Company E, crossing on the left of the regimental sector, near Squille, was sending back prisoners by 0250, and was soon in possession of Hill 131, just to the west of Squille. The 1st Battalion crossed just west of the junction of the Volturno-Calore Rivers in a column of companies. Company A reached the first phase line at 0527; Company B followed at 0600, and Company C at 0712. Encountering little opposition, the 1st Battalion pushed (47) A-3, p. 43, 44, 45.

on to the second phase line. The enemy, who up to now had offered sporadic resistance to the advance of the 1st Battalion, rallied as the morning wore on. Evidently the Battalion had entered the prepared defenses of the enemy; encountering mine fields, covered by accurate increasing fire, it progressed slowly during the day. The 2d Battalion, which moved up after dark, 13 October, was harassed by elements of enemy units which had been by-passed by the 1st Battalion. The 135th Infantry had failed to attain the second phase line by the end of the day. Early the next morning, after the 1st Battalion had taken Hill 283 the second phase line was secure and contact was made with the 168th Infantry on the left. (48) (See Map No 5)

ENGINEER OPERATIONS
12 - 14 OCTOBER

The assault crossing operations of the 109th Engineer Combat Battalion started shortly after dusk on 12 October, when Company C moved its 1st and 2d Platoons to the forward assembly areas of the 1st and 2d Battalions, 168th Infantry, together with assault boats and rope. The boats and rope were hauled by engineer trucks to the forward assembly areas prior to H-hour.

Promptly at 0200 1st Platoon crews and infantrymen carried the boats to the launching point. They were loaded without delay and started across the river. The first waves were put ashore on the far side without incident. (49) However, when the engineer personnel attempted to return the boats to the near shore, they had difficulty. Upon reaching the near shore they found that they had drifted down stream so far that use of the boats for successive waves was not possible. Previous reconnaissance was not extensive enough to permit the engineer personnel to determine the current of the river. Meanwhile, the 3d Platoon of Company C cleared the Limatola Road of mines to the proposed bridge site above Limatola. (50)

At 0300, 13 October, Col Coffey, the Company Commander of Company A, 36th Engineer Regiment, the reconnaissance officer and two men from the (48) A-3, p. 47; (49) A-6, p. 22; (50) A-3, p. 43.

109th Engineer Battalion attempted to make a reconnaissance of the infantry assault bridge site at L'Annunziata, to determine the condition of the road net on the far side of the river. As they approached the river, they were stopped by enemy machine gun fire, and were delayed in making the reconnaissance until 0500. However, they did succeed in getting across after 0500 and found that there was an adequate exit road from the site. (51)

more detail needed Company A, less the 1st Platoon, constructed a ferry at the previously selected site just below the junction of the Volturno-Calore Rivers. (See Map No 6) They had the ferry in operation by 0400, 13 October. It was operated throughout the morning until fire from self-propelled artillery in the vicinity of Amorosi became so intense that the approaches to the ferry could not be used, and operation had to stop at 1200, 13 October. The 1st Platoon removed mines and improved the road in the sector of the Division artillery to insure the early displacement of the artillery once the bridges across the river were completed. This task was completed by daylight, 13 October. (52)

By 0730, 13 October, the Division G-3 had received reports which indicated that sufficient progress had been made to remove enemy observation from the site at which the infantry assault bridge was to be constructed. According to plan Col Coffey was notified and ordered to begin construction of the bridge. At 0900 Company A, 36th Engineer Regiment, and the Boat and Bridge Section of Headquarters and Service Company, 109th Engineer Battalion, began movement of the bridge from the assembly area to the selected site. As the head of the truck column reached the turn off from the main road at L'Annunziata and started up the approach road to the bridge site, an enemy artillery concentration came in on it. The fire was very heavy and accurate. Three trucks were hit, and considerable equipment was damaged. The pneumatic floats had been inflated in the assembly area to facilitate construction. This expedient caused the floats to be more easily hit by shrapnel and resulted in a great number being damaged. It was not (51) A-6, p. 22 and Personal knowledge; (52) A-6, p. 21, 24

known at this time whether the concentration was observed or not, nor was it known whether the enemy could observe fire on the river line. The trucks were moved on down to the bridge site and construction began without delay. The concentration was adjusted and soon was coming in on the area. Still work progressed. The fire became increasingly accurate, causing several casualties and finally hitting the portion of the bridge which had been launched. The operations were stopped and personnel and vehicles were removed from the site to an assembly area about one mile to the south near L'Annunziata. Despite the constant artillery fire, all casualties, both dead and wounded, were immediately removed from the bridge site. Two enlisted men from the Boat and Bridge Section of Headquarters and Service Company, utilizing a 3/4-ton truck, made three trips into the area to complete the evacuation. ^{of the dead + wounded?} They were later awarded the Silver Star Medal for this action. The bridge equipment left at the site, on the ground and in the water, was removed during the afternoon under harassing artillery fire. Operations were begun immediately to get the bridge ready for future use and to determine whether there would be a sufficient number of usable floats left to span the river. The loss of the floats was critical as there were no stocks available from which to replenish the limited quantity on hand. After all possible repairs had been made on floats, there was an adequate number to bridge the river at the proposed site, but there were few spares to rely on in event of an emergency or in event the bridge should have to be built at a point where the river was wider. Further risk of the equipment had to be avoided as the loss of any more floats would mean the loss of the entire bridge. (53)

No further attempt was made during the daylight hours of 13 October to construct the bridge as the enemy still had observation on the bridge site. (54)

Construction of the bridge as early as practicable was imperative, as support for the advancing infantry elements was not possible until bridges (53) A-6, p. 22 and Personal knowledge; (54) Personal knowledge.

could be built. Even supplying the infantry troops had become a problem.

(55) The supply operations in the 135th Infantry sector had been simplified by the operation of the ferry in their sector, which had moved some vehicles and supplies across during the morning of 13 October. However, in the 168th Infantry sector the problem was more difficult. It had been planned that the bridge would be in operation early on 13 October. When construction of the bridge was delayed, it became necessary to move supplies by assault boat across the river and to hand carry from there up the hills to the troops. (56)

Some advances were made by the infantry during the day and it was thought possible that the enemy observation had been removed from the bridge site. If such were the case, it was believed possible to build the bridge after dark on 13 October, even though the enemy did continue to harass the area. However, not wanting to unduly expose the personnel and equipment, Col Coffey decided to use smoke at the site to ascertain whether the enemy still had observation. Accordingly, he moved some smoke pots and operators from the forward engineer dump to the site just after dusk, and had the smoke pots started. Almost immediately heavy artillery fire came in and continued for about a half hour. Thereafter, throughout the night interdictory fire came in. When it became apparent that the enemy still had observation and would attempt to deny the site to the engineers, Col Coffey contacted General Ryder and ^{informed} appraised him of the situation. General Ryder then authorized Col Coffey to make the decision as to when the bridge would be built. Col Coffey remained near the bridge site and kept in close contact with Division Headquarters until 2400 hours. He was ready to move the bridge equipment in whenever the fire stopped. At 2400 hours he received information from the assistant G-3, to the effect that the 135th Infantry had found a place in their sector near Squille where they were planning to ford some vehicles. Col Coffey immediately contacted the S-4, 135th Infantry, to determine more about the crossing.

(55) A-3, p. 49 and Personal knowledge; (56) A-3, p. 49.

The supply problem of the infantry was solved and the necessary direct support for the combat elements was assured. (58) However, the 30-ton treadway bridge was needed before all of the Division could displace forward and permit the exploitation of the successes of the infantry.

No work could be done at the site for the 30-ton treadway bridge during the daylight hours of 14 October as the enemy still had observation there from the hills around Caiazzo. (59)

The proposed site for the 30-ton treadway bridge had not been disclosed to the enemy and so far as was known he had not registered his artillery on this point. It was, therefore, believed possible to move to the site and construct the bridge under the cover of darkness without attracting enemy artillery fire. During the late afternoon of 14 October Company B, 109th Engineer Battalion, and Company B, 16th Armored Engineer Battalion, were directed to move the bridge from the assembly area to the selected site as soon as it became dark enough to permit movement without being observed. The bridge train was started from the assembly area just prior to dark to save as much time as possible and to make use of the failing light to accomplish the movement. The convoy arrived at the unloading point about 2000 hours, and work began without delay. Company B, 16th Armored Engineer Battalion, started assembling and launching the bridge. Company B, 109th Engineer Battalion, assisted Company B, 16th Armored Engineer Battalion, and at the same time began construction of the approaches to, and exits from, the bridge. Hampered only by inadequate light, the work progressed rapidly and by 0100, 15 October, the bridge was completed. (60) (See Map No 6)

Thus the final phase of the engineer operation was completed; supplies and supporting elements could again move forward in support of the advancing infantry. Pursuit of the retreating enemy was again possible. However, it had been delayed for 24 hours because the bridges could not be built according to the original plans. (61)

(58) A-6, p. 26 and Personal knowledge; (59) Personal knowledge; (60) A-3, p. 49 and Personal knowledge; (61) A-3, p. 49.

of alternate sites; the second was not accomplished soon enough to permit construction of the bridges in time to furnish the desired support to the infantry elements.

The premature assumption that the dominating terrain had been secured is open to criticism. The attempt to construct the infantry assault bridge in the face of enemy observation was not only costly in men and materiel but very nearly jeopardized the entire bridging operation by revealing the selected site to the enemy. The use of a [?] defiladed site to build the infantry assault bridge would seem to indicate an omission in planning, in that this site had not been previously reconnoitered and considered. I do not believe, however, that this is the case. The use of the existing road net in terrain and weather such as was encountered in this operation ^{was} ~~is~~ essential, if early and continued use of the bridge ^{was} ~~is~~ to be insured. The use of sites, such as the one finally utilized, is recommended only in an emergency. I believe the concept of selecting the sites which provide the best road net and require the minimum amount of materiel and time for construction is sound and should be adhered to whenever the situation permits.

The preparation of the engineer battalion for the operation was well conducted. Every effort was made to position units and equipment so as to facilitate their employment in their assigned roll. The use of bridge parks in which to assemble equipment and units, and the use of all time, prior to the operation, for the purpose of preparing and reloading the bridges to speed up construction was well conceived. The conduct of this phase of the operation and the early assignment of missions to subordinate units by the battalion commander contributed much to the successes of the battalion in this operation.

To summarize the results of this operation: The battalion did succeed in its efforts to assist the assault elements across the river, although some delay was experienced. The battalion succeeded in building one ferry and two bridges. The delays which ensued during the bridging operation are considered unavoidable and over which the battalion had no control. These

not clearly
insight
in narrative
NOT CLEAR

are likely to occur whenever river crossing operations are attempted in terrain where the enemy has all the advantages of observation. Unless the attacker possesses fire superiority and a coordinated use of smoke is made to screen its activities, bridging operations will be delayed until the enemy is denied observation. The assault crossings began at 0200, 13 October, and were completed by 0645, 13 October. Supplying operations by ferry and assault boats were successfully carried out during the night of 13-14 October. The infantry assault bridge was constructed and in use by 1000, 14 October, 28 hours after the initial crossings, enabling the Division to furnish the necessary direct support to the infantry units. The 30-ton treadway bridge was completed by 0100, 15 October, 48 hours after the initial crossings, enabling the Division to displace forward and again pursue the enemy.

LESSONS LEARNED

Some of the lessons learned in this operation follow:

1. River crossing operations require detailed preliminary plans for the conduct of all phases of the operation, and close coordination between the operating engineer units and the supported infantry elements.
2. The timely procurement and positioning of engineer equipment to facilitate the preparation and reloading of the bridges to save time in movement to, and construction at, the sites is essential.
3. Early and detailed reconnaissance of the river, the approaches to, and the exits from, the river is essential if adequate sites for crossings are to be selected and proper estimates of equipment required are to be determined.
4. Enemy observation must be eliminated from the river line and approach roads before bridging operations can be successfully accomplished.
5. Avoidance of obvious crossing sites is not always practicable. Deception, or fire power and a screen of smoke, should be employed to cover the bridging operations to permit the use of good sites, rather than attempting bridging at a poor site.

6. The speed with which engineers open roads or effect crossings of rivers often determines the rate of advance of a unit in the attack and in the pursuit.

7. The control of reconnaissance for the purpose of deceiving the enemy should not be established at the expense of sufficient reconnaissance to insure the success of the crossing. Leaders should be permitted to familiarize themselves with the crossing sites and the characteristics of the river.

8. The advantage gained by the successes of the infantry in their initial crossings and subsequent advances, can be lost if early bridging is not accomplished.

9. Extra bridge equipment should be made available to engineer units in river crossing operations, as the loss of equipment without available replacement may jeopardize the entire operation by the resulting inability to support the assault infantry elements.

10. The coordinated use of assault boats, ferries and other crossing means to insure the continuous flow of supplies to the assault infantry units should be considered in the planning for river crossings, rather than placing complete reliance on the success of bridging operations.