

TDs APPROACH MATURITY

By Lt. Col. J. P. Barney, Jr., FA

ABOUT THE AUTHOR

Lt. Col. Barney knows whereof he speaks when he talks of Tank Destroyer combat action. He was commanding officer of a Tank Destroyer Battalion through the African and Italian campaigns. Twice he was awarded the Silver Star for outstanding gallantry in action, once the Bronze Star. He was the first TD battalion commander to pioneer employment of TD guns as supplementary artillery. His battalion conducted indirect fire at Maknassy in Africa at a time when the TDs were supposed to be limited to direct fire action against armor. In the Italian campaign he worked in close cooperation with field artillery units on indirect fire missions.

The ultimate test of combat—by which military units succeed or fail, according to their ability to cope with ever-changing situations and enemy tactics—has wrought major changes in the original conception of Tank Destroyer units.

Initially the TDs were given a "Jack-the-Giant-Killer" role of seeking, striking, and destroying, but the efficacy of Herr Schickelgruber's medium and heavy tanks soon changed this. A new Tank Destroyer motto was framed—"Seek a good position, strike hard and fast with accurate fire, and totally destroy." This, I believe, was the correct original concept of the units, but due to misinterpretation the idea of charging enemy tanks crept into being until it was more or less forcibly ejected with some assistance by Hitler's Panzers.

During the closing phase of the Tunisian campaign German armor had been seriously crippled by continuous operation and a clash or two with our TD units. Thereafter, Field Marshal Erwin Rommel did not choose to lose his few remaining tanks in direct assault: he preferred to employ them primarily as self-propelled artillery to harass our troops. Their effectiveness in this role can be vouched for by those of us who were subjected to their pointed attention over the extended period of the African campaign. As a result of Rommel's shift in tactics, employment of TDs in their primary role rapidly dwindled to an occasional pot shot at an unusually foolhardy tank commander who rashly exposed himself.

INITIATION

From the very first the 3" gun on the M-10 motor carriage very definitely sold itself to the destroyer crews who served it and the commanding generals who witnessed its devastating



When in a reinforcing role, TDs fire far more than their usual complement of ammunition.

fire. Naturally the inactivity of these magnificent artillery pieces caused by the absence of German armored attacks began to pall on the TD commanders, and the situation did not set too well with the generals who were, at that time, short of men and guns.

This gave me the opportunity I had been waiting for. As a field artillery officer I wanted to prove in combat that our 3" guns could cause the enemy just as much grief by indirect fire as they had by direct fire. I asked permission to attack enemy installations that had been acting nastily for some time in the vicinity of the now-famous mine at Maknassy.¹ Many of these installations were beyond the range of the organic artillery.

After ascertaining that we had done a lot of work on indirect fire on the "QT" and that we had many trained artillery officers in the battalion, the division commander readily granted our request. Great was the joy in our TD gun companies when extra ammunition was brought up preparatory to making the first repayment in kind for the shelling we had been receiving from the Krauts.

I remember vividly the first fire request from the division. The target was a 6-gun battery way up a pass in rear of the mines. Company A drew the honor and prepared its data. When those first rounds cracked off, I'll admit I had my fingers crossed and a firm grasp on the medal of Santa Barbara, patron saint of the field artillery. When the rounds burst close—very close—to the target and my young forward observer's sensings crackled over the air I uncrossed my fingers, released my grasp on Santa Barbara, and sat back complacently with that "I knew we could do it" look. Adjustment was fast and accurate. Effectiveness of the fire was soon reported by the air OP with the simple message, "Mission accomplished."

I was happier than a general with new stars. My TD officers and men had convinced the artillerymen that we too could throw scrap iron where and when it was needed. After that the calls for long range interdiction, neutralization of OPs, and other similar missions came at pleasantly regular intervals. Like a sophomore halfback, we had shown the coach that we could run, block, kick, and carry the ball. From that day we had a berth on the first string.

EXPERIENCE

Our next big mission provided us the greatest thrill of our combat experience up until that time. Rommel's retreat in front of the British Eighth Army was along "Gum Tree Road" at the base of the mountains south of Maknassy.² Col. McPheters had practically hoisted a battery of artillery into the hills where he could "work over" the German columns, but range limitations were letting Jerry get a lot of stuff by. I located a route into a pass into the hills and received permission to move my destroyers into firing positions.

¹See p. 891 of this JOURNAL for December, 1943.—Ed.

²See p. 2 of this JOURNAL for January, 1944.—Ed.

In order to see over the low foothills we had to climb to the peak of the mountains to observe fire. As hard as it was, this climb was worth every bit of the sweat it cost. The sight from the peak was enough to make an artilleryman weep for joy. Down below us we could see endless columns of guns, trucks, and tanks jamming the road. Like jittery water bugs, staff cars were cutting in and out of the column, passing all other vehicles.

Our instruments were practically non-existent: they consisted of only a protractor and scale, compass, map, and a wonderful German 'scope. The range scaled at 14,000 yards and we had no smoke shell. Despite these handicaps we started to work in high anticipation.

The initial adjustment was made on a junction of the two main roads in the area. After much shifting we were adjusted at an elevation of 511 ; site was approximately—100 . Round after round, the shells landed so close to the same spot that I could hardly believe my eyes. That was where I really learned to love the 3" gun.

For three days we fired observed fire in daylight and interdiction fire at night, until the advance elements of the Eighth Army came so close we had to cease firing. Much as we hated it we had to call it quits, but during those three days we had found out just what a gun we had. It was wonderful. I make no claims as to the number of vehicles we hit, but it was considerable. We could see the smoke of burning vehicles, and personnel abandoning others that stuck in the sand as drivers made hectic attempts to bypass damaged trucks and escape our fire. Reports received later from officers who visited the scene proved beyond all doubt the accuracy and efficiency of our fire.

These experiences were the real birth of indirect fire for tank destroyer units. In spite of our unorthodox methods, we had pioneered a secondary mission for all TD units.

Another opportunity to engage in our secondary role came in the preparation for the attack on Mateur. Having proved to our friends that we could shoot as artillery and hit a point target, it was only natural that our division artillery should assign us the mission of close support for the armored attack. We moved well forward during the night to previously selected positions and went to work as soon as it was light enough for us to pick up targets.

The Germans were retreating so fast they didn't have time to emplace and camouflage their guns with their usual thoroughness. Many were easily discernible. All three companies began firing on the observed guns at ranges from 700 to 7,500 yards. Direct and indirect fire were used as the situation demanded. The gunner's quadrant was used for all indirect missions. Fire was by single pieces so the guns could

ammunition. As soon as the observed guns were knocked out we started firing upon all suspicious points in the area. During this period the division artillery and attached artillery fired counterbattery and other prearranged fires in preparation for the armored attack.

When our armor attacked we covered the advance by fire from the flanks until the tanks had closed on their objective. The destroyers then pushed forward, occupied hull-down positions, and again fired direct fire on all appropriate targets.

As soon as the tanks were reorganized the attack proceeded, with the destroyers again providing covering fire.

Worth of this day-long, leap-frog covering action can best be determined by questioning the commanders of the 1st Armd Div. We know the results, but we would rather have the tankers make the report. One tanker's opinion was vividly reported by Ernie Pyle in his book *Here Is Your War*. More adequate praise even I, as battalion commander, would be loath to attempt.

One other unusual mission for tank destroyers during the closing days of the African campaign offers final proof of

the real acceptance of tank destroyers in their secondary role. A TD officer observed a battalion of German artillery occupying positions in the hills south of Lac Bizerte. He radioed the information to the TD liaison officer of division headquarters with the well-known phrase, "I can observe." In a few moments the observer was informed that a battalion of 155-mm guns would be put on the target and that sensings were to go by radio to the liaison officer, who would phone them direct to the battalion FDC. The adjustment was conducted, the effect was glorious, and the TD officer conducting the fire nearly busted the buttons off his shirt. The thrill of smashing the German battalion was nothing compared to the knowledge that the artillery officer of a veteran division would trust the TDs to conduct fire for the 155s.

DEVELOPMENT

We of the battalion were now thoroughly sold on the indirect fire possibilities of our guns. As soon as we moved back into the desert for rest we went to work to train our officers and crews in all the ramifications of being "sure 'nuff" cannon soldiers. We had captured enough BC 'scopes, aiming circles, observers' instruments, telephones, switchboards, etc., to equip all the companies. The acquisition of the necessary ammunition I would rather skip as being one of those real "military secrets."

During this period we were careful not to advertise our training schedule. Quietly, almost secretly, we held class after class in indirect fire for officers and men. We also continued training in our primary role. Finally came the day for the proof of the pudding. We "snuck" out to the range. There were no visitors that day. It was hotter than the proverbial hinges, but that didn't faze the men. I never saw such enthusiasm.



Virtues of a roadside position show clearly in this photo from the Littoria area of Italy. Muzzle blast will not show on the roadway, and extra elevation is readily had for increased range.

The officers and men sweated, cursed, and blistered—and they loved it.

At the end of the day's firing we knew we were ready for any indirect fire mission. The men had learned their lessons well. The surveys checked. The data were good, the laying superior. We had shot platoons all over the map and massed the fire of the battalion for a final *piece de resistance*. Everything worked. Officers fired percussion precision and FO problems with the greatest of ease.

As those things will, news of our show finally got out and the secondary role was given immediate recognition by the African TD Training Center Headquarters. They went to work wholeheartedly with us in working out indirect fire details. Soon the news bubbled up to the Fifth Army artillery and things really started to pop. Artillery battalions from a nearby division arrived at the TD Center to shoot with us and help in working out the final details of coordination of the two units. Then for the first time ammunition was made available to us—legally.

Tests and experiments were run for army dignitaries who came down to have a "look see" and left with satisfied smiles. Again we demonstrated we could shoot our cannons. Wise heads in the Fifth Army sent us more ammunition and the TD Center began training other TD battalions for indirect fire. Out of this came a semblance of an SOP. It had not been tried in combat, but we felt sure it was good.

METHODS

We used 6-gun platoons. We had tried the 4-gun platoons and they worked well, but there were several reasons for shifting to the 6-gun setup. First, the effective coverage of the 6-gun platoon compares very closely to that of a 4-gun battery of 105s; hence, in assigning fire missions the division artillery S-3 simply considered each platoon as a battery. Second, the 6-gun platoon released a platoon leader to help in the company FDC or for use as a liaison officer with the infantry. Further, this reduced by a third the number of positions necessary, and believe me that is a real problem when every bush conceals a field artillery piece. The disadvantage of having to break up a platoon is not so great as one might think at first glance. When acting in a secondary role it is not probable that the TDs will be suddenly used in their primary role. Platoons are generally close enough together, however, so that the platoon leader or sergeant can round up his guns and move in a few moments if it becomes necessary to go into action against tanks.

In each company we organized a fire direction center, as far as possible using security men for the computers and other necessary personnel. The company executive became survey officer and trained his survey team. Wire crews were trained from security elements. When I mention use of security men it does not imply that only men from these sections were used in these key positions—men from various sections of the company with special aptitude for the particular task were used in the indirect-fire organization. In one company the armorer turned out to be the survey chief, and a good one. Another company had a cook as plotter in the FDC, and so it went.

By working one TD company continuously with the same FA battalion we obtained smooth teamwork between the two units. The TD company commander accompanied the FA battalion commander when he went forward on reconnaissance, and selected his TD positions while the FA commander picked his. Little interference between the units

resulted under this plan. The 105 howitzers selected positions in valleys while the TD guns moved to higher ground where the rounds could clear the hill mask.

It was not practicable to place the responsibility for selection of TD positions on the artillerymen. They had enough trouble getting their own guns into action, and the siting of TDs—because of the characteristics of the high-velocity gun—is almost diametrically opposed to that of the howitzer.

Communications problems were simplified by the nearness with which the two units usually went into positions. After position areas were selected the artillery survey team ran a traverse and located place stakes for both the artillery batteries and the TD platoons. If time permitted (and you were on good terms with the artillery survey officer) he would run the position survey for you, otherwise your own survey men did the job. It is desirable, if the artillery can and will do it, to have the FA crew do all the survey work: this reduces the number of men milling around to draw enemy attention and fire upon the area.

Our TD companies tied in with the artillery battalions and operated directly with them on fire missions and target assignments, rather than through the TD battalion CP. This eliminated one step in the chain of command and speeded up operations. Each company kept its own firing chart. A similar one was kept at the TD battalion CP. Fire missions were assigned to the TDs by the artillery battalion FDC exactly as they were to its organic batteries.

The status of the TD battalion and companies in this method of fire should be emphasized. TDs operate with the artillery, but are not attached to them in the military sense of the word. It must be understood by all concerned that the responsibility for antitank action remains with the TD battalion. The TD battalion commander must be wholly free to move his units to meet any armored threat. The artillery will lay wire to the companies, but it will not haul ammunition, fuel, or rations. All elements of the TD battalion function exactly as they do in their primary role.

The characteristics of the 3" gun made it an ideal weapon for deepening the fire of the artillery. It was less suitable for short range missions. Long range interdiction of roads and bridges was one of the most appropriate types of missions assigned to the TDs.

In making forward displacements the TD battalion FDC took over the fire direction task and fired all missions until the artillery battalion was in its new position. As soon as the artillery was ready to resume fire the TDs displaced forward. This system provided the division with continuous fire support even while elements of artillery or TDs were on the move. When both units were in firing positions the fire power of the division artillery was nearly doubled—and what division commander doesn't want that fire power to help his doughboys over the rough spots?

ITALIAN PROOF

This system works, and works well, as we found out in Italy. My battalion originally arrived at Salerno with a most unique mission—that of corps cavalry and corps artillery. Initially the reconnaissance and some security elements were in action as corps reconnaissance from Salerno up to the Volturno River. Then the guns came up and immediately went into position to reinforce the division artillery. In this role they operated for many months without relief. The thousands of rounds they

fired on missions from division artillery provided adequate proof of their effectiveness. The longer we worked with the artillery units, the smoother became our cooperative efforts. Finally, when we were attached to a division receiving its baptism of fire we were able to present the *modus operandi* to them in such light that they immediately adopted our cooperative fire plan. Again it worked. One proof, if another were needed, was the breakthrough by this division to make the junction with the Anzio beachhead forces.

Here I have mentioned only a few of the secondary missions suitable for tank destroyers. We have met and solved the problems arising in connection with supplementing artillery fire, but because of the almost unlimited possibilities of the TD battalion's tremendous fire power and self-sufficiency, many more problems will arise in connection with additional fire missions. Solution of these problems, which leads to the utter defeat of our enemy, is a fascinating challenge to all TD battalion commanders who really enjoy a good fight.

A NEW FIGHTING TEAM

By Capt. P. C. Meachem as told to Lt. L. R. Barnhill

Within two months of the thunderous kickoff of the stubborn Italian campaign on the Salerno beaches a new and terrifying fighting team was forged by tank destroyers and field artillery units of the Fifth Army.

Employment of the tremendous fire power of the 36 high-velocity, 3" guns in a tank destroyer battalion as supplementary artillery had been discussed among military men since the activation of the Tank Destroyer Tactical and Firing Center at Fort Meade in 1941. Tests proceeded at the Fifth Army Battle School during the African campaign, but at that time there were more than enough German tanks running loose over the North African desert to keep the tank destroyers busily engaged, for the most part, in their primary—that of destroying tanks by direct fire.

Even so, there arose occasions in Africa when tank destroyers employed indirect fire to cuff the enemy around a bit. One came at Maknassy, where M10 tank destroyers of one battalion ripped apart a retreating German column far beyond the range for effective direct fire.

First official War Department note of this burgeoning tactical development came in Training Circular 88, dated 24 June 1943, setting forth "direct and indirect fire to reinforce or supplement that of artillery units" as a suitable secondary mission for tank destroyers. Four months later Training Circular 125 expanded on the secondary mission of tank destroyers, providing for instruction of tank destroyers in execution of fire commands in accordance with field artillery procedure.

Meanwhile, the tank destroyers were winning new laurels in their primary role on the Salerno beaches by smashing repeated German armored thrusts that threatened the Allied positions. One tank destroyer lieutenant won the Silver Star for outstanding gallantry in this action. Two days after his own destroyer was disabled for combat by German shell fire he directed his platoon in knocking out eight German tanks that drove to within 400 yards of his position before they were stopped.

Once the German armor was knocked out at Salerno and the slow, tortuous push northward gained momentum, the tank destroyers were employed as the "handymen" for the infantry regiments. They were called on to provide direct assault fire for the doughboys, to smash pillboxes, blow up suspected snipers' nests, and to set up antitank defenses. Sporadically they participated in indirect fire missions, but this was not carried

on generally until the Allies hit the strong German lines in the vicinity of Venafro.

Here, in the mountainous terrain of Italy, conditions were unfavorable for employment of massed German tank attacks. The line was stable and the artillery had caught up with the infantry. Under these circumstances the tank destroyers received their first combat opportunity to participate on a large scale in artillery missions.

How one tank destroyer battalion fitted into this pattern of warfare is related by Capt. P. C. Meachem, the battalion S-3, who has since returned to this country on rotation. His report is not intended as a statement of doctrine. It is merely a forthright and frank explanation of how one tank destroyer battalion met and solved the problems arising out of the combination of tank destroyer and division artillery into a coordinated fighting team. So successful was this particular joint operation that it was noted officially in the field artillery bulletin of the Fifth Army.

"From the day we landed at Salerno until we were pulled out of the lines and moved into a rest area near Piedmonte d' Alife we had been too busy providing antitank defenses and direct assault fire for infantry regiments to think much about reinforcing artillery fires, though we had been hearing increased talk of this idea. We were the handymen of the division during the first phase of the Italian campaign. Immediately after the beach landings we were busy beating off repeated German armored attacks. We also gave direct support to our infantrymen. At times we fired missions we thought might have best been handled by the infantry's own 57-mm guns or even their mortars. At one time we even taught our men to fire mortars so they could help out the infantry.

"We learned a lot about tank destroyer employment during this phase of combat, and so did the infantry and the field artillery officers with whom we were working. This was to prove very beneficial when we went back into action after our rest period.

"In the rest area at Piedmonte d' Alife we had our first opportunity to exchange ideas with the division artillery officers. We got together to swap experiences and talk of the possibilities of using for indirect fire our 3" guns on the motor carriage M10. Soon we were eating at each other's messes and working up a keen enthusiasm for employment of our tank destroyer weapons to augment the fire of the division artillery. This was particularly so in our battalion, where most of us had been field artillery officers before we transferred to the tank destroyers. We decided that when we were committed to

action again we would try out the plan. We didn't know just how soon that opportunity was to come.

"On the 31st of October our battalion commander, all our company commanders, and I went forward in the vicinity of Vairano, about nine miles south of Venafro, to select likely gun positions. We marked several on our maps after walking over several miles of rugged terrain along both banks of the meandering Voltumo River.

"We returned from the reconnaissance at 2000 hours, in time for supper. A couple of officers from the division artillery dropped in to eat with us. We were just finishing our meal when the battalion commander was called to division headquarters. He returned at 2300 hours with our orders and by 0200 hours Co C had moved out. Co A moved out by 0500 hours, and Co B the next night at 2030 hours.

"Our field orders gave us the mission of antitank defense for the division and to participate in the division artillery preparation fire prior to the attack toward Venafro. This is what we had been waiting for.

"The pioneer platoon rushed up ahead of the gun companies to cut two by-passes across branches of the Voltumo river for Co C. The position we had selected for Co C was on a forward wooded slope near Vairano, where the guns had a clear field of fire up a valley extending all the way to Venafro. Co B moved into an antitank position near Raviscanina, east of the Voltumo. Co A went into an indirect firing position between the C and B positions.

"During the first two weeks of November the battalion fired infrequent indirect fire missions and was, for the most part, employed in assault fire missions. We advanced in the wake of the infantry up a broad valley south of Venafro. At each move we smoothed out the bugs in our teamwork with the artillery. At first the field artillery did our survey work. Later we received aiming circles and did our own surveys.

"The three gun companies were each attached to a field artillery battalion. They received fire missions directly from the reinforced battalion or the tank destroyer battalion headquarters. Our reconnaissance company maintained at least one OP for each gun company. Radios were provided for the OPs by the gun companies so the observer could stay on the company net. Our reconnaissance OPs worked in close cooperation with the field artillery OPs. Targets that could not be taken under fire by the gun companies or the field artillery battalions to which they were attached were reported to division artillery. In this manner one private in our reconnaissance received the commendation of the division artillery general for his outstanding work in directing the fire of a 155-mm battery on six German trucks bogged down in the mud. The private adjusted on the trucks on the second round and blew them up. Three were loaded with gasoline, three with ammunition.

"During this phase of combat, when our positions were stable, the companies were regrouped into two 6-gun batteries instead of in the regular three tank destroyer platoons. This eliminated one supply point, one FDC, and one set of communication wires, and relieved one lieutenant for duty in forward OPs. We maintained our own company FDCs; the personnel consisted of the company commander and a radio operator, who doubled on the phone.



Tanks as well as TDs have been acting as reinforcing artillery. In this Italian scene note the spurt of flame from the second tank, which has just fired.

"We received our fire missions on the basis of fire possibility charts submitted by the TD S-3 to the division artillery. I don't recall of ever having one of our missions called off because we were too slow or too far off on our firing data.

"Necessary information was given the reinforced battalions so they could compute data for the TD companies after they had been registered. In most cases the companies were given a point to fire on by coordinates, and the company FDC did the necessary computing. This procedure made it possible for the company to fire missions given by the division artillery, the reinforced battalion, and the tank destroyer battalion headquarters. Division gave the tank destroyer battalion a block of concentration numbers to use for their missions. These were broken down for the companies.

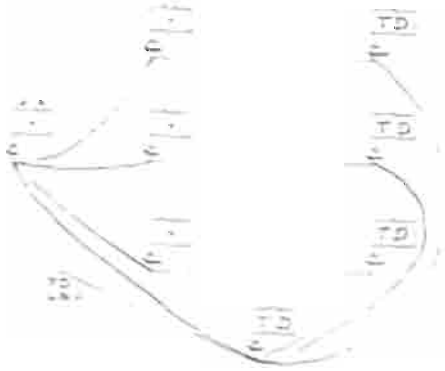
"Soon after we started operating under this setup the artillery was sold completely on having the tank destroyers work with them. At first there was some question about the tremendous muzzle blast of the TDs. The field artillery officers felt that it would attract counterbattery fire, but during the more than a month we fired in that area we received very little counterbattery fire. The nearest shell exploded 10 feet in front of one M10 and it didn't cause any harm to personnel or materiel.

"We assumed most of the night fire missions. This gave the field artillerymen a chance to sleep at night. We caught up on our sleep in the daytime. Most of our night interdiction missions were fired at ranges from 12,000 to 14,000 yards, with excellent results. Map data were fired by the battalion with accurate results. We also fired missions in which the sensings were made by aerial OPs.

"We maintained radio contact with all units in the battalion at all times. We also used 10 miles of wire to establish phone communications. Procurement was easy. The division artillery supply point was within a few hundred yards of our positions. The wire was laid by the tank destroyer command post personnel and maintained by the companies. Because of limited personnel in the command post communications sections, arrangements were made to have the companies lay their own wire to the command post. Men of the security sections were used for this work.

"Two 6-drop switchboards—also received from the field artillery—were

at battalion headquarters. A direct line was run from the tank destroyer battalion CP to the division artillery. Another direct line was run to the TD liaison officer at division headquarters. This relieved traffic through the division switchboard and gave



Schematic wire setup between TDs and FA

the tank destroyers a direct hookup with everything that was going on at the division CP. [See sketch.]

"Tank destroyer ammunition expenditure during this period of indirect fire in support of the

artillery units was particularly heavy but we didn't experience any difficulty in maintaining our supplies. Throughout this period of operation in our secondary mission we kept intact our basic ammunition load. We never knew when we would be called on to fight tanks and we didn't want to be caught without a full load of ammunition.

"Ammunition for indirect fire was kept in dumps near the destroyers. Our M10 drivers, assistant drivers, and men from the security section were used to pass it up to the gunner during fire missions.

"During November the battalion expended more than 9,000 rounds of ammunition, the bulk of it high explosive. Most of it was fired on road junctions and on interdiction missions in and around Vitucoso north of Venafrò, though enemy gun positions, personnel, and equipment also were taken under fire. Highest ammunition expenditure by one company was made by Co C late in the month: more than 500 rounds were fired on interdiction missions in one night.

"Co A almost tied the mark by firing 400 rounds at ranges of 2,000 and 3,000 yards during the first night in December. During this same push Co C fired more than 50 rounds of HE at ranges of 6,500 yards in direct assault upon enemy infantry. Observers in our infantry reported that the result of ricochet fire was terrific. They told us that some of the Germans tripped on their own mines in their rush to scatter under the murderous tank destroyer barrage.

"We were hampered somewhat during our indirect fire missions by lack of smoke shells. It was difficult to pick up the burst of 3" HE shells. For this reason we adjusted by platoons.

"Our ammunition expenditure continued to be heavy during the first part of December, until each gun was cut down to 7 rounds a day. Later the allotment was raised to 11 and at the end of the month all restrictions were removed. During this month the battalion ammunition expenditure soared above the 14,000 mark. Despite this rate of expenditure the supply lines were short enough to permit the tank destroyer battalion train to keep up with the demand. The only ammunition curtailment was caused by a shortage of 3" ammunition in the theater of operations, and this was of only a very short duration.

"Our guns stood up exceptionally well under the heavy rate of fire. One gun that had fired 1,307 rounds was inspected by ordnance and pronounced in good firing condition.

"Through this period the artillery gained a new appreciation of the capabilities and limitations of the 3" gun, which proved to be extremely accurate for direct fire missions up to 6,000 yards and was very effective for indirect fire missions at all ranges up to 14,000 yards. Most of the interdiction fires on Vitucoso were fired at ranges of 12,000 and 14,000 yards.

"Such ranges served to deepen the effective fire of the reinforced artillery battalions by 4,000 yards, as the 105s were not of too much use beyond 10,000 yards. On the other hand, the 105s could drop rounds in close behind mountains that couldn't be touched by the flat-trajectory fire of the TD guns. Once these capabilities and limitations were fully appreciated, the combined team of tank destroyers and field artillery was indeed a terrifying one to the Germans.

"At Venafrò we were able to group the platoons within 100-yard fronts. The front was somewhat longer when we formed the 6-gun batteries. This enabled the platoon leaders to conduct fire by radio, arm and hand signals, and at times by voice. The M10s were dug in behind stone walls and in defilade. There was plenty of digging to be done by everybody. It took almost eight hours to dig in one M10. I believe most tank destroyers would gladly swap the air compressor in the pioneer platoon for one bulldozer, and I know the field artillerymen working with us would have parted with some of their most prized possessions for even a pint-sized bulldozer.

"While our primary mission continues to be that of destruction of tanks by direct fire, I believe that at Venafrò we proved that the tank destroyers can hold up their end of the fighting in their secondary role—that of teaming with the field artillery to blast the enemy wherever we meet him within 14,000 yards."

NOTICE OF ANNUAL MEETING, U. S. FIELD ARTILLERY ASSOCIATION

In compliance with Article VII, Section 1, of the Constitution, notice is hereby given that the Executive Council has fixed 5:30 P. M., Monday, December 18, 1944, as the time of the annual meeting of the Association to be held at the Army and Navy Club, 1627 Eye St., N. W., Washington, D. C.

The business to be disposed of will be the election of four members of the Executive Council (three Regular Army, and one Organized Reserve), and the transaction of such other business as may properly come before the meeting. Nominations may be made by proxy, or from the floor of the meeting.