Engineers on Iwo

Driving into the teeth of the Japanese, 5thMarDiv engineers blasted roads and sealed caves by the thousands, helping troops to move forward over Iwo's out-of-this-world terrain.

By 1stLt Walker Y. Brooks

THE struggle for Iwo Jima, where 80,000 superbly trained troops fought a "no quarter" war of attrition on a pitifully small piece of Pacific terrain for 36 days, was characterized by anomalies in all phases of tactics employed by the assault forces of the V Amphibious Corps and all its component elements.

Iwo Jima, at the time it was invaded by the Third, Fourth and Fifth Marine Divisions, could boast of nothing beyond incomparable dawns and sunsets, two airfields, an extinct volcano and a wondrous labyrinth of underground cavern fortifications, plus the fanatical exploitation of these subterranean defenses by a well-trained and well-equipped Jap garrison.

During Iwo's conquest, LtCol C. H. Shuey's 5th Engineer Battalion could give little time to the sunsets, but Iwo's remaining natural endowments—Suribachi, the cave defenses and the weird terrain—were vital factors for consideration.

The story of the engineers of the Fifth Division at Iwo is a story of the aforementioned anomalous use of men and equipment for battle tasks of every description and of adapting every available element from the soil and even the sea in the accomplishment of these tasks, of building roads, on occasion, ahead of the assault troops; of blasting, cutting, bulldozing and sealing; of struggling with heavy equipment across the mired beaches under artillery and mortar barrages; of road maintenance under enemy observation.

It's all part of the official record now. But it's an interesting story. It could be summed up in the words of one lad of the 27th Marines, temporarily pinned down on the beach, looking behind him and saying—"Here comes them engineers . . . *now* we can start movin'!"

Here's how, organizationally, administratively and actively, the engineers helped the troops do just what the kid said—move!

The 5th Engineer Battalion arrived at the target with the lettered companies attached to each combat team of the Fifth Marine Division, as follows: A Company with CT26, B Company with CT27, C

Engineers with armored bulldozers led the way through wellnigh impassable terrain.

Company with CT28. H&S Company remained under command of the battalion commander, who was controlled, as normally, by the division commander.

The heavy equipment and vehicles remained under lettered company control until D plus 10, at which time they were placed, together with operators, under direct control of the battalion commander, with each lettered company retaining one TD-14 angle dozer, one armored TD-18 tractor, and four 2½-ton dump trucks. The equipment was still physically retained by each lettered company—repairs, maintenance, personnel of this equipment remained under company control—but reverting the equipment to battalion operating direction enabled the commander to divert at any time the majority of equipment to support of the division's main effort. The plan proved highly successful.

THROUGHOUT the Iwo operation, the engineer company commanders became familiar figures to assault troops on the line. The presence of engineers was always a comforting sign; they represented a means of blasting routes through seemingly impassable terrain; they were an assurance that bypassed Jap caves would be blasted shut, thereby denying their further use to the enemy as rearguard threats to our advance.

Although in the line during the day, each company commander checked in at the battalion CP late each afternoon, when reports were made on the engineer situation in their respective zones of action, and the next day's operations were planned with the staff.

Here are some interesting statistics, in round figures, on the quantities of explosives expended on Iwo by the 5th Engineer Battalion:

2,500 bangalores
123,000 lbs C-2 explosive
35,000 lbs TNT
157,000 feet of blasting fuse
600 shape charges, M2A1
500 shape charges, T-3

A Japanese POW told the marine interrogator the Nip garrison had been told by their officers that the Americans would never try to take Iwo, chief among the reasons being the island's deplorable water supply. It is a commentary on the difference between Jap engineering efficiency and our own that on barren Iwo, water supply was never a problem (see *Water on Iwo*, page 52).

The work of the combat engineers of the Fifth Division on Iwo was a constant struggle against the unbelievably rugged and weird terrain, made more unorthodox by the unrelenting tactical use of this terrain by the enemy. The 5th Engineers were always adapting both equipment and personnel to meet the exigencies that arose.

Demolition work by the engineers was an example of this. Very few strictly engineering demolition projects were encountered, but 5,000 caves and pillboxes were destroyed by the engineers in the 5th MarDiv zone of action. Enemy cave demolition was tough, dirty and dangerous work. Initially in the operation, specially trained infantry troops accomplished demolition missions, but the murderous frontal assault nature of the conflict soon depleted this personnel and the only alternative was the engineers. The black and yawning mouth of any open cave remained a potential source of Jap machine-gun and mortar fire. The underground defenses were such a maze of intercommunicating passageways and tunnels that enemy infantry, when driven into one cave, would reappear above ground, fighting from another cave.

As many as 1,000 caves and underground entrances were blasted shut on Mt. Suribachi alone!

One extraordinarily heavy blockhouse encountered in the gorge in the north of the island, where the last pocket of enemy resistance held out, set some sort of a record in the placing of heavy charges. This structure, which was finally revealed to house the island's main radio and communication installation, had for days withstood naval gunfire, artillery, and point-blank 75s from tanks, without a sign of breaching.

Demolishing this structure became the especial pride and joy of Company A of the 5th Engineers. Construction figures released later showed, like those on all the rest of the Jap defenses on Iwo Jima, the result of careful planning and painstaking labor on the part of LtGen Kuribayashi's construction battalions. The structure was an earth-covered, concrete emplacement four feet thick, the concrete containing reinforcing stone not native to Iwo. The concrete was further reinforced with a mesh of steel rods one inch in diameter and set six inches apart. The overall size of the entire emplacement was estimated to have been 25x40 feet, but when Company A went to work, direct hits by constant shelling with everything we could throw at it had reduced and chipped the building down to approximate dimensions of 15x35 feet. In spite of such terrific mauling, the structure was still intact, still contained its vital equipment unharmed, and still gave evidence of actual enemy troop activity in and around it!

ON D plus 34 the building had been sufficiently isolated from outside enemy interference that Company A engineers were able to drive right up to the building with a truckload of explosives and methodically go to work to deliver the K.O. punch. As it turned out, more than one punch was required.

At 0745, with all troops in the area warned of the charges to be set, and the nearest marines taking cover at about 350 yards, the first charge of 3,100 pounds of C-2 explosive was set off on the roof of the blockhouse. (C-2 has about 25 per cent higher explosive power than TNT.) This tremen-

dous charge blew a hole in the roof about ten feet in diameter.

Several of the engineers then ventured through the opening down into the building. They found themselves at one end of a large chamber, cluttered with radio transmitter gear. And, despite the terrific concussion of the recent explosive, they also found themselves in the presence of the enemy! Inconceivable though it seems, enemy rifle fire rang out from the subterranean tunnels leading off the main chamber. The marines scrambled out again!

With such evident tenacity on the part of the Japs within, the engineers decided the blockhouse hadn't been softened up enough. The next charge, set off at 0930, consisted of 3,000 pounds of TNT, stacked in cases further down the roof. This explosion blew another hole in the roof, somewhat smaller than the first but contributing to the general effect.

At 1130 the engineers, not being content with the results thus far, gathered up all the remaining bangalore torpedoes in the area, equalling about another ton of TNT, and stacked them like cordwood on the section of roof still intact. After this third explosion they were ready for another look inside. Before doing so, however, a pair of infantry flamethrowers worked over the structure and a flamethrowing tank rumbled up, stuck its blunt nose against the openings and let go with a few lethal squirts.

By this time an examination of the interior revealed a gratifying amount of rubble and, strangely enough, the corpse of a Jap soldier stretched out on a table with arms folded across his chest, the whole effect somewhat reminiscent of "Beau Geste."

After removing all available gear for Intelligence examination the ruins were covered up by bulldozers, and it was "mission accomplished" for the engineers.

Road construction by the engineers on Iwo had three phases: (1) building of exit roads from unloading beaches to high ground, and connecting these exits with main north and south routes; (2) pushing main roads south to Mt. Suribachi and north to supply front line demands; (3) bulldozing of roads or trails for movement of low-bellied tanks in the wild terrain to the north.

Road construction equipment and operators of the lettered companies worked out of their company headquarters under control of engineer battalion headquarters. This differed from the rest of the engineer operations in which each lettered company was attached to a combat team.

Both initial and final phases of this work required almost superhuman effort by engineers to overcome both man-made and natural obstacles. First of all, bear in mind the picture of Iwo's out-of-this-world terrain. In the southern landing sector the beaches sloped upward by terraces to the high ridge running north and south in the island's center, forming its backbone. These beach terraces were composed of a coarse, black volcanic sand or ash, of such loose texture that even in walking a man would sink ankle deep in it. Almost all wheeled equipment had to be assisted by tractor to the tops of the terraces until pierced plank could be laid.

Every passing minute after H-hour added to the congestion of the landing beaches with masses of equipment and materiel needed by the assault forces engaged with the enemy a scant few thousand yards off the beaches. And yet in spite of herculean efforts, progress in building these beach exits was agonizingly slow, accomplished in the face of murderous artillery and mortar fire which day and night methodically crashed into the massed men and equipment from hidden Jap guns to the north.

After A and B companies dozed three exit trails from the beach, tying these exits in with a lateral road along the top of the rising ground and connecting this network into existing inland trails, the progress was somewhat easier. But the hazard was intensified.

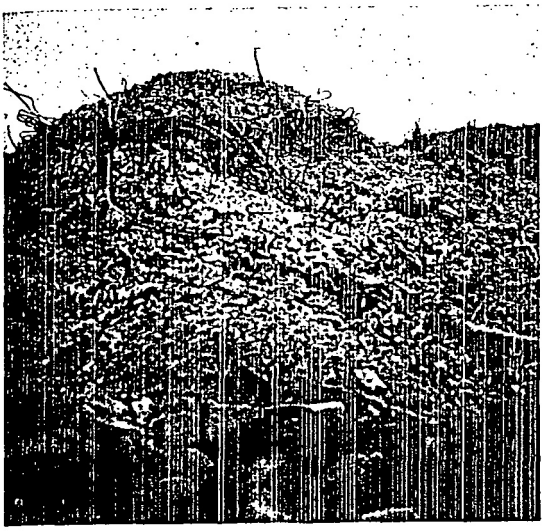
ON the higher ground the sand was more easily worked, and it was found that approximately 1,000 yards of 30-foot roadway could be dozed and brought to grade in one day, using three bulldozers and one grader. Sand compaction on the most level areas was fair, and wheeled traffic was able to use the roads before surfacing.

The existing Jap roads encountered and used in the main network were narrow, six- to eight-foot routes built of hand-hewn volcanic rock on a volcanic dust base. These roads were badly cratered and were improved by extending one side to the required width and then stabilizing in the same manner as new roads.

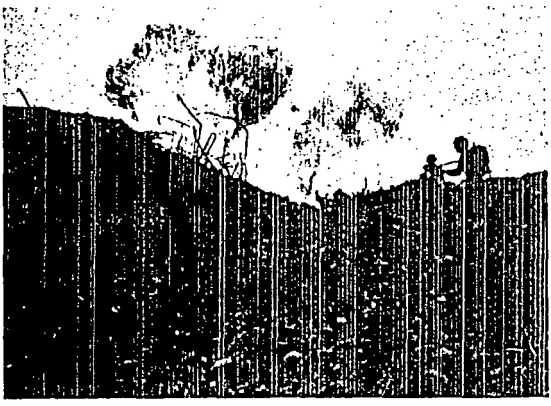
The Japs had carefully registered their artillery and mortars on existing roads, road crossings, and road junctions. Engineer crews often received accurate Jap fire when improving existing roads in areas 1,000 yards or more behind the front lines. Officer-reconnaissance revealed that new roads could be pushed over unbroken terrain to within a few hundred yards of the foremost positions without receiving anything but small arms fire.

Road maintenance got under way even before all front line roads were finished. Constant maintenance by three motor patrols of the lettered companies, plus an H&S Company distributor and a sprinkler improvised from a converted amphibious trailer towed by a 6x6 dump truck, accomplished the job.

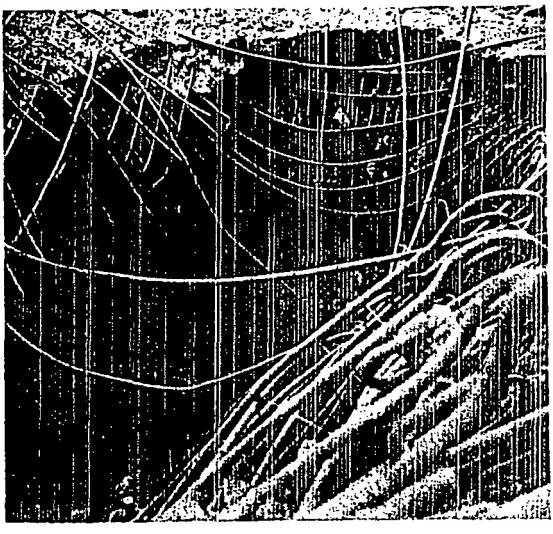
The final phase of road building was reached as we encountered the final defensive position of the enemy in the extreme north of the island. By this time Japanese antitank guns had been knocked out and the enemy's defense was built around excellent exploitation of the rocks and crags and deceptive use of the extremely broken, rocky country where the enemy could use small groups of men, firing



Demolishing this huge emplacement which withstood gunfire was task of engineers.



Flame was needed when Japs still held out after engineers set off ton of explosives.



Another blast finished the emplacement but even then shots were fired by Japs inside.

point-blank, and launch sudden, vicious assaults on our men and equipment.

This phase of the engineers' work on Iwo could well be called the "Saga of the Armored Dozers." Road-building in this sector was not so much the construction of supply routes as it was the bulldozing of tank roads or trails by TD-18 armored angledozers in front of front line positions to allow the low-slung tanks to negotiate the otherwise impassable terrain and get into positions from which they could bring guns and flame to bear on remaining enemy strongpoints.

The work performed by the engineer-operators of the armored bulldozers as they cut roads for the tanks was nothing short of heroic. The procedure called for the dozers to be followed by flamethrowing tanks, which in turn were covered by other tanks in the rear. Close coordination with this armor by foot troops enabled the marines to burn and dig the enemy out of their subterranean positions. But the bulldozers and tankdozers invariably led the way.

Existing Jap trails in this sector were systematically mined, and even new trails, when bulldozed during the day, had to be guarded at night. Otherwise dawn would find them mined by the Japs.

THE western beaches of Iwo Jima were more heavily mined than the eastern beaches. Single and double horned hemispherical mines, 63KG aircraft bombs laid on their sides with yardstick mines strapped along the longer axis, box mines and terracotta mines were used extensively on AT and AP missions. The hemispherical and conical types used on the beaches were easily detected by observing the exposed horns.

The best method of discovering enemy mines on Iwo was by observation and probing. The easiest method of disposal in open areas was to disarm and deposit mines in scattered dumps. The bomb-yardstick combinations were handled by disarming the yardstick mine and placing them in dumps. The bombs, which already had the fuses removed if heavy or clear of construction, were left for bomb disposal personnel, since special equipment was often necessary to lift and carry them.

More than 2,000 mines of all types were removed from Iwo's beaches and roads by the 5th Engineer Battalion. Information as to progress of the mine clearance squads was furnished to D-2 and D-3 daily by means of map overlays.

In summation—the fact that Iwo Jima became a milestone on the road to total conquest of the Japanese is a tribute to the troops who assaulted and captured it. It is also a tribute to the successful accomplishment of basic engineering feats in punching across difficult beaches, pushing roads into the teeth of the enemy, constantly overcoming terrain obstacles, and utilizing every available natural resource to back up the toughest of operations with men, equipment and engineering materiel. END