

Lan-Cay History

Lan-Cay received its first contract for 30,500 M9 bayonets on 3/31/92 from the U.S. Army with an additional 21,500 bayonets added during the contract. In an effort to quickly supply the Army with new M9 bayonets after Desert Storm, Lan-Cay turned to General Cutlery as a sub-contractor to provide near completed blades for assembly at the Lan-Cay facility. This sub-contract proved to be totally unworkable, and only about 300 General Cutlery made blades were ever passed by the Army inspectors and put into U.S. military service. The remainder of the General Cutlery blades were then demiled and destroyed as required by the Army.

All General Cutlery produced blades are easily identified as they are stamped on the ricasso "M9 / LANCA / Y / USA" in block letters of equal size. This form of marking was used only on the General Cutlery made blades and will not be used again. These General Cutlery made M9 bayonets were produced in a very limited number and are extremely rare as most were destroyed before issue. At least 300 examples, possibly more, were delivered to the Army and are now in collections and/or the supply system.

The second type marking after the General Cutlery blades were used up consisted of all capital letters but in a different font size. The marking was as follows, "M9 / LANCA / Y / USA" with the "L" and "C" much larger than the other letters in the name. By this time Lan-Cay had purchased its own machinery and tooling for the production of blades and most of the work was done in house from this point in time. It is also noted that all the bayonets produced up to this point were left in the natural or "white" state on the blades. This was the required milspec finish. The coloring variation between the Lan-Cay produced blades and the original Phrobis contract blades is due to the finish process. Phrobis bead blasted the blades while Lan-Cay used a heavier sand blasting procedure. Thus the Lan-Cay blades appear a little darker, almost a light gray. This was soon to change as an "ECP" (Engineering Change Proposal) was supplied from Lan-Cay to Rock Island Arsenal for approval. Another change that took place during the first contract stage was a reduction in the depth of the fuller. Because of Bureaucracy, it is easier to make a change in a specification than to eliminate one. A classic end run was found to this problem. The fuller design was set at a depth of .06 with a plus or minus of .06 !! The .06 was 50% shallower than the previous design. In total 350 M9 bayonets were produced with the shallow fuller before the change to eliminate the fuller was agreed to. This was to prevent the blade breakage

encountered in some of the earliest Phrobis products. Come to find out later that blade hardening and tempering was the culprit not the fuller. Anyway this makes the half fullered blade amongst the rarest to be encountered today. It was also at this time that Lan-Cay switched from forged blades to laser cut blades. The unfullered blades mark the change over period to this new production method.

A second contract was awarded to Lan-Cay on 9/1/94. This contract was for 104,111 Product Improved M9 bayonets. All the while that the first contract bayonets were being produced, Lan-Cay along with Rock Island Arsenal had been working on improvements to the M9 and the scabbard assembly. This second contract was to be the culmination of these efforts, the "Product Improved M9."

Although there had not been any reports of breakage of Lan-Cay produced blades the Army was still worried about the problem. To correct this potential problem several changes were approved. The first was to move the saw teeth further forward on the spine of the blade. Along with this the bottom of the teeth were rounded instead of the sharper "V" on earlier blades. Lan-Cay set their own broaching machine up to handle this with relative ease. Also the small "step" on the top of the blade just behind the saw teeth was eliminated for the simplification of manufacture. Another contract stipulation was to have the blades finished in a black oxide coating. A small number of M9 bayonets were still needed to finish off the first contract so the physical changes mentioned above minus the black oxide finish were used to complete the contract. Shipped on 4/21/95 were 1,090 Product Improved M9 bayonets with the sand blasted finish. These 1,090 blades make them some of the rarer bayonets for the collector to find. Again just another variation to add to the list. The second group of P.I. M9 bayonets with the full list of changes including the finish were delivered to the Army on 8/18/95 making this the first group of the second contract. Now comes the tricky part, during the second contract production the blade grinding was changed over from hollowing grinding to flat grinding to give the blade a stronger edge. Examples of both the flat grind and the hollow grind can be found with the standard for the time marking of "M9 / LANCAY / USA". At the time of the flat grind blade development the corporate name of LanCay was changed over to Lan-Cay with a hyphen. It was at this time that the blade markings were changed to the now familiar "M9 / LAN -CAY / USA". This we will call the third type marking. All blades produced from this point in time were so marked which includes the overwhelming majority of the second contract. Another change much later in the second contract was a move back to forging the blades.

Now for another twist, in early 1995 approximately 200 of the first style blades were placed aside in the factory as the blade tips were a fraction of an inch thinner than the specification called for. As the difference was extremely small, Lan-Cay submitted a Request for Variance to the Army to have these blades approved. Somehow the paperwork was misplaced and the variance was never approved. When the paperwork was finally found and the variance approved the first contract had ended. The second contract called for black oxide finish so a black finish was applied to these blades and they were included with the second contract. Early style first contract blades with the "M9 / LANCAY / USA" type marking, a second contract late style black finish and only two hundred made, the rarest of the production group so far.

Perhaps the rarest model produced by Lan-Cay were a group of hollow ground, black oxide finishes that had clear Lucite handles. These bayonets were used for test purposes to see the inner workings of the tang and to teach budding Army Armorers.

So as we can see, although they are new to the scene, the M9 bayonets are the beginning of a collector's dream. Many different variations with documented history behind them. It doesn't get any better than that. The Lan-Cay second contract ended in the second week of April 1997 with all bayonets being furnished and accepted on time.

In September of 1999, a contract was offered for 25,000 M9 bayonets for the U.S. Army. Until this time Lan-Cay had been the only bidder on the M9 contracts since taking over production from Buck. In this bid however, Ontario Knife Company, a long time government provider in cutlery felt they could be competitive in the M9 bid as they had procured new laser cutting equipment. When the bidding was finalized the contract was split. Rock Island, the government entity that procures bayonets felt that by having a backup provider it would improve the overall competitiveness. So it came to pass that Lan-Cay would produce 12,500 bayonets and Ontario would produce 12,500 bayonets.

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Manufacturer in \$2 Million Accord With U.S. on Deficient Kevlar in Military Helmets

By **BRUCE LAMBERT**

A North Dakota manufacturer has agreed to pay \$2 million to settle a suit saying it had repeatedly shortchanged the armor in up to 2.2 million helmets for the military, including those for the first troops sent to Iraq and Afghanistan.

Twelve days before the settlement with the Justice Department was announced, the company, Sioux Manufacturing of Fort Totten, was given a new contract of up to \$74 million to make more armor for helmets to replace the old ones, which were made from the late 1980s to last year.

Sioux upgraded its looms in 2006, company executives say, and the government says it has started inspections at the plant.

The United States attorney for North Dakota, Drew H. Wrigley, called the accord “an appropriate resolution” because the Defense Department had said that 200 sample helmets passed ballistic tests and that it “has no information of injuries or deaths due to inadequate Pasgt helmet protection.”

Pasgt, pronounced “pass-get,” stands for the Personal Armor System for Ground Troops, which includes the helmet model being replaced.

At the core of the investigation was the contention by two former plant managers that Kevlar woven at Sioux failed to meet the government’s “critical” minimum standard of 35 by 35 threads a square inch.

When properly woven, Kevlar, a polymer thread made by Dupont, is stronger than steel, and able to deflect shrapnel and some bullets. Government regulations call for rejecting Kevlar below the 35-by-35 standard.

The company “was underweaving,” Mr. Wrigley said.

"That is undebatable," he said.

The factory's own inspection records often showed weaves of 34 by 34 threads or as low as 32 by 34 and 33 by 34. Looms were "always set for 34 by 34, always," said Jeff Kenner, who operated and repaired the looms and oversaw crews on all three shifts.

In a statement, the company president, Carl R. McKay, denied "any and all of the allegations originally brought to the attention of the Department of Justice by disgruntled ex-employees."

Settling the case, *United States v. Spirit Lake Tribe*, filed in Federal District Court in Fargo, Mr. McKay said, was "a prudent business decision" to avoid legal costs and "should not be construed as an admission of wrongdoing."

The potential harm is difficult to judge. Helmet damage depends on the projectile. Whether a damaged helmet would hold up better with a tighter weave is hard to calculate, experts said.

"You must have a certain amount of protection, and you can't go below that," said Gwynedd A. Thomas, associate professor of ballistics and protective fabrics at Auburn University.

Although the difference between 34 and 35 threads a square inch seems modest, the cumulative loss in layers of fabric is significant, Dr. Thomas said.

"Every time that you're losing some mass, you're losing some integrity," she said.

The strength comes from crossed yarns, the points that disperse projectile impact. "The fewer crossovers, the less energy dissipation you're going to have," she added.

A 34-by-34 weave results in 5 percent fewer crossovers than 35 by 35, a difference Dr. Thomas called "quite a lot."

"I'm surprised somebody is not pursuing that more vigorously from the government," she added. Were she a soldier's parent, she said, "I would want to give my son a better helmet."

The \$2 million settlement is far short of what the two former managers, Mr. Kenner and Tamra Elshaug, hoped for in 2006 when they filed a whistle-blower suit. The suit, for \$159 million in damages, accused the company of defrauding the government and violating safety standards.

"I think they got away with it," said Mr. Kenner, who worked at Sioux for 20 years and was the weaving supervisor. "Sioux Manufacturing basically got a slap on the wrist," he said. "The Justice Department did a really good job, but the Department of Defense is really just

downplaying this. They're embarrassed and want it to go away and would not admit to anybody's getting hurt or even killed."

Mr. Kenner and Ms. Elshaug's lawyer, Andrew J. Campanelli, challenged Defense Department contentions that it was unaware of injuries from defective helmets. "There are tons of injuries with shrapnel and bullets going through helmets," he said. "My clients documented that American soldiers did not get the protection that the government paid for, that the taxpayers paid for."

In the evidence in the suit were hundreds of daily inspection records showing repeated violations of the weaving standards, as well as tape recordings of six managers and employees' admitting covering up violations.

In a conversation Mr. Kenner secretly taped, Rhea Crane, quality assurance officer, worried "if we ever had someone get killed, and they decided to investigate because they thought maybe the helmet wasn't any good."

"If we ever got audited," she said, "you know what they would do to us. Shut us down and fine us big time. Probably never see another government contract."

Ms. Crane did not return repeated calls for comment.

Justice Department officials said some Sioux records listed looms with 35-by-35 counts, with a few at 36. Dr. Thomas agreed looms could be adjusted to do so.

Mr. Kenner and Ms. Elshaug, who worked at the plant for 26 years and was in charge of buying Kevlar, say thread counts were routinely rounded up to reach the 35-by-35 minimum.

The papers in the suit showed a Kevlar surplus of up to 30,000 pounds and a resin shortage. Extra resin was applied to the Kevlar to bring it up to a specified weight, the former employees said.

Extra resin also poses a hazard to soldiers, Dr. Thomas said, adding, "If they were putting more resin in, they were doing something that will hurt soldiers, because it reduces elasticity and increases brittleness."

Mr. Kenner said, according to the suit, that when he asked Mr. McKay about the violations, he responded: "That is the way we are going to weave it. Don't you worry about it."

Mr. McKay did not respond to e-mail and phone messages.

Despite excellent job ratings, Mr. Kenner and Ms. Elshaug were fired after protesting the violations. Mr. Campanelli will share part of the settlement totaling \$406,350. There is no further legal recourse, he added.

Soldiers generally cannot sue the government. And Sioux is owned by an Indian tribe, the Spirit Lake Nation, that can, he said, assert sovereign immunity against private suits.

The company also benefits from a 5 percent federal incentive program for Indian contractors and preferences for disadvantaged small businesses.

Ms. Elshaug and Mr. Kenner said they did not regret suing. "It was never about the money," he said. "It was about the soldiers. I'm still shocked. I wouldn't be wearing one of those helmets."

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