

KRIVENIK REPORT

1. This is a report of the investigation into a mortar-shelling incident that took place in Krivenik (Kosovo) close to the border with the former Yugoslav Republic of Macedonia. The incident killed three civilians, including a journalist of the Associated Press (AP). During the week of the incident, rifle, machine gun, and mortar exchanges were taking place between the NLA and ARM troops South of Krivenik on the other side of the border.

2. The day of the incident the NATO Secretary General spoke with President Trajkovski who agreed to set up a Joint Commission to review the findings of the ongoing investigations of the mortar explosions. This agreement was formalised in a letter from the NATO Secretary General to President Trajkovski the following day. The Joint Commission consisted of the NATO Senior Civilian Representative in Skopje and the President's National Security Advisor.

3. On 1 May 2001, NATO finalised its report on the incident, based on investigations conducted by Kosovo Force's Multi-National Brigade - East (KFOR MNB(E)), responsible for the sector in which Krivenik is located. The NATO Senior Civilian Representative discussed with his counterpart in the Joint Commission the findings of this report in early May 2001 and transmitted a request for additional specific information to the authorities in Skopje. This request was followed-up with multiple reminders by NATO.

4. Finally, the Head of the Mission of the former Yugoslav Republic of Macedonia to NATO provided NATO a report on the incident on behalf of the Ministry of Defence of the former Yugoslav Republic of Macedonia on 22 January 2003. However, neither the information from the Ministry of Defence of the former Yugoslav Republic of Macedonia, nor talks with commanders of the former NLA have brought to light sufficient new information allowing NATO to identify conclusive evidence about what happened. Following this NATO informed the authorities in Skopje it would release its own report.

5. NATO's investigation into the incident was exhaustive and conducted by a team of experts in analysing such incidents. Despite this the team could not pinpoint the precise location of mortar positions, and showed that the mortar rounds could have been fired from either side of the border, and from locations where both ARM and NLA forces were known or suspected to be operating. Evidence uncovered by the investigation is therefore insufficient to authoritatively determine who attacked Krivenik with indirect fire and why the attack was conducted.

1 May 2001

Findings of Fact Report: 29 March 2001 Krivenik Mortar Shelling Incident

1. Summary of Incident. On 29 March 2001, between 0900 and 1300, approximately 13 – 19 mortar rounds landed in or near Krivenik, a small village in southeastern Kosovo, killing three civilians and wounding ten others. Kosovo Force (KFOR) soldiers from Multi-National Brigade - East (MNB-E) were in or near Krivenik during the attack and were forced to take evasive action from the mortar shelling. Evidence uncovered by this investigation is insufficient to authoritatively determine whether the Army of the Republic of Macedonia (ARM) forces or elements of the so-called National Liberation Army¹ (NLA) executed this attack.

2. Krivenik

a. Krivenik is a small town located in a peninsula of Kosovo that juts into the former Yugoslav Republic of Macedonia² at the southern tip of KFOR MNB-E's sector at map grid EM 2363. It lies approximately 1200 meters from the former Yugoslav Republic of Macedonia border; no other Kosovo towns lie between Krivenik and the border. Krivenik has roughly 370 inhabitants - all ethnic Albanian - living in approximately 45 homes.

b. Although there are no farms in Krivenik, it is extremely rural. There are no businesses or shops in the area. The villagers rely heavily on personal gardens and livestock for subsistence. It has one mosque in good condition and a new schoolhouse for grades 1 - 4 overlooking the northeast corner of the village. Krivenik has no police force; UNMIK police (UNMIK-P) must settle any disputes.

3. ARM and NLA Forces Operating Near Krivenik during March 2001.

a. ARM locations near Krivenik - Gracani axis.

(1) Known.

EM 229 591 - 2d Brigade Headquarters
EM 198 602 - Platoon with Small Arms
EM 203 593 - Platoon with Small Arms
EM 208 598 - Platoon with Small Arms

EM 243 597 - Platoon with Small Arms, 1 x T-55 Tank
EM 255 603 - Platoon with Small Arms
EM 257 606 - Platoon with Small Arms
EM 245 576 - Platoon with Small Arms, 1 x 120mm / 82mm Mortar
Battery

(2) Suspected.

EM 2235 6020 - Observation Point
EM 2401 5910 - Mortar Firing Position

b. NLA locations near Krivenik – Gracani axis.

(1) Known.

EM 243 597 - Gracani, Field Hospital
EM 220 620 - IVO Krivenik, platoon size camp
EM 234 607 - IVO Krivenik, company size camp and defensive
positions
EM 238 616 - IVO Krivenik, company size camp and storage area
EM 229 591 - IVO Caska, platoon size defensive position

(2) Suspected.

EM 2257 6215 - IVO Krivenik, Observation Point
EM 216 600 - NLA campsite along border
EM 2443 5975 - Company defensive positions

4. Chronology of Relevant Events before 29 March 2001 Mortar Shelling.

a. General. The activity south of Krivenik during the week preceding 29 Mar 01 consisted of rifle, machine gun, and mortar exchanges between ARM troops and NLA personnel along the Kosovo border with the former Yugoslav Republic of Macedonia between EM 1761 and EM 2661.

b. 22 Mar 01. ARM company commander tells the MNB-E Liaison Officer (LNO) he wants KFOR forces to interdict NLA infiltration routes south of Krivenik at EM 225 604 (west of Hill 802), EM 233 611 (east of Hill 802), EM 244 614 (northeast of Hill 838), and EM 250 625 (north of Hill 816 and south

Yugoslav Republic of Macedonia border) to ensure the safety of POLUKRBAT patrols and OPs. LNO delivers message to POLUKRBAT.

- d. 24 Mar 01. ARM receives heavy sniper and mortar fire from NLA positions near the border in vicinity of Gracani (EM 243 597) and along the border between EM 220 683 and EM 240 613. A NLA field hospital is located in Gracani. POLUKRBAT elements report multiple explosions and flares along border and to the south into the former Yugoslav Republic of Macedonia. ARM tells LNO it has fired 56 mortars during the day, to include 14 rounds fired at suspected NLA positions at Gracani and Hill 802.
- e. 25 Mar 01. LNO briefs ARM that KFOR patrols would be conducting sector patrols north of the border near Krivenik for the next 96 hours. ARM commander states his approval of this plan and tells LNO his forces will not fire mortar or artillery rounds north of the EM 606 grid line or Hill 802 (EM 235 606). ARM repeated this promise several times, to include 28 Mar 01, the day before the ARM offensive. Intelligence indicates unidentified elements of the NLA intended to conduct an attack against the Blace Border Crossing Point (EM 251 654) and/or target POLUKRBAT elements along the border. Small arms fire continues along border.
- f. 26 Mar 01. Small arms fire continues along the border.
- g. 27 Mar 01. LNO tells ARM officer the location of KFOR OPs in and near Krivenik. ARM officer plots locations on a map and forwards them to the ARM TOC. LNO tells ARM that POLUKRBAT will locate an OP on Hill 604 (EM 234 633). ARM responds to sniper fire from buildings in Gracani with small arms and rocket-propelled grenades (RPGs). Small arms fire continues along border.
- h. 27 Mar 01. POLUKRBAT Special Police Unit, a K-9 Team, and UNMIK-P conducted a cordon and search of Krivenik. Among other things, they discovered an AK-47 rifle, 27 rounds of ammunition, a bulletproof vest, and a vest with a UCK badge.
- i. 1445, 27 Mar 01. A MNB-E patrol observed a group of seven men moving south from Krivenik toward the former Yugoslav Republic of Macedonia border. The patrol gave chase and caught two of the men. These men, residents of Krivenik, claimed they did not know the others and were only

- k. 2330, 28 Mar 01. POLUKRBAT OP at EM 231 624 observed two groups of three persons with weapons moving in a northeasterly direction and being followed by a group of about 50 individuals. These groups stopped at EM 234 607. At 0200 on 29 Mar 01, the 50-person group left in a southerly direction and 3 other individuals left in a northerly direction.

5. Chronology of Events on 29 March 2001.

- a. Intelligence indicated the ARM would fire "artillery missions" along the border in the early morning. Known and templated NLA camps at this point were all south of the border in the former Yugoslav Republic of Macedonia.
- b. Approximately 0850. KFOR aviation helicopter crews reported seeing 30 people with six tents and one horse in the former Yugoslav Republic of Macedonia at EM 234 607.
- c. Krivenik Strike #1. Between 0900 - 1030, 3 mortar volleys of 2 - 3 mortar rounds each impacted south of Krivenik and southeast of Krivenik, and on the eastern outskirts of the town.
- d. Approximately 0905. POLUKRBAT patrol at EM 230 627 reported NLA with five artillery pieces south of their position at EM 233 611. They further reported the artillery pieces were firing south towards the former Yugoslav Republic of Macedonia.
- e. 0925. KFOR aviation helicopter crews reported seeing three mortars fired from NLA positions at EM 250 598 towards the former Yugoslav Republic of Macedonia forces to the south. The helicopter crews further reported seeing a red jeep carrying NLA personnel moving north from the border toward Krivenik.
- f. 0950 - 1055. POLUKRBAT patrol reported seeing a small force of 4-5 individuals at EM 230 613, approximately 500 meters southwest of Krivenik. The POLUKRBAT soldiers received mortar fire when they moved forward to EM 230 614 to make contact with the force at the firing position. The POLUKRBAT soldiers reported hearing three sets of three bursts, each close to their position, as they withdrew north. The POLUKRBAT soldiers fell back to Krivenik. POLUKRBAT soldiers in OPs on the outskirts of Krivenik

4 “whoump” sounds of a mortar firing in immediate succession. The KFOR personnel “got down” just as a series of mortar strikes landed near them, starting at the mosque in Krivenik and moving in a rough line from south to southeast to east of Krivenik. They identified these four rounds as impacting in the courtyard between the mosque and “old” school in Krivenik, on the small ridge to southeast of Krivenik, to the east of Krivenik just inside the road leading into Krivenik from the east, and northeast of Krivenik near the “new” school.

- (2) Strike #2 injured at least two people in the courtyard between the mosque and the “old” schoolhouse, an Associated Press reporter seated in a civilian SUV and the schoolteacher for the Krivenik school, who was found just outside of the SUV. The mortar round that struck the courtyard landed at the base of the SUV parked in the courtyard.
- h. Krivenik Strike #3. Approximately 5 - 10 minutes later, three more mortar rounds impacted in or near Krivenik. Immediately after this strike the Deputy Commander for Maneuver, Task Force Falcon, made radio contact with a MNB-E helicopter flying near Krivenik and asked if its crew had seen from where the mortars were being fired. The helicopter crew reported it had seen nothing.
 - i. Krivenik Strike #4. Approximately 5 - 10 minutes after Strike #3, more rounds impacted in or near Krivenik. MNB-E helicopters flying above Krivenik did not see from where these mortar rounds were fired.
 - j. Krivenik Strike #5. Between 1200 –1230, 2 – 3 more mortar rounds struck in or near Krivenik.
 - k. During and Immediately After the Strikes.
 - (1) Following Strike #2, MNB-E soldiers remained in Krivenik treating the wounded civilians and helping them evacuate the village. MNB-E soldiers (POLUKRBAT) established a checkpoint outside of Krivenik on the road leading to Deneral Jancovic.
 - (2) UNMIK police arrived in Krivenik at about 1330. They were very cooperative and helped control the growing crowd and gather evidence. TFF personnel arrived between 1300 – 1500 and began

- b. 02 Apr 01. POLUKRBAT patrol found a NLA weapons cache at EM 238 616 while searching areas south of Krivenik. The site was approximately 300 meters from the camp found on 31 MAR. It contained 86 boxes with ammunition of different types, 8 boxes with grenades for RPG-7s and RPG-2s, 2 magazines for machine gun PK, 112 sleeping bags, 144 blankets, 24 military raincoats, 19 vests, 8 tents and 6 German uniforms. All of the equipment found was packed inside of sleeping bags in disarray. POLUKRBAT also found 10 sacks with food and a bag with medical dressings and syringes. The UNHCR abbreviation was on several sleeping bags and tents. Ammo boxes and a beret found in the area bore the UCK (Ushtria Clirmtare Kombetare, or National Liberation Army) acronym.
- c. 04 Apr 01. While conducting a search of the terrain south and southwest of Krivenik, members of the Krivenik Shelling Investigation Team discovered an apparent OP at EM 22574 62157 overlooking Krivenik from the south.
 - (1) A camouflage poncho was rolled up in the middle of the OP. Inside of the poncho were a 7.65 mm pistol, two rounds of ammunition in a magazine, two pistol holsters, two hand-held Yeasu radios, and a survival knife. Also present were a small package of C4 explosive material with a blasting cap and a sleeping bag of the style formally used by the British military. The poncho also contained an AK-47 bandoleer with the letters "UCK" handwritten three times on it. The bandoleer bore a "Tirana" manufacturer's mark.
 - (2) The OP was located less than 250 meters from the mosque, 450 meters from the POLUKRBAT checkpoint to the east of Krivenik, and 550 meters from the "new" school. With a small tree cut down in the OP to improve its line of sight, the OP offered good observation of half of the crater impact sites in or near Krivenik. This OP is along the gun-target line of the western grouping of lines (See paragraphs 8a and b).

7. Crater and Fires Facts.

- a. Witness statements establish 13 – 19 mortar rounds fell in or near Krivenik on 29 Mar 01. The KFOR Crater Analysis Team (CAT) located 10 mortar impact areas in or near Krivenik and two mortar impact sites several hundred

c. NLA Mortars. The NLA has both 82mm and 120mm mortars in the area of interest. Arms caches discovered by KFOR and results from traffic control point seizures have produced 120mm rounds in the previous months. KFOR radar tracks indicate mortar use in the area of interest in the past. No 120mm mortar ammunition or equipment was found south of Krivenik during this investigation.

8. Crater and Fires Analysis.

a. The CAT analysis indicates there were at least two mortar firing points based on the back azimuths taken from each crater.

b. There was only one radar acquisition from the area before the mortar attack on Krivenik. This radar track occurred on 25 Mar 01. The radar was in position near Kacanik from 25 – 26 Mar 01, then returned to Camp Bondsteel to prepare for a follow-on mission.

c. Types of Analysis.

(1) High-Angle Shell Crater Analysis. In a typical high-angle mortar crater, the turf at the forward edge (the direction away from the hostile mortar) is undercut. The rear edge of the crater is shorn of vegetation and grooved by splinters. When fresh, the crater is covered with loose earth, which must be carefully removed to disclose the firm, burnt inner crater. The ground surrounding the crater is streaked by splinter grooves that radiate from the point of detonation. The ends of the splinter grooves on the rearward side are on an approximately straight line. This line is perpendicular to the horizontal trajectory of the round. A fuse tunnel is caused by the fuse burying itself at the bottom of the inner crater in front of the point of detonation. Three methods may be used to determine direction from a high-angle mortar shell crater—main axis, splinter groove, and fuse tunnel.

(2) Shell Fragment Analysis. Identification by weapon type and caliber may be determined from shell fragments found in shell craters. Dimensions of the parts, as well as those of the complete shell, vary according to the caliber and type of shell.

(3) Tail Fins. A mortar can be identified from the tail fins. Tail fins often

- (1) Crater #1. This crater was located at grid EM 2288 6244. Using the Splinter Groove Method, the CAT determined that the direction of fire was on an azimuth of 4400 mils or 248 degrees. The crater was in a wooded area with signs of damaged tree limbs. The crater was also on sloped terrain; this would have affected the crater analysis. An MNB-E soldier retrieved a 120mm mortar tail fin from this site. The tail fin is marked with #K9407 23186 TK BK on the top and MK, M74 and KB9505 on the bottom.
- (2) Crater #2. This crater was located at grid EM 2286 6242. Using the Main Axis Method, the CAT determined the direction of fire was on an azimuth of 3860 mils or 217 degrees.
- (3) Crater #3. This crater was located at grid EM 2267 6233, near the "old" school and mosque. Using the Main Axis Method, the CAT determined the direction of fire was on an azimuth of 3860 mils or 218 degrees. There were no crater fragments found at the time the crater analysis was done. At 1930, 29 Mar 01, the CAT retrieved several pieces of apparent 120mm shrapnel from around the site.
- (4) Crater #4. This crater was located approximately one and a half meters from a house at grid EM 2246 6254. An eyewitness says he saw the round as it came in and impacted next to his house. The direction he pointed to is on an azimuth of 3080 mils or 217 degrees. There was evidence of broken tree limbs on that gun target line. This would alter the effects on the ground.
- (5) Crater #5. This crater was located in a garden at grid EM 2245 6259 approximately 75 meters from Crater #4. Using the Main Axis Method, the CAT determined the direction of fire was on an azimuth of 3060 mils or 172 degrees.
- (6) Crater #6. This crater was located at grid EM 2292 6235. Using the Main Axis Method, the CAT determined the direction of fire was on an azimuth of 4180 mils or 235 degrees. There were fragments of a fuse from a 120mm mortar found close to the crater.
- (7) Crater #7. This crater was found 20 meters from the "new" school at grid EM 2282 6261. Using the Main Axis Method, the CAT determined

broken limbs on trees indicated a mortar round detonated near grid EM 23557 61752. The CAT could not find a crater.

- (9) Crater #9. This crater was located at grid EM 23689 61324.
 - (a) Using the Fuse Tunnel Method, the CAT determined the direction of fire was on an azimuth of 3340 mils or 187 degrees. The CAT found a fuse tail fin in the crater from a 120mm mortar with markings KB9407 23186 TK BK on the topside of the tail fin and MK, M74 and KB9505 on the bottom of it. The mortar round looked like it hit the base of a bush and spread shrapnel that hit trees nearby.
 - (b) Approximately 75 meters to the east of Crater #9 at grid EM 23723 61333, the POLUKRBAT showed the CAT what appeared to be a mortar firing position. The location had a hole approximately 5 inches wide and 4 inches deep and what appeared to be impressions on the ground from a mortar bipod. The CAT could not determine the orientation of the weapon and did not find any residue.
- e. The CAT found evidence of three more mortar strikes in or near Krivenik that left no crater.
 - (1) The CAT found an impact area to the east at EM 2279 6230. Evidence indicated an impact had occurred, but there was no sign of a crater, only burned bushes and loose dirt in the area. The CAT did not conduct a crater analysis because of inconclusive evidence.
 - (2) Krivenik residents showed the CAT a mortar impact site on a side slope of a road located at grid EM 2259 6248. There was evidence of an impact, but civilians moving the rock and dirt fragments away from the road contaminated the site and prevented the CAT from performing a crater analysis.
 - (3) Krivenik residents also led the CAT to a house that was severely damaged by a mortar round at grid EM 2261 6252. The evidence at the house appeared to show the round hit a fence made of stone and clay shingles. The round exploded, causing damage to a tree in the

Caska and search and destroy operations against NLA camps in the border area.

- b. The NLA was primarily attempting to defend areas it deemed key to its supply routes and safe-areas, while at the same time infiltrating, equipping, and training new NLA recruits from Kosovo. Starting in mid-March, the ARM began to fight with better coordination and harder than expected. In response, the NLA began to gradually filter back to its camps straddling the former Yugoslav Republic of Macedonia border with Kosovo. Regular mortar exchanges occurred between the ARM and NLA, at times becoming heavy. Heavier KFOR patrols and interdiction efforts along the border hindered the NLA's usual practice of slipping north across the border into Kosovo when it needed a safe area. The NLA has increasingly had to use a strip approximately one kilometer on either side of the border. This area is the buffer zone KFOR and former Yugoslav Republic of Macedonia forces (military and police) try to keep between themselves to avoid friendly fire casualties. Due to the success of both KFOR interdiction and anti-insurgency operations by former Yugoslav Republic of Macedonia forces, elements of the NLA leadership broadcasted a message threatening retaliation/vengeance attacks against KFOR elements serving along the border or against forces serving at the Blace border crossing point.
- c. On the night of 28-29 March, former Yugoslav Republic of Macedonia forces began a heavy attack against NLA forces in Gracani, to include the use of armed helicopters and tanks. NLA insurgents were observed leaving the town and withdrawing towards the Kosovo border. Intelligence reported the ARM was planning to fire artillery or mortars along the border early on the morning of 29 March. While the ARM has fired close to the border in the past, there are no known instances where the ARM has purposefully fired across the border at NLA troops or positions, even when these forces were clearly visible in open fields, valleys, or ridges.
- d. Mortars. Both sides use similar mortars.
 - (1) The NLA has used a classic insurgent method of using one or two tubes at a time to fire a few rounds from positions close to the target, then shifting firing position to fire a few more. This type of fire mission may last for only a few rounds in a short period, or last over many hours. The only pattern is the lack of a discernable pattern in their fire

(3) It is difficult to directly assess the training and expertise of mortar crews from both sides. Generally, the crews have been firing for long enough to become proficient in the use of their particular type of weapon in the terrain along the common border. ARM mortar crews have a more traditional type of military-style training in the use of mortars, but may not have long-term experience. NLA crews may lack the technical training, but have months, if not years, of experience. Reports indicate both ARM and NLA crews generally hit what they are shooting at. Observers in the ARM are also more traditionally trained, but lack much of the support equipment Western crews have, such as laser range finders, sophisticated optics, and computers. ARM observers are generally proficient using close line of sight and basic optics observation with FM radios and landlines. NLA observers tend to be experienced, but usually rely on handheld radios and cellular phones.

e. Ammunition. The ARM primarily uses mortar ammunition and fuses from Russia, Yugoslavia (Serbia), Bulgaria, and Ukraine. The NLA uses ammunition and fuses from diverse sources. They steal, capture, purchase, or receive ammunition and fuses from all of the above sources, as well as pilfered KFOR stocks and supplies donated from around the world by sympathetic organizations. Both sides, but mainly the NLA, still use old Yugoslav Army (VJ) stocks left behind when the VJ left the former Yugoslav Republic of Macedonia and Kosovo, or which were otherwise acquired.

f. Line of Sight (LOS) Analysis.

(1) LOS analysis of the suspected ARM observation point (EM 2235 6020) shows observers would have no view of the valley in which Krivenik lies. Observers at this OP can see all known or suspected NLA positions in the former Yugoslav Republic of Macedonia.

(2) The suspected OP at EM 2257 6215 south of Krivenik has a LOS view of the area where rounds impacted to the east and west of the village. Direct LOS to the town square (mosque) is limited to the top of the building and minaret.

- d. Of these seven volleys, between 13 – 19 mortar rounds, landed in or on the outskirts of Krivenik. The last four volleys of mortar rounds landed in or near Krivenik between 1130 and 1215.
- e. Following the attack on Krivenik, MNB-E forces located the impact sites of 12 mortar rounds in or near Krivenik. Nine of these impact sites were suitable for crater analysis.
- f. Analysis of these crater sites indicated the mortar rounds were fired from at least two locations – south to southeast of Krivenik and southwest of Krivenik. The crater analysis and the 5.4 km maximum range of 120mm mortars further indicate the mortars could have been fired from either the Kosovo or the former Yugoslav Republic of Macedonia sides of the border, and from locations where both ARM and NLA forces were known or suspected to be operating.
- g. Witnesses in Krivenik on 29 March heard mortars being fired from at least one mortar tube immediately before a volley of four mortar rounds struck in and on the outskirts of Krivenik.
- h. Only 120mm mortar rounds were fired in or near Krivenik. No evidence was found to indicate any other kind of mortar was fired at Krivenik on 29 March.
- i. MNB-E patrols and OPs observed suspected NLA forces operating between Krivenik and the Kosovo border with the former Yugoslav Republic of Macedonia during the morning before the mortar attack on Krivenik.
- j. MNB-E forces saw unidentified forces during the morning of the mortar attack south of Krivenik with five artillery pieces firing south towards the former Yugoslav Republic of Macedonia.
- k. MNB-E forces received mortar fire the morning of the Krivenik mortar attack when they moved south from Krivenik to investigate suspected NLA activity.
- l. ARM forces knew MNB-E forces were located in and near Krivenik on 29 March.
- m. ARM forces promised the MNB-E LNO they would not fire mortar or artillery rounds north of the EM 606 grid line or Hill 802 (EM 235 606).

- q. Presently, there is insufficient evidence to confidently suggest who attacked Krivenik on 29 March. Either ARM or NLA forces, or both, could have conducted the attack on Krivenik. More information is needed from ARM forces and, if possible, NLA forces, to determine who fired the mortars that landed in Krivenik on 29 March.