

# DDAS Accident Report

## Accident details

<b>Report date:</b> 15/05/2006	<b>Accident number:</b> 213
<b>Accident time:</b> 13:40	<b>Accident Date:</b> 12/08/1998
<b>Where it occurred:</b> Tramosnica, Nr Gradacac	<b>Country:</b> Bosnia Herzegovina
<b>Primary cause:</b> Field control inadequacy (?)	<b>Secondary cause:</b> Inadequate equipment (?)
<b>Class:</b> Missed-mine accident	<b>Date of main report:</b> [No date recorded]
<b>ID original source:</b> none	<b>Name of source:</b> BiH MAC
<b>Organisation:</b> Name removed	
<b>Mine/device:</b> PMA-3 AP blast	<b>Ground condition:</b> building rubble bushes/scrub electromagnetic grass/grazing area residential/urban
<b>Date record created:</b> 15/02/2004	<b>Date last modified:</b> 15/02/2004
<b>No of victims:</b> 1	<b>No of documents:</b> 2

## Map details

<b>Longitude:</b>	<b>Latitude:</b>
<b>Alt. coord. system:</b>	<b>Coordinates fixed by:</b>
<b>Map east:</b>	<b>Map north:</b>
<b>Map scale:</b> not recorded	<b>Map series:</b>
<b>Map edition:</b>	<b>Map sheet:</b>
<b>Map name:</b>	

## Accident Notes

inadequate metal-detector (?)  
inadequate equipment (?)  
inadequate training (?)  
partner's failure to "control" (?)  
request for machine to assist (?)  
squatting/kneeling to excavate (?)

vegetation clearance problem (?)

visor not worn or worn raised (?)

## **Accident report**

The demining company involved in this accident appear to have been operating two-man teams with a one-man drill.

A Board of Inquiry report was ordered by the country MAC and carried out by representatives of the regional MACs and ex-pat Technical Advisors. The report was made briefly available and the following summarises its content.

The investigators found that the communications system of Motorola radios and cell-phones worked well. They found that the tools being used were a hand axe, a prodder, large shears, small pruning shears, a file and a broken end-of-lane marking stick. They found no trip-wire feelers or metal-detectors on the site. The detectors were apparently available but the high level of metal contamination meant that they could not be used.

The demining group began work at 07:00. They were working in a small village where many of the buildings had been destroyed and the rubble was overgrown. The area between the buildings was also overgrown with grass and bushes. A photograph of the accident site showed tall grasses and rubble. The demining group were using a two man team and the victim's partner was 25m back from him in the clearance lane but could not see the victim because he was working "in a small basin" beside the ruins of a house. The accident occurred at 13:40, ten minutes after the lunch break.

From the site examination, the investigators decided that the victim knelt on his base stick and initiated a mine while clearing undergrowth. The victim was found on his back with his feet towards a crater "about one meter away). The victim later made a brief statement that he was kneeling to prod when the accident occurred.

The victim's right leg was severely injured and his left thigh and both arms were "less severe". The medic's "gave an anti-shock infusion and medication for pain". He was taken to the local hospital within 40 minutes [30 or 40], and later moved to the hospital in Tuzla [reason not given]. In Tuzla hospital his right leg was amputated above the knee.

The investigators decided that the mine was a surface laid PMA-3 that had been subsequently covered with debris. The victim's flak-jacket was "damaged" and there was black residue inside the visor. The report stated that the jacket and visor had reduced the level of the victim's injury. They thought the length of the working lane (about 120 meters) and the lack of a tripwire feeler were not directly involved in the incident, but were "unacceptable".

## **Conclusion**

The investigators concluded that the length of clearance lanes prevented the victim being observed while he worked.

## **Recommendations**

The investigators found that the demining group was working at the request of the local authority and in a way that met their need quickly, but stressed that the needs of the local authority should not be given precedence over the employment of proper procedures and drills.

The investigators recommended that the site be classified "high risk". They said that prodding should be to a depth of 10cm and if that was not possible, "dogs or mechanical devices" or excavation should be the method of working. They added that the Team Leader should be reminded that caution should be used using shears, and that cutting should not extend more than 50cm in front of the end-of-lane marker. As a minimum, they added, the working deminer's partner should be able to see him while he works, and the site must be

laid out to allow this. Lane length should not exceed 25 metres. The group should consider using dogs to check lanes at deminer changeovers. A one day retraining course should be carried out on prodding and tripwire feelers and all the group's deminers must be briefed on safety measures and the appropriate SOPs.

## Victim Report

<b>Victim number:</b> 275	<b>Name:</b> Name removed
<b>Age:</b>	<b>Gender:</b> Male
<b>Status:</b> deminer	<b>Fit for work:</b> not known
<b>Compensation:</b> not made available	<b>Time to hospital:</b> 40 minutes
<b>Protection issued:</b> Frag jacket Helmet Short visor	<b>Protection used:</b> Frag jacket, Helmet, Short visor

### Summary of injuries:

INJURIES

minor Arms

minor Leg

AMPUTATION/LOSS

Leg Above knee

COMMENT

See medical report.

### Medical report

A brief report by the medic recorded that he gave the victim "Analgin" i.m. and accompanied him between hospitals (he was sedated at the first). The victim was "communicative" during the treatment and evacuation.

Another document gave the opinion of a Tuzla hospital doctor and stated that the victim was looked after immediately after the accident with an "infusion i.v. 500ml NaCl, amp. Trodon + amp. Diazepam i.m.

A tourniquet was applied to his right upper leg and he was evacuated to the orthopaedic clinic at Tuzla hospital.

The Accident investigators recorded that the victim's right leg was severely injured and his left thigh and both arms were "less severe". In Tuzla hospital his right leg was amputated above the knee.

### Analysis

The primary cause of this accident is listed as a "*Field control inadequacy*" because the victim was expected to work in an inappropriate (impossible) way. He was expected to work through rubble with a prodder to a depth of 10cm and this is not realistic. The secondary

cause is listed as *"Inadequate equipment"* because his tools and detector were not appropriate.

The investigators' recommendations for the use of demining assets that the company did not have, and retraining in unrelated drills was curious.

The amputation above the knee resulted from the victim having effectively knelt on the mine.

### **Related papers**

Maps of the site were in the Accident file, including a detailed sketch map of the accident site. There were also uninformative statements and a QA Monitor report observing minor errors that had been corrected, and praising the demining group.

Photographs of large mine fragments found at the site were included with photographs of the site.