DDAS Accident Report

Accident details

Report date:	15/03/2004	**Accident number:**	265
Accident time:	13:30	**Accident Date:**	14/04/2000
Where it occurred:	Nr Kraljane, Gjavoka municipality	**Country:**	Kosovo
Primary cause:	Management/control inadequacy (?)	**Secondary cause:**	Inadequate training (?)
Class:	Missed-mine accident (survey)	**Date of main report:**	27/04/2000
ID original source:	KC/MD/JF	**Name of source:**	KMACC
Organisation:	Name removed		
Mine/device:	PMA-3 AP blast	**Ground condition:**	bushes/scrub woodland
Date record created:	18/02/2004	**Date last modified:**	21/02/2004
No of victims:	1	**No of documents:**	2

Map details

Longitude:		**Latitude:**	
Alt. coord. system:	DN 59338 08808	**Coordinates fixed by:**	
Map east:	5950	**Map north:**	08700
Map scale:	Klina	**Map series:**	M709
Map edition:	4 DMA	**Map sheet:**	3180 3
Map name:	1:50,000		

Accident Notes

inadequate communications (?)

inadequate equipment (?)

inadequate medical provision (?)

visor not worn or worn raised (?)

inadequate area marking (?)

disciplinary action against victim (?)

metal-detector not used (?)

Accident report

A Mine Accident Report was prepared for the country MACC and made available in August 2000. The Demining group also made available there own more extensive file including all communications arising from the accident. The following summarises the content of the main MACC Board of Inquiry.

The survey team were despatched to the site to survey two local areas with strict instructions "that no mines should be lifted". The team comprised two Team Leaders and two surveyors in two vehicles. On arrival at the side they split into two teams, one team leader and one surveyor in each, and entered the minefield from the left and the right. They were wearing "protective jackets" and carried prodders. They did not have metal detectors [visors are not mentioned].

After an unrecorded time the victim returned to the vehicles with 30 PMA-3 and 17 PMR-2A mines that his team had "neutralised". The other Team Leader returned to the vehicles with 7 PMA-3 and 2 PMR-2A mines. The group took photographs and had a break before moving on to the second task in the area.

The picture above shows one of the photographs they took of PMA-3 mines.

When they moved to the second site, they sent for a local villager to show them where the mines were. The villager led them along a trail where they found parts of tripwire and PMA-3 but could not locate the "minefield pattern". The victim and his partner went off the trail and found evidence of a PMA-2 detonation, then an intact PMR-2A and two PMA-3 mines.

The accident report included photographs of the accident site (overgrown with low bush). The victim was following 2-3 metres behind his partner as they returned to the trail and the other surveyors when he "stepped on what is suspected to be a PMA-3 mine" at approximately 13:30.

The photograph above shows the victim's boot after the accident.

The victim's partner turned and prodded back towards him. He had a "rubber bandage" in his pocket and tied a tourniquet on the victim's leg, then calmed him down. His partner then

called for help from the other surveyors who were still on the trail. The Team Leader on the trail started to prod in towards the casualty while his partner notified the demining group's HQ of the accident by VHF radio.

The surveying team notified their Head Office of the accident by VHF radio. Attempts to notify the Italian KFOR base [responsible for Medevac] were unsuccessful (because the relevant radio at the base had been turned off).

The uninjured Team Leader at the site was a former medic. He provided what first aid he could using a "small ordinary" first-aid kit. The method of moving the casualty to a safe area was described by the investigator as "quick but unsafe".

The victim was moved in the front seat of the "pickup" survey vehicle for 20 minutes until it met up with an ambulance sent by the group's HQ and the victim was transferred. Radio contact had been maintained during the evacuation process. In the ambulance, "another absorb bandage" was put on his injury and he was given 10mg intramuscular morphine. He did not receive an intravenous cannula and his blood pressure was not taken. The victim was awake at all times and drank some water but did not want any oxygen. The treatment administered by the demining group's staff was not recorded in writing.

Although the victim arrived at an Italian KFOR hospital only one hour after the accident, he refused to be treated there [because the doctors wanted to amputate]. He was sent to the Pristina civilian hospital (arrived at 18:00) where he again refused treatment. The victim was moved by British army ambulance to the British KFOR hospital at 20:43 where he eventually accepted that an amputation was necessary.

Conclusion

The investigator concluded that:

1) The victim's group had been in breach of their SOPs

2) The victim's group had disobeyed a direct order by lifting and neutralising mines

3) The risks taken by the survey group were unnecessary in a well documented minefield and could have led to a fatality.

4) The survey group were not wearing the "appropriate personal protecting equipment provided".

5) The survey group did not use detectors and proper drills for a mine/UXO clearance operation.

6) The medical treatment given to the victim was not recorded.

7) The victim himself refused medical treatment at the KFOR hospital.

8) Communications with the Italian KFOR group did not work because KFOR had turned the radio off.

9) The records of the task held by the MACC were "very well documented" and appropriate information was given to allow a "proper Level 1 survey" to be conducted.

10) The accident was preventable.

Recommendations

The investigators made the following recommendations:

1) The victim's demining group must revise with greater detail their SOP for "Mined Area Survey".

2) The demining group's management should take "appropriate disciplinary action against every member of the survey team".

3) The demining group should have a CASEVAC exercise with the appropriate KFOR team as soon as possible.

4) The demining group's staff should be properly briefed about the consequences of refusing medical treatment.

5) Written records of all medical treatment administered must always be kept.

Signed: QA Officer, UNMIK Mine Action Coordination Centre

Comments by the Chief Operations Officer:

I concur with the findings and recommendations. It has however recommended that neither [the Victim] or [name excised] be employed as supervisors in Kosovo in the future.

Signed: Chief Operations Officer, UNMIK Mine Action Coordination Centre

Comments by the Programme Manager

1. I concur with the findings of the Board of Inquiry into this accident.

2. This accident could have been avoided had the personnel involved followed basic and well known procedures. The decision by [the Victim] and his fellow supervisor [name excised] to lift mines from a recorded minefield in such a manner is completely contrary to approved practices in Kosovo. As a result of the incident [the Victim] lost his leg, however, the situation could easily have been far worse.

3. The list of transgressions made by the two supervisors reflects poorly on [the Demining group]. It creates an impression that [the Demining group] has a cavalier approach to mine clearance and the neither [the Victim]'s nor Mr [name excised]'s behaviour is to be tolerated in this programme.

4. The accident highlighted some deficiencies in [the Demining group]'s medical procedures. [Demining group] management are to take appropriate steps to address these shortfalls through continuation training and improved monitoring of medical staff. The recommendation for a Casevac drill is also supported, and this is to to be organised in consultation with the MACC.

5. I am also concerned that the radio provided by [Demining group] to Italian KFOR was turned off. This matter will be addressed by the MACC to Headquarters KFOR as a matter of priority. There must be a clear understanding of the support that is to be provided by MNB (W) to humanitarian mine and UXO clearance operations to ensure that there is no confusion during emergency situations.

6. I would also recommend that [Demining group] review their insurance policy with SOS International covering such incidents, to ensure that support to be provided is well understood and the procedures for obtaining this support are well known. The report documents some obvious deficiencies in this area, which have been highlighted by the [Demining group] programme manager.

7. I would like to acknowledge the support provided by KFOR to evacuate the casualty to Pristina and the subsequent medical treatment provided by the UK Field Hospital. This assistance is greatly appreciated by the MACC and field operators in Kosovo.

Signed: Programme Manager, UNMIK Mine Action Coordination Centre

Victim Report

Victim number:	339	**Name:**	**Name removed**
Age:	35	**Gender:**	Male
Status:	surveyor	**Fit for work:**	yes
Compensation:	up to 200,000 DEM (insured SOS)	**Time to hospital:**	8 hours
Protection issued:	Frag jacket Helmet Short visor	**Protection used:**	Frag jacket

Summary of injuries:

AMPUTATION/LOSS

Leg Below knee

COMMENT

See medical report.

Medical report

A medical report compiled from interviews with the hospitals and individuals involved was made available.

The report stated that there was "no Medic, Emergency-bag and Ambulance at the location". A first-aid kit from a car and "rubber bandage" (for a tourniquet) were used at the site. The victim's partner calmed him down at the site and, when they had reached a safe area, examined him. He found that there was "no large bleeding". In the first ambulance, the victim was not given IV fluids or oxygen and his blood pressure was not checked.

The victim was moved between hospitals before treatment at his own request. [He wrote and signed the following at the Italian Field Hospital: "I [name excised] informed by Lt Col [name excised] about the possibility of surgical treatment could mean the total amputation of my right foot in complete possession of my mental faculties refuse the surgical treatment, in order to be moved by helicopter to Pristina."] He was not accompanied by any colleagues after Pristina hospital and was not in an operating theatre until 21:30 when his right leg was surgically amputated below the knee by a UK KFOR doctor. The victim was returned to the theatre for further surgery that night because of bleeding.

Two days later final surgery was performed and the wound was closed. He was then treated in the ward for a further nine days, with his family visiting him every day. On the 25th April 2000 the demining group transferred him to a rehabilitation facility in a Scandinavian country.

It was felt that "if the victim had been operated" on at the first hospital "the result would most likely have been the same".

The medical report recommended that demining groups should always be accompanied by medical personnel and an equipped ambulance and make written records of what they do "according to SOP". It stressed that giving intravenous IV fluid and oxygen, and checking blood pressure and respiration, were standard procedures in the training and should be done. The victim should not have been given water "in case of operating" and should not have been left alone by his colleagues before reaching his final destination.

See also "Related papers".

In December 2001, the MACC reported that the Victim, after rehabilitation and setting of a permanent prosthesis in Norway, was now working for the same demining group in Bosnia.

Analysis

The primary cause of this accident is listed as a *"Management Control Inadequacy"* because the victim was a member of the management team (no superior was on site) and ignored specific instructions as well as many SOPs in what appears to have been a mine-hunting exercise. The pause to take photographs with their "trophies" after surveying the first site implies this. The cavalier attitude to survey and the disturbance of mine patterns implies poor training, so the secondary cause is listed as *"Inadequate training"*.

The Country Manager of the demining group was commendably open about the accident, making all details available. He acknowledged the stupidity of the accident and accepted responsibility. When pressed, he said that his Head Office had appointed the personnel without reference to him and this had undermined his authority during his term as Country Manager.

The victim's refusal to be treated by amputation may have been because he knew of others who had trodden on the same mine and retained their foot (sometimes uselessly).

The injuries resulting from stepping on a PMA-3 vary from bruising to traumatic amputations. The picture below shows why this happens. It shows a cut-away section through a PMA-3. The 35g Tetryl is in the top and centre of the mine. The area of pressure-plate surrounding the HE is actually larger than the area of pressure-plate over it. If a victim is fortunate, they step on the pressure plate but the explosive charge is not beneath their foot.

The delay for medical treatment was entirely the fault of the victim [he signed a handwritten letter on file refusing amputation at the first hospital], but he might have been better advised if members of his group had stayed with him. It is possible that his amputation could have been lower if he had been treated beforehand.

The absence of on-site medical provision or demining equipment during a Level 1 survey may be acceptable, but the absence of demining equipment and a trauma-kit (in case of emergencies) is strange. The demining NGO in charge of these surveyors was very experienced and it is surprising that it should send surveyors out so poorly prepared and undisciplined.

The report demonstrated an unusually thorough and critical approach to accident investigation. The Mine Action Co-ordination Centre which carried out the investigation was not engaged in demining, and this may (in part) explain the unusually objective nature of the investigation.

Related papers

The file provided by the Demining group programme manager included details of problems with the insurance company and details of the policy (they are held on file) with "UNI Storbrand" (SOS). There was also a report of a meeting between MACC officials and the first KFOR hospital where the victim had refused treatment. The hospital representatives assured him that they had the facilities to operate, and that after seeing the X-ray had decided that amputation of the right foot was the right action. "He could see that the heel bone was seriously moved from its original place. In his opinion it would have taken many operations to save [the victim's] foot and no guarantee on the recovery".

At the victim's request he was moved to the Pristina general hospital and left there. He was "awake and in complete possession of his mental faculties during the evacuation procedure".

The file included statements from all those involved (which do not add to the detail already given) and all exchanges concerning the accident. In the Victim's statement he was asked whether he had been using a metal detector and he replied that he had not. When asked why he had not, he said "I don't use the metal detector for this type of work". He used a prodder only. When asked what PPE he was using he replied, "My vest but no helmet".

[The following report has been summarised and edited for anonymity.]

Internal Demining group accident report

On the 14th April 2000, I conducted a morning briefing for all demining personnel in our Ops. room at Peje. The four demining Platoons were already assigned five tasks where demining operations were to be conducted during that day. Some of these tasks were close to being finalised.

Four additional tasks had been received from the MACC. The initial assessments of these tasks had been performed earlier in the week. [the Victim] Informed me that the task dossier supplied by MACC for the task in Kraljane, DN 59338 08808, was in reality larger than the task actually was. Due to the four hour travel time estimated by [the Victim] I decided to send out our Survey team for a further investigation. [the Victim] and [Supervisor 2 Platoon] designated to complete the task, accompanied the team. "The mission was to conduct a level 1 survey. In the morning briefing, I clearly underlined that no mines should be lifted".

At 1332hrs I heard a distress call on my Motorola radio from our supervisor trainee [Trainee Supervisor] to [Demining group] HQ Peje. The message stated that a mine accident had occurred. I immediately went from my office to the Ops. room and assumed responsibility for the operation. [Trainee Supervisor] had already stood down all demining operations during his first radio call. Overhearing the radio traffic I understand that the accident had occurred in Kraljane DN 59338 08808.

At 1333hrs the supervisor of 1st Platoon called [Demining group] HQ and confirms that he has stopped all demining operations and sent his ambulance to Kraljane 10 minutes earlier. I have now taken over the radio and answer all calls to [Demining group] HQ

At 1334hrs the 2nd Platoon Commander calls [Demining group] HQ and confirms that she has stopped all demining operations and sent one ambulance to the scene of the accident, as the ambulance crew claim to know a short cut which will allow them to get to the accident scene quickly.

At approximately this time the medical the medical co-ordinator, also listening to radio traffic, sends an additional ambulance to the scene.

At 1335hrs I inform the MACC that we have an accident and that more details will follow.

At 1336hrs I call the Supervisor of 3rd Platoon to try to confirm the exact location of the casualty. From the radio traffic I have ascertained that the casualty has been moved from the scene of the accident. However, I have no contact with [the Victim] or the survey party in Kraljane.

At 1337hrs Senior Supervisor [Trainee Supervisor] Informs me that all operations have been suspended for the day and all demining teams are en route to [Demining group] HQ.

"I am now trying to get in touch with KFOR MNB W via call sign: Alpha 1 in order to prepare KFOR Hospital in Peje. This is however impossible due to the fact that KFOR have turned off the radio. I am sending a runner (PA3) with a car down to the hospital to prepare them for the incoming casualty".

At 1419hrs MACC Ops Officer (63 Bravo) is updated with details. Helicopter assistance is requested, however, no HLS is known yet. "I am awaiting instructions from SOS International in Copenhagen that has been contacted by telephone. Three alternatives. Pristina Airport, Main Hospital in Pristina, Skopje, Macedonia".

At 1423hrs the runner calls from her car that the KFOR Hospital Peje is ready and waiting for the casualty.

At 1434hrs the casualty arrives at the Italian KFOR Hospital in Peje.

At 1438hrs I radio the Medical Co-ordinator at the hospital with the casualty's blood group.

At 1526hrs I receive a message from MACC that the Military Hospital in Peje is ready to receive the casualty.

1604 and 1630hrs MACC Chief of Ops. is trying to call me without success because I am at the Hospital discussing treatment of the accident victim. The information I am given is that he needs to be transferred to another hospital with better facilities.

Back to [Demining group] HQ and try to connect, via telephone, a doctor from SOS International and the Italian KFOR Hospital. SOS International refuses to start evacuation until the two doctors have spoken.

In telephone conversation with MACC Chief Ops. regarding the helicopter evacuation I am informed that the Italian KFOR can do the job? [This paragraph is ended with a question mark.]

During this time I have been in conversation with 2nd Platoon Supervisor who is at the KFOR hospital. I ask him if it possible for the Italians to "do the job" and am told that they cannot. I then ask him if he can bring a Doctor to [Demining group] HQ in order for contact to be established with SOS International. Telephone conversation with Italian KFOR Hospital is impossible because they do not have a telephone connected to the local network or a satphone.

The supervisor of 2nd Platoon brings a doctor to my office. This means that there are no [Demining group] staff available at the hospital to accompany any Medevac. The doctor explains that they do not have sufficient equipment for this type of operation if any complications occur. After some time it is possible to connect the two doctors and the decision is reached that the only solution is to fly the casualty out of the country.

The KFOR doctor returns to the hospital. Further contact is made with SOS International who now inform me that there may be a problem with the insurance due to the casualty's nationality. I am informed that this would have to be sorted out before any action can be taken.

In further conversation with MACC Chief Ops. I am informed that the casualty has been taken, by helicopter from Peje to Pristin Hospital. The doctors at KFOR hospital made the decision following the lack of response from SOS International. Upon arrival at Pristina Hospital it turns out that this hospital is also unequipped for this kind of procedure. "Thanks to much needed assistance and excellent support from United Nations Mine Action Co-ordination Centre, action is taken and the casualty transferred to the British Military Hospital where [the Victim]'s right leg is amputated".

"During these events at least five phone calls were made to SOS International in an attempt to organize air evacuation to proper medical facilities. These calls were made; 1545hrs - 1613hrs - 1616hrs - 1624hrs - 1651hrs. By using a reference number "AIR 65 02 27 - 001", I was all the time except once, put in contact with the same person during my calls.

"They were all met with requests of a nature that is very difficult and almost impossible to obtain in an area of operation like Kosovo in the aftermath of a war. Demands were made to have telephone numbers, address and the name of the Doctor in charge in the Military field Hospital. SOS International comment was that if they were not given a telephone number to the "hospital" there was nothing that they could do. I had to come up with the solution of fetching an Italian KFOR doctor and bring him to our office. The next obstacle was the demand for the doctor's name before I had him fetched. It forced me to lie and give the name of one of our paramedics. When I finally managed to have a doctor picked up and transported to our office, SOS International did not have a doctor in their location to speak with him. Initially, the only way they agreed upon putting the two doctors in contact with each other was by calling us. Due to bad connections via satellite telephones, many vital minutes were lost waiting for SOS International to call back. This I stated to them very clearly and recommended that I would do the calling. Eventually I managed to persuade the person in Copenhagen to give me the telephone number to the SOS doctor of their choice. The telephone number given to me was 00 45 49 70 33 00. The name of the doctor being presented to me could not be understood. When I asked to have it spelt to me; the SOS International contact person was not able to use the phonetic alphabet. The way I understood the name, it was [name excised].

"Getting the doctor's phone number, was as I was told, an exception form the rules and it was stated in a manner that I should be grateful for the effort. After the two doctors spoken to each other and agreeing that evacuation was urgently needed I waited some time before calling SOS International again to give room for SOS International internal decision making. In my last call, I was told that there had been no contact in between the SOS doctor and SOS International. At this time the casualty was already in the air, transported to a local hospital with inadequate resources. The question whether the insurance was valid or not was never settled. Thanks to acceptance and co-operation from the British Medical Hospital a complete disaster was avoided.

"The support and actions given from SOS International in Copenhagen was poor, inadequate and absolutely unjustifiable."

[The Victim]'s family live in Bosnia and were driven out to see him shortly after the accident. It is estimated that [the Victim] could be back at work in between 2 and 4 months.

Personnel involved at the scene will be given a full debriefing.

The UNMACC investigation is continuing, however, I do not believe it is premature to say that had [Demining group] SOPs been followed this accident could have been avoided

[Demining group] wishes to thank all those concerned for their actions and support during this event.

Signed: [Demining group] Programme Manager