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DDAS Accident Report

Accident details

Report date:	15/05/2006	**Accident number:**	217
Accident time:	08:05	**Accident Date:**	22/04/1998
Where it occurred:	Jewish cemetery, Grbavica, Sarajevo	**Country:**	Bosnia Herzegovina
Primary cause:	Field control inadequacy (?)	**Secondary cause:**	Field control inadequacy (?)
Class:	Missed-mine accident	**Date of main report:**	25/04/1998
ID original source:	CS/WL	**Name of source:**	BiH MAC
Organisation:	Name removed		
Mine/device:	PMA-2 AP blast	**Ground condition:**	metal scrap residential/urban route/path
Date record created:	16/02/2004	**Date last modified:**	16/02/2004
No of victims:	1	**No of documents:**	2

Map details

Longitude:		**Latitude:**	
Alt. coord. system:		**Coordinates fixed by:**	
Map east:		**Map north:**	
Map scale:	Sarajevo	**Map series:**	M709
Map edition:	WGS 84	**Map sheet:**	2782 I
Map name:			

Accident Notes

inadequate metal-detector (?)

incomplete detonation (?)

mine/device found in "cleared" area (?)

inconsistent statements (?)

Accident report

A Board of Inquiry report was ordered by the country MAC and their field investigation was observed by a representative of the demining group. The report was made available and is reproduced below (edited for anonymity).

Dated: 25 April 1998

REPORT ON MINE ACCIDENT AT THE JEWISH CEMETERY IN SARAJEVO

References

A: Map, Series M709, Sheet 2782-I, Sarajevo. (WGS 84)

B: UN Mine Action Centre Technical Guidelines. Dated 1 Dec 1997.

C: [Demining group] Standing Operating Procedures for Demining. Dated July 1997.

INTRODUCTION

1. A mine accident occurred near the Jewish Cemetery in Sarajevo on 22 April 1998 at Approximately 0800 hours. A local deminer stepped on a PMA-2 mine in an area that had been cleared previously by [Demining group]. The deminer stated that he felt numbness in his right leg. [Demining group] reports that no injuries were sustained by anyone.

2. On the day of the accident HQ MAC appointed [name excised] as chairman of an investigative board to conduct an investigation and report about the accident. Lt Colonel [name excised], EOD Coordinator at HQ MAC was appointed as a member of the board. [Name excised] represented the company on site but was not an investigating member of the board.

CONDUCT OF THE INVESTIGATION

3. Local police, IPTF and bomb-specialists from the Federation police were on the site approximately 24 hours before the MAC Board of Inquiry visited the scene.

4. Prepared statements from the team leader and the local supervisor of the team involved were provided to HQ MAC on the day of the accident. No further statements were taken during the course of the investigation. A [Demining group] internal report about the accident was distributed prior to the initiation of the MAC Board of Inquiry. This report is shown at Annex A.

5. Photographs of the mine and the surrounding area were provided to the Board of Inquiry by [Demining group] at approximately 1900 hours on the day of the accident. These are shown at Annex B.

6. A video film of the mine and surrounding area was shown to the Board on 24 April 1998.

7. Both members of the investigating board arrived on the task site with [Demining group representative] at approximately 1200hrs on 23 April 98. At this time the area of the accident was inspected and an assessment was made of the site layout and conduct of [Demining group] operations on the site.

GENERAL

8. [Demining group] state that they have been working on this site since the end of February. The area of the Jewish cemetery is part of a larger task in the area of Grbavica.

9. MAC Regional Officer responsible for this area states that demands have been made by anonymous telephone calls, warning him to stop the demining at this site.

GEOGRAPHY

10. The accident site area is on a rough footpath that leads uphill by the outside of the wall of the Jewish cemetery. Rebuilding work is taking place on some houses approximately one hundred metres away from the accident, next to the start of the

clearance lane. The lane is not heavily vegetated but there is some growth down one side and around the footpath.

SITE LAYOUT

11. The area of the accident site is marked and taped-off. Marking of the clearance lane is adequate.

12. The lane where the accident occurred is an access lane, leading to further clearance areas. The lane is approximately three metres wide, vegetation is very sparse on one side of the lane due to the passage of people over the ground.

13. Vegetation over the remaining area of the lane, including where the mine was, is sparse.

14. Small twigs, pieces of tripwire and metal, building debris and broken bricks in the lane suggest that the area of the mine was not cleared recently or just prior to the arrival of the Board of Inquiry's arrival at the site. [Demining group representative] states that the lane was cleared during the earlier part of demining in this area, at about the beginning of March.

PERSONALITIES

15. Personnel directly involved are as follows.

[Demining group] Project Manager.
[Demining group] Senior demining supervisor.
Supervisor of No. 1 demining platoon.
Supervisor.
Team Leader who activated the mine.
Deminer.

DOGS

16. No dogs were involved for mine or explosive detection or to assist Quality Assurance at this site at any time.

EQUIPMENT

17. Metal detectors are difficult to use on this site because there is such a large amount of contamination from metal scrap and fragments.

18. Prodders were used as a standard part of the demining team's equipment in the manner approved by HQ MAC Technical Guidelines.

DRESS

19. Protective clothing and headgear was worn by all personnel involved at the accident site.

20. All protective clothing provided by [Demining group] to demining teams is designed to provide a minimum protection to the wearer against 1.1g fragments travelling at a velocity of 450 metres per second.

DETAILED ACCOUNT OF ACTIVITIES ON 22 APRIL 1998

21. This account is taken from interviews with [Demining group representative] and from prepared statements from some of the personnel on site at the time of the accident. Interviews with deminers or other personnel were not conducted because all personnel were on leave during the day of the investigation.

22. The demining team started work as normal on the day of the accident at about 0800hrs.

23. Shortly after arrival on site, Team Leader [the victim] was walking up the hill, along the access lane with three deminers, with the intention of deploying them to their tasks.

24. After deploying one of the deminers to his task, [the victim] states that he walked along by the cemetery wall, collecting UXO waste. He saw a small piece of tripwire on the lane and was about to pick it up when he actuated a PMA-2 anti personnel mine by standing on it. The mine did not detonate fully. Photographic evidence shows that this was apparently due to its age and poor condition. The mine is in the custody of the police and has not been examined by the Board of Inquiry.

EVIDENCE OF RE-MINING

25. [Demining group] states that this mine is a re-laid mine. The following evidence is given by [Demining group] in support of this claim.

The photographs and video-film show a mine that is laid with its shoulders flush with ground level, almost surface laid.

The soil surrounding the mine is soft.

The mine was covered by fresh-plucked grass.

The mine was laid within approximately 30 centimetres from a mine that was removed during the original lane clearance operation by [Demining group].

The lane has been used as an access lane for some weeks and has been walked on by many people in that time, including [Demining group] manager, [name excised] and a group of journalists.

26. The Board of Inquiry considered the following points.

27. It is not possible to state conclusively whether the photographs or the video show the mine in the position it was in immediately prior to its partial detonation.

28. The mine did not operate fully. This was probably because it was in such a poor condition. It is possible that the mine was in such a poor condition because it had been laid in the ground for a long time.

29. There are instances in Bosnia Herzegovina where mines have been walked over many times before they have detonated. This could especially be the case if the mine was in a poor condition.

30. The Board of Inquiry considered the soil surrounding the mine at the site as the same as the soil everywhere else in the area.

31. The Board of Inquiry saw no fresh-plucked grass in the area. No fresh-plucked grass is shown on the photographs taken by [Demining group].

32. The mine is a minimum-metal mine, in this area it could be missed if a metal detector was used over the ground because there is so much surface and sub-surface "clutter" in the area. It could also be missed when prodding because there is a considerable amount of debris, including bricks and stones, on the area.

33. The mine was laid in an apparently arbitrary position; it was not on the area of the lane where people currently usually walk, but on the side where vegetation and debris hinders easy passage along the pathway. The mine was not laid in a place where it could be fairly certain of being walked on shortly after it was laid. It was also not laid in a place from where it would have been easy to escape or walk away from if the layer had been disturbed in the act of laying the mine.

34. There is no reported history of re-mining at any clearance sites in Sarajevo or at demining sites where [Demining group], Jews or Cemeteries are involved.

SUMMARY

35. A Team Leader partially detonated a PMA-2 mine whilst deploying his team to their tasks. [Demining group] state that this mine was a re-laid mine. There is an equal amount of evidence to show that it could have been a mine that was missed on the original clearance of the lane.

CONCLUSIONS

36. There is no proof or conclusive evidence that this was a missed mine or a re-laid mine.

RECOMMENDATIONS

37. The following recommendations are made.

a. The clearance task in this area should continue.

b. When an area is cleared, all UXOs and associated debris should be removed from the area.

c. Areas where a mine accident has occurred should be closed until a HQ MAC Board of Inquiry arrives to inspect the site. Personnel and equipment should be available to assist the investigation.

d. Distribution of internal reports on mine accidents should be restricted until after the findings from an independent Board of Inquiry have been presented.

e. The entire lane where the accident occurred should be re-cleared. This would probably be best achieved by the use of at least one mine-detecting dog.

Signed: EOD Coordinator, Quality Assurance Officer

Annexes

Annex A - [Demining group] Mine Accident Report.

Annex B - Photographs of Accident area.

Distribution
Programme Manager UN MAC
[Demining group]
UNOPS
UNDP

Victim Report

Victim number:	281	**Name:**	**Name removed**
Age:		**Gender:**	Male
Status:	supervisory	**Fit for work:**	yes
Compensation:	none	**Time to hospital:**	not recorded
Protection issued:	Frag jacket Helmet Short visor	**Protection used:**	Frag jacket, Helmet, Short visor

Summary of injuries:

INJURIES

minor Foot

COMMENT

No medical report was made available.

Analysis

The primary cause of this accident is listed as a *"Field control inadequacy"* because it seems that the mine was missed because appropriately thorough clearance methods were not used.

In the absence of other information, I assume that the mine was missed during routine clearance. The litter around the mine included bits of tripwire that should have been removed during clearance, implying poor field management.

It is possible that the deminers (all local and from mixed backgrounds) deliberately placed the partially detonated device in order to get away from a site where they felt threatened. There is no evidence that they had been consulted about their feelings over clearing a sensitive spot. Just how sensitive it was is a real question, but the demining group's internal documents showed that they felt it to be sensitive.

Related papers

An internal "Mine accident report" from the demining group was on file. This stated that the UN MAC had received several threats to stop demining at the site which was a Jewish cemetery. [The UN MAC staff denied this when questioned by the researcher.] After the accident the group stopped demining at the site and informed their Embassy, head office, the UN MAC and the local police. The police attended the scene at 14:10.

Statements from the personnel involved included one from the victim in which he said that he checked the accident area with a prod before moving after the accident. He "felt a numbness" in his right leg. He thought that the photographs would prove his point that the mine was recently laid.

Photographs on file showed the top of the mine in the ground, broken. There could be "fresh plucked" grass among the debris on the ground. However the mine was at least 50cm outside the area where people usually walked and was on the inside of a yellow post (showing the previous mine find) that people would normally veer to avoid. This makes it unlikely that it was laid by someone who wanted it to be trodden on.