

DDAS Accident Report

Accident details

Report date: 15/03/2004	Accident number: 395
Accident time: 14:30	Accident Date: 26/09/2002
Where it occurred: Raab ett Talatine	Country: Lebanon
Primary cause: Inadequate survey (?)	Secondary cause: Management/control inadequacy (?)
Class: Missed-mine accident	Date of main report: 21/10/2002
ID original source: Bol: 010/2002: MJF	Name of source: MACC SL
Organisation: Name removed	
Mine/device: TM46 AT blast	Ground condition: agricultural (recent) rocks/stones
Date record created: 27/02/2004	Date last modified: 27/02/2004
No of victims: 1	No of documents: 1

Map details

Longitude:	Latitude:
Alt. coord. system: GR: 36 735070 681838	Coordinates fixed by:
Map east: 7351	Map north: 6818
Map scale: UNIFIL	Map series: TIBNIN
Map edition: GENIMAP	Map sheet: A
Map name: 1:50:000	

Accident Notes

dog missed mine (?)
inadequate equipment (?)
inadequate training (?)
mechanical detonation (?)
mine/device found in "cleared" area (?)

Accident report

What follows is the original Board of Inquiry report, edited for anonymity and with excess pictures removed.

REPORT FOR ACCIDENT INVESTIGATION BOARD OF INQUIRY – No010/2002
MINE Accident that occurred in OES 3 on 26th September 2002.
Map Reference: UNIFIL Genimap 1:50,000 Sheet A (Tibnin).

Introduction

1. In accordance with National Technical Standards and Guidelines (TSGs), the MACC SL Operations Officer issued a verbal Convening Order Instruction on Thursday 26th September 2002, for an Accident Investigation.
2. This is a report by the MACC SL QA Officer into the Mine Accident that occurred on the 26th September 2002. Based on the investigation, [Demining group]'s internal report (Annex A details), visits to the accident site and the photos from the accident site, this accident is considered preventable.
3. The accident occurred at approximately 1430 hrs on 26th September 2002, in Minefield (M/F) No 299 at Raab ett Talatine, GR 36 735070 681838 (seat of detonation). Annex B details a map of the general area.

Incident Details

4. On the 26th September 2002 at approximately 1430 hrs whilst [Name excised, the Victim], was ploughing a field in Raab ett Talatine, a detonation occurred under the left hand back wheel of his tractor. [The victim] managed to extract himself from the tractor and make his way to the side of the field whereupon he was assisted by the landowner, [name excised] and taken to Marjayoun Hospital.
5. The details of the accident were passed to [name excised] the Mukhtar (village head), of Raab ett Talatine who passed them directly to the Community Liaison Officer (CLO) Team Leader [name excised]. [The CLO] then passed all details to MACC SL Operations Officer who subsequently tasked MACC SL QA Officer to conduct a Mine Accident Investigation.

BOI Mine Incident Actions

6. On arrival at the accident site the MACC SL QA Officer was met by [Demining group] Programme Manager [name excised], and [Demining group] Operations Manager [name excised]. After an initial appreciation of the incident site, it was decided that clearance would have to be conducted to the seat of detonation in order to carry out a full and detailed investigation. As there was much media interest at the incident site and basic safety instructions were not being adhered to by media personnel, it was decided that the clearance would be conducted at first light the following day (27th September 2002). [The village head man] was fully briefed on the situation prior to the BOI leaving the area.
7. On arrival of the BOI back at the MACC SL, the Operations Officer was briefed on the situation and the decision was made to include the MACC SL QA MDD Officer in the BOI as it was suspected that the area had been previously cleared by [Demining group] MDD assets.
8. At 0630 hrs on the 27th September 2002, [Demining group] EOD Team commenced clearance to the seat and around the seat of detonation and at 0745 hrs clearance was completed. Once the clearance had been completed, the BOI excavated the crater and primary fragment remnants of a TM-46 Anti Tank (AT) mine were recovered. No actual explosive items were located by the EOD Team or the BOI during the clearance.

PHOTOGRAPH SHOWING THE ACCIDENT AREA



[Photograph showing the damage to the tractor wheel (the wheel hub was yellow).]



PHOTOGRAPH SHOWING RECOVERED MINE FRAGMENTS



9. Following the initial BOI investigation, [Demining group] then started clearance around the tractor and through the area that had been initially cleared by MDD assets. Once the

immediate area had been cleared the BOI could then ascertain the actual location of the Turning Points (TPs) to verify if the accident had occurred inside a [Demining group] previously cleared area; the results indicated that the accident did actually occur inside a [Demining group] previously cleared area.

10. It was noted that an additional area to the North of the seat of detonation had also been cleared by [Demining group], but not actually recorded on the Completion Report. Within this additional area, an old AT mine crater, the skeletal remains of an animal and an old rusty piece of TM-46 AT mine primary fragmentation were located. Annex C details [Demining group] completion map with accident details annotated.

Past History of the Area

11. IDF Northern Command reported the minefield details on the 29th May 2000, M/F 299 details reported were:

- Reference Point GR 36 735000 681919.
- Mine type not known.
- Date of mines laid not known.
- No minefield map is available.

12. A statement from the MACC SL CMIO is shown at Annex D with the M/F report and the M/F spreadsheet shown as attachments to the Annex. {Annexes not made available.}

13. On the 12th July 2002 the MACC SL Planning Officer, [name excised], and [Demining group] Operations Manager [name excised] conducted a reconnaissance visit to M/F 299. Based on the information received by the witness, the high threat suspect area of concern was to the East of the accident site and the accident site was actually deemed as a low threat suspect area. Annex E details a witness statement from the MACC SL Planning Officer and M/F 299 Clearance Plan.

14. During the investigation the following information was obtained by the BOI whilst questioning [new unrecognised name excised] on the 27th September 2002, at the Accident Site:

- The villagers from Raab ett Talatine left the area in 1977 following the arrival and subsequent problems associated with Palestinian refugees.
- The last time the field was cultivated was in 1977 prior to the exodus of the population (25 years ago).
- The villagers did not return to Raab ett Talatine until 5 years later in 1982, whereupon the following mine related accidents / incidents occurred:
 - There was a mine accident involving a cow in the same field.
 - There was a mine accident involving a local woman in the vicinity of the area (no other details were available).
 - A quantity of 6 x AT mines (type not known), were recovered from the same field of the accident by unknown personnel.

Sequence, Documentation and Procedure of Tasking

15. Task Dossier (TD) OES 3 #022 was issued to [Demining group] on the 03rd July 2002; the TD only contains details of M/F 299. Clearance operations commenced in M/F 299 on the 15th July 2002 and operations ceased on the 02nd August 2002. [Demining group] Manual (Team No3) and MDD assets were used to clear a total area size of 19,600 m²; no items of ordnance were located during the clearance operation. The task was accepted by the MACC SL on the 29th August 2002, Annex F details the Completion Report.

Details of the Ordnance Involved

16. The TM-46 Anti Tank (AT), mine is a large metal cased AT blast mine of Soviet origin containing 5.7kgs of TNT. The cylindrical body has a stepped pressure plate with a central

threaded fuze well. On the side of the mine a steel carrying handle and a filler plug are located, on the base of the mine there are 5 x stamped reinforcing ribs.

17. In addition to the standard pressure fuzes (MV-5 and MVM), the mine can also accept a tilt-rod fuze (MVSh-46), that gives it a full width attack capability against vehicles.

PICTURE SHOWING TM-46 AT MINE WITH MVM FUZE FITTED



Medical Details

18. [The victim] was evacuated to Marjayoun Government Hospital by car, whereupon he was admitted to the casualty department for stabilisation and treatment. [The victim] suffered multiple fractures of his left foot, secondary fragmentation injuries to his left leg and a fracture to his left hand second finger. Annex G details the hospital report from Marjayoun Hospital.

Conclusions

19. Based on the Accident Investigation the following is concluded:
- a. There was a sub-surface detonation of a TM-46 (fuzed MV-5), AT mine.
 - b. The crater measured 48cm deep and 70cm wide, with large quantities of TM-46 primary fragmentation lining the sides and bottom the crater. 50% of the crater showed signs of a bulbous effect (heavy soil area), no bulbous effects was shown in the other 50% of the crater due to rocky ground.
 - c. Based on the above conclusion, it is estimated that the TM-46 AT mine detonated at a depth of 300mm / 350 mm below the surface.
 - d. The TM-46 AT mine may have been originally laid by Palestinian forces and not Israeli forces.
 - e. The detonation occurred when the tractor driven by [the victim]. Drove over the location of the said TM-46 AT mine, with the detonation occurring directly under the tractor's back left hand wheel.
 - f. The injuries sustained to [the victim] were relatively light considering the nature of the incident. It was fortunate that a fatality did not occur.
 - g. The tractor was lifted and moved approximately 2m to the North East following the uncontrolled detonation.
 - h. The Mine Accident AT crater was located inside a previously cleared [Demining group] MDD area that had been physically marked and included in the Completion Report.
 - i. The additional AT mine crater was formed when a cow inadvertently initiated a TM-46 AT mine in 1982, on the return of Raab ett Talatine population after their 5 x year exodus. This crater was located inside a previously cleared [Demining group] MDD area that had not been physically marked on the ground and was not included in the Completion Report.
 - j. The Completion Report submitted was not an accurate reflection of the clearance activities that were conducted and should have not have been accepted by [name excised].
 - k. The old AT mine crater located by the BOI should have been identified by the clearance team. This information if it was made available at that time would have changed the threat assessment and the clearance plan and the clearance methodology.

- l. The information received by the MACC SL Planning Officer during the initial site reconnaissance from local sources, was erroneous information. Unfortunately the clearance plan was then based on this erroneous information and [Demining group] executed the clearance of the area according to this plan.
- m. Additional information could have been gained by the CLOs during regular visits to the site whilst clearance was being conducted. As previously mentioned if the additional information had been made available then [Demining group]'s threat assessment of that particular area would have changed.
- n. [Demining group]'s IMSMA Accident Report along with the Programmes Manager statement (Annex A), is accepted by the BOI.
- o. The Handover and Formal Declaration Certificate for M/F 299 was processed and accepted on the 24th September 2002. Annex H details the Handover and Formal Declaration Certificate.

Recommendations

20. Based on the Accident Investigation, the following is recommended:

- a. The area that was cleared by MDD assets in M/F 299 be re-cleared using Manual assets and the completion report amended accordingly.
- b. Completion Report information must be a true and accurate reflection of the clearance activities that have been conducted. All cleared areas must be marked, mapped and recorded accurately both physically on the ground and annotated in Completion Reports.
- c. [Demining group] made aware of the vital importance of looking at the ground and terrain prior to clearance operations commencing, during clearance operations and following clearance operations.
- d. CLOs be made aware of the importance of obtaining all relevant information on mined areas, in a timely manner (ideally prior to the commencement of clearance operations).
- e. A CLO "Questions to Ask" proforma is drafted for NDO approval; the proforma is to include all the relevant questions that should be asked when questioning the local populous regarding possible contaminated areas. It is also suggested that the proforma is used a minimum of three times, each with a different member of the community for each contaminated area.

Specialist Report

21. As the Mine Accident involved an area previously cleared by MDD, a report by the MACC SL QA MDD Officer is detailed at Annex I, this report also contains MDD specific conclusions and recommendations. [Report not made available.]

Signed: QA Officer, Mine Action Co-ordination Centre Southern Lebanon

Annexes: [some not made available.]

- A. [Demining group] Internal Report.
- B. Map of the General Area.
- C. Diagram of the Accident Scene ([Demining group] Completion Map with Accident Details annotated).
- D. M/F Information report by CMIO.
- E. Witness Statement from MACC SL Planning Officer and M/F 299 Clearance Plan.
- F. [Demining group] M/F299 Completion Report.
- G. Marjayoun Hospital Report.
- H. M/F 299 Handover and Formal Declaration Certificate.
- I. MACC SL MDD QA Officer Specialist Report.

Copies to:
MACC SL Operations Department.
NDO.
[Uninvolved demining group].

Victim Report

Victim number: 510	Name: Name removed
Age: 38	Gender: Male
Status: civilian	Fit for work: not known
Compensation: not made available	Time to hospital: not recorded
Protection issued: None	Protection used: none

Summary of injuries:

INJURIES

severe Foot

severe Hand

severe Leg

COMMENT

See medical report.

Medical report

A brief medical report from Marjayoun hospital is reproduced below.

Name: [excised] Age: 38 Sex: Male

After treating [name excised], who was injured by a landmine explosion this resulted in breaking his left foot and left hand second finger. Metal fragments were located in his lower left leg and left thigh which resulted in emergency surgery. The broken bones were fixed, wounds cleaned and he was admitted in the hospital for observation.

27/09/02 Dr [name excised].

Analysis

The primary cause of this accident is listed as *"Inadequate survey"* because the demining group "reduced" the area without revising their assessment of the area to take account of known detonations/accidents in the area. This may have been done because their training was inadequate. Similarly, the ineffective use of the dogs to check the area may have been ineffective due to inadequate training. Whatever the cause, the dogs were not used effectively, which is a management responsibility, so the secondary cause is listed as a *"Management/control inadequacy"*.