

# DDAS Accident Report

## Accident details

<b>Report date:</b> 11/07/2011	<b>Accident number:</b> 746
<b>Accident time:</b> 10:25	<b>Accident Date:</b> 11/04/2011
<b>Where it occurred:</b> Task No: Sabha 12 (383), Rasm Hisan Village, Mafraq Province, East Sector	<b>Country:</b> Jordan
<b>Primary cause:</b> Unavoidable (?)	<b>Secondary cause:</b> Unavoidable (?)
<b>Class:</b> Excavation accident	<b>Date of main report:</b> None
<b>ID original source:</b> None	<b>Name of source:</b> Demining group
<b>Organisation:</b> [Name removed]	
<b>Mine/device:</b> M14 AP blast	<b>Ground condition:</b> dry/dusty hard
<b>Date record created:</b>	<b>Date last modified:</b> 11/07/2011
<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> GPS
<b>Map east:</b> 36. 42557 E	<b>Map north:</b> 32. 37525 N
<b>Map scale:</b>	<b>Map series:</b>
<b>Map edition:</b>	<b>Map sheet:</b>
<b>Map name:</b>	

## Accident Notes

no independent investigation available (?)  
non injurious accident (?)  
use of rake (?)  
standing to excavate (?)  
Inadequate detector pinpointing  
inadequate area marking (?)

## **Accident report**

An internal report of this accident was made available in May 2011. Its conversion into a DDAS file has led to some of the original formatting being lost. Text in square brackets [ ] is editorial. The report is reproduced below, edited for anonymity.

### **Incident investigation for [Demining group] Mine Action Team, Jordan**

Task Name: Sabha 12 ( 383 )

GRID REF: 32. 37525 N: 36. 42557 E

Investigation conducted by – [Demining group] (Internal QA Officer)

Victim deminer: [Name removed]

DATE OF BIRTH: 13 December 1981

TIME OF INCIDENT: 10:25

DATE OF INCIDENT: 11 April 2011

NATURE OF INJURY: No injury

TYPE OF MINE: M14 Anti-Personal

### **IMSMA DETAILED REPORT FOR MINE INCIDENT, Monday , 11 April 2011**

#### **Part 1 – Description of the incident**

1. Organisation name [Demining group], Jordan, Team No: Bravo
2. Incident date: 11 April 2011. Time: 10:25
3. Location of incident: Task No: Sabha 12 (383), Rasm Hisan Village, Mafraq Province, East Sector.
4. Name of site manager or team leader: [Name removed]
5. Type of incident: Uncontrolled detonation of a mine
6. Device was detonated by: Deminer
7. Device detonated while: Raking with Heavy Rake
8. Device was found in an area classified as: a known Hazardous Area
9. Narrative (Describe how the incident happened. Attach additional pages and photographs or diagrams to assist in clarifying the circumstances surrounding the incident):

The deminer was working in SML D which contains M14 AP mines, he indicated the location of the mine then used the light rake then excavated using the heavy rake, during the excavation for the mine using the heavy rake the deminer accidentally caused a pressure on the AP mine pressure plate which caused the detonation.

#### **Part 2 – Injuries**

10. Did the incident result in any injuries? No
11. List people injured and nature of injury: [None]

**Part 3 – Equipment damages**

12. Did the incident result in any damage to equipment or property? Yes

13. List any mine action equipment or property damage: Heavy Rake, Damaged (Not Reusable)



The damaged Heavy rake

14. List damage to equipment or property owned by a member of the public or the government. Include contact details of the owner or responsible person: None

**Part 4 – Explosive hazard**

15. Provide details of mines/UXO/ other devices that were involved in the incident.

Device Type: AP (Blast) Mine. Method: Buried. Determined by: Raking

16. State specific device (if known): Anti-Personal Mine M14

17. Comments (include measurements of any crater resulting from the explosion): Crater Depth: approx. 13 cm / Width: approx. 15 cm

**Part 5 - Site conditions**

18. Describe the conditions at the site at time of the incident

Ground/Terrain: Flat, open

Weather: Clear, mild

Vegetation: None



The accident site

**Part 6 – Team and task details**

20. Qualifications of Member(s) involved in the incident: [The Victim], Deminer.

21. How long had this team been?

a. At this site? 1 Month 28 Days

b. working on this task? 1 Month 28 Days

c. working on the day? 2 Hours & 55 minutes

22. Detector type: F3. Serial Number: N 17404 ( 72 ). Detector status: Functional. Passed to [Name removed] for technical inspection at Sabha 12 Site on 11 of April 2011.

Tripwire feeler used? No

23. Hand tool: Heavy rake

24. PPE: Vest, Mask Visor [Blast boots]

25. Comments: None

### **Part 7 - Medical & First Aid**

Medical treatment required: No

26. Medical Support at Incident Site: Medic, 1st Aid Kit, Stretcher, Ambulance, Radio to call forward medic.

27. Was a Mine Incident Drill carried out? Yes

28. Time and distance data

a. Time from incident to Section medical point: ( 1 ) minutes

b. Time spent at site administering treatment: Not Applicable

c. Time from evacuation to arrival King Abdullah Hospital: Not Applicable

### **Part 8 – Reporting procedures**

Reported by: [Name removed], [Demining group] Jabir Office to: [Demining group] Offices & NCDR

Investigation conducted by: [Name removed], [Name removed]

Report compiled/translated by: [Name removed], [Name removed]

Verified by: [Name removed]

### **Attachments:**

Statements by Injured Members

Statements by Witnesses

Photographs of Incident Site

Copy of Incident Report

### **Findings**

Approaching for the AP mine was not as per as SOP because the deminer shall start approaching to the signal 15 cm toward the mine.

Marking system was not as per as SOP because the deminer must maintain 5 red pickets for each side around the deminer during the work and the distance between each picket and the other is 40 cm.

Team leader must notice these findings before the incident.

Signed: Ops Manager

## Victim Report

<b>Victim number:</b> 936	<b>Name:</b> [Name removed]
<b>Age:</b> 30	<b>Gender:</b> Male
<b>Status:</b> deminer	<b>Fit for work:</b> yes
<b>Compensation:</b> N/A	<b>Time to hospital:</b> N/A
<b>Protection issued:</b> Frontal apron; Mask Visor; blast boots	<b>Protection used:</b> Frontal apron; Mask visor; Blast boots

### Summary of injuries:

COMMENT: No Medical report was made available. No injuries recorded.

## Statements

### Deminer: [The Victim]

I remember we went to work and the team leader gave us the morning safety brief and distributed us on our sites. My work was on SML area which has AT and AP mines. I worked the 1st two parts normally but after the break in the 3rd part I was working on 12 o'clock mine from the cluster in its expected location. I detected the area and located the signal using the marker and started progressing towards the target from the left side but suddenly the accident happened. The team leader came with deminer [Name removed] they checked me but I was fine. I was evacuated to the ambulance walking they checked me and offered me to go to the hospital but I refused as I didn't need to so they kept me under observation for an hour.

A: No the exploded mine wasn't obvious for me.

A: Yes I was progressing from the left side of the mine and was 15 cm far and the dig depth was 15 cm too.

A: I think that the reason of the explosion was because the mine was placed on the side not normally.

A: Most of the mines are on 10-15 cm depth and some are exposed.

A: All the mines were normal, not burned not damaged.

A: Most of the 12 o'clock mines were missing from the clusters.

A: I was marking according to the SOPs.

A: Yes I used the marker in locating the signal.

A: Yes the team leader made the QC for my work at the beginning.

A: Yes I was wearing all the safety tasks.

A: No I didn't make any mistakes while working.

**Team leader: [Name removed]**

We worked the 1st two parts normally and after the break we started the 3rd part of work after distributing the deminers each one to his site, [the Victim] the injured was working on an internal SML area which has AT mines (M19) and AP (M14) mines but all the AT mines were cleared before and he is working on clearing the AP mines only. I checked on his work when he was clearing a cluster and then I went to the next deminer [Name removed] when I heard a sound of explosion from [the Victim]'s site, I saw him standing then I informed the medic about the accident and went to see him but he had no injuries and we evacuated him walking to the ambulance they checked him he was fine and refused to go to the hospital.

A: Yes I gave them the morning safety brief as usual.

A: I was 40 metres far from the injured.

A: Yes all the deminers are under my sight and control.

A: Yes I was observing him he was working right.

A: I think the accident happened because either the mine was underground on the side so while progressing the explosion happened, or he progressed in a wrong way towards the target.

A: Yes some of the mines especially AP mines we found them placed on the side and some are normal.

A: The average of AP mines depth is 10-12 cm.

A: Yes he wore all the safety tasks.

A: No I didn't notice anything wrong with him.

**Witness deminer: [Name removed]**

I remember on that day we were given the morning safety brief from the team leader and distributed to our sites, started working the 1st two parts normally but on the 3rd part I was working near the injured deminer when I heard a sound of explosion from his site. Injured deminer was standing in the centre lane, we checked him he was fine. We took him to the ambulance walking. They checked him and offered him to go to the hospital but he refused so the medic kept him under observation.

A: The distance between me and the injured was around 40 metres.

A: Yes it's hard to work in that area because of the hard ground.

A: His work was good and I didn't notice anything wrong with his work.

A: I think the reason of the accident might be because the mine was on its side so when the deminer was progressing towards the mine he accidentally hit the mine using the heavy rake.

A: The deminer was normal and didn't suffer anything wrong that day.

## **Analysis**

The primary and secondary cause of this accident are listed as “Unavoidable” because there is no evidence that the deminer was not working to his SOPs when the accident occurred. The Ops Manager suggested that the marking was inadequate and that the deminer did not start excavating 15cm from the mine, but there is no evidence of this.

It is possible that the Victim did not pinpoint a detector reading properly and this caused the accident.

The demining group who made this report available is thanked for its transparency and its professional concern to share lessons that can be learned from accidents. This record, along with other records where rakes were used, provide compelling evidence that the controlled use of rakes for area excavation and signal investigation can be both effective and safe.