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Humanitarian Demining Accident and Incident Database

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DDAS Accident Report

Accident details

Report date: 09/07/2011	Accident number: 731
Accident time: 10:28	Accident Date: 17/04/2011
Where it occurred: Task No: Sabha 10/ (385), Kum Al Ruff Village, Mafraq Province, East Sector.	Country: Jordan
Primary cause: Unavoidable (?)	Secondary cause: Unavoidable (?)
Class: Excavation accident	Date of main report: None
ID original source: None	Name of source: Demining group
Organisation: [Name removed]	
Mine/device: M14 AP blast	Ground condition: hard rocks/stones
Date record created:	Date last modified: 09/07/2011
No of victims: 2	No of documents: 2

Map details

Longitude:	Latitude:
Alt. coord. system:	Coordinates fixed by: GPS
Map east: 36. 46315 E	Map north: 32. 37169 N
Map scale:	Map series:
Map edition:	Map sheet:
Map name:	

Accident Notes

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

Accident report

An internal demining group report of this accident was made available in April 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 10 (385)

GRID REF: 32. 37169 N: 36. 46315 E

Investigation conducted by – [Demining group] Internal QA Officer

Victim deminer: [Name removed]. Date of Birth: 15 March 1969

TEAM LEADER: [Name removed]

TIME OF INCIDENT: 10:28. DATE OF INCIDENT: 17 April 2011

NATURE OF INJURY: NONE

TYPE OF MINE: M14 Anti-Personnel

IMSMA DETAILED REPORT FOR MINE INCIDENT, Sunday, 17 April 2011

Part 1 – Description of the incident

1. Organisation name: [Demining group], Jordan. Team No: Zulu
2. Incident date: 17 April 2011. Time: 10:28
3. Location of incident: Task No: Sabha 10/ (385), Kum Al Ruff Village, Mafrq 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):

while the deminer working in the Ren. Belt (B) clearing the AP M14 in cluster 8 last section home side dir 9 o'clock a pressure applied on the top of the AP mine which caused the mine blast and it's considered as an individual mistake.

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)



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: Surface

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. 10 cm / Width: approx. 26 cm

Part 5 - Site conditions

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

Ground/Terrain: Flat, Hard, Open

Weather: Clear, Mild

Vegetation: None



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? 4 months & 3 Days
- b. working on this task? 4 months & 3 Days
- c. working on the day? 2 Hours & 58 minutes

22. Detector type: F3. Serial Number: N 17886 (92).Detector status: Functional. Passed to [Name removed] for technical inspection at Sabha 10 Site on 17 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: (21) minutes
- c. Time from evacuation FROM to arrival Rosary Hospital: (65) minutes

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

Injury data sheet(s)

Photographs of Incident Site

Copy of Incident Report

Copy of Medical Report

Copy of Injury Card

Findings

Approaching for the detonated AP mine was not as per as SOP.

The deminer did not use the light rake although the detonated mine was not deep buried and this can be known by the depth of the blast crater which is less than 10 cm .

(Above findings are parts of deminer responsibilities)

Incident area must be closed directly after the incident but a new pinpointing marker was seen in the incident location which means that this marker was put after the incident and also the metal detector was outside the incident area (closing the incident area is the responsibility of the deminer and the team leader).

Signed: Ops Manager

Victim Report

Victim number: 925	Name: [Name removed]
Age: 42	Gender: Male
Status: deminer	Fit for work: yes
Compensation: N/A	Time to hospital: 65 minutes
Protection issued: Frontal apron Mask Visor blast boots	Protection used: Frontal apron; Mask visor; Blast boots

Summary of injuries:

COMMENT: No injuries. Medical reports in Arabic are held on file.

Statements

Deminer: [The Victim]

I remember on 17/4/2011 I entered my site on the 3rd part of work. I was working on clearing M14 mines from SML area near the internal fence. I cleared 3 o'clock mine then started on 9 o'clock mine made the visual check and cleared the stones then started detecting so I heard a signal so I put the marker and started excavating to find that the signal came from a stone so I dig around it and pulled it using the heavy rake and suddenly an explosion happened. The team leader came and deminer [Name removed] checked me and evacuated me walking but I had no injuries then I was sent to the hospital.

A: Yes the team leader gave us the morning safety brief.

A: Yes it's hard to work there because of the hard ground, the stones that give signals and that we can't use the light rake there.

A: Yes most of the mines there are placed not normally some are on the side some upside down and some between the stones.

A: Yes I used the marking triangle to locate the centre of the signal.

A: Yes I guess the mine was near the stone but I couldn't locate it because of the lava stone.

A: The average of mine depth in the area is around 10 cm underground.

A: No I didn't use the light rake as it's useless to use it there.

A: Nobody made any pressure on us to finish the work faster.

A: I was not in a bad psychological situation that day.

A: Yes the exploded mine was in its expected place (9 o'clock mine).

Team leader: [Name removed]

We went to work on 17th of April 2011 and I gave the team morning safety brief and they worked the 1st two parts normally and on the 3rd part deminer [the Victim] was working in SML area on the 5th direction which has AT and AP mines. While he was working I checked on his work then headed to another deminer. When I was 30 metres far from him I heard a sound of explosion from his site so I informed about it and went to him with deminer [Name removed]. We checked him he was fine, evacuated him walking then was sent to the hospital.

A: The distance between me and the injured was 30 metres.

A: The average of mine depth in the area is around 5-10 cm.

A: Some mines are placed on the side and the others are normally placed in the ground.

A: No there are no pressures on the team to raise their productivity.

A: I think that the accident happened because of the hardness of the ground.

A: No I think there is no mistake made by the deminer as I saw how he was working the last days.

A: The injured is one of the best deminers in his work.

A: No I didn't notice any thing wrong about the deminer that day.

Witness deminer: [Name removed]

We entered the 3rd part of work on that day and I was working on the SML area near the internal fence 60 meters far from the injured at the same SML but he was in the other direction. At 10:30 am I heard a sound of explosion from his site I went there found the team leader checked him. He was fine, evacuated him walking and then sent to the hospital.

A: Yes we took the morning safety brief from the team leader.

A: The average of mine depth in the area is around 8-10 cm some of them exposed.

A: SML area has AT and AP mines.

A: The placement of the mines is normal but some of them are on the side or upside down.

A: The ground is so hard in that area and has lots of stones so it's hard to work there.

A: No there are no pressures on us to finish the work faster.

A: No I didn't notice anything wrong on the deminer while working.

A: nothing was wrong with him that day.

Analysis

The primary and secondary cause of this accident are listed as "Unavoidable" because it seems likely that the deminer was working as directed when the accident occurred.

The Ops Manager concluded that the Victim was in breach of SOPs because of the shallow crater, but crater measurement is an imprecise science that requires sophisticated soil-hardness testing which was not done. However, the mine may have been shallowly concealed, but (as anyone who has used the REDS system in hard ground knows, the light rake will not be effective until the Heavy rake has loosened the ground.

It is possible that the Victim failed to pin-point his detector reading properly. The presence of a "new" pin-pointing marker at the scene after the accident may imply that he did not use one and so started the excavation directly on top of the mine.