DDAS Accident Report

Accident details

Report date:	07/03/2011	**Accident number:**	701
Accident time:	13:33	**Accident Date:**	27/09/2009
Where it occurred:	MF 362, Al Akaider Village, Almafraq Province	**Country:**	Jordan
Primary cause:	Unavoidable (?)	**Secondary cause:**	Unavoidable (?)
Class:	Excavation accident	**Date of main report:**	Not recorded
ID original source:	None	**Name of source:**	Demining group
Organisation:	[Name removed]		
Mine/device:	M14 AP blast	**Ground condition:**	dry/dusty grass/grazing area
Date record created:		**Date last modified:**	07/03/2011
No of victims:	1	**No of documents:**	2

Map details

Longitude:		**Latitude:**	
Alt. coord. system:		**Coordinates fixed by:**	
Map east:	36.09016 E	**Map north:**	32.51592 N
Map scale:		**Map series:**	
Map edition:		**Map sheet:**	
Map name:			

Accident Notes

no independent investigation available (?)

standing to excavate (?)

use of rake (?)

Inadequate detector pinpointing

long handtool may have reduced injury (?)

Accident report

An internal demining group accident report was made available. The conversion into a DDAS file has led to some of the original formatting being lost. Text in square brackets [ ] is editorial.

The internal report is reproduced below, edited for anonymity.

INCIDENT INVESTIGATION [Demining group] – MINE ACTION TEAM - JORDAN

MINEFIELD TASK ID - E 362AL AKAIDER 2

GRID REF: 32.51592 N: 36.09016 E: MINEFIELD NO - 362

INVESTIGATION CONDUCTED BY – [Demining group], [Name removed].

DEMINER: [The Victim]. DATE OF BIRTH: 01/01/1968. NIC NO: [removed]

SECTION COMMANDER: [Name removed]. TEAM LEADER: [Name removed].

TEAM: METAL DETECTOR 4.

TIME OF INCIDENT: 01:33 PM. DATE OF INCIDENT: 27 SEPTEMBER 2009

NATURE OF INJURY: Lt.Upper Thorax superficial wound, Multiple superficial wound Rt. Hand, Rt. Hand joint super facial wound, upper Lt Femur superficial wound.

TYPE OF MINE: Anti Personnel M 14

IMSMA DETAILED REPORT FOR MINE INCIDENT, Sunday, 27 September 2009

Part 1 – Description of the incident

1. Organisation name: [Demining group], JORDAN Team No: Metal Detector 4.

2. Incident date: 27/09/2009: Time: 01:33 PM

3. Location of incident: NORTH EAST SECTOR Province: ALMAFRAQ, Village: AL AKAIDER. Project or task No: E 362 AL-AKAIDER 2

4. Name of site manager or team leader: [Name removed].

5. Type of incident: M14 AP MINE, 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 was working in recovering one of the SMLs in Al Akaider 2 laid with 15 AP mines (M14) and after recovering 9 mines from the same SML and locating a signal in the predicted site for the 10th mine, the signal was strong and continuous which confused the deminer and there is no way to pin point an M14 mine at that area, the deminer start excavating the area from a depth for 40 cm using the heavy RAKE , the soil at that area hard that the deminer was using the RAKE in a hacking motion which caused a pressure on the mine pressure plate and initiate the mine about 2.2 m away from the deminer (the length of the RAKE handle).

Part 2 – Injuries

10. Did the incident result in any injuries? Yes.

11. List people injured and nature of injury

[The Victim], Deminer, Lt.Upper Thorax superficial wound, multiple superficial wound Rt. Hand, Rt. Hand joint superficial wound, upper Lt femur superficial wound.

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.

14. List damage to equipment or property owned by a member of the public or the government. [None]

Part 4 – Explosive hazard

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

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

16. State specific device (if known): M 14 AP MINE

17. Comments (include measurements of any crater resulting from the explosion): Crater Depth: approx. 15 cm / Width: approx. 40 cm

Part 5 - Site conditions

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

Ground/Terrain: Hard, Hillside

Weather: Clear, Hot

Vegetation: Bush, Medium

[The accident site.]

Part 6 – Team and task details

20. Qualifications of Member(s) involved in the incident:

Name	Position in Location	Occupation
[The Victim]	Deminer	Metal Detector 4

21. How long had this team been?

a. At this site? 4 months

b. working on this task? 4 months

c. working on the day? 7:03 hours

22. Detector type: N/A. Tripwire feeler used? No

23. Hand tool: HEAVY RAKE

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

25. Comments: [None]

Part 7 - Medical & First Aid

Medical treatment required? yes

26. Medical Support at Incident Site: Medic, 1st Aid Kit, Stretcher, Ambulance, Safety Vehicle, 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: (02) minutes

b. Time spent at site administering treatment:(03) minutes

c. Time from evacuation FROM to arrival King Abdullah Hospital: (12) minutes

Part 8 – Reporting procedures

Reported by: [Name removed], [Demining group] Amman 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]

Observations and Recommendations

The deminer was investigating the signal while he was standing in lateral position not in a frontal way which makes it possible for the secondary fragmentation to find its way to the uncovered areas from the deminer body which described in the injuries.

Signed: Operations Coordinator: 27 SEPTEMBER 2009

Attachments:

Statements by Injured Members

Statements by Witnesses

Photographs of Injuries

Photographs of Incident Site

Copy of Incident Report

Victim Report

Victim number:	887	**Name:**	[Name removed]
Age:	41	**Gender:**	Male
Status:	deminer	**Fit for work:**	presumed
Compensation:	N/A	**Time to hospital:**	17 minutes
Protection issued:	Frontal apron Mask Visor blast boots	**Protection used:**	Frontal apron, Mask visor, blast boots

Summary of injuries:

INJURIES: minor Arm, minor Chest, minor Hand, minor Leg

COMMENT: No Medical report was made available.

A photograph showed a superficial wound just below the throat on the upper chest. See Analysis.

Statements

Statement 1: the Victim

I entered my site in the 1st round of the evening period in the SML area, in the valley within the box am working on a crosswise signal appeared, I drilled and detected continuously and while am searching about a M14 mine which is supposed to be in this box and about 40 cm depth an accident happened while am using the heavy rake then I left my equipments and got out of the field walking.

Answers to Investigator Questions:

Yes, we took the safety brief before starting to work from the team leader.

Yes, the section commander came to me before the accident in minutes and told me that the next mine is close to me inside the box.

Yes, I wore all the safety tasks completely.

Statement 2: Team Leader

I was near lane 19 when I heard the section commander on the radio telling me that an accident has happened with deminer [the Victim], I informed the medic team about an accident on lane 2 and the section commander told me that the deminer is in a good situation, then I informed the sector coordinator and we went to the accident site, we found the deminer getting out of the field walking and he was evacuated at 01:38 pm.

Answers to Investigator Questions:

Yes, I gave the team the safety brief before they started their work.

Yes, all the deminers have the instructions about working in valleys and low areas in using the rake and the detector both.

Statement 3: Section Commander

I went to the deminer [the Victim]'s site at the beginning of the 1st round in the evening period and he told me that there where a continuous wide signal in his site in the SML area, when I looked at the previous mine I found that the next mine place is very close, I left him and went to lane 12 it is 300 feet from the injured deminer site, then I heard a sound of explosion, I went to the accident site and informed about it, and when I reached the accident site the injured was standing and in a good position and he was evacuated by the medic team at 01:35 pm.

Answers to Investigator Questions:

Yes, every deminer under my responsibility knows the nature of his area of work.

Yes, I checked on the safety tasks of every deminer before they started working.

Statement 4: Witness Deminer

I was working with the deminer [the Victim] at the same SML and no one around us, when the accident happened I was in a the waiting and control period outside the lane, the section commander made his check at the beginning of the work then he went to lane 12 after minutes the explosion happened, section commander came and informed about the accident, the injured was standing and in a good health then he was evacuated by medic team at 01:35 pm to the hospital.

Answers to Investigator Questions:

Yes, I was wearing the safety task and ready for any emergency at the beginning of the lane.

Yes, we took the safety brief from the team leader before we started working.

Statement 5: Medic

I got a call about an accident at 01:33 pm from section commander [Name removed], the accident happened with deminer [the Victim], I went to the accident site found some injuries, made the first aid then evacuated him to the hospital, but he was good generally.

Analysis

The primary and secondary cause of this accident are listed as *Unavoidable* because there is nothing in the investigation to suggest that the deminer was not working as directed when the accident occurred. To detect and pinpoint an M14 at 40cm was not possible with the detector in use (it will not signal on it in air at 40cm), so the detector was used time and again as the rake excavation got deeper. As a result, the deminer's ability to pinpoint accurately was critical and the investigator's failure to check the function of the detector was a mistake.

The unusual chest injury could have occurred with the deminer standing at an angle to the raked area (which is common) or standing straight on and leaning forward. This being the only record of a light upper chest injury while raking, it would be premature to consider redesigning the frontal PPE.

The minor chest injury

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 several other records where rakes were used, provide compelling evidence that the controlled use of rakes can be both effective and tolerably safe (reducing risk of severe injury to tolerable levels).