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DDAS Accident Report

Accident details

Report date: 05/03/2011	Accident number: 628
Accident time: 09:24	Accident Date: 07/09/2009
Where it occurred: MF: E 387 Al Shajarah Village, Alramtha Province	Country: Jordan
Primary cause: Victim inattention (?)	Secondary cause: Management/control inadequacy (?)
Class: Missed-mine 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: grass/grazing area hard
Date record created:	Date last modified: 05/03/2011
No of victims: 1	No of documents: 2

Map details

Longitude:	Latitude:
Alt. coord. system: Not recorded	Coordinates fixed by:
Map east:	Map north:
Map scale:	Map series:
Map edition:	Map sheet:
Map name:	

Accident Notes

no independent investigation available (?)
Inadequate detector pinpointing
mine/device found in "cleared" area (?)

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

TASK NAME AL SHAJARAH 1 (387)

GRID REF: 32.66602 N: 35.96215 E

MINEFIELD NO – 387, MINEFIELD TASK ID - E 387 AL SHAJARAH 1

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

DEMINER: [the Victim]. DATE OF BIRTH: 02/09/1971, NIC NO: [Removed]

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

TEAM: METAL DETECTOR 10.

TIME OF INCIDENT: 09:24 AM, DATE OF INCIDENT: 07 September 2009

NATURE OF INJURY: Multiple comminutes fracture in his right foot and fracture of lower fibia and tibia.

TYPE OF MINE: Anti Personnel M 14

IMSMA DETAILED REPORT FOR MINE INCIDENT Monday, 07 September 2009

Part 1 – Description of the incident

1. Organisation name: [Demining group], JORDAN Team No: Metal Detector 10.
2. Incident date: 07/09/2009. Time: 09:24 AM
3. Location of incident: EAST SECTOR, Province: ALRAMTHA, Village: AL SHAJARAH. Project or task No: E 387 ALSHAJARAH 1
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: Moving
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):

Deminer was clearing the first 60 cm of one cluster heading toward the centre mine after he cleared the 1st 60 cm by one 1m width with no signals he moved his base stick a head to clear the next 60 cm, then he stepped on the area which considered to be cleared by the same deminer, accidentally his foot went down due to the soil collapse under his foot (loose soil), the mine was in a depth of about 30 cm that when the deminer foot dived in the loosen soil he applied a pressure on the mine which activated the mine and caused the accident, note that from the accident result there was no direct contact between the deminer foot and the mine.



[The accident site, behind the base-stick in the area considered "cleared" by the deminer.]

Part 2 – Injuries

10. Did the incident result in any injuries? Yes

11. List people injured and nature of injury

[The Victim], Deminer, Multiple comminutes fracture in his right foot and fracture of lower fibia and tibia.

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: Mine Boot, 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.

AP (Blast) Mine, Buried, Suspected only

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, Flat

Weather: Clear, Hot

Vegetation: Medium, Grass

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 10

21. How long had this team been?
- a. At this site? 3 months
 - b. working on this task? 3 months
 - c. working on the day? 03:24 Minutes
22. Detector type: N/A. Tripwire feeler used? No
23. Hand tool: Metal Detector
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: (01) minute
- b. Time spent at site administering treatment: (10) minutes
- c. Time from evacuation FROM to arrival King Abdullah Hospital: 20 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

Deminer was applying the drill as per as sop without any mistakes, he stepped on a loose soil area after he cleared it by the metal detector and investigated all the signals, the soil under his foot collapsed and caused the deminer foot to went down inside the loosen soil and activated the mine which was not exactly in its right place..

Signed: Operations Coordinator 07 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: 810	Name: [Name removed]
Age: 38	Gender: Male
Status: deminer	Fit for work: not known
Compensation: Not made available	Time to hospital: 31 minutes
Protection issued: Frontal apron Mask Visor blast boots	Protection used: Frontal apron, Mask Visor, blast boots

Summary of injuries:

INJURIES: severe Foot, severe Leg

COMMENT: See Medical report.

Medical report

No formal medical report was made available.



A photograph showed severe disruption to the instep and apparent injury on the heel.

Statements

Statement 1: the Victim

On Monday the 7th of September 2009 around 09:15 am I entered around 1.5 meters inward of an AP cluster and there were a lot of signals, I removed them all, then I entered another tray and removed the bushes then I brought the metal detector and started checking the area there were no signal then I progressed in work to another tray and put back the detector and started removing the bushes, I went back to the second tray to remove the stones, I put some stones in the bucket and went back to the tray to converse the base stick forward, I stood to

bring the detector from the back then my body turned backwards and my right leg fell on the ground and a blast happened considering the soft nature of the ground.

I was taken to the KAH and that's what happened with me.

Statement 2: Section Commander

While I was checking on lane 105 at 09:24 am I heard a sound of explosion and I was informed by the radio about an accident happened with the deminer [the Victim] on lane 99, I went there to find the team leader, [Name removed], nurse, deminers [Name removed] and [Name removed] there, nurse put the splint on the foot and then we evacuated him outside the lane to the ambulance then he was transferred to the hospital.

Statement 3: Team leader

While I was checking on lane 100 I heard a sound of explosion and screaming from the west side so I informed the ambulance and that was at 09:24 am, the accident happened with the de-miner [the Victim] in lane 99, I headed to the accident place with two other deminers we reached there and the ambulance reached in two minutes we entered the lane to find the deminer lying on the ground on the centre lane, the nurse bandaged his injury and he was transferred to the hospital and we stopped work immediately.

Analysis

This accident is classed as a *Missed mine accident* because the photograph showed that the site of the initiation was behind the base-stick and between the side of lane markings – so in an area that the deminer had “cleared”.

The primary cause of this accident is listed as *Victim inattention* because the Victim had not located the mines when using his detector and had not used the demining group's excavation/detector drill appropriately enough to find a mine at this depth. (This drill is designed to locate mines that are too deep for the detector to locate without removing some of the ground. The ground he stepped on had been loosened, but had not been removed and searched with the detector appropriately.) The secondary cause is listed as a *Management Control Inadequacy* because the investigator concluded that no mistakes had been made, when clearly some had. If management does not recognise an error, it will not be corrected. The investigator's failure to check the performance of the metal detector was unusual and appears to have been an oversight.

The Victim's injury includes severe disruption of the sole of the foot, which does imply that there may have been a distance between the mine and the sole of the BFR boot (new research into the impulse and shock wave transfer through various materials supports this). The failure of the blast boot to provide significant protection against a 28g mine may be significant.

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.