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Humanitarian Demining Accident and Incident Database

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DDAS Accident Report

Accident details

Report date: 07/03/2011	Accident number: 693
Accident time: 10:05	Accident Date: 26/07/2010
Where it occurred: Mf:411,, Sharajah 2, NW Sector, Ramtha Region	Country: Jordan
Primary cause: Field control inadequacy (?)	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: dry/dusty grass/grazing area rocks/stones soft
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: 35. 94891 E	Map north: 32. 68064 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

Accident report

A report of this accident was made available by the demining group involved in late 2010. Its conversion into a DDAS file has led to some of the original formatting being lost. Text in square brackets [] is editorial.

The internal investigation report is reproduced below, edited for anonymity.

Incident investigation for [Demining group] – MINE ACTION TEAM - JORDAN

Task Name: shajarah 2 (411), north border project, NW SECTOR

GRID REF: 32. 68064 N: 35. 94891 E

MINEFIELD NO: - 411, minefield TASK ID:- shajarah 2

Investigation conducted by – [Name removed]

Victim, deminer: [Name removed], DATE OF BIRTH: 1 April 1975, NIC NO: [Removed]

TEAM LEADER: [Name removed], Team: Bravo

TIME OF INCIDENT: 10:05 hrs, DATE OF INCIDENT: 26 July 2010

NATURE OF INJURY: comminuted metatarsal fracture with penetrating wound in his left foot

TYPE OF MINE: M14 AP mine

IMSMA DETAILED REPORT FOR MINE INCIDENT Monday, 26 July 2010,

Part 1 – Description of the incident

1. Organisation name [Demining group], JORDAN, Team No: Bravo
2. Incident date: 26 July 2010: Time: 10:05 hrs
3. Location of incident: NW SECTOR, Province: Ramtha, Village: Shajarah, Project or task No: Shajarah 2 (411)
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: Searching 12 o'clock mine
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 clearing an area assigned to him by the team leader and after he recovered an AT Saci mine he entered the contaminated hazardous area trying to locate the AP M14 12 o'clock mine with out following the SOP and the proper procedure , then he stepped on a non cleared area and activated the M14 which caused a badly injured to his left foot.

Part 2 – Injuries

10. Did the incident result in any injuries? Yes

11. List people injured and nature of injury

[Name removed], deminer, Fracture and Penetration wound in Lt Foot

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

Demining Boot, [Blast boot] Damaged (Not Reusable)

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.

AP (Blast) Mine, Buried

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

17. Comments (include measurements of any crater resulting from the explosion):
Crater Depth: approx. 17 cm / Width: approx. 20 cm

Part 5 - Site conditions

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

Ground/Terrain: Soft

Weather: Clear, hot

Vegetation: Heavy, grass

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 15 days

b. working on this task? 1 Month 15 days

c. working on the day? 3 Hours & 35 minutes

22. Detector type: F3, Serial Number: N14 691, Detector status: Functional, Passed to [Name removed] for technical inspection at Shajarh 2 Site(location) on 22 of July 2010. Tripwire feeler used? No.

23. Hand tool: HEAVY RAKE

24. PPE: Vest, Visor [Blast boots]



[A photograph of the Victim's damaged BfR V-50 blast boot after the event.]

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: (1) minutes

b. Time spent at site administering treatment: (9) minutes

c. Time from evacuation FROM to arrival King Abdullah Hospital: (20) minutes

Part 8 – Reporting procedures

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

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

Report compiled/translated by: [Name removed]

Verified by: [Name removed]

Findings

The deminer did not apply the marking system on the ground.

The deminer did not use the base stick

The deminer scratch the whole area around AT mine.

The deminer step on unclear area.

Piles of grass were found in the centre lane

Dirt crusts were found in the centre lane.

Operation Manager Analysis

The incident happened due to an individual mistake that the soil very soft and the instructions for the deminers in that site tells that the 1st 10 cm from the ground have to be checked by the MD then the soil have to be removed using the long handle RAKE after confirming that there is no metal in that layer in order to fill the expected cavities in the ground, then the deminer have to check that tray using the MD to insure that there is no mines up to 25cm depth (this because an incident happened in a similar task in Al Shajarah1 the last year when the foot of one of deminers slipped in the soft soil and activated M14 in a depth of 25 cm).



[The picture shows the detector in the foreground and a Heavy rake above the initiation site – so implying that the rake was in his hand at the time.]



From the incident result it is clearly obvious that the mine was not buried deeper than 20 cm, which mean that using the MD with the combination method the mine will be located and recovered safely, the metal detector checked directly after the incident and it was operating properly, but its look like the deminer was applying one of the following scenarios:

1st Scenario:

The deminer was using the metal detector from a long distance away from the surface of the ground more than 10 cm (see the photo), the vegetation, the site of the incident crater support this scenario.

2nd scenario:

The deminer was not following the proper procedure and he tried to locate the mine by guessing using the heavy RAKE, finding the heavy RAKE in that distance away from the base stick supporting this scenario.

Result:

1. There is no problem with the procedure that if the procedure followed in the proper way the incident could not happened.
2. The tools (the metal detector) checked and it was working properly and if it used the proper way it would locate the signal of the mine.
3. The team consist 5 deminers they supervised directly by the team leader, and they were quality assured by the internal quality assurance officer, the clearance coordinator and the external quality assurance team, the task visited last on 18 July 2010 by the external QA team and on 19 July 2010 by the internal QA and no major mistakes reported also the deminer himself visited by the team leader the same day of the incident And he was working properly, the attitude of the deminer and deciding breaking all the instruction at that time is not justified.
4. The incident happened due to an individual mistake that the deminer was not following the proper procedures as per as [Demining group] (NBP)SOP to locate, approach, mark and recover the mine.

Attachments:

Statements by Witnesses

Photographs of Injuries

Injury data sheet(s)

Photographs of Incident Site

Copy of Incident Report

Copy of Medical Report

Victim Report

Victim number: 879	Name: [Name removed]
Age: 35	Gender: Male
Status: deminer	Fit for work: not known
Compensation: Not made available	Time to hospital: 30 minutes
Protection issued: Frontal apron	Protection used: Frontal apron, Mask visor, blast boots

Mask Visor

blast boots

Summary of injuries:

INJURIES: severe Foot

COMMENT: "comminuted metatarsal fracture with penetrating wound in his left foot". See Medical report.

Medical report

A Medical report in Arabic is held on file. The pictures below show the would (open at the side and top of the foot) and the X-ray of the foot.



Statements

Statement 1: Witness deminer

I was removing grass from the beackets of the old work and then at 10:05 am I heard a sound of explosion from the west side of my site so I looked to find smoke coming from the deminer [The Victim] site and I couldn't see him from that smoke, I shouted 3 times (Accident), went to him, when I reached I found him lying on the center lane area screaming and in great pain then I held his shoulders and calmed him, other deminers came and we evacuated him out of the field where we found the nurse and the ambulance at the end of the lane, the nurse made some necessary procedures to him then they evacuated him to the hospital with the deminer [Name removed] who has the same blood type.

Q: Did the team leader give you the morning work brief?

A: Yes, he did.

Q: What is the reverse method to work on this field?

A: It is the Combination method and dig up to 15 cm.

Q: Did you notice any strange behaviors from the injured as you are the closest to him?

A: No, I didn't.

Q: Did you see the way he was working on?

A: No, I want that close.

Q: what was the depth average for the mines you cleared from that area?

A: Around 20 cm.

Q: How many times did the team leader check on you?

A: He did it twice that day.

Statement 2: Team Leader

On the 26th of July 2010 at 6:30 am we reached our working area and I started the morning work brief for the whole team and reminded them of the SOPs then distributed them to their locations, at 6:40 am I started my check on each deminer , at 10:05 am while I was making QC on the deminer [Name removed]'s site I heard a sound of explosion and I knew immediately that it was from the deminer [the Victim]'s site, I informed the ambulance and went to the accident site, I found the deminer [Name removed] there and the injured was lying on the ground on the center lane area, we evacuated him to the ambulance area, they made the necessary procedures to him then evacuated him to the hospital.

Q: How many times you checked on deminer [the Victim] work that day?

A: 3 times.

Q: What was his productivity that day until the accident happened?

A: around 7 m² (searching for missing mine method). 2 Sachi mines cleared, 3 AP mines cleared +the AP mine which was exploded by him.

Q: what is the average of the injured productivity?

A: Around 25 m² daily.

Q: Did you make QC on the same cluster which the accident happened in?

A: No, but I did to the previous cluster 3 times.

Q: Did you notice anything on the injured that day?

A: No, I didn't.

Q: Did he experience an explosion before?

A: Yes, on Sabha 1 task.

Q: Did you notice bushes of grass on the center lane area when you checked on the deminer?

A: No, he removed them all and put them on the bushes area.

Q: What is the average of the mine depth on the accident area?

A: Around 18-20 cm.

Q: Do you have any notes about the injured on your note book?

A: No, nothing.

Note: there was no note book with the team leader.

Analysis

Although the deminer may have had his detector in his hand at the time, the presence of the Heavy rake above the seat of the ignition, coupled with a lack of marking and a general disregard for the SOPs, suggest that this was a *Missed mine accident* and the Victim held the Heavy rake in his hand when he stepped on the mine.

The primary cause of this accident is listed as a *Field Control Inadequacy* because the Victim was working without proper marking and without regard to his SOPs when the accident occurred. The Victim was apparently hacking at the long grass with his Heavy-rake when he stepped on an unseen mine in the grass. When comparing the boot damage and the injury with other accidents stepping on an M14, it seems likely that the mine was on, or very close to, the surface. The secondary cause is listed as a *Management Control Inadequacy* because the investigators did not recognize a need for the supervisors to take responsibility when those under their control ignore the rules.

The demining group's concern to investigate accidents, correct errors and share accident reports indicates a commendable professionalism.