

# DDAS Accident Report

## Accident details

<b>Report date:</b> 14/01/2008	<b>Accident number:</b> 469
<b>Accident time:</b> 08:35	<b>Accident Date:</b> 01/07/2007
<b>Where it occurred:</b> MF No. 69270030, S40, North Marina, Aqaba, Wadi Araba	<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> 05/07/2007
<b>ID original source:</b> 01/07/2007 S-40	<b>Name of source:</b> JES
<b>Organisation:</b> [Name removed]	
<b>Mine/device:</b> PRB M35 AP blast	<b>Ground condition:</b> dry/dusty hard sandy
<b>Date record created:</b> 14/01/2008	<b>Date last modified:</b> 14/01/2008
<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> E 29.573281	<b>Map north:</b> N 34.978161
<b>Map scale:</b>	<b>Map series:</b>
<b>Map edition:</b>	<b>Map sheet:</b>
<b>Map name:</b>	

## Accident Notes

long handtool may have reduced injury (?)  
metal-detector not used (?)  
no independent investigation available (?)  
non injurious accident (?)  
standing to excavate (?)  
use of rake (?)

## **Accident report**

The report of this accident was made available in August 2007 as a PDF file. Its conversion to a text file for editing means that some of the formatting has been lost. The substance of the report is reproduced below, edited for anonymity. The original PDF file is held on record.

ACCIDENT INVESTIGATION FOR [Demining group] – MINE ACTION TEAM - JORDAN  
ISRAELI MINEFIELD NO. (69270030), SOUTH SECTOR AQABA, WADI ARABA  
GRID REF: N 34.978161: E 29.573281: 1 JULY 2007

## **INCIDENT REPORT**

ISRAELI MINEFIELD NO – 69270030, MINEFIELD TASK ID - S 40, SECTOR – SOUTH,  
PLACE - NORTH MARINA, REGION - AQABA

INVESTIGATION CONDUCTED BY – [Demining Group Operations Officer]

DEMINER: [the Victim]

DATE OF BIRTH: 10/06/1977

SECTION COMMANDER and TEAM LEADER: [Names removed]

TEAM : MANUAL TEAM ONE

TIME OF ACCIDENT: 08:35 AM, DATE OF ACCIDENT: 01 JULY 2007

NATURE OF INJURY: No injury seen or reported by medical final report

TYPE OF MINE : M35 Belgium Anti Personnel Mine

## **IMAS DETAILED REPORT FOR MINE INCIDENT SUNDAY, 01 JULY 2007**

Part 1 – Description of the incident

1. Organisation name: [Demining group], JORDAN Team No: MANUAL TEAM ONE
2. Incident date: 01/07/2007 Time: 08:35 AM
3. Location of incident: SOUTH SECTOR, WADI ARABA, AQABA, Project or task No: S 40
4. Name of site manager or team leader: [Name removed]
5. Type of incident: M35 Belgium AP MINE
6. Device was detonated by deminer.
7. Device detonated while: Raking with Heavy Rake.
8. Device was found in an area classified as: hazardous area
9. Narrative: A mine blast incident occurred at approximately 08:35hrs on Sunday 01/07/2007 in the minefield 69270030. The deminer detonated a M35 Belgium anti personnel blast mine due in direct contact to the top of the mine. At the time of the incident the deminer was wearing the PPE (Body vest and Goggles). Deminer tried to lift the top soil crust by using

heavy rake, The rake slipped and struck the mine resulting in mine blast. The deminer sustained no injury.

Mine Blast Location



Heavy Rake head



[The tines of this heavy rake are not curved enough: they bend with protracted use. This may have occurred in the mine blast. The error was corrected.]

### **Explosive hazard**

The mine that was involved in the accident was a M35 Belgium AP (Blast) Mine, on the surface, discovered by Raking with a Heavy rake. The crater depth was approx. 15cm. the width was approx. 30cm.

### **Site conditions**

The conditions at the site at time of the incident were: Medium, Flat. The weather was clear and hot. The vegetation was light bush.

### **Team and task details**

Manual demining Team One had been formed for one year. They had been working at the site for six weeks and at been at the task where the accident happened for one week.

The hand tool in use was a Heavy rake.

The victim was wearing PPE: vest and goggles

### **Medical & First Aid**

Medical treatment was provided at the accident site by the site medic. It took five minutes for the Victim to be moved to the site medical point where he was treated for fifteen minutes before being taken to Aqaba hospital. The hospital trip took 10 minutes, so the Victim was in hospital 30 minutes after the accident.

### **Reporting procedures**

The investigation was conducted by [Demining group] Operations Officer. The report was compiled/translated by [Name removed]. The report was presented on 05/07/2007.

### **Attachments:**

Statements by Injured

Statements by Witnesses

Copy of Medical Report [Medical report scans were included but are not legible, so are not reproduced.]

## **Victim Report**

<b>Victim number:</b> 629	<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> Not appropriate	<b>Time to hospital:</b> 30 minutes
<b>Protection issued:</b> Frontal apron Goggles	<b>Protection used:</b> Frontal apron, Goggles

### **Summary of injuries:**

COMMENT: Non-injurious accident.

## **STATEMENTS**

### **Statement 1: the Victim**

Date: 01 July 2007

I work with section number four manual team number one at minefield number 69270030, and after breakfast break I entered my lane at 8:30, and while I am raking with heavy rake and trying to pull out a big solidified piece of sand a mine blast occurred. Immediately after that I walked out of the minefield.

Question 1: Did you follow the right procedures during your work?

Answer: YES

Question 2: If you followed the right procedures, how the mine blasted without hitting the top of it?

Answer: maybe it was stuck to the ground while I was trying to pull the sand?

Question 3: Do you have any injury?

Answer: No.

**Statement 2: witness**

Date: 01 July 2007

I was working in the lane beside [the Victim's] Lane at minefield number 69270030, I heard the blast, and I saw the sand, then I went to [the Victim] and called "Accident Accident".

Question: Did you see [the Victim] working with the heavy rake?

Answer: No.

**Statement 3: Site medic**

Date: 01 July 2007

I heard the blast coming from the site of section four and before informing that an accident happened the Ambulance was turned on and ready to go. Immediately after the section commander informed the deminers that an accident happened, we went to the site of blast, tested [the Victim] and found him without injury.

After a while [the Victim]'s pulse and blood pressure have been tested, and then the site medical coordinator [Name removed] informed by me, and requested to move [the Victim] to the hospital for the last check up, and after that the doctor said that there is no injury and he is in a good condition.

**Statement 4: Section Commander**

Date: 01 July 2007

I was in minefield number 30, and [the Victim] was following the right raking procedures, then I heard the blast, and informed about it, then went to check up on [the Victim] and found him without injury.

Question 1: Did you saw [the Victim] hacking the ground by heavy rake?

Answer: No.

Question 2: Did [the Victim] follow the right raking procedures?

Answer: Yes.

Question 3: How do you think that the accident happened?

Answer: I think that the blast occurred when [the Victim] tried to pull out the solidified piece of sand.

**Statement 5: Team Leader**

Team Leader

Date: 01 July 2007

I was walking to the minefield number 69270030, to the section number four. I saw the blast, and then I informed that an accident happened, and to all section to stop the work, then informed the Ambulance to move to the entrance of minefield 69270030, and saw [the Victim] walking out from the minefield.

Question: Did you see the accident itself?

Answer: No, just heard the blast, and saw the flying sand.

#### **Statement 6: Sector Coordinator**

Date: 01 July 2007

In was at the control point while I heard the blast from minefield number 69270030, immediately moved to the site, and saw the team leader and the section commander with the deminers moving to the entrance of the minefield. We stopped the work and called the Ambulance to come for check up. Then tried to know what to exactly happen and taking the statements from all the persons there after informing the operations manager.

And after checking the site, the deminer, and his tools, I think that he was telling the truth in his statement and he wasn't hacking the ground using the heavy rake.

#### **Analysis**

The primary and secondary causes of this accident are listed as "Unavoidable" because the hard crust on the ground surface could only be broken by using force. In this case, that force was enough to detonate the mine. The demining group had put in place the use of a long tool (rake) that kept the Victim far enough away from a blast to avoid injury, and his PPE was effective at protecting him from any risk remaining at that distance. Had he been using conventional short hand-tools, some injury would have been expected.

This demining group acknowledge the fact that stand-off (distance from the detonation) is the most effective PPE and their Rake Excavation system makes use of this. It is possible that the extreme length of the tool makes initiation of small AP blast mines with the Heavy rake more likely, but any increased risk of initiation is offset by the reduced chance of that initiation resulting in injury. The accident is a good example of balancing an effective demining process and PPE to result in a very low risk of injury.