

DDAS Accident Report

Accident details

Report date: 25/06/2008	Accident number: 584
Accident time: 12:45	Accident Date: 13/04/2008
Where it occurred: Sabha, Almafraq, Sabha1(392)	Country: Jordan
Primary cause: Other (?)	Secondary cause: Field control inadequacy (?)
Class: Missed-mine accident	Date of main report: 13/04/2008
ID original source: None	Name of source: Demining NGO involved
Organisation: [Name removed]	
Mine/device: M14 AP blast	Ground condition: rocks/stones
Date record created:	Date last modified: 25/06/2008
No of victims: 1	No of documents: 1

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

inadequate investigation (?)
metal-detector not used (?)
mine/device found in "cleared" area (?)
use of rake (?)

Accident report

Details of this accident were made available by the demining NGO involved soon after it occurred in April 2008. The record was supplied as a *.PDF file and some of the formatting has been lost in its conversion to a DDAS file. Text in square brackets [] is editorial. This record will be revised if more information becomes available.

Preliminary Demining Incident Report

From: [Demining NGO] 13/4/2008 06:10 PM

To: National Committee for Demining & Rehabilitation, Amman, Jordan

Subject: Demining Incident Initial Report

1 Organisation sub unit, site office/project number, team name/number: [Demining NGO], NBP (Sabha), SP1

2. Location (province, district, village, task no): Sabha, Almafraq, Sabha1(392)

3. Date and time of incident: 13/04/2008 12:45 PM

4. Name of the injured: [the Victim]

a) Names or casualty identification numbers (CIN). Deminer

b) Description of injuries: Fracture in the heel and Secondary Frag in the Legs

c) Treatment given: Evacuated to KAH

d) Current condition of casualty (ies): Stable. No problem he stayed in the hospital for more inspections

5. Evacuation methods, routes, destinations and estimated arrival times.

Time of accident: 12:45hrs

Time of arrival at the section medical point: 13:50hrs: 65 minutes

6. List equipment/facilities/infrastructure damaged: No Damage

7. Describe how the incident occurred.

The deminer was working within the Site Preparation Stage to identify the centre of the mine line and an IOE was already identified and recovered the expected mines about 15m to our side from the mine centre line which already quality up to the assigned depth (15cm) and all the mines recovered from the site were a surface mines and when the deminer trying to bring out some stones he stepped on un expected mine in the site with the heel.

8. Contact details of key personnel: [Name removed]

9. Any other information including:

According to the preliminary investigation the incident is caused due to unpredictable risk (the mine is not in the predict depth and site) according to the Mine field record and laying pattern.



[Many mines are visible in the minefield.]

a) Did the incident occur in a cleared, safe or contaminated area? Accident occurred in the cleared area

b) Device type (if known): Anti personnel Mine M14

10. Any other relevant information.

Detailed Accident Report will be submitted within 7 days.

This report was done by the NPA internal Investigation Board comprising of Operations Coordinator and Sector Coordinator.

Mine Incident Details

Introduction

Lane (2/6) where the incident took place was closed on 27 March 2008 because the Deminer who was working in that lane belong to Alrisha team and he attached to Sector Coordinator [Name removed] to join the manual clearance team and be ready for sharing Alrisha team clearing the first clearance task on the 1st Apr 2008.

On 13 Apr 2008 the casual assign to continue the work in that lane as a part of SP to identify the turning point in that site and he recovered an AT (M19) mine and returned it to the mine pit after been defused by the section commander and proceeded his work and while he trying to move some stones out side the Lane in the area which supposed to be cleared he stepped on mine in his right foot.

The deminer evacuated as per [Demining NGO] NBP SOP and the site Closed for investigation.

Lane History around the Accident Site

[Table listing personnel who worked in the area removed.]

Accident Reason Assumptions

1. Assumption 1: The mine laid on a depth more than 15cm.

A. Analysis

- i. The area was stepped and used from the day that the mine was passed (expected on 24 Mar 08) up to the accident day (13 Apr 08) which support the idea that the mine was deeply buried and it need a heavy weight to activate it in that depth under the loosened dirt and that needed came from the casualty when he stepped on the mine spot with his right foot and was carrying a bucket of stones more than 20Kg and lifting the another foot that all the weight was approximately in the mine at least 100kg (the deminer + the stones bucket).
- ii. The accident result shows that the mine was not contact to the bottom of the mine boot or at least with the distance of the sett off of the mine (10 cm)
- iii. The trenches depth in both side close to the accident shows that the area raked up to more than 15 cm and the area around the accident was loosened up to more than 15cm when the 30cm marking stick used to gauge the depth but this not found an accurate indicator for the depth because when it used in the unraked area it gave high depth because the area is not hard.

B. Conclusion.

- i. To avoid a similar accident the area must search up to 20cm through the site preparation phase.
- ii. The area that includes the clusters must be search up to 30cm all the ways even if all the mines of the cluster found and recovered.
- iii. In a situation of missing mine the missed mine drill must be applied and the sector coordinator have to evaluate the situation himself.

2. Assumption 2: The mine missed from the deminer on a depth less than 15cm

A. Analysis

- i. All the mines around the cluster in the mine accident vicinity were on the surface and there is no indication for a water course or flood to support the suspicion that the mine deeply buried.
- ii. By investigating the site accident and gauged the distance from the explosion remnants (which represent the bottom of the mine) the depth was 17cm and if subtract the mine length (5cm) the result (12cm) represent the distance from the top of the mine to the surface (the depth of raking).

B. Conclusion.

- i. The mine maybe missed by the deminer as a result of not applying the required depth or by not applying the raking methodology standard especially raking tray.
- ii. To avoid a similar accident the raking depth must be applied by enforcing the internal QC from the Section commander up to the Ops Manager.
- iii. The areas around the clusters and in the expected [area] checked thoroughly and evaluated from the sector coordinator before continuing the work.



[Measuring crater depth]

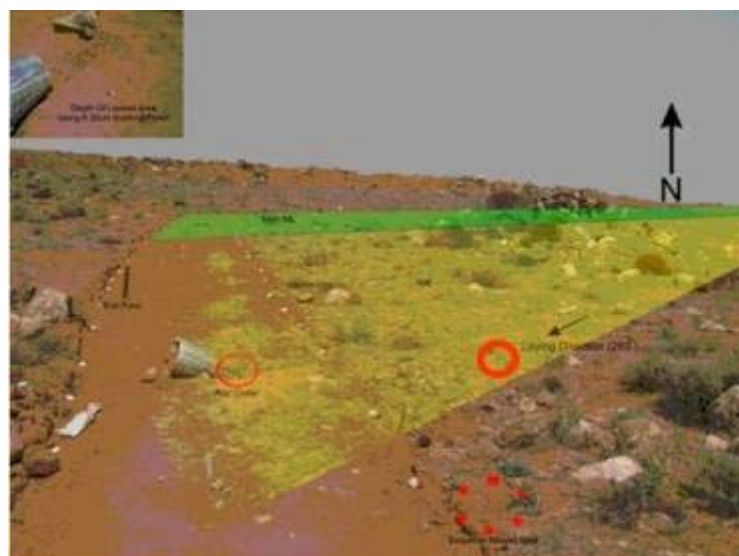
3. Assumption 3 the mine [was] shifted to the accident site after the area have been cleared

A. Analysis.

- i. The lane was stepped many times forth and back by the deminer, the section commander, the team leader, the sector coordinator, the TS sector coordinator and the ops coordinator for at least 4 days after the deminer cleared the mine accident area.
- ii. The work stopped in the line on 26 mar 08 because Alrisha team moved to prepare the a clearance tasking and refreshed to be ready for the 1st clearance task in MF 398 and the work proceeded in the lane on 13 Apr 08 (16 days after closing the lane).
- iii. The mine site is irregular (not in the expected position) comparing with the MF records, the mine pattern and the clusters in the vicinity.

B. Conclusion.

- i. Lightly combing the site which need to be closed for a long time and visually check the lane when reopened for work to see any trace of animals or disturbance the already cleared lane.
- ii. Recovered all the AP mines that the grabber can reach (1m) and marking it the same way (1m on the both sides of the lane) before closing it.



[The accident site.]

Result.

1. Assumptions 1 and 2 controlled and the accident can be avoided by following the mentioned recommendations.
2. Assumption 2 is not controlled but following the mentioned recommendations the risk can be minimized and even if it's not reasonable it still assumption.
3. Assumption 2 is more likely represent the fact because the inputs for this assumption are more reasonable and the site investigations supporting it.

Recommendations

1. Reinforcing the internal QC.
2. Increasing the depth of raking in the site preparation stage to 20 cm.
3. Applying the missed mine drill.
4. disposing all the recovered mines by the end of the working day and if for any reason the mines need to be disposed later the mines must counted and sustained in a locked cage.
5. Issuing a written warning letter for in charge sector coordinator.
6. Replace the team leader and the section deminer.
7. Suspend the deminer who cleared the lane.

Victim Report

Victim number: 760	Name: [Name removed]
Age:	Gender: Male
Status: deminer	Fit for work: not known
Compensation: Not made available	Time to hospital: 65 minutes
Protection issued: Frontal apron Long visor	Protection used: Not recorded

Summary of injuries:

minor Legs

severe Foot

COMMENT: No Medical report was made available.

Analysis

The primary cause of this accident is listed as "Other" because it seems likely that the mine was either concealed too deeply to be found during the raking method used to clear breaches into the minefield, or the mine was deliberately moved into a cleared area. Calculating the depth of the mine by examining the crater is unreliable without a soil-hardness tester, so the

investigator's belief that it was deep is unproven. The ground was hard and rocky and most mines were either shallow or visible. Having examined the area myself, I can see no way that a single mine could have become deeply buried. This means that the deliberate replacement of one of the many mines that were visible surrounding the breaches in the minefield appears the most credible explanation of the presence of this mine in the centre of a well traversed area that had been cleared using rakes.

The secondary cause is listed as a "Field control inadequacy" because the investigators determined that the internal QA may not have been reliable and saw fit to discipline the field controllers and the deminer who originally cleared the breach.

The investigation is listed as inadequate because it lacks the detail required in the National Standards and in the demining group's SOPs.

This record will be revised if more information becomes available.