

4-10-2007

# DDASaccident485

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*AID*

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# DDAS Accident Report

## Accident details

<b>Report date:</b> 18/01/2008	<b>Accident number:</b> 485
<b>Accident time:</b> 11:55	<b>Accident Date:</b> 10/04/2007
<b>Where it occurred:</b> Bagram, Tapai Shir Khan, Kohi Safi District, Perwan Province	<b>Country:</b> Afghanistan
<b>Primary cause:</b> Field control inadequacy (?)	<b>Secondary cause:</b> Unavoidable (?)
<b>Class:</b> Excavation accident	<b>Date of main report:</b> 07/05/2007
<b>ID original source:</b> None	<b>Name of source:</b> UNMACA
<b>Organisation:</b> [Name removed]	
<b>Mine/device:</b> PMN-2 AP blast	<b>Ground condition:</b> agricultural (abandoned) building rubble
<b>Date record created:</b>	<b>Date last modified:</b> 18/01/2008
<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-069 37 783	<b>Map north:</b> N-34 86 004
<b>Map scale:</b>	<b>Map series:</b>
<b>Map edition:</b>	<b>Map sheet:</b>
<b>Map name:</b>	

## Accident Notes

handtool may have increased injury (?)

inadequate training (?)

squatting/kneeling to excavate (?)

## 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. Text in [ ] is editorial.

## Demining Investigation Report

### Derived from IMSMA forms

Place of accident: Bagram, Tapai Shir Khan, Kohi Safi District, Parwan Province WGS 84, E-069 37 783: N-34 86 004.

### History of the Minefield:

Task # 03/0305/010/ H 1519 locates at Shir Khan Ghundai of Mula Ahmad Khil village, Kohi Safi District, Parwan province and is a part of Impact Survey 1346, SHA-01 reported by ALIS as medium impact community.

As a part of the Bagram Airbase security belt, a military post existed on top of the Shir Khan Ghundai. On 1984, the Russians and then government forces planted mines around the post for preventing Mujahidden attacks on the post. Bagram Airbase locates at northwestern of this area. Three mine accidents on military personnel and 13 on animals have happened. This is an agricultural area, vegetation inside the minefield was low grass and low bushes with some scattered small dead trees, one part of the task is grape garden with dead trees and the other part of the minefield is pasture. The nearby village by the name of Durani locates in 500 m distance western of the task.

Previously about 180 families were living in this village, due to internal fighting they emigrated from this area. For the time being about 50 families have returned back and are living in this village. Direct beneficiaries of this task are 4 families consisting about 48 persons and indirect beneficiaries of the task is all the villagers.

Survey of this task has been completed on 01/09/06 and [International demining NGO] MCT-03 has started its clearance on 01/12/2006. Size of the task is 49991 sqm of which 2957 sqm has been cleared, 4 PMN-2 anti personnel mines and 4 different types UXO have been discovered in this task so far.

[The accident site, showing the mud-brick wall that has collapsed at the accident place.]



### Description of the incident/accident

On 10 April 2007 at 1155 hrs while deminer [the Victim] with employ No. 4094 was working in his clearance lane after 3 m progress in the lane his trowel hit top of a PMN-02 anti personnel mine, as a result the mine exploded and the deminer sustained some injuries. Since the deminer was fully dressed with PPE and down visor, the deminer injuries are superficial. The victim right hand wrist and two fingers were injured.

The distance of the designated hospital from the accident site was 67 km. Time for ambulance to drive from site to hospital took one hour and forty minutes (from 12:10 to 01:50

pm). The site doctor [Name removed], two deminers by the names of [two Names removed] with the same blood group as the casualty and one paramedic of the team by the name of [Name removed] accompanied the casualty as a rescue team during evacuation from site to the hospital.

At approximately 11:55 as soon as the accident occurred the team leader reported the relevant site supervisor and doctor then the supervisor informed the NGO headquarter, but the AMAC office was not informed on the occasion through telephone or radio by any responsible personnel of the NGO, we received its e-mail at 12:43 and was informed by [Name removed], UNMACA CoO, telephone around 02:00 pm.

CASEVAC drills records existed with the team, but the team leader and paramedics could not brief about the last CASEVAC drill properly.

Activ10 refers to the activity being performed at the time of the incident, e.g. supervising deminer, prodding, using meta detector, using dog to search under & raiding etc.

Description of damage to property: 1. Visor belt has been disconnected from the visor; 2. Cover of the PPE vest was torn.

Site conditions at the time of the incident/accident): The terrain was "flat, hillside and open". The soil was medium and wet. The weather was clear, calm and mild. The vegetation was light. Grass and bush.

The team had been working at the site since 01 April 2007. They worked from 6:30 to 1:30 each day. Morale was "normal". Handtool used was a "trowel". Last leave was from 22 March 2007 to 31 March 2007.

Medical reaction time:

The paramedic was on the site at 11:55 and started treating the Victim at 11:57. The ambulance left the site at 12:10 and arrived at the hospital (67 km away) at 13:50.

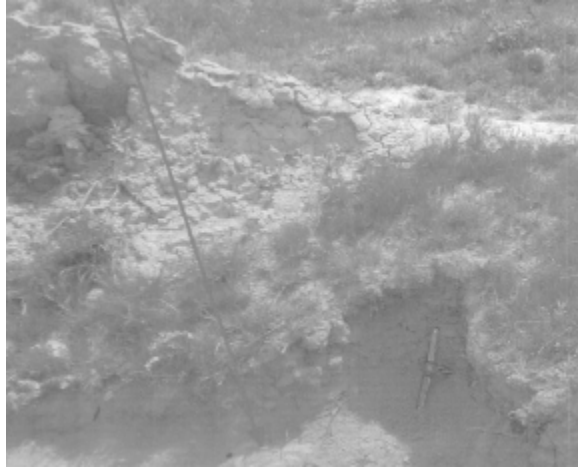
## **Conclusion**

1. The actions has taken by all those members of the team involve in the rescue and evacuation of the casualty were appropriate. The on site medical procedures and medical care provided on the site was sufficient for the type of injuries sustained. The transfer of the casualty from the accident site to the ambulance and then to the hospital was timely and well controlled.

2. The deminer was fully dressed with PPE and was working with the appropriate hand tools; therefore, his body received minor and superficial injuries

3. The accident has occurred near corner of a ruined mud wall, the mud of the wall has gradually huddled on the ground surface as its height reached to 40 cm at the accident point, the deminer has failed to firstly remove this soil from original surface of the ground then consider the 15 cm depth from original surface of this area.

[The picture below shows the accident site and the depth of the collapsed wall.]



4. The team command group are employed to control the deminers to prevent them from practicing wrong working procedures, but the team leader and the assist team leader who has failed to control the deminer not to practice wrong working procedure which shows weak command and control of the team leader and the assist team leader.
5. The [International demining NGO] relevant site supervisor or field officer is to inform the AMAC office, as an initial accident information, through CODAN radio or telephone as soon as practical after the occurrence of accident till the AMAC investigation team be able to visit the accident site at its original shape and undisturbed, but they did not notify AMAC office at site level which shows difficulties regarding command and control experienced by the site supervisor and field officer on the ground.
6. Soon after the initial report is dispatched, the detailed written investigation report is to be prepared by the accident involved NGO and should be submitted to the AMAC office soon, but it has not been delivered to the AMAC office so far.

### **Recommendations**

1. Whenever the deminers are working on an area on which sediment soils have been gathered, they must firstly remove the sediment soils from the original ground surface then consider 15 cm depth.
2. The team command group should strictly control the deminers and do not let them practice wrong working procedure and ensure that they are working in accordance with set procedure.
3. The team is to ensure that the accident site has been completely secured to its original shape for the AMAC investigation team
4. The site supervisors are to inform at the same time the [International demining NGO] office and then the AMAC office by telephone or CODAN radio as initial accident information after the accident as soon as practicable after occurrence of the accident, till the AMAC investigation team be able to visit the site at its original shape and undisturbed.
5. The involved agency should fill Demining Accident Report form and submit to the related AMAC within one day of the accident happened.

### **Attachments [Not made available]:**

Statements by Injured Members Statements by Witnesses Statements from Dr. at Hospital  
Sketch Plan of Incident Site Photographs of Injuries

Injury data sheet(s) Photographs of the Site Copy of Survey Map

Copy of Incident Report Copy of Accident Report Copy of Medical Report Copy of Injury Card

[The torn cover of the PPE vest and broken plastic head-frame of the visor. The trowel is top left. It is a large plasterer's trowel, mild steel with wooden handle. The photograph is unclear, but it seems to be broken.]



[An exchange of letters asking for the International demining NGO's internal report has been omitted.]

## **LESSONS LEARNED SUMMARY**

Subject: Investigation Reports & Lessons Learned from the Demining Accident on a Deminer of HALO Trust MCT # 3 at Kohe-Safi district of Parwan province

Please attached find the investigation report and lessons learned from the demining accident that was happened on a deminer belonging to HALO Trust MCT # 3 on 10th April 2007.

Best regards, Distribution List

Complete Investigation Report to HALO Trust

Lessons Learned to:

[The other demining groups working in the region.]

DEMINING ACCIDENT ON DEMINER OF [International demining NGO] AT KOH-E-SAFI

DATED 10 APRIL 2007

### **INTRODUCTION**

1. As a result of a mine accident on 10 April 2007, the investigation team from AMAC Kabul comprised of [name removed] the Quality Management Assistant (QMA) and [name removed] the member of Quality Management and Inspection Team conducted an investigation in accordance with UNMACA Standard Work Procedures.

2. The accident involved a deminer from [International demining NGO] MCT # 3 named [the Victim]. In result of the accident, the deminer got some superficial injuries as his right hand wrist and his two fingers wounded

### **SUMMARY**

3. On 10 April 2007 at 11:55 Hrs while the victim deminer named [the Victim] was working in his clearance lane, after forwarding 3 meters ahead in the his cleared lane, his trowel would hit on top of a PMN-2 mine and in result the mine explode. Since the deminer was fully dressed with PPE and down visor, the sustained injuries are superficial.

4. The distance from the accident point to the designated hospital is 67 Kilometre and it took one hour and forty minutes to carry the injured deminer there.

## CONCLUSIONS

5. The investigation concluded that the accident has happened because of the following reasons:

a) The accident has happened near the corner of a ruined muddy wall as because of timeworn, wetness the mud gradually poured down and reached to 40 cm at the accident point. The deminer has failed to firstly remove this soil and then address the original surface of the ground with 15 cm depth.

b) The command group failed to notify this deminer not to practice the excavation drill in this specific portion.

c) AMAC has not been given the initial information about the mine accident directly from the accident site via radio, telephone or any other possible communication tools but the report has been emailed to UNMACA first and then AMAC got the information from UNMACA Chief of Operations about 2 hours later. On time passing the demining accident report to the respective AMAC will help the investigation team to visit the area sooner and see the accident spot undisturbed and at its original shape and condition.

## RECOMMENDATIONS

6. The following are recommended by the Investigation Team

a) Whenever deminers work in areas, on which sediment soil exist, they must firstly remove the extra soil systematically and safely in layers and after the original surface is appeared then 15 cm depth to be considered.

b) During the excavation/prodding, if the deminer could not succeed to find the target, he should not go forward but he is to reconfirm the reading again and start excavating another layer and move on a bit deeper toward the centre of the reading point; the same procedure should be repeated until either the target is found or no signal is detected on the reading. Deep mine could be found in the second or third layer but if the deminer passes the centre of the reading, he applies excessive force on the mine and that will lead to the uncontrolled explosion.

c) The team's command group should strictly monitor the deminers and do not let them practice the drills incorrectly.

d) The teams are to ensure the accidents sites have been completely secured and remained untouched until the investigation team's arrival.

e) The Site Supervisors are to inform the respective AMAC of the accident within 30 minutes.

Signed: Chief of Operations UNMACA Kabul, Afghanistan

## Internal Memo

To: Chief of Operations, UNMACA Kabul

From: Chief of Quality Management, UNMACA Kabul

Date: 07 May 2007

Subject: Demining Accident Investigation Report [International demining NGO] in Koh-e-Safi Parwan.

With reference to demining accident investigation report of AMAC Kabul, dated: April 23, 07, the investigation report was reviewed and the necessary correction was brought in.

We support the recommendation of the investigation officer and would like to add on a recommendation on the excavation drill in for such causes.

During the excavation/prodding once the deminer reach the exact reading (already pin pointed during his search) if he could not succeed to find the target he should stop and not move forward. He has to reconfirm the reading take another layer and move on a bit deeper toward the centre of reading point. Detected deep mines could be fined in the second or third layer. Otherwise if cross the centre of the reading he applies the excessive force on the mine and that will lead to the explosion.

Regards, [Signed]

## Victim Report

<b>Victim number:</b> 648	<b>Name:</b> [Name removed]
<b>Age:</b> 27	<b>Gender:</b> Male
<b>Status:</b> deminer	<b>Fit for work:</b> not known
<b>Compensation:</b> Not mae available	<b>Time to hospital:</b> One hour 55 minutes
<b>Protection issued:</b> Short frontal vest Long visor	<b>Protection used:</b> Short frontal vest, Long visor

### Summary of injuries:

severe Hand

COMMENT: The victim was hospitalised, so a severe injury is inferred. No Medical report was made available.

## STATEMENTS

### Statement and Witness Report 1: Team Leader MCT-03

11/04/007

Please answer the following questions:

Q#1: Please explain in detail what you know about the accident?



A# 1: On 10/04/007 at 11:55 in MF# 1519 during the work [the Victim] deminer (ID# 4094) whose blood group is B+ was injured by explosion of a mine, the mine exploded while the small shovel stroke the mine, which was located deeper in the ground.

The accident happened suddenly and then the first aids were applied to injured deminer and he was carried to hospital, and now his condition is good.

According to SOP of [International demining NGO] he was using all the equipment correctly and accordingly.

Q#2: Please explain when you started the demining operation to this area, how much area has been cleared and how many UXO and mine have been found and destroyed so far?

A#2: The mentioned task was surveyed on 01/09/006 which has totally 50000 sqm area and then on 1/12/006 manual team# 3 started clearance operation and so far cleared 2957sqm, also 4 PMN2 mine and 4 UXO have been found and destroyed.

Q#3: When and who planted the mines and contaminated the area?

A# 3: The mines were planted by Russian and former president Najeebullah forces in 1984 to protect the airport.

Q#4: In which direction and distance the MF is located from the Bagram airport?

A#4: The area is located to north west of the airport and has much distance.

Q#5: When does the injured person started demining work, how much was the depth of the exploded mine, which tool was using while the accident happened and are you satisfied of the detector which you are using?

A#5: The injured deminer started the demining work on 11/12/007 in this task and the mine, which causes the accident, had approximately 30cm depth under ground. The area was searching by 420H and 390H detector, which is currently also completely useable and active.

The deminer was working correctly and had worn all the protective equipments.

The other mines which have been found had 10 cm depth, but the exploded mine depth was 30cm which is 3 times more.

Q#6: How old is the injured deminer and when he started to be a deminer?

A#6: He is 27 years old and started demining activity since 2006.

Q#7: What do you think which mistake of the deminer caused the accident?

A#7: I think the depth of the mine caused the accident.

Q#8: In my opinion the depth of the mine was not much, but the soil of the ruined wall has covered the ground and first should the sediment soil had to be removed, then from the original ground level the area had to be cleared with depth of 15cm, which is not done, please say why?

A#8: I should say that the clearance work was to depth of 15 cm in first working lane of east, and then the right side, which had soil of ruined wall, had to be cleared and the accident happened in side of first working lane.

The soil removing had done to depth of 15-25 cm, which is visible in the area.

Q#9: How much is your daily working hours and how many times for which period do you have rest?

A#9: Our working hour is from 6:30 to 1:30 and after each 30 minutes we have 10 minutes rest. The work is stop at 1:30 and till 2:00 the team leader does the check and after check of team leader we leave the area to our camp.

Q#10: Which number ambulance carried the injured deminer to hospital; please say the driver name and the call sign of the ambulance?

A#10: Ambulance # 136 by driving of [Name removed] and call sign of Delta-27 carried the injured deminer to hospital.

## **Statement and Witness Report 2: Field Doctor**

Date 11/04/007

Please answer the following questions:

Q1: How the accident occurred and also explains first aid implication?

A.1: At 11:55 hrs accident occurred meanwhile I reached myself with ambulance near to the minefield. I talked to the team leader by VHF and told him to sent paramedic for first aid implication to the patient till I would get there.

I was accompanied the patient and implied him the following medicine:

Vial.B, Pencillin, Serum, Plasma, Amp. Pent. Amp. Pentazocin, then patient was shifted to Wazir Akbar Khan hospital and it took one hours and 40 minutes time.

Q2: When hove the patient hospitalized and what parts of his body received injuries?

A2: His right wrist, index finger, minimum finger and some light shrapnel's on his body. Distance from minefield to the hospital is 67 Km and took one hours and 40 minutes.

Q3: Who were accompanied the patient during transferring him to the hospital and which sources HQ has informed?

A3: Two deminers ([Names removed]) whose blood group were the same with the patient, [Name removed] paramedic and myself.

At first supervisor was informed by VHF and then at the way toward hospital contact was made through HF with our base station Bagram.

Q4: How is the patient current health conditions and where is he now?

A4: He is at hospital and would release as soon as his wounds recovered. His health condition is fine.

Q5: Are you satisfied with medical equipment which team has in the field or do you have any recommendation suggestion?

A5: I am fully satisfy with the medical equipment and medicine which team has at the field. No comments.

Q6: Is the team being practiced CASEVAC drill, if yes how often they do the drill and who is controlling the drill when was the last practice which team had done prior to this accident?

A6: Yes we do this drill on our teams' monthly base. Field doctor and supervisor are controlling the drill.

Last drill happened on 03-04-2007 on [Name removed] and Dr. [Name removed] was controlling the drill.

### **Statement and Witness Report 3: Assistant Team Leader**

Date 11.04.07

Question: No.01 Please explain how the accident happened?

Answer: Prior to the accident 5 minutes before of the work starting time I control the working Lane and observed that deminer [the Victim] was busy with the excavation and he had worked for 3 meters a head and there was no problem in his working procedures. He had excavated about 20 Cm and from the side he had excavated about 15 Cm. I got out from this lane and went to the other lane along with this lane that suddenly the accident happened. I tried to reach to the lane as soon as possible and helped the deminer and we did the first aid help. His right hand was injured his lane was well prepared. At the beginning he had worked for 3 Cm and he had checked the detector and after 3 Cm he had started the excavation then at the right side of the lane the shovel touched the mine and caused the accident.

Question: No.02: In your opinion what was the main cause of the accident?

Answer: The main cause of the accident is as bellow we have found 4 No. Mine of PMN2 which was buried in depth of 10 Cm and we have exploded them and this mine which caused the accident has a little bit more depth. The deminer had used the PPE and the visor.

Question: No.03: In your opinion if a mine is buried deeply which method we should use to avoid such accident in the future?

Answer: Where we find a deep buried mine we should excavate deeply to discover the mine safely.

Question: No.04: As per your information the deminer was working with his right hand but the area was not suitable to be excavated from the right side. On the other hand the scraper was damaged from the top what is your opinion about this.

Answer: We are doing the excavation to discover a mine from the bottom of the land to the surface. It was better if he was working at this part of the string by the left hand because was open and flat.

### **Analysis**

The primary cause of this accident is listed as a "Field control inadequacy" because the investigators determined that the Victim was not instructed to work to an appropriate depth in the area. The secondary cause is listed as "Unavoidable" because it is possible that the Victim was working properly in the manner in which he was trained when the accident occurred.

The builder's trowel used by this Victim is not a safe tool, breaking all of the design requirements for a blast resistant tool.

The demining group disrupted the site before the investigation could take place and delayed the submission of their internal report on the incident, both of which were management control inadequacies.