

# DDAS Accident Report

## Accident details

<b>Report date:</b> 02/02/2008	<b>Accident number:</b> 548
<b>Accident time:</b> 10:55	<b>Accident Date:</b> 22/12/2005
<b>Where it occurred:</b> Doopushta Village, Injil District, Herat 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> 19/01/2006
<b>ID original source:</b> OPS/20/05/752	<b>Name of source:</b> UNMACA
<b>Organisation:</b> [Name removed]	
<b>Mine/device:</b> PMN AP blast	<b>Ground condition:</b> dry/dusty hard
<b>Date record created:</b>	<b>Date last modified:</b> 02/02/2008
<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> UTM	<b>Coordinates fixed by:</b> GPS
<b>Map east:</b> E 34'27'27.6	<b>Map north:</b> N 061'26'12.7
<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 (?)  
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

Date of incident/accident: 22 December 2005

Date of report: 22 December 2005

Location: Former Border Regiment-5, Dopushta, Injil District, Herat Province

GR: UTM; E 34'27'27.6: N 061'26'12.7: GPS

The evidence and pieces of the mine found at the accident site show the exploded mine was a Soviet PMN anti personnel blast mine.

Device that caused the incident/accident: known AP PMN mine.

Device was detonated while Deminer was investigating on a signal by bayonet.

#### **History of the Minefield:**

On 1st December 2005, [National demining agency] MCT-12 started their normal operations on MF-No.011 in Dopushta Lewa-I-Sarhadi-5 village, Ghoryan district of Hirat province, which is located 75km to the West of Herat city 35km from the IRAN border. The specific MF location is next to the Islam-Gala Herat main road and the village is located 200m away from the MFs. This location was big military base during the Russian invasion.

Based on statements received from previous colonel in this former military base and from residents of the village, mines were planted during Russian invasion all around military base for security and protection.

During the Taliban regime they used Tanks to explode mines as a try to make the land safe and according to information by locals, plenty number of mines were exploded by the tank but not all.

Based on LIS data, 13 mine accidents have been occurred on human and animals.

The Minefield was surveyed in 1998 by [specialist national agency] survey team, but due to a shortage of resources the clearance of this area had been postponed until now; in Nov 2005, the MF was resurveyed and on 1st of December 2005, [National demining agency] MCT-12 tasked by AMAC to clear this minefield (MF-011).

#### **Description of the accident:**

The deminer was investigating the signal and excavating by sitting/squatting position and his prodder/bayonet detonated the PMN mine. The evidence on site shows that the excavation of the signal started from the first mark, and not 30cm back from the indication. The bayonet directly touched the mine causing a detonation. This indicates he was not conducting operations with the correct procedure.

The deminer received superficial injuries on his right leg, knee, and right hand and on right chest and unusually his left small finger. The equipment of deminer PPE and Bayonet were damaged during the accident.



[The Victim's visor: the disposable scratch guard was heavily damaged.]

The damage to the vest was minimal and there was no damage to the lower protective piece that covers the knees and legs. This lack of damage and his injuries indicates the deminer was sitting/squatting with the lower protective piece between his legs and was not kneeling and thereby exposed his right knee to the detonation. All the blast fragmentation damage was also along the right side of the vest and visor further indicating he was facing sideways when the mine exploded. There is only damage, to the right side of the visor. The deminer was not kneeling and fully protected when the accident happened.

It is possible that the position of the mine had changed over time and the ground in that location was hard.

The accident occurred at 10:55 hrs, and the AMAC received the initial report through HF radio on 11:15 hrs. The team had already collected the demining tools from the site before arrival of investigation team to site at 13:00 hrs, it is noted that the AMAC OPSA, site supervisor of [National demining agency] and Quality Assurance Officers were already advised to keep incident point with its original shape. This is against SOP to contaminate the accident site more than is needed to evacuate the injured and removal of tools and other items is not allowed before the investigation team arrives.

Casualties: Injuries on his right leg, knee, small finger and on chest.

Equipment/property damage: Visor, vest and received some fragments. Prodder damaged.

Site conditions: The terrain was flat and open. The soil was medium hard and dry. The weather was clear, calm and mild. The vegetation was grass [none].



[The accident site.]

**Team and task details:** The last QA inspection was on 10 December 2005. The team had been on site since 1st December 2005. The working hours are 6 hours from 7:30am up to 13:30 pm. There is a break every 30 minutes. The detector is use was the Mil D1. Other tools were a Bayonet, PPE, shovel, Rope, Markers and Steel stick. PPE was used but not properly because the apron has not been used as to protect his legs appropriately. The last leave was from 11 Nov 2005 up to 25 Nov 2005.

**Medical reaction time:** Time of accident to Paramedic was on the accident site: 11:00. Time of Paramedic starting treatment to the casualty was in the ambulance ready for transport: 3 minutes. Time for ambulance to drive 75km from site to hospital: 40 minutes. Total CASEVAC time 43 minutes.

## **Conclusion**

Based on the statements of interviewees and physical situation of the accident site, the accident had occurred when the deminer was excavating but his bayonet made contact with the mine and caused the accident.

The deminer did not maintain the correct prodding position for discovering of mine; the injuries sustained shows that the injured deminer position was by squatting/setting position during prodding. [In this theatre, the deminers should kneel.]

The injured deminer was not excavate from the correct location and caused the accident by starting the procedure at the first marker point (the reading wooden marker that is put at the end of signal toward the deminer side). In normal demining excavation the prodding is started from the second marker about 20 cm backward.

The team went against SOP by removing tools and other items from the accident site.

The injuries to the deminer were minimal and this could be attributed to the length of the prodder used and the fact it has a hand guard. A PMN mine is a very dangerous AP mine and had he been using a prodder with a shorter blade and no hand guard his injuries could have been worse. Had he been kneeling in the correct position his injuries would have been even less.

The deminer was not spotted by any of his superiors in the wrong demining position and corrected.

## **Recommendations**

All teams must be retrained in:

- a. Excavation drills,
- b. correct use of PPE,
- b. Command responsibilities, and
- c. Preservation of accident sites.

The long prodder with hand guard should be used by all demining teams because it is safer, light and more likely guard the fingers against the pressure of mine blast in case any accident occur during excavation.

The medical evacuation drill with this looks inappropriate because based on statement there is some difference between the team leader sayings with the paramedic. So, it is recommended for the Team Leader, Site Officer and Operations staff of [National demining agency] to make sure, it is conducting proper and effectively.

Attachments: [Held on file]

Statements, Photographs

## **Quality Instruction Form**

10 December 2005

### **Non-Conformity Report**

Minor non-conformity: One of the deminers was not able to find the centre of reading point properly. One of the de-miners was not able to appropriately use the second marker on reading point.

Agreed Corrective Action: Team leader agreed and he will train him. Team leader agreed he will train the deminer they have problem with use of second marker.

### **Follow up letter**

File: Ops/04-04/10

Date: January 19, 2006

To: See distribution List

From: Chief of Operations/Deputy Program Manager MAPA/UNMACA. Kabul

Subject: FOLLOW UP ACTION ON DEMINING ACCIDENT Happened with [National demining agency] MCT-12 at Doopushta village, Injil district of Herat province.

Reference: Demining accident investigation report dates December 28, 2005, File. OPS/20/05/752 of UN-AMAC Herat.

The accident happened on December 22, 2005 in MF No. AF/2009/18069/0011 located in Doopushta village Injil district of Herat province. The MF being cleared by MCT-12 of [National demining agency], the accident occurred in clearance lane of [the Victim] the deminer of mentioned MCT, caused multiple injuries to him, while he was excavating a signal with bayonet.

The investigation report concluded that the bayonet used by deminer made contact with mine during excavation. He started excavation directly from the first reading marker over the signal, the deminer did not maintain the correct position (squatting position and right side of the body towards the signal) and command group were found to be inattentive as the deminer was not controlled during the excavation of the signal.

#### **Recommendations:**

- I. The team must be trained in:
  - a. Excavation drills,
  - b. Proper usage of PPE.
  - c. Responsibilities of command group, and
  - d. Perpetuation of accident Site.

II. The long prodder with hand guard should be used by demining teams; as it is safe, light and more likely to guard the fingers against the pressure of mine blast in case of any accident occurring during excavation.

III The medical evacuation drill should be practiced on a regular bases and the operation management of [National demining agency] is to ensure this.

IV. Disciplinary action to be taken against command group for their poor command and control.

Distribution List:

AMACs (5), Sub AMAC Gardez (with attachment), [all demining groups working in-country] (less attachment).

### Victim Report

<b>Victim number:</b> 722	<b>Name:</b> [Name removed]
<b>Age:</b>	<b>Gender:</b> Male
<b>Status:</b> deminer	<b>Fit for work:</b> presumed
<b>Compensation:</b> Not made available	<b>Time to hospital:</b> 43 minutes
<b>Protection issued:</b> Frontal apron Long visor	<b>Protection used:</b> Frontal apron. Long visor

#### Summary of injuries:

minor Abdomen

minor Chest

minor Face

minor Hearing

severe Leg

COMMENT: See Medical report.

#### Medical report

Medical sketch shows left of body arm and leg with "severe" fracture", "haemorrhage", "laceration" and "loss of function" circled.

Treatment:

Immobilised right leg with splint. Control haemorrhage with pressure bandage and elevation position given to the right leg."

Hospital notes:

I – Multiple small injuries all over the body

A – multiple small injuries over the right chest and axillar zones.

B – multiple small injuries over right leg and knee joint (penetrating injury and patella fracture on the right knee joint)

C – deafness hearing of the right ear.

Treatment:- debridement injuries, remove foreign body, put drainage in the joint and immobilise knee joint.

Signed and dated 22.12.05



## **STATEMENTS**

### **Statement and Witness Report 1: Section Leader**

Question-1: Please explain about an accident, which was happened on 22 Dec 2005, at 10:55 hrs AM.

Answer-1: I was controlling the parties from Section Leader Controlling Point (SCP). It was 5 minutes left to break when I heard the voice of explosion. Then I call the two other my parties to stop the work and inform them about the accident. I went toward the accident point and then learnt that he has received some superficial injuries on his leg and his general condition was looked good.

Question-2: What was the main cause of the accident?

Answer- 2: In my opinion the main cause of the accidents was hardness of the ground surface and besides that during Taliban regime, they have driven tank over the minefield to explode mines and is most probable that some of the mines positions changed. It is very difficult to deminer to excavate the area by bayonet.

Question-3: Where was your location at the time of accident?

Answer- 3: I was in my control point when the accident occurred.

Question-4: As a section leader, what did you do after the accident occurred?

Answer-4: I was controlling my three parties and when the accident occurred, I was the first person reached to the accident point and help with the injured deminer and then have ordered to my two other parties to collect the equipment back to the safe administration area.

Question-5: How long did he work after the last break before the accident occurred?

Answer- 5: He had worked 25 minutes after his break before the accident occurred.

### **Statement and Witness Report 2: the Victim**

Date: 24th December

Question-1: What time did the accident occur?

Answer-1: Approx 11:00 hrs AM.

Question-2: What was your activity when the accident occurred?

Answer- 2: I marked the detected reading point then started the prodding; I checked the excavated point by detector and found that still the point was signalling. I did excavate point and was trying to find discover the item that suddenly the accident occurred.

Question-3: Did you have any family problems?

Answer- 3: No I don't have any problems at all.

Question-4: Do you agree with your work?

Answer-4: Yes, I agree, because I have worked since 16 years with demining program.

Question-5: Which part of your body got injuries due to blast?

Answer- 5: Right side of my body, ear and my nose.

Question-6: In your opinion, which measures should be put in place during demining activity to prevent further accidents?

Answer-6: In my opinion the backhoe support is better to be used in such places.

### **Statement and Witness Report 3: Paramedic**

Question-1: When the accident happened, who did task you to give first aid to the injured deminer?

Answer-1: I was ready in the site and observing the sections; when the accident occurred, saw it and without waiting to section or team leader's command, I went to the accident area. When, I reached to the accident site the team leader and section leader both were there and then according to their instructions, I went to the injured deminer for implementation of the first aid.

Question-2: Where was your location when the accident happened?

Answer- 2: I was in a place that already team leader had determined for me.

Question-3: Which parts of the involved deminer's body were injured?

Answer- 3: Right leg, right hand chest and the small finger of his left hand sustained superficial injuries. Question-4:

How long did it take until you reached to the injured deminer?

Answer-4: I reached to the accident point after half a minute.

Question-5: How much distance did your location have with the accident point?

Answer-5: My location was approximately 70 meters from the accident point.

### **Statement and Witness Report 4: Team Leader**

Date: 22 December 2005

Question-1: What was your activity while the accidents happened?

Answer-I: I was controlling the parties.



Question-2: Please explain about an accident, which was happened on 22 Dec 2005, at 10:55 hrs AM.

Answer-2: I was stand position beyond of these parties 50 meters away from the accident point on the time of accident on [the Victim] the injured deminer.

Question-3: What was the accident reason?

Answer- 3: In my opinion and based on my experiences, the position of mine was changed and this is why the bayonet contacted on the pressure plate and caused the accident.

Question-4: What did you do as team leader while the accidents happened?

Answer-4: First of all I ordered to Assistant Team Leader to stop the Demining work and all deminers should out of minefield to the administration area, meanwhile called to team's medic to go to accident point for first aid. Then I have reported to [National demining agency] site office about accident and asked them about injured person status.

Question-5: Could you tell us about injuries sustained?

Answer- 5: Injuries to right leg, knee, right arm chest and left hand small finger

### **Statement and Witness Report 5: Deminer of Team-12**

Date: 22 December 2005

Question-1: Where was your location on the time of accident?

Answer-1: I was in resting area when the accident happened.

Question-2: Please explain; in your opinion about such accident.

Answer- 2: In such area all deminer should consider the security procedure and in the hard ground team command group should request for MDU to support the manual team.

Question-3: How many years you have worked together?

Answer- 3: Since 2 years.

Question-4: Please explain about injured deminer experience and work?

Answer-4: He was working carefully for all time and almost his attitude was good.

### **Analysis**

The primary cause of this accident is listed as a "Field control inadequacy" because the Victim was working side-on to his work – squatting rather than kneeling – and his error was not corrected. The investigators also noted that the field controllers had disturbed the accident site, so making their investigation more difficult.

The secondary case is listed as "Unavoidable" because the Victim was probably working as he has done for the past 16 years without incident. The ground is very rocky in Afghanistan and deminers are reluctant to kneel. I questioned Afghan deminers extensively on this issue in 1998. They think that they are safer side-on to a blast – or at least, their genitals are. The issue of quality knee-pads might make it easier for the deminers to work in the preferred position. The issue of a loose armour apron that can hang down in front of the deminer even when he is side-on could also be considered (these were the first "apron" style armour developed and have been on sale since 1997).

The Victim was using a long locally made prodder (called a “bayonet” locally) that has a wooden handle and a hand-guard made using the sidewall of a tyre. Developed by another demining agency in Afghanistan, it is much safer than the diminutive AK bayonet often used.

It is unfortunate that the investigators conducted their investigation without wearing PPE. This is not uncommon, but does set a bad example to the deminers. Their inclusion of a photograph showing them at the accident site implies that it is normal for them to enter a mined area without PPE.

