

# DDAS Accident Report

## Accident details

<b>Report date:</b> 26/01/2008	<b>Accident number:</b> 513
<b>Accident time:</b> 08:10	<b>Accident Date:</b> 20/06/2006
<b>Where it occurred:</b> Task # 015 in Kharoti Village, Deh Sabz District, Kabul Province	<b>Country:</b> Afghanistan
<b>Primary cause:</b> Field control inadequacy (?)	<b>Secondary cause:</b> Victim inattention (?)
<b>Class:</b> Excavation accident	<b>Date of main report:</b> 13/07/2006
<b>ID original source:</b> OPS-271338-06	<b>Name of source:</b> UNMACA
<b>Organisation:</b> [Name removed]	
<b>Mine/device:</b> PMN AP blast	<b>Ground condition:</b> ditch/channel/trench dry/dusty grass/grazing area rocks/stones
<b>Date record created:</b>	<b>Date last modified:</b> 26/01/2008
<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> WGS 84	<b>Coordinates fixed by:</b> GPS
<b>Map east:</b> E 34- 36- 32"	<b>Map north:</b> N 69- 23- 22"
<b>Map scale:</b>	<b>Map series:</b>
<b>Map edition:</b>	<b>Map sheet:</b>
<b>Map name:</b>	

## Accident Notes

inadequate training (?)  
squatting/kneeling to excavate (?)  
visor not worn or worn raised (?)

## 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.

## Cover letter

File: OPS-27/338/06

To: Chief of Operations/DPM, UNMACA.

From: Area Manager UNAMAC Kabul.

Date: 13 Jul. 06

Subject: Investigation Report

Attached please find the investigation report along with its supporting documents of the Demining Accident happened on [the Victim] deminer of [National demining agency] MCT--08 at MF 015 in Kharoti village, Deh Sabz district of Kabul Province on 20 June 2006. [Name removed] QMA and [Name removed] OPS Assistant for AMAC Kabul have carried out the investigation.

The findings and recommendations are mentioned in the report, forwarded for your info and further action

## Demining Investigation Report

[Derived from IMSMA forms.]

Time of accident: 08:10 Am

Location: WGS 84; E 34- 36- 32"; N 69- 23- 22"; GPS: grazing area

Device that caused the incident/accident: PMN AP blast.

Device was detonated while "prodding". As the mine was not in its own position during prodding the prodder has touched the mine and caused the accident.

**History of the Minefield:** MF No. AF/0102/00338/015 locates in Kharoti village, Dehsabz district, Kabul province is part of Impact Survey ID1075 SHA-01 reported by ALIS as medium impact then confirmed by LIAT as high impacted SHA. As the minefield is located adjacent to military training area for firing purposes in the reign president Najibullah, Mujahiddin and Taliban therefore it was considered as hazardous area and the mines were planted at the above-mentioned periods.

On 21.04.04 the area clearance requested by [Name removed] community leader of Kharoti tribe. On 12.05.04, technical survey of the area was started on 20.05.04. Coalition Force and ANA authorities avoided the survey team from survey of this area in the result the survey operation was suspended till April 2006 and then resumed. On 01.05.06 [National demining agency] MCT-08 commenced clearance of this minefield. On 20-06-06, during the team operation on this site, a PMN mine detonated on [the Victim], a deminer of [National demining agency] MCI-08, in the result the deminer received some injuries.

## Description of the incident/accident

On 20/06/06, the team was normally working in the site. [The Victim] a deminer of party -3-, section-02, MCT-08, on whom the accident occurred was working in a ditch in which sediment

soils has been shifted gradually by water. The work procedure adopted by the team command group for the ditch was full excavation with unspecified clearance depth till original surface of the ground, the deminer has assumed that there is no longer any danger and it may be the original surface, therefore he has changed the full excavation method to signal picking and has ignored the full excavation. Proceeding about two meters in the first lane he has faced a signal. At first stage he excavated and removed a 10 cm depth soil from top of the signal. Checking the signal by detector he saw that the signal still exist then he decided to start digging of second 10 cm depth, when he checked by detector again he saw that the signal has not been dismissed. He started to third stage excavation, at this time the mine exploded and the accident occurred.

[The accident site (dry ditch) is shown below.]



The mine caused the accident was PMN. The accident occurred at about 08:10 am. At 8:15 applying of first aid on the victim was started. At 8:25, applying the first aid was completed and the injured was made ready for shifting to the hospital. Shifting of the injured from site to the hospital took 35 minutes. At first time he was admitted for treatment to the emergency hospital then he was shifted to Wazir Akbar Khan hospital. His overall condition is satisfactory. [50 minutes evacuation time.]

[The Victim suffered injury to] Lower/ Upper part of the left hand.

[The photograph below shows left arm and hand injuries, and a right thumb injury.]



Equipment/property damage: Helmet, Prodder and base stick are damaged as under:

1. Helmet: Right side has been broken, down and the left side has got cracked down.
2. Prodder: According to the team leader the prodder is completely damaged but the investigation team could not find any pieces of the prodder.

3. Base Stick: The base stick is broken and cracked from the middle.

[The cracked helmet is shown below. The helmet offers no protection: it merely holds the visor.]



[A photograph of the frontal apron showed blood spots on the collar, which implies that the Victim bled from his lip or face injury.]

Site conditions: The terrain was described as uneven. The soil was medium. The weather was clear and warm. The vegetation was described as "rocky, bush".

Team and task details: The last QA inspection had been on 12.06.06. The team been at the site for 34 days. Working hours start 6 am ending 12 noon. One man operations is conducted, this deminer was on rest during 0730 to 0800 hours for 30 minutes. The detector was the CEIA MIL D1. The prodder used was locally manufactured. PPE was worn correctly. The last leave was on 30.05.06.

#### **Medical reaction time:**

Time of accident to Paramedic was on the accident site: 08:10 in the morning.

Time of Paramedic starting treatment to the casualty was in the ambulance ready for transport: 08:15 in the morning 08:25 in the morning.

Time for ambulance to drive from site to hospital: [Not recorded] 26 km.

#### **Conclusion**

1- The party was working in a ditch in which sediment soils have been gradually collected by water in the ditch and has covered the ground original surface.

2- The work procedure adopted by the team command group for clearance of the ditch was full excavation with unspecified clearance depth till original surface of the ground. The deminer has assumed that there is no longer any danger and has considered the surface of the sediment soil as the original ground surface. Therefore he has ignored full excavation method and had started to signal picking method without any justifiable reasons.

3- The deminer has advanced about two meters in a lane and has started to work in the second lane, but the relevant section leader, team leader and assist TL have not controlled the deminer to change the wrong procedure of signal picking to full excavation.

4- The deminers of section-2 were on operation. Section leader of the section had gone for drinking tea and refreshment, while the accident occurred. [Name removed], section leader of section-04, in addition to his own section has undertaken control of section - 2 deminers.

5- The deminer has removed 10 cm soils from top of the signal (first stage) at this time he should [have] consulted section leader of section-2 or the section leader should [have] controlled him. In contrary the deminer has started excavation of other 10 cm soil from top of the signal (second stage). After the second stage the deminer checked the signal by detector and saw that the signal still exist in its place then he has started to excavation of other 10 cm depth, as at this time the explosion erupted.

6- During the accident the deminer was fully dressed with PPE therefore the deminer was fully and properly dressed with PPE which has minimized the injuries and has saved the deminer from major injuries.

### **Recommendations**

- 1- Whenever any section leader goes for refreshment the operation of the relevant section should be stopped or the relevant deminers should do the same.
- 2- The deminer should not decide about changing the work procedure by him whenever he wants to change the work procedure he should consulted the matter with his section leader.
- 3- The section leader should strictly control the deminers and prevent them of using wrong procedure.
- 4- One section leader cannot control six parties at the same time.
- 5- Whenever any deminer find that the signal is deeper then the assigned clearance depth he should consult with his section leader.
- 6- The sediment soil from the ground surface should be removed then the deminer with consultation of his immediate command group is authorized to check the original ground surface with the detector and pick the signals.

Annexes: [Held on record]

### **Follow-up letter**

File: OPS/03/01-10

Date: August 02, 2006

To: See distribution list

From: Chief of Operation Deputy Programme Manager, UNMACA, Kabul

Subject: Follow up action on demining accident happened to the deminer of [National demining agency] in task # 015 in Kharoti village, Deh Sabz district of Kabul province.

Reference: Demining investigation report File: OPS-271338-06 dated: July 13, 2006, of UN-AMAC Kabul.

A demining accident happened on June 20, 2006 in clearance lane of [the Victim] the deminer of MCT-08 of [National demining agency] in task # 015 of Kharoti village, Deh Sabz district of Kabul province, causing multiple deep injuries to the deminers' left arm, fingers and superficial injuries to his face and thumb.

The investigation report concluded that, the accident occurred because of poor supervision and control by command group and carelessness on behalf of the injured deminer, as he was conducting signal check, instead of full excavation decided by command group for the clearance of this portion (ditch) of the task. But the deminer has not been corrected and re-

instructed by section leader to change his drill and start full excavation. Additionally he was excavating the signal directly from the main reading point, not the first reading marker. The investigation report further added that, the section leader of this section was not in control point and his parties were controlled by other section leader who was busy controlling his parties in the same time.

#### **Recommendations:**

1. The team command group especially section leaders should strictly control the deminers during clearance operation in order to ensure the implementation of decisions made for the clearance of the task.
2. The deminers should not decide to change the working procedure by themselves, but if needed, they can consult the issue with their command group.
3. Refresher training should be held for the team members.

Distribution List With attachment: AMACs (5), Sub AMAC Gardez and Director [National demining agency]

United Nations Mine Action Centre for Afghanistan (UNMACA)

Less attachment: [All other demining groups in-country.]

### **Victim Report**

**Victim number:** 671

**Name:** [Name removed]

**Age:**

**Gender:** Male

**Status:** deminer

**Fit for work:** not known

**Compensation:** Not made available

**Time to hospital:** 50 minutes

**Protection issued:** Frontal apron

**Protection used:** Frontal apron, Long visor worn raised (?)

Long visor

#### **Summary of injuries:**

minor Face

minor Hand

severe Arm

severe Hand

**COMMENT:** See Medical report.

### **Medical report**

**From Medic's statement:** "Left hand lower part and upper part had deep injuries; his arm had deep injury and his lips had dramatis and around his eyes skin was scraped."

**Demining agency report:** Date: Tuesday 20-06-06

From: Medical Manager [National demining agency], Kabul

[The Victim] sustained deep injuries on his left arm and fingers and superficial injuries on his face around his eyes and right thumb,

First Aid was given to him on the spot and then he was transferred to Emergency Hospital, Kabul.

Current condition: OK

**Accident treatment record (not translated)**

Abrasion, Hemorrhage and Laceration – ticked.

IM: 30mg sosegon at 08:15

IV: 1000cc Ringer at 08:20

IV: 1g Amp Ampaclox at 08:20

IMSMA sketch: injuries recorded to “face” and “upper limbs”.

“...he sustained facial superficial injuries, left arm and fingers deep injuries. Also he got injury of right thumb”.

## **STATEMENTS**

**Statement and Witness Report 1: Section Leader of Section No.04.**

Date: 21/06/06

Q1. Would you please explain how the accident happened?

A1. Section leader of 21 section, [Name removed], had gone for drinking tea and I am section leader of the 4th section, The team leader and I were controlling both the. [The Victim] the Deminer on which the accident happened was working very safely. He had helmet with down visor on his head and was fully dressed with PPE. While he was prodding the accident occurred.

Q2. In the area where the accident happened, whether the work procedure was full excavation or signal reading?

A2. The area where the accident happened, the mentioned Deminer was prodding and his own section leader had given this task to him.

Q3. Please specify which places of the victim body have received injuries?

A3. Since the above-mentioned deminer was working according to SOP therefore, the wave of the blast, fragments and the sand has injured the deminer. After treatment and spending some time in the hospital, he was discharged and taken home.

Q4. According to you the Deminer was prodding while the accident occurred, as you know the excavation is conducted by right hand but in contrary his right hand is intact, but his left hand has got injuries, please explain what may be the reasons'?

A4. The bayonet the deminers use in the site has a protective rubber that covers the hand from explosion despite of that his thumb has received injury. His right hand may have got injury from sands not by explosive pulse or may be he have turned over and his hand has impacted with stones.

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

Date: 05/07/06: Statement taken in hospital.

Q1. What were you doing while the accident happened?

A1. I was excavating while the accident happened.

Q2. By which hand do you work left or right?

A2. At that time I was working with my right hand.

Q3. If you were excavated by right hand why your left hand got more injuries than your right?

A3. As our bayonet had a safety rubber this rubber protected my hand just my thumb got injury.

Q4. What was your work method in the accident area full excavation or signal reading?

A4. Since the accident area was flat, I just read the signals but I have fully excavated the sloppy area.

Q5. As the site was observed the accident point extension of the previous area, why you have fully excavated the previous area and have changed the method at accident point to signal reading?

A5. As the accident area was a corner and there were some grasses on the surface of the soil 1 guessed as it is the ground original surface, I started reading signals which was mistake.

Q6. Your team says that your bayonet has been missed during the accident, would you please say where is your bayonet?

A6. I don't know what happened to my bayonet and what damages has received my bayonet.

Q7. Whether as soon you started excavation the accident occurred or you worked for some times on the signal then the accident happened.

A7. While I read the 1st signal then I excavated in depth of 10 Cm. Since 1 could not off the signal then I made 10 Cm more excavation still I could not off the signal after the 3rd reading I continued prodding as suddenly the mine exploded.

Q8. While at first stage of excavation the signal was not dismissed, did you consult the relevant section leader in this regard?

A8. No, 1 did not consult my section leader, but two days ago in this ditch I faced such situation and I told the team leader that I have excavated my area of responsibility (13 cm depth) but I could not off the signal what should I do? He told that there is the possibility of being more extra soil on the ground. Therefore, you must excavate till offing the signal.

### **Statement and Witness Report 3: Section leader of section No 2**

Date: 21/06/06

Q1. Please introduce the deminer on whom the accident happened?

A1. Name: [the Victim]. Father name: [Name removed]. Province: Farah. Work period: 4 years Permanent Address: Farah Province. Present Address: 3rd Macrorayan, Block No. 3. Mobil: [Number removed].

Q2. The area where the accident happened is a dry ditch and much extra soils are in the spot in such area as per SOP we must make full excavation but the team has read signals could please add some reason for this?

A2. Yes, the area where the accident occurred is a dry ditch and extra soils have been brought by water in the ditch. According to the procedure the ditch should be fully excavated, but as there were no continuous signals so we did not do the accident area.

Q3. Normally all deminers are prodding by the right hand whenever there is some accident by the bayonet the right hand might suffer but in this accident most and major injuries are in the left hand of the deminer please clarify this how it happened'?

A3. That's right that all deminers are prodding by the right hand but this deminer was a left hand deminer he had more control on his left hand so he was prodding by the left hand thus his left hand has got more injuries.

Q4. Could you please state what was the fault, which caused the accident, and what should we do to avoid such accidents in the future?

A4. While the accident occurred I was not in the worksite, I was in the rest area for drinking tea and section leader of section 4 took charge of controlling my section therefore I do not know the cause of the accident. A section leader must be aware of his section deminers. Deminers should work very patiently and carefully he must be concentrated on his work and must take into account the safety of the work

#### **Statement and Witness Report 4: Deminer**

Date: 21/06/06

Q1. What was the main cause of the accident?

A1. Since the accident point was a dry ditch plenty of extra soil may had been gathered on the mine and the mine location and situation had been changed. The said reasons may have caused happening of the accident.

Q2. In the area where the accident occurred what was the procedure of the work reading signals or full excavation?

A2. Method of our work in the ditch and in the accident area was full excavation.

Q3. Was there any extra soil on the surface of the ground on the accident area?

A3. Till reaching near to the accident area the ground has been fully excavated but since the ground of accident area looked hard and as original surface of the ground, the deminer mistakenly has changed full excavation to signal reading procedure.

Q4. Had the team responsible briefed you about the working system?

A4. The team leader and supervisor completely briefed the team about the work procedure in the ditch.

#### **Statement and Witness Report 5: Paramedic**

Date: 21st June 2006

Q1- What steps you took after occurrence of the accident?

A1. After physical check of the injured person, the required first aids were applied to him.

Q2- What kinds of assistance you could provide for the patient in the site?

A2. His injuries were washed and bleeding was stopped, AV1 canola, analgesics, antibiotics, and liquids were applied to him. His pulse, pressure, body temperature and breathing were checked.

Q3-- Would you please clarify the injuries and its places at the patient body?

A3. Left hand lower part and upper part had deep injuries; his arm had deep injury and his lips had dramatis and around his eyes skin was scrapped.

Q4- How long took in the site till he was made ready for shifting to the hospital?

A4. Within 10 minutes he was made ready for shifting to the hospital.

Q5- How long took his shifting from site to the hospital?

A5. His shifting from site to the designated hospital took 35 minutes.

Q6- Within which hospital he was admitted for treatment and how is his health condition now?

A6. The patient was admitted to the Emergency Hospital and his general condition is good.

Q7- Are you satisfied of the medical assistance provided for him?

A7. Yes, I am very pleased of the overall medical assistances made with him.

#### **Statement and Witness Report 6: Team Leader of Team No.8**

Date: 21.06.06

Q1. Please kindly write your observations and suggestions about the mine accident that happened on 20.06.06. in your task?

A1. I was controlling the team activities that I heard the voice or explosion, my location was near to party 1 of 2nd section. The deminer on whom the accident happened was busy in prodding and full excavation of the site. While the accident happened I was busy with the 1st party. Suddenly I stopped the operation and asked the doctor of the team to take care of the casualty and take him to the hospital properly and on time.

Q2. As per your observation from the field you mentioned that the deminer has fully excavated the

area and he has not read only the signal. According to the investigation team there was no indications of full excavation in the field. Would please clarify the reality of what happened?

A2. Since 1 was in the field and observed the scene from close the area was short therefore, the deminers fully excavated the area, about 2 meter he preceded in a lane. Some part of the area was dry and the flood and water has washed the extra soils and the original surface of the ground was visible. In some area where the ground surface was hard and there were few signals in such area we read the signals only at the accident point the deminer has done the same.

Q3. In the ditch where the accident occurred sediment soils have been brought by water, so you should [have] considered the 13 cm depth from original surface of the ground but you did not, what is the reason?

A3. As I replied in my previous answer, I would like to mention that in the spot that the accident occurred, the deminer has done full excavation and he has searched about 13 Cm deep from the original surface of the ground. Also, there is the possibility of extra soil that might be brought by the flood and rain within the past period of the time.

### **Statement and Witness Report 7: Assistant Team Leader**

Date: 21 June 2006

Q1. What was your work procedure in the explosion site was it full excavation or signal pecking?

A1. The accident happened at 08:10 am, at that time I was busy controlling of sections 1, 3 section leader of section No 3 had gone for drinking team and refreshment, I had to check both sections. The explosion erupted at north part of the minefield. I was informed about the accident by VHF radio then I was ordered to stop the operation. I rushed to the Paramedic area for cooperation with the doctor.

Q2. If you did full excavation, why you have read only the signals by detector and pick the signals'?

A2. The procedure of our work in the ditch was full excavation but near the accident area the deminer has thought the surface of the sediment soil as the surface of the ground original surface therefore the deminer has changed the full excavation method to the signal picking procedure.

Q3. What the deminer was doing while the accident happened?

A3. While the accident happened the deminer was excavating the signal by bayonet.

Q4. If the accident happened during prodding, why instead [of] right side of his body, left side and left hand has got injuries?

A4. The accident has happened while the deminer was prodding and his right hand thumb and left arm got injured.

Q5. In the ditch where the accident occurred, sediment soils have been brought by water, why instead of full excavation you were picking the signal from surface of the sediment soils?

A5. The area where the accident happened is a dry ditch which was fully excavated till original surface of the ground, the surface of the accident seemed hard and original ground surface therefore we only read the signals in that place.

Q6. Would you please say that how many mines and UXO you have found in this task since starting clearance of this task and what was the type of the detected'?

A6. We have found about 08 mines and all mines were anti personnel PMN mines.

### **Analysis**

The primary cause of this accident is listed as a "Field control inadequacy" because it seems that the Victim was working in a way that was not approved for the site and his error was not corrected. In fact, the Field supervisors seem to have encouraged the deminer to use his judgement over where the original ground level might have been. This makes sense. In a gully that is flooded by rainwater runoff that deposits soil and stones each year, speaking of "an original" ground level may be inappropriate, and the thickness of deposits will vary considerably.

It is possible that the deminer genuinely believed he was excavating to the level that the ground may have been when the mines were placed. The secondary cause is listed as "Victim inattention" because, when he was obliged to dig deeper to locate the metal that made

his detector signal, the Victim should have realised that his judgement was wrong and retreated to approach the metal-detector reading with a full excavation technique that would have exposed the side of the mine. The deminer may not have known what he should do, which is why "Inadequate training (?)" is suggested under "Notes".

The Victim's lips were injured, which implies the visor was at least partly raised. If the visor were fully raised, eye injury would be anticipated, but grazing around the eyes is not normal. It may be that the partly raised visor "collapsed" onto his face when the helmet broke and the impact and subsequent "drag" caused abrasions around his eyes.

The Victim was right handed and the left hand suffered most of the injury. The locally made "bayonet" in use is shown below. It has a rubber hand-guard made from the side-wall of a vehicle tyre, and its blade is much longer than the standard AK bayonet frequently used. It seems likely that the Victim was using his left hand on top of the rubber guard when the accident occurred. In hard ground, excavating one-handed with a tool like this can be unrealistic.

