DDAS Accident Report

Accident details

Report date: 28/12/2007

Accident number: 443

Accident time: 10:40

Accident Date: 30/10/2006

Where it occurred: MF# AF/0308/01648/108 Bakhshikhail Village, Bagram District,Parwan Province

Country: Afghanistan

Primary cause: Management/control inadequacy (?)

Secondary cause: Field control inadequacy (?)

Class: Excavation accident

Date of main report: 19/11/2006

ID original source: SHA-333, OPS-27/445/06

Name of source: UNMACA

Organisation: [Name removed]

Mine/device: PMN AP blast

Ground condition: building rubble
dry/dusty
rocks/stones

Date record created: 28/12/2007

Date last modified: 28/12/2007

No of victims: 1

No of documents: 3

Map details

Longitude: 69° 15' 53"

Latitude: 34° 57' 34"

Alt. coord. system: WGS 84

Coordinates fixed by: GPS

Map east:

Map north:

Map scale:

Map series:

Map edition:

Map sheet:

Map name:

Accident Notes

mechanical follow-up (?)

squatting/kneeling to excavate (?)

inadequate area marking (?)

handtool may have increased injury (?)

inadequate medical provision (?)

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 BoI report is reproduced below, edited for anonymity. The original PDF file is held on record.

Demining Investigation Report

History of the Minefield

MF# AF/0308/01648/108 locates at Bashikhail village, Bagram District of Parwan province. This is a part of impact survey ID-1233 and SHA- 333 which has been reported by ALIS as high impacted community. The type of the land is partially agricultural and partially residential. A security post of Russian forces located there, at the first time, in the years 1982, anti-personnel mines were planted in this area by the Russian forces. Later on while Russian pulled out their troop from Afghanistan the same area were used by the then government military forces as their base. They contaminated this area with further AP mines for the second in year 1990. The mines which were laid at this area also made a part of Bagram Airbase security belt.

Totally 16 locals due to mine blasts of this area have been killed and injured including one American military man whose right leg was cut. Also 22 animals were killed in this area as a result of mines explosion.

Clearance of this area has been requested by Bakhshi Khil village locals. They want to build their houses there.

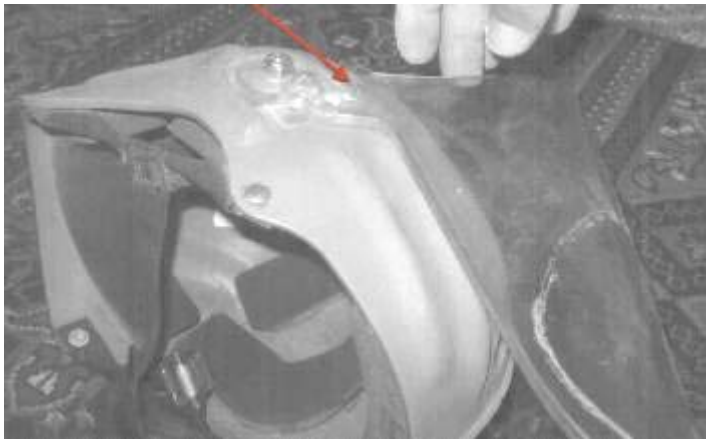
On 01 October 2006 clearance of this MF was started by [Demining group] MCT-10 which is supported by [Demining group] MDU-08. Size of this MF is 17,554 and till accident date 4,183 sqm area has been cleared, 150 PMN and 72 PMN-2 have been detected.

Description of the incident/accident

On 30 October at 10:40 hrs a PMN anti personnel mine detonated on [the Victim] deminer of party 05, section 02 of [Demining group] MCT-10 while he was working in the site. The deminer was working at squatting position with trowel on the area which was ripped by [Demining group] MDU-08 backhoe as the accident happened. Since the deminer was fully dressed with PPE, his body did not receive serious injuries just some dust interred his eyes and his left arm got a minor trauma.

The victim’s eyes were washed and two steps of medical first aid were applied on him at the site which took about 30 minutes time. Then he was shifted to Noor Hospital (Eyes Hospital) of Darulaman in order to make sure that his eyes are safe or not. His shifting from worksite to the hospital took about 1 hour and 25 minutes. For the time being condition of the victim is good.

Equipment/property damage: Trowel was broken. [Visor was also broken.]



[The type of visor photographed often breaks in the place arrowed – even when not involved in a blast event.]

The ground was hard and uneven. The weather was clear, calm and mild. There was light bush.

[A photograph of the site shows rocky ground (including rocks from the ruined wall) and no vegetation. The preparatory “raking” of the backhoe is clearly visible. There is inadequate area marking with no lane visible and no easy way to see what land has been cleared. The arrow points to the site of detonation.]

Team and task details

[Derived from IMSMA forms: The demining team had been at the site for 14 days. They worked from 06:30 to 11:30, with breaks after every 30 minutes work. They used the CEIA Mil D1 metal detector and a builder’s (plasterer’s) trowel. The Victim was using his PPE correctly. The victim’s last leave was from 14 – 27th October 2006.]

Medical and first aid

[Derived from IMSMA forms: the paramedic was on site two minutes after the accident. The victim was treated for 23 minutes on site. The ambulance left for the hospital at 11:15 and arrived at Noor eye hospital at 12:40.]

Conclusion

Negative points:

1. The relevant section leader was absent at the accident day and the team had no TL course trained deminer to stand in place of the absent section leader, so, there was not assigned any one to control the deminer activities in the site.
2. A ruined wall existed near the accident point, the machine should firstly had removed the soil of this wall then ripped the original surface of the ground with 30 cm depth, but as we saw the backhoe team has considered the surface of the ruined wall as original surface of the ground, so, they have ripped just surface of the ruined wall.
3. The ripping depth of the ground surface near the accident point was reduced from 30 cm to 10 cm. Reducing the ripping depth to 10 cm; may has changed the mine direction or broken it which makes the mine further sensitive.
4. Reducing excavation depth from 30 to 10 cm and not removing soils of the ruined wall shows lack of coordination between the MCT and MDU team leaders.
5. The deminer did not use reading points and did not maintain the required excavation depth and distance while he was working on the exploded mine.

Positive Points:

1. While the accident happened, the deminer was in squatting position and was working with trowel which is appropriate tool for excavation of the ground.
2. The deminer was fully dressed with PPE, so, his body did not receive any serious injury.

Recommendations

1. The [Demining group] operation section should make at least one qualified deminer of each team subject to TL courses.
2. Just ripping the site with backhoe machine is not enough for reducing the risk, but further exceeds the risk. The backhoe should remove the ripped soils to a cleared area, the removed soil should be visual checked by the backhoe section leader and then be checked by deminers with detector.
3. The backhoe operator should maintain the 30 cm depth while ripping the site, team leader and the relevant section leader should control that the required depth is maintained.
4. When one of the team command group goes for leave and there is no any TLC trained deminer in the team, the relevant site supervisor should bring a TL course trained deminer from another team.
5. To make the task clearance easier and safer, the MDU and MCT team leader should have coordination between them.

[Signed: two investigators from AMAC, Kabul]

Victim Report

Victim number:	590	**Name:**	[Name removed]
Age:		**Gender:**	Male
Status:	deminer	**Fit for work:**	not known
Compensation:	Not made available	**Time to hospital:**	Two hours
Protection issued:	Frontal apron Long visor	**Protection used:**	Frontal apron, Long visor

Summary of injuries:

INJURIES

minor Arm

minor Eyes

COMMENT

No medical report made available.

Related papers

Follow up letter

Subject: Follow up action on demining accident happened to the deminer of [Demining group] MCT-10 in task # 0108 in Bakhshikhail village, Bagram district of Parwan province.
Reference: Demining investigation report File: OPS/27/445-06 dated: November 19, 2006, of UN-AMAC Kabul.

A demining accident happened on October 30, 2006, at 10:40 in task # 108 of New Bakhshikhail village, Bagram district of Parwan province, a PMN mine exploded on [the Victim] the deminer of section 02, MCT-10 of [Demining group], causing minor injury to his left arm and dust entered to his eyes.

The investigation report concluded that, the accident occurred because of poor coordination between MDLJ and MCT team leaders and also lack of control by MCT team leader, as the deminer was excavating a signal with a trowel where the ground was ripped by Backhoe machine and he started the excavation directly from the reading point so the trowel touched with PMN mine and the accident happened.

The investigation report further indicates the faults made by team command group and deminer as follows:

- The section leader of mentioned party was absent, but no one had been assigned to control deminers of this section.
- A ruined wall existed closed to the accident point, which needed to be removed by machine as a first step, and then the original ground to be ripped, but this [the level of the ruined wall] was considered as the original surface of the ground.
- The deminer had started his operation directly from the signal point and did not excavate the area from second reading marker as mentioned in SOP.

The investigation report added two positive points, so it is worth to be mentioned and use as lesson learned in our demining operations as:

- While the accident happened, the deminer was in squatting position and was working with trowel in Backhoe ripped ground, which is an appropriate tool for such activity.
- The deminer was fully dressed with PPE, so his body remained unharmed from serious injuries.

Recommendations:

1. The [Demining group] operation is recommended to train qualified deminers in TLC (team leader course) to replace the absent section leaders when needed.
2. The Team Leader of MDU is recommended to remove the ripped soil to a safe area
3. Just ripping the ground by backhoe machine is not enough, and then the removed soil should be processed according to the SOP.
4. To make the clearance operations safe and smooth and a proper management of
5. the field activities, a closed coordination is needed between MDU and MCT team leaders.
6. The Backhoe operator should maintain the required depth of the ground and the Team Leader should control the process.
7. A refresher training to be held for the team.

The feedback of [Demining group] on follow up action is needed as not later than the 7th of December 2006.

Statement and Witness Report 1

Statement / witness report [1st November 2006, 16:00 hrs]
Statement from Team Leader (13 years experience).

Questions:

6. Please introduce your self?
7. What was the fault caused the accident?
8. Where was the section leader and if he was absent who was controlling his section?
9. Do you have any trained deminer who had taken team leader course (TLC)?

Answers:

1. I am [Name excised] team leader of team number 10 [Demining group].
2. By my opinion as Backhoe machine has some good points, it also has some negative points, which is causing accidents. One the fault which machine has, the machine is changing position of the mine. Secondly if the mine is not exploded under machine bucket it get more active which easily could result accident. So, less careless work is causing accident.

3. Section leader was absent and Assist team leader was controlling his section and he was at 30 meter distance from the party which accident occurred on the deminer.
4. Currently we do not have any trained deminer who is taken TLC course, we had at the past but they were abstracted from team and were promoted.

Statement and Witness Report 2

Statement / witness report [1st November 2006, 16:00 hrs]
Statement from Assistant Team Leader (demining for 13 years)

Questions:

1. Please explain how the accident occurred?
2. Mine which caused accident was on soften soil of MDU or in original ground surface?
3. What was the demining tool deminer was using and who was controlling him during operation?
4. What fault of the deminer caused the accident?
5. How far you were away from the accident points?

Answers:

1. At 10:40 hrs I was controlling the same party which accident had occurred, deminer was scratching soften soil with his trowel. Weather was fine and was worn complete PPE. Fortunately not major injury. Of course accident occurred on soften soil which MDU did.
2. Mine, which caused accident, was on softening soil of MDU. In such case mine disposition is possible and would be more dangerous.
3. He was working with trowel and controlled by Assistant team leader.
4. As I think, two points are the reason for exploding mine.
    a. Strong possibility mine disposition caused the accident
    b. Body of the mine might have been broken by machine.
    c. Applying more excess force during taken over the soil.

I was about 40 metres away from accident point.

Statement and Witness Report 3

Statement / witness report [1st November 2006, 16:00 hrs]
Statement from medic (demining medic for 4 years)

Questions:

1. When did accident happen and how long you reached him and what you have done as first aid help to the injured deminer?
2. What part of his body got injuries please explains them in medical terminology?
3. How long you have applied first aid assistance and also how much time it took his transportation to the hospital?
4. In which hospital he is admitted and how is his health condition?

Answers:

1. On Monday at 1040 hrs, I reached to the patient after I minute. As he did not have any amputation just some external substances such as soil and smoke covered his eyes. I did clean his eyes from the mentioned substances and for more confirmations he was shifted to Noor eye clinic, in order to have a full check up of his eyes.
2. He had a minor a trauma on his left arm, which had pain at the beginning, but after 20 minutes it was solved. His eyes were itchy after examination at Noor eye clinic and prescribing some medicine he was discharged from hospital.
3. First aid application took almost 30 minutes and his transportation took one hour and 25 minutes.
4. The question is already answered.

Statement and Witness Report 4

Statement / witness report [1st November 2006, 3:56 hrs]
Statement from deminer (deminer for 3 years)

Questions:

1. Please explain how the accident occurred?
2. What demining toll the victim was working with and what fault caused him the accident?
3. Have you been satisfied with his working style and please tell us how long he has been working as deminer?
4. Did he wear PPE, visor or not?

Answers:

1. As I was at rest area, deminer which accident happened on him was worn complete PPE. While he was excavating the area accident occurred.
2. Deminer was working with trowel as I was in rest area and he was controlling by assistant team leader I do not have any idea that how the accident happened.
3. I am satisfied with his work and he has enough demining background he has been working for 13 year as deminer.
4. Yes he wore his PPE, Visor.

Analysis

The primary cause of this accident is listed as a “Management control inadequacy” because the area being cleared has been prepared by the backhoe, but not prepared to a realistic depth. The backhoe has been in use for at least ten years, yet the safe parameters for its deployment appear to have been unknown to the demining group’s management. (Several similar accidents have occurred before.) The secondary cause of this accident is listed as a “Field-control inadequacy” because the victim had no field supervision on that day. The irresponsibility of demining group management in allowing work to be conducted without supervision is surprising.

The inadequate equipment listed under “Notes” refers to the deminer’s hand-tool and visor. The hand-tool was a plasterer’s trowel that shattered dangerously. It was not an “appropriate

tool" despite the BoI's opinion to the contrary. Its fragments could have caused severe injury. The visor also broke (this visor type frequently does in a blast) and it is uncertain whether this contributed to the victim's eye injury.

The pictures show the trowel before and after the initiation. The material shatters in a blast and so introduces a high risk of fragmentation injury to a blast event.

The "Inadequate medical provision" listed under "Notes" refers to the fact that it took two hours to get the victim to a hospital (exceeding IMAS recommendations) with no justification given.