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DDAS Accident Report

Accident details

Report date:	28/12/2007	**Accident number:**	447
Accident time:	08:35	**Accident Date:**	15/05/2007
Where it occurred:	Bahadur Baig village, Jabal Seraj district of Parwan province	**Country:**	Afghanistan
Primary cause:	Unavoidable (?)	**Secondary cause:**	Management/control inadequacy (?)
Class:	Excavation accident	**Date of main report:**	16/05/2007
ID original source:	OPS/03/01-39	**Name of source:**	UNMACA
Organisation:	[Name removed]		
Mine/device:	PMN AP blast	**Ground condition:**	agricultural (recent) building rubble hard residential/urban
Date record created:	28/12/2007	**Date last modified:**	28/12/2007
No of victims:	1	**No of documents:**	3

Map details

Longitude:		**Latitude:**	
Alt. coord. system:	WGS-84	**Coordinates fixed by:**	GPS
Map east:	E 69 16 50.7	**Map north:**	N 35 07 15.7
Map scale:		**Map series:**	
Map edition:		**Map sheet:**	
Map name:			

Accident Notes

handtool may have increased injury (?)

inadequate training (?)

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.

INTERNAL DETAILED DEMINING ACCIDENT REPORT

16 May 2007

PART ONE - BACKGROUND

1. Demining organisation name, [Demining group]

2. Organisation sub unit, team name/number. DT #4, Section 2.

3. Name of worksite supervisor. Section Leader: [Name removed], Team Leader: [Name removed]

4. Location of accident (province, district, village, minefield number). PARWAN Province; District Jabel Seraj; Village; Bahador Bag, AF/0302/00000/MF002: Coordinates: 69 16 50.7 / 35 07 15.7

5. Date and time of accident. 15 May 2007 8:35 AM

6. Type of accident. Unintentional detonation of an anti-personnel blast mine during probing (prodding). Preventable.

PART TWO - DETAILS OF ACCIDENT

7. Specific location. The accident occurred at the work site of [Demining group] DT#4, on Clearance Task MF002 — approximately 4 km east of Jabel Seraj — at coordinates: 69 16 50.7 / 35 07 15.7. The site is 470 m2. The hazard area consists of two mine belts, one inside a residential wall, one outside. Erosion from the mud wall has buried the mines to a depth of approximately 30cm.

Time/Date of accident: 8:35 AM on 15 May 2007.

Personnel involved in accident: Deminer [the Victim], injured by a PMN mine. Deminer [the Victim] works in DT #4, Section 2. At the time of accident, [the Victim] was working under the supervision of Deminer [Name removed], who had been appointed acting Section Leader (SL) on 14 May 2007 by the Team Leader (TL). When the accident occurred, acting SL [Name removed] was at a proper minimum safe distance (25m) from the active-lane deminers.

Activity being performed when accident occurred: [the Victim] was performing excavation with a bayonet probe (prodder) from left to right (left handed) and hit a PMN mine. It is not clear why was he using his bayonet prodder for excavation, or if he probed the soil before excavating. No MDD or MDU were in support of DT #4 on the day the accident occurred.

Accident cause: Detonation was caused by unintentional contact of the bayonet — type probe (prodder) by the deminer onto the top of the PMN.

Note: This is the second accident to occur on DT#4 between May 13 and 15, 2007. The first accident occurred at the same location, and involved Section 1.

PART THREE - INCIDENT SITE CONDITIONS

8. Conditions on the incident site.

Worksite layout and marking. Worksite was marked in accordance with SOP. This demining task is outside a residential wall; the line is approximately 1.5m wide. 420 out of 470 m2 were already completed when the accident occurred.

Location of PMN detonation.

b. Ground and terrain. Ground at the site is flat. The soil is baked hard, and compacted by wind and water. It is difficult to probe and excavate.

c. Vegetation. Vegetation on the site is medium density grass and brush.

d. Weather. It was sunny and clear at the time of the accident. The temperature was approximately 30° Celsius (85° Fahrenheit). Wind was light.

PART FOUR - TEAM AND TASK DETAILS

10. Team details. Structure of the team is 4 Sections of 5 deminers each, 4 Section Leaders, 2 Medics, 1 Assistant Team Leader and 1 Team Leader. At the site MF002 only one section was deployed (Section 2) Sections 3 and 4 were deployed at site MF 085 in District Charicar under the supervision of TL Khan Mohd, some 10 km south from Section 1. Section 1 is undergoing refresher training following their accident on 13 May.

It should be noted that this week one SL and the Deputy TL from DT 4 were absent from the worksites due to their attendance of the training course on the new Concept of Operations being held in Kandahar.

DT 4 last attended refresher training conducted by [Demining group] Training Officer [Name removed] and [Name removed] and TL [Name removed] on 8th May 2007.

Last QA from UNMACA was conducted with this Team on 12 May 2007.

11. Task details. The task is to clear the minefield laid in 1997 around the house of the former Government MOD Area Commander in the village Bahador Bag.

13. The Technical Survey was done by MCPA.

Until the time of this accident, DT 4's Section 1 had removed 11 mines and 2 UXO. Section 1 cleared 420 m2 out of the 470 m2 that comprise the site, or 89% of the task in 14 working days since 15 April 2007.

MF002 is made with Soviet PMN mines laid in one belt. [Demining group] DT 4, Section 2 is performing manual clearance, and is not supported by [Demining group] MDU (Backhoe) because of inadequate road access.

12. Copies of training records, monitoring reports, technical survey reports, task folders, task progress reports are not included here.

PART FIVE - EQUIPMENT AND PROCEDURES USED

13. Equipment used. 5 Metal Detectors, 5 Demining Kits, 6 sets of PPE. 2 Motorola Radios, 1 Codan, 2 Vehicles (1 Ambulance and 1 Pickup). According to SL [Name removed], all of [the Victim]s equipment is functional and undamaged except for the probe, visor, and vest. [The Victim] was properly wearing his PPE when the PMN detonated. His only injuries are superficial, primarily on his left hand.

14. Procedure used. One Man Drill.

15. Work routines: 5:45-6:00 Briefing by SL; 6:00-:6:45 Work First Shift; 6:45-7:00 Break; 7:00-7:45 Work Second Shift and 7:45-8:00 Break; 8:00-8:35 Work Third Shift and after 1 m2 cleared that day accident happened at 8:35 AM.

At the moment of the accident, Mr. [Name removed] SL1 was supervising other Deminers at north Wall.

PART SIX - EXPLOSIVE HAZARDS INVOLVED

16. Details of any mine that were involved in the incident:

[Removed.]

PART SEVEN - DETAILS OF INJURIES

18. [The Victim] has minor injuries to both hands; no threat of loss of life or limb. [Poor b/w picture of bandaged left hand removed.]

PART EIGHT - EQUIPMENT/PROPERTY/INFRASTRUCTURE DAMAGE

19. No equipment was damaged in the incident.

20. PPE involved in the incident. Visor was dirty- carbonized from outside (indicates visor was down). PPE "ROFI" was not damaged

21. No damaged property or infrastructure.

PART NINE - MEDICAL AND EMERGENCY SUPPORT

22. Plan was to evacuate casualties to the local hospital in Charicar, 8 km from the work site.

23. No Comment related to Casualty Evacuation.

24. No Comment related to the effectiveness of the medical and emergency support.

PART TEN - REPORTING PROCEDURES

25. No Comment.

PART ELEVEN - ANY OTHER MATTERS OF RELEVANCE

[Demining group] sent deminers from Section 1 to refreshment training following their accident on 13 May. Section 2 began working this site on May 14. After the second accident on 15 May 2007, [Demining group] DT 4 was suspended until refresher training and the accident investigation are both complete. The suspension was declared by [Name removed], [Demining group] Executive Manager.

[Name removed], [Demining group] Field Officer, assisted me in making this Internal Accident Report.

PART TWELVE - DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

27. There has been a series of similar accidents at [Demining group] in the recent months on DT 5 and 6 in Herat and twice on DT 4. This is a strong indicator of a systemic failure in the performance of this particular task. [Demining group]'s SOP for this procedure is correct; the deminers are not performing the task to standard.

A series of events contributed to this accident:

- Some assigned leaders are attending training.
- The acting section leader was not an experienced minefield supervisor.
- The acting section leader did not prevent or correct the improper excavation techniques employed by the deminer.
- The deminer used improper technique — using a bayonet probe to excavate, rather than probing the soil, then excavating horizontally with a trowel.

My recommendations are:

- [Demining group] Operations and QA need to conduct refresher training for all [Demining group] deminers on probing and excavation drills.
- All [Demining group] minefield supervisors, including section leaders, assistant team leaders, and team leaders need to attend a supervisor training program to reinforce SOPs, leadership responsibilities and authority.
- DT 4 must demonstrate safe clearance procedures to a UNMACA or AMAC QA Officer to be re-accredited.

Signed: WRA Demining TA

DERIVED from IMSMA forms

History of the Minefield:

MF # AF/0302/00000/002 locates at Bahadur Baig village, Jabul Saraj district, Perwan province. The MF includes the house, garden and outskirts of the house of Mr. [Name removed] known by the name of [Name removed] covering SHA (1) of impact community 54. In the reign of Taleban this house was base of [Name removed] who is currently chief of infantry forces of Afghan Army. At that time he was a prominent commander of the Northern Alliance Forces. He had planted anti personnel mines around this house for security of his base in the year 1997. In the time being the house owner Mr. [Name removed] and his family are living in the house and has requested clearance of the house. The direct beneficiaries of the task are 13 persons and indirect beneficiaries of the task are about 60 persons. Size of this MF is 470 sqm of which 420 sqm has been cleared, 14 anti personal PMN mines and 2

UXO have been discovered so far. Three accidents in this area have been recorded two on humans and one on an animal. Since planting the mines, a lot of soils have been gathered on the mines; so, depths of the mines differ from one another.

The task clearance has been started on 15 April 2007. Section-1 of [Demining group] MCT-04 has been deployed for clearance of the task. Section leader of the section is Mr. [Name removed]. Since the task has been divided by mud walls, control of all parties by one section leader is impossible, therefore a deminer of the team has been appointed as acting section leader for control of one party working in garden of the house. A demining accident occurred on one acting section leader and a deminer of the section on 13/05/07, which resulted to casualty. After this accident [Demining group] has brought some changes to this section and added experienced deminers from the rest of the team, and the second occurred on 15/05/07 at the same place as the first demining accident had occurred.

Description of the incident/accident

On 15 May 2007 at 08:30 while Mr [the Victim] a deminer of [Demining group] MCT-04 was working on an detected signal his bayonet hit top of the mine as a result the accident happened. As regular the deminer was working with his right hand on the detected signal, when his right hand due to long time work has become tired he has started work with his left hand. Since he has worked in contrary to his habit with his left hand, therefore he could not properly control bayonet as the bayonet hit top of the mine and the accident occurred. During the accident the deminer was fully dressed with PPE and helmet, therefore only his left hand on which he was working was injured and other parts of his body remained unharmed.

During 8 minutes first aid was applied on the injured at the accident site and then the victim was shifted to Charikar hospital. Distance of the designated hospital from the accident site was 15 km; time for ambulance to drive from site to hospital took 15 minutes (from 09:05 to 09:20). For the time being the injured deminer is on base camp and his health condition is good.

In two days it is the second demining accident occurred at the same place at the same task, The first accident happened on acting section leader [Name removed] and deminer [Name removed] on 13/05/07.

The team works six hours from 06:00 to 12:00. After each hour there is a fifteen minute break.

Conclusion

1. Since the task has been divided by mud wall as one section leader could not control the three parties of the section worked at different parts of the task, therefore a deminer of [Demining group] MCT-04 was appointed as action section leader to control a party of the section worked in the house garden

2. After the first accident dated 13 May 2007, two deminers of [Demining group] MCT —04 by the name of [Name removed] acting section leader and deminer [the Victim] has been shifted to this task in place of previous deminer and acting section leader. It is the second day that the deminer and the acting section leader is working in this task

3. The deminer has worked for long time with his right hand, since the ground was hard, his right hand has got tired, then he started work with his left hand as he had not habit to work with his left hand his bayonet hit top of mine and the accident happened.

4. From one hand it was mistake of the deminer that has worked in contrary with his habit with left hand and from other hand it was mistake of acting section leader that did not prohibit the deminer of such wrong action

5. When the accident occurs the deminer was working with bayonet and was dressed with PPE and helmet with down visor.

6. The place in which the mine exploded was near a wall of the landowner house and soils were gradually gathered on top of the mine. The ground of this area was too hard and work on it was troublesome and difficult. This accident has happened at the same place, just half of a metre back, as the first demining accident happened two days ago

7. The acting section leader was deminer who has not attended the team leader course (TLC).

8. The mine that has caused the accident was about 40 cm under hard soil

Recommendations

1 . Whenever the deminer becomes tired he should take permission of break and refreshment instead of practicing wrong action.

2. If there is no TLC trained deminer in the team, the team leader should request the site supervisor to provide such a deminer from other teams working at the same site/ region.

3. When the deminers are in operations on the worksite the only job of the section leader is to control the deminers.

4. The section leader considering the safety distance should stand at the required distance from deminer in order to control the deminer activity.

5. In the cases that the team is split and a section of the team is working in another task and is seen that the task clearance is difficult and section leader cannot cover overall activities of the section, assist team leader should be appointed for control of all aspects of clearance activities in such tasks.

6. As a demining accident has already occurred in this MF, the management and command group of [Demining group] should have focused more on control and supervision of this site via assigning TL/ Assist TL to control this section until the remaining area is cleared.

SL indicating the detonation location on east side of the wall on May 15.

Victim Report

Victim number:	595	**Name:**	[Name removed]
Age:	41	**Gender:**	Male
Status:	deminer	**Fit for work:**	yes
Compensation:	Not made available	**Time to hospital:**	45 minutes
Protection issued:	Frontal apron Long visor	**Protection used:**	Frontal apron, Long visor

Summary of injuries:

INJURIES

severe Hand

COMMENT: See Medical report

Medical report

No formal medical report was made available.

Left hand fingers: “muscle lacerated of middle finger”.

The paramedic reached the victim after one minute and began first aid. “First aid was applied on the injured at the accident site and then the victim was shifted to Charikar hospital. Distance of the designated hospital from the accident site was 15 km; time for ambulance to drive from site to hospital took 15 minutes (from 09:05 to 09:20). For the time being the injured deminer is on base camp and his health condition is good.”

IMSMA report records the Victim was born in 1965.

Q1: What First Aid help you have given to the injured person?

Bleeding of the patient controlled. Analgizic, IV liquids, Anti Biotic given to the patient.

Q2: What parts of the injured person body received wounds please use medical terminologies?

Planx finger of the patient injured and other fingers have been lightly injured.

Q3: Where did you transfer the patient (hospital)?

We shifted the patient to Charikar 80 beds hospital.

Q4: Who accompanied the patient to the hospital?

Team leader accompanied the patient.

Q5: How long the patient was in hospital and where is he and how is his health condition now?

For very short time he was kept in the hospital for redressing then he discharged from hospital and now he is completely recovered.

Related papers

Lessons Learned

File: OPS/03/01-39, Date: 29 May, 2007

To: [All demining groups]

From: Chief of Operations UNMACA, Kabul

Subject: Investigation Reports & Lessons Learned from Demining Accident

Attached please find the investigation report and Lessons Learned from Demining Accident that has happened at [Demining group] DT # 4 worksite in Bahadur -Baig village, Jabal Seraj district of Parwan province on 15 May 2007.

LESSONS LEARNED SUMMARY

DEMINING ACCIDENT ON DEMINER OF [Demining group] DT # 4 AT BAHADUR-BRIG VILLAGE, JABAL SERAJ DISTRICT OF PARWAN PROVINCE ON 15 MAY 2007

INTRODUCTION

A. On 15 May 2007, a demining accident happened at [Demining group] DT # 4 worksite at Bahadul-Baig village, Jabal Seraj district of Parwan province. Subsequently AMAC Centre assigned an investigating team comprised of [Name removed] the AMAC Quality Management Assistant and [Name removed] the Operations Associate to conduct investigation.

The accident involved a deminer named [Name removed] belonging to [Demining group] DT # 4, which his left hand's finger injured as he was fully dressed with PPE.

SUMMARY

B. On 15 May 2007 at 08:35 hrs while [the Victim] deminer of [Demining group] DT # 4 was working on a signal, his bayonet hit top of a PMN antipersonnel and as result the mine exploded.

Report indicates that the deminer normally used to excavate by his right hand but due to long time excavation on a signal he shifted to his left hand and continued excavation but as he did not have proper control to his left hand, the bayonet hit the top of the mine and exploded it.

CONCLUSIONS

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

a) Existence of mud wall on the minefield made it impossible to section leader to control his all three parties worked at different parts of the task, so a deminer has been appointed to control the deminer worked inside the a garden (portion of the minefield). After the first accident, which was happened at the same place two days back (on 13 May 2007), two other deminers were shifted to this portion of the minefield to replace the injured deminer & acting section leader and resume/continue work on the same area.

b) The deminer excavated for long time on a signal by his right hand but as the ground surface was hard, his right hand got tired (lost energy/vigour), so he shifted to his left hand and as he did not have proper control to his left hand, he applied excessive pressure on the top of the mine and caused to the accident.

c) The accident is because of the negligence from both the deminer and the Acting Section Leader as the deminer excavated by his left hand contrary to his habitual/normal exercise and the section leader did not prohibit the deminer of such wrong action.

d) The investigation report indicates that the accident happened just half a metre from the first accident where some extra soil has gradually came down from a ruin mud wall on the top of the mine, the surface was very hard; it concludes that the team leader has not learnt any lessons from the first accident and has not taken any measures to prevent reoccurrence of the second accident. Also the Team Leader failed to focus more on supervision and control of the team.

e) Assigning a deminer who has not completed the Team Leadership course as an acting section leader.

f) The depth of mine has not been taken into consideration.

RECOMMENDATIONS

D. The following are recommended by the Investigation Team

a) Deminers who have not completed the Team Leadership course must not be appointed as Section Leader, Assistant Team Leader or Team Leader.

b) If there is no any TLC trained deminer in the team, the Team Leader is should request [Demining group] operations staff for either provision of TLC or shift such a deminer (who completed TLC) from other [Demining group] teams working at the same site/region.

c) The Section Leader considering the safety distance should position at the required distance from the deminers in order to control them actively.

d) In the cases if the team is split, one or two sections of the team work in another task, and the section leader cannot cover overall activities of the of the section, Assistant Team Leader should be appointed to control overall clearance activities.

e) [Demining group] Operations Department should conduct refresher training for all the DT # 4 personnel and it should be QA by [Demining group] QA section. [Demining group] is advised to send the result of the refresher training to UNMACA QA section and the team should be subject to field assessment.

Statements

Statement and Witness Report 1

[Section leader, working in demining since 1990.]

Q1: When did accident happen and in which party?

The accident happened at 8:35 hrs in the party whose section leader was Mr. [Name removed].

Q2: Where was your location at the accident time?

I was at the way toward party no 1.

Q3: When you found that accident happened what you have done as section leader?

I was walking toward party no 1 when accident happened I return back toward the party which accident took place as soon as I got to the accident spot doctor start implication of first aid meanwhile I informed site officer and team leader.

Q4: When you reached to the accident spot explain condition of the injured deminer?

When I got to the accident point I saw [the Victim] at standing position worn PPE and helmet and I have taken his photo at main time.

Q5: What might deminer was doing during accident as per your point of view?

I checked the injured deminer 5 minutes before accident, he was prodding at that moment and I told him to prod with 30 angles.

Q6: Explain how the accident occurred?

Deminer [the Victim] was prodding which accident occurred on him, as the ground surface was hard and mines were in deeper position, these factors caused accident. We found 11 PMN mines in the area. It was party No. 3 N[the Victim], [Name removed] and [Name removed].

Q7: As you are aware the day before accident happened and this is the second one, which took place with 3 days, where the problem? Is there problem in your management or system?

Ground was hard which caused accident, hot weather and heavy PPE are also could cause deminers to lose patience and causing accident.

Q8: Which fault did deminer do cause him accident?

I do not see any fault behind the accident; by my opinion ground hardness caused the accident.

Q9: How deep you have found mines in this site?

At 30 cm depth we are searching the ground to find the original ground surface till complete elimination of the signal.

Q10: Have you faced with such mine with dispositional? [Presumably “out of position”: on its side.]

We did not find such mine with disposition condition, but I am sure some of the mine especially the mine which caused accident would disposition.

To prevent such accident in such area, it needs to use water for the hard ground, in order to soften the ground for easy prodding.

Statement and Witness Report 2

[Medic, working in demining since 1991.]

Please answer the following questions:

Q1: What First Aid help you have given to the injured person?

Bleeding of the patient controlled. Analgizic, IV liquids, Anti Biotic given to the patient.

Q2: What parts of the injured person body received wounds please use medical terminologies?

Planx finger of the patient injured and other fingers have been lightly injured.

Q3: Where did you transfer the patient (hospital)?

We shifted the patient to Charikar 80 beds hospital.

Q4: Who accompanied the patient to the hospital?

Team leader accompanied the patient.

Q5: How long the patient was in hospital and where is he and how is his health condition now?

For very short time he was kept in the hospital for redressing then he discharged from hospital and now he is completely recovered.

Q6: Do you have enough medical facility at the site level or if you do have any suggestion for improvement?

The medical facilities in our site is enough and do not have any comment on it.

Q7: When did you practice CASAVAC drill and do you have record of it?

On 09/05/07 we did practice of the drill and it was done on [Name removed] deminer.

Statement and Witness Report 3

[Acting Section Leader: Deminer, working as a deminer since 1991.]

Q1: Explain how the accident happened?

Cause of accident was workload, hot weather, one-man drill and long mission.

Q2: You are a deminer why you have been chosen as acting section leader and how long you have done this job?

I am assigned by operation officer as I am a senior deminer.

Q3: Have you completed TLC course?

No I did not take TLC course.

Q4: Have you faced with any mine dispositional, or not?

On 14 May the found mine was disposition.

Q5: In such area which ground surface is hard, what you are doing, are you using water for soften the area?

As area is near to the wall of house and we could not use much water because wall may collapse. Using less water is not effective because it would just soften the top layer of the ground it won't reach to the bottom as mines are placed.

Q6: When did you find the mine, which was disposition?

It was found on 14 May and the same party found it.

Q7: When you did see the mine have you explained to the deminer how to deal with such mines?

Yes I briefed all deminers about the issue.

Q8: How do you know that the found mine was disposition, which [the Victim] got blown on it?

From the previous mine, which we had accident on, section leader on 13 May. It gives us the understanding of mine disposition.

Statement and Witness Report 4

[The Victim, deminer since 1991.]

Q1: Explain how the accident happen?

I was busy on my work and I have not seen the accident events.

Q2: What fault of the deminer caused accident?

Weather was hot, ground surface was hard and mine's depth was much.

Q3: You are used to work with right hand but at accident time you used your left hand why?

I used my left hand to give rest to my right hand.

Q4: How long you have worked in this site?

Since two days we were working in this site and I worked at Abdi by in task No. 085.

Q5: The mine, which caused accident how deep it was buried, and what type it was?

It was PMN mine with almost 30 Cm depth.

Q6: Have you worn PPE and Helmet or not?

Yes I did wear my protection PPE and Helmet Visor.

Q7: What is your suggestion to avoid such accident in the further?

I recommend that 45 hrs works is very much it should decrease. I recommend the PPE and helmet, which [Other Demining group] deminers have.

Analysis

The Primary cause of this accident is listed as “Unavoidable” because there is no evidence that the deminer was working other than in the manner trained when the accident occurred. The tool he was using was inappropriate and the depth of the mines may well have indicated that another approach was advisable, but the deminer was not trained to change the excavation method to suit the conditions. The secondary cause is listed as a “Management control inadequacy” because the deminer was not appropriately trained. The Acting Section Leader was also not adequately trained. It is a significant “Management control inadequacy” that the demining group’s management apparently has no appropriate training for deminers and Section Leaders.

The correct use of the PPE undoubtedly prevented severe injury.