DDAS Accident Report

Accident details

Report date:	24/01/2008	**Accident number:**	506
Accident time:	10:50	**Accident Date:**	22/01/2007
Where it occurred:	Task # AF/0112/00000/MF0225, Khoyandi Village, Sorubi District, Kabul Province	**Country:**	Afghanistan
Primary cause:	Inadequate training (?)	**Secondary cause:**	Field control inadequacy (?)
Class:	Missed-mine accident	**Date of main report:**	29/01/2007
ID original source:	C/HQ/OPS/07-27	**Name of source:**	UNMACA
Organisation:	[Name removed]		
Mine/device:	PMN-2 AP blast	**Ground condition:**	rocks/stones
Date record created:		**Date last modified:**	24/01/2008
No of victims:	1	**No of documents:**	2

Map details

Longitude:		**Latitude:**	
Alt. coord. system:		**Coordinates fixed by:**	
Map east:		**Map north:**	
Map scale:		**Map series:**	
Map edition:		**Map sheet:**	
Map name:			

Accident Notes

inadequate medical provision (?)

dog missed mine (?)

inadequate training (?)

inconsistent statements (?)

metal-detector not used (?)

pressure to work quickly (?)

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. An MDD is a "mine Detecting Dog. An MDS is a Mine Dog Set, comprising at least one dog and handler.

REPORT FOR MINE ACCIDENT INVESTIGATION

BOARD OF INQUIRY 29th JANAURY 2007

MDD mine accident that occurred on the 22nd January 2007 in Sarobi District Tora Tiga Khowenda, Kabul Province, Afghanistan.

References:

A. [Specialist MDD agency] SOPs

B. Afghan Mine Action Standards (AMAS)

Introduction:

1. Report on mine accident that occurred on the 22nd January 2007,

2. This report will also address procedure issues. Highlighting the importance of employing MDDs in strict accordance with [Specialist MDD agency] SOPs.

Aim:

3. The aim of this report is to investigate the events that led to the mine accident and to determine what necessary changes to MDD procedures need to be made to prevent a reoccurrence of this type of accident.

Background to Accident:

4. [The Victim] had passed the UNMACA MDD accreditation on the

7th November 2006,

5. The MDS 05 team was transferred on the 14th January 2007 from MF 002 in Kapisa 150km North of Kabul, to minefield ME 0225 Sarobi District Tora Tiga Khowenda, Kabul.

6. The MDD handler [the Victim] (MDS 05) was conducting area reduction and the establishment of a boundary lane around minefield MF 0225.

7. The demining team was subjected to a QA procedure by AMAC Kabul on the day of the accident, 22nd January 2007.

8. They started operations on the 16th January 2007.

Sequence of events:

9. During the establishment of the boundary lane [the Victim] stepped on a PNM - 2 anti personnel mine at approximately 10:50 am on the 22nd January 2007.

10. Notification of the accident was reported together with an urgent plea for blood donations, but the blood group was unknown?

11. This information was immediately forward to [Name removed] UNMACA Chief of Operations and also to [Name removed] QA Department Head UNMACA

12. The request for blood donations was circulated within the UNMACA and a good response of blood donors was received. The handler's blood group was not known at the time of the accident and was later established once in hospital.

Casualty Injuries:

13. The MDD handler sustained traumatic amputation to the lower right leg and sustained lacerations to his left knee and right hand. (Injury Report attached to Paramedic's statement).

14. The MDD did not sustain any known physical injuries.

Actions taken by UNMACA:

15. UNMACA MDD TA was tasked by [Name removed] UNMACA Chief of Operations to visit the accident site and conduct an investigation. He was accompanied by members of the UNMACA MDD Section on the 23rd January 2007: [Name removed]- UNMACA MDD associate, [Name removed] - UNMACA MDD Associate, [Name removed] - UNMACA MDD I REST Supervisor, [Name removed] - UNMACA MDD TA.

16. The following demining staff involved on the day of the accident were instructed to report the following day to attend a site debrief and present statements: -

[Name removed] - [Specialist survey agency] Para Medic

[Name removed] - Head of [Specialist survey agency] Survey team 23

[Name removed]- Set Leader MDS 05

[Name removed] - MDD handler 05

[Name removed]- MDD handler 05

[Name removed] - Assistant OPS officer [Specialist MDD agency]

FINDINGS OF THE INVESTIGATION TEAM:

Accident site Location

17. The accident site was classified as a minefield after numerous civilians and animals had been injured or killed.

18. The minefield was not fenced and the location of the mines were not known, information gathered had determined that PMN 2 mines were to be encountered in the area.

19. The terrain inside the minefield consisted of lose rocks and round boulders the type one would encounter in a river bed, the area was against a hill side.

Sequence of Events:

20. On Site Warm up and obedience training was conducted prior to commencement of operations.

21. Area reduction was first conducted earlier that day.

22. Boundary lane was being established when the handler detonated the mine (PMN - 2).

Findings:

23. No mission MDD refresher training was conducted and record as per SOP. Last known recorded training was conducted in January 2006.

24. The daily MDD training was not done as per [Specialist MDD agency] SOPS and no record was maintained for the whole year of 2006.

25. The daily MDD work record is up to date, however, lacks specifics and mapping detail.

26. Last veterinary vaccination was administered on 3rd January 2006; revaccination for 3rd January 2007 was not administered.

27. The temperature was estimated by the Team Leader as 8 degree Celsius, there was no instrument to record the temperature on site, so this estimate was a guess by the Team Leader.

28. Area reduction was conducted earlier that day.

29. A Boundary lane was being established at the time of the accident.

30. No orientation, socialization or pre-training was conducted prior to commencement of the task as per [Specialist MDD agency] SOP.

31. The warm up boxes were set up close to a road side and the following comment are made by the Investigation Team: -

a) Passing vehicles would cause a high degree of distraction and exhaust pollution from passing trucks and cars would have adversely affect the MDDs.

b) No PMN 2 mines were used for warm up training. One YM 1 mine buried at 1mm depth was used as a target for the MDDs warm up training on the 22nd January 2007 despite the minefield being identified as containing PMN 2 type mines.

c) The area/terrain used for the warm up was vastly different from the terrain in the minefield.

d) The warm up boxes were established on soft wet sand, evidence of ground disturbance by pedestrians and cycle tracks was apparent, therefore causing further contamination/confusion for the dog during the warm up training.

32. The terrain comprised of loose racks and large round boulders, generally as found in river beds as per photograph attached. The area was on an incline side of a hill feature. The investigation team experienced a degree of difficulty in walking and maintaining balance within the safe lane.

[The accident site]

33. The investigation team observed foot prints outside the safe boundary lane; this indicates that someone had walked into uncleared areas.

34. The majority of the boundary/perimeter was fairly steep cross gradient, making the working procedure for the MDD very difficult.

35. The use of the MDD in the lane was in accordance with SOPs namely, the MDD searched 8 meters before moving forward.

36. The seat of detonation area was 1.5 meters forward of the last known safe area within the boundary lane.

37. The latest statement from the MDD handler states that he was under pressure from the set leader to increase productivity and that only one dog was used to search the lane.

38. On my arrival on the 23rd January 2007 the air temperature was between 7 and 8 degrees.

Conclusions:

39. The team were not working in compliance with their SOPs.

40. No mission training had been done as stipulated in their SOP, last record mission training and evaluation was recorded in January 2006. It is of utmost importance that dogs are kept on standard and evaluation done every 2 months. ([Specialist MDD agency] SOP 25 pg 1).

41. No daily MDD training had been done or recorded for the year of 2006; this can result in MDDs developing their, own techniques and different search methods and patterns. ([Specialist MDD agency] SOP 25 pg 1).

42. No pre training, socialization or orientations was conducted.

43. The area that should have been selected which resembled the actual minefield was the car park area, which would have been more suitable and away from daily pedestrians and traffic.

44. Mines used for warm ups should be the same type as expected in the minefield. ([Specialist MDD agency] SOP 24 pg 5 point 3).

45. Terrain conditions especially cross gradient were not conducive to comfortable MDD working conditions.

46. The MDD handler's statement "being pulled into the minefield" is highly questionable, as the size of the MDD in question could not have exerted such force.

47. The facts clearly indicate the distance to the seat of detonation from where the MDD handler was positioned, was 1.5 meters, however, the MDD handler had 6.5 meters of leash in reserve and could very easily slack off merely releasing the leash, additionally, the MDD handler always kneel down during the search with the MDD, therefore, had the scenario stated, occur, the handler would have fallen on to both knees within the safe lane.

48. Only one MDD had searched the area.

49. [There is] evidence of foot prints some distance past the point of detonation; this indicates that the area in question had previously been investigated.

50. It is evident that the MDD did not indicated the mine and the contributing factor indicate a combination of reasons/causes —

a) Daily training was never done.

b) No pre training or orientation was done.

c) Weather — very cold ground conditions, an MDD cannot detect explosive vapour at temperatures below 8 degrees, unless specifically trained to do so.

d) The MDD was not looking for PMN — 2 mines he was looking for YM 1 mines.

e) The cross gradient terrain riddled with stones and large boulders, had an adverse effect on the MDDs focus.

f) Pressure from the set leader/team leader to increase productivity, placed the MDD under further pressure from the MDD handler.

g) Latest statement attached, from to [Name removed] - Assistant OPS officer [Specialist MDD agency] states — "MDS 05 had not worked in accordance with [Specialist MDD agency] SOPs".

Recommendations:

1. All MDD teams to be issued with wind and temperature meter instruments.

2. All warm up/test boxes to be set up accordingly, as described in the [Specialist MDD agency] SOP. ([Specialist MDD agency] SOP 24 pg 8„ 9, 10, 11.and pg 36, 37).

3. No handler will move forward until a minimum of 2 MDDs have gone over any area. ([Specialist MDD agency] SOP 24 pg 14 point 11.2 - M.

4. The MDD handler will retain the right to disregard any working area as a non-MDD area on justifiable reasons. ([Specialist MDD agency] SOP 24 pg 6)

5. All handlers will keep the long leash from dragging over any area.

6. Proper records of all members blood group will be established and recorded before any demining activities are started. ([Specialist MDD agency] SOP 24 pg 7 point16).

7, All handlers will keep a proper and accurate record of daily work conducted, mapping, duration of work, rest and explosives pieces/mine used. ([Specialist MDD agency] SOP 24 pg 7 point 16)

8. All handlers will determine with the set leader a suitable place to establish warm up/test boxes. ([Specialist MDD agency] SOP 24 as referred to above)

9. All handlers and set leaders will ensure that test boxes are established at their main base camps during operations and record all training done on a daily basis. ([Specialist MDD agency] SOP 24 as referred to above)

10. All set leaders and handlers will determine their MDD's weakness regarding types of explosive vapour and during training at camp ensure additional training be conducted.

11. Amendments are in review by UNMACA concerning the minimum temperature after evaluating MDD that have participated in the Accreditation and will be reflected in the new AMAS as not below - 8 degree Celsius and wind speeds not above 4m/s unless specially trained and accredited by UNMACA. ([Specialist MDD agency] SOP 24 pg 5 point 8c & 9).

Summary:

The lack of some key commands and basic strategies were contributing factors. If the basic rules and standard working procedure are adhered to fewer accidents would occur.

It is important that guidelines and recommendations from the UNMACA are complied with and enforced by [Specialist MDD agency] management and QA AMAC.

Signed: MDD TA, UNMACA, Kabul Afghanistan

Annexes: [Held on record, including the specialist MDD agency's SOPs.]

Chief of Staff Comments

I concur with the Investigation Team findings and recommendations.

[Specialist MDD agency] and AMAC OMIT are to ensure that MDD teams are operating in suitable terrain and environmental conditions. All MDD Teams are to have the relevant temperature reading equipment on each site and the Set/MCT Team Leaders are to ensure that wind & temperature conditions are suitable for MDD clearance.

MDD Handlers are to follow SOPs and it is the responsibility of the Set/Team Leader to ensure that this is so.

The injury of a MDD handler in this manner is a timely reminder to all clearance organisations that safety of their clearance personnel is their first priority.

[Specialist MDD agency] Internal report

January 31.2007

File#. [SPECIALIST MDD AGENCY]11-1Q, OPS, 07-27

To: Chief of Operations UNMACA

From: [SPECIALIST MDD AGENCY] Director

Sub: MINE ACCIDENT INVESTIGATION

Accordance to the report of site office Kabul regarding the mine accident on task#225 operations department assigned [Name removed] to investigate the real cause of mine accident.

Therefore, attached please find investigation report of the above mentioned mine accident which was done by operations section.

This is forwarded for your further information and proper action please.

On January 22 2007 at 10:50 AM during the operations of MDS# 23 in task# 225 which was located in Sorobi district, Village of Tora Tiga, Kabul province, a mine accident happened on one of [Specialist MDD agency] dog handler [the Victim] in order to investigate the cause of mine accident the following, operations personnel was assigned.

INVESTIGATE BY: Assistant OPS officer

In order to see the accident point on dated January,232007 I went to the minefield and I had interview with Set leader of the mentioned mine dog set [Name removed] regarding the mine accident during the interview the mentioned set leader explained the cause of mine accident as follow.

During the operations [the Victim] dog handler was tasked to start dog searching for clearance of the boundary line when the dog completed his first leash, dog hander call him (come back) but the dog did not accept his command and the handler was pulled by the dog and such accident was occurred.

Accordance to my observations in front of accident points which was unclear area there were lots of foot prints and about 30 meters further in unclear area collected soil was indicated to make direction for other TP.

On dated January.25, 2007 I had interview with [the Victim] dog handler who was affected of mine accident.

Question: how incident occurred:

I was operating, in the field. When I have complete one leash I step to cross the area and check the second leash. In this time the accident occurred. It is worth to mention that this portion of the task were not checked by second dog.

Question: why the second dog were not used.

Our team set leader told me based on decision of team leader there is no need for other dog to check the area and the set leader give us target to completed from this to this. Which is out of [Specialist MDD agency]/[Specialist survey agency] procedures?

Conclusion:

1. Did not check the area properly by dogs
2. Did not check this portion of the minefield by second dog.
3. Careless of team leader and personnel in the minefield.
4. Foot prints of personnel in unclear areas.
5. The above mentioned reasons were caused the mine accident

Recommendation:

1. Immediate termination of [Specialist survey agency] team leader with MDS set leader.
2. Proper use of dogs and de-mining tools required in the filed.
3. Operations activities should be based on [Specialist MDD agency] and [Specialist survey agency] SOP.
4. Controlling of the personnel by team leader and set leader is required.

LESSONS LEARNED SUMMARY

DEMINING ACCIDENT

INTRODUCTION:

As a result of a demining accident on [The victim], the dog handler of MDS-23 of [Specialist MDD agency] at 10:50 Hrs, January 22, 2007 in task # AF/0112/00000/MF0225, located at Khoyandi village, Sorubi district of Kabul province, a Board of Inquiry was convened by UNMACA to conduct an investigation to find out the main causes of mentioned accident.

The accident caused right ankle joint and left below knee amputations and right hand injuries to mentioned dog handler.

SUMMARY:

The investigation report of BOI concluded that the accident occurred because of the following faults:

Lack of training: no MDD refresher training was conducted and recorded as per SOP. Last known recorded training was conducted in January 2006 and daily MDD training was not

done as per [Specialist MDD agency] SOP. No record was maintained for the whole year of 2006. The warm up boxes were set up close to a road side and the following points were not considered:

- Passing vehicles would cause a high degree of distraction and exhaust pollution from passing trucks and cars would have adversely affect the MDDs.
- No PMN2 mine were used for warm up training (as the MF was contaminated by PMN2 mine) but only one YM-I mine was buried at 1mm depth as a target for the MDD's warm up training.
- The warm up boxes were established on soft wet sand, evidence of ground disturbance by pedestrians and cycles tracks was apparent. The area/terrain used for the warm up was vastly different from the terrain of the minefield.

Poor command and control: the team were not working in compliance with their SOPs. The area that should have been selected which resembled the actual minefield was the car park area, which would have been more suitable and away from daily pedestrians and traffic. Terrain conditions especially cross gradient were not conducive to comfortable MDD working conditions.

The fact clearly indicates that, the distance to the seat of detonation from where the MDD handler was and also as he had 6.5 meters of leash in reserve and could very easily slack off or merely releasing the leash, additionally the MDD handler always kneel down during the search with the MDD, therefore, the handler would have fallen on to both knees within the safe lane not to the contaminated area (as the handler stated in his statement that he was pulled by MDD to contaminated area).

Only one MDD had searched the area and also in very cold ground condition (in temp bellow 8 degree Celsius) an MDD cannot detect explosive vapours unless specifically trained to do so. The evidence of foot prints out side of cleared lanes and around the detonation point is indicating the carelessness and poor command and control of command group and also pressure from the team leader and set leader to increase productivity, placed the MDD under further pressure from the handler which caused disregarding of procedures.

CONCLUSIONS:

The lack of some key command and basic strategies were contributing factors to the accident, if the basic rules and standard working procedures are adhered, the number of accidents will decreased

RECOMMENDATIONS:

The following points are to be considered:

1. All MDD teams to be issued with wind and temperature meter instruments.
2. All warm up/test boxes to be set up according to [Specialist MDD agency] (SOPs 24).
3. No handler will move forward until a minimum of 2 MDDs have gone over any area.
4. The MDD handler will retain the right to disregard any working area as a non-MDD area on justifiable reasons. ([Specialist MDD agency] SOP 24 p 6)
5. All handlers will keep the long leash from dragging over any area.

6. All set leaders and handlers will determine their MDD's weakness regarding types of explosive vapour and during training at camp ensure additional training be conducted.
7. A refresher training to be held for whole team members.
8. Disciplinary action to be taken against set leader and team leader.

Signed: Chief of Operations. UNMACA Kabul

Victim Report

Victim number:	666	**Name:**	[Name removed]
Age:	43	**Gender:**	Male
Status:	deminer	**Fit for work:**	not known
Compensation:	Not made available	**Time to hospital:**	One hour 40 minutes
Protection issued:	Not recorded	**Protection used:**	Not recorded

Summary of injuries:

minor Leg

severe Hand

AMPUTATION/LOSS: Leg Below knee

COMMENT: See Medical report.

Medical report

At 10:50 the mine incident occurred

At 11:40, the Victim was put into a [Different demining agency] team ambulance

He arrived at hospital at 12:30 [Total evacuation time 1 hour 40 minutes]

Note: The blood group record was not available on request 23rd January 2007.

Medic's report: "Control of vital signs on way in ambulance checking the tourniquet and splints and administration of fluids and control intake and output of casualty

Casualty departed injury site at 11:40

At 11:39 his pulse was 74, his BP: 11/70. Resp: 24

Intravenous infusion of Ringers Lactate started at 11:28 90ml/minute

Age 43

Abrasions to right hand and left leg below knee.

Amputation of right leg at ankle.

Rt 5th finger open fracture

Tourniquet, pressure bandage and elevation used to control bleeding.

SUPPLEMENTARY TREATMENT

This part of the report is to be completed by the treating Doctor or medic at the FMU or second level of medical facility.

Date/Time casualty arrived at FMU: 11:30

Right foot joint amputation and right hand injured. The tibia and fibula inferior side was amputated.

Sosigen given at 11:15

Vial Ampiclox 1000 mg given at 11:32

Oxygen not given.

STATEMENTS

Statement and Witness report 1: Medic

To: MDD Section of UNMACA

On 22/01/2007 at 10:50am when the mine incident occurred in task, I located about 120m back far away from the work site and boundary in cleared area. When the incident occurred I got ready to go to the victim point. When the team leader order me to go close to the victim and I completely went closer to victim. After the shifting of victim from incident site to cleared site by team members I started the first stage of first aid to victim and after we evacuated the injured the tent for second stage of medical treatment to the tent and after the completion of medical aid the injured evacuated to EMEREGECY HOSPITAL. Then we moved at 11:40am DAFA team ambulance and arrived to mentioned hospital in 56 minute at 12:30 and I controlled the victim during the evacuation and the victim condition was normal and delivered to hospital.

Therefore I submitted the report for your information.

[A largely illegible copy of INJURY and TREATMENT RECORD was attached with the statement.]

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Right foot joint amputation and right hand injured. The tibia and fibula inferior side was amputated.

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Oxygen not given.

Statement of Head of Survey team No. 23

To: MDD Section of UNMACA

On 22/01/2007 Monday at 07:30am when we arrived to MF No.AF/0112/00000/0225 in Toratiga Khoyandi village. Sarobi District of Kabul Province. After the prayer of Holy Koran and safety brief to the team, the set leader performed the obedience on dogs by handlers for 20 min and both dogs were healthy and normally could be able to do the operation work. And I checked the dogs work and [they] were ready for operation.

([Investigator's] Note: ST leader was not present to witness. Therefore hearsay.)

Then we moved to reduction area that until 9:45am we worked for area reduction and both dogs indicated and after the excavated of the indication according to the procedure both dogs went to rest. After 30 minute rest [the Victim] handler started the searching in boundary line and commanded the from safe area to unsafe area and started work that in this time the set leader and surveyor were present at site. After a few minute the dog pulled the [Victim] handler toward and the mine incident occurred at 10:50am.

And when we arrived to the incident point the mentioned dog handler right leg amputated and his right hand got injured too. Then we evacuated the injured person to cleared area and the medic gave first aid to him and evacuated the injured by ambulance to at 11:40am to EMERGENCY HOSPITAL in Kabul.

Therefore I submitted the report for your information.

Statement of Set Leader of MDS # 05

To: UNMACA

Date: 22/01/2007

Whenever we reach the vehicle park and equipment store after a pray and brief of team leader of [Specialist survey agency], we carried out first obedience than morning test on two YM-1 mines which planted one day ago. Than we departed toward the minefield.

We worked in reduction area until 10:00AM. Than with consultation of [Specialist survey agency] team leader I, dog handlers and one surveyor went to work in the boundary line. We reached the rest (short break) point of the boundary line on 10:15 AM. Than we take 30 minute's refreshment rest for dogs and handlers.

Than on 10:45AM I with [the Victim] and his dog went to start work. After a short brief to [the Victim] dog handler, I stood 15 meter back to control him. Handler searched one leash until to the end with dog, but the dog did not accept the returning command. And start pulling himself to the front. Dog handler suddenly put his first and second step to control the dog, and accident occurred.

Statement of Dog Handler of MDS # 05

To: UNMACA

Whenever we reach the parking lot after an obedience and warm up, we all member of the team departed to the area.

We worked until 10:00 AM in the reduction area. Than we went to work on boundary line.

On 10:15 we arrived to boundary line. After a half hour of break of set [the Victim] started to work, and 1 was take my position 20 meters back from set leader control point waited to do double check.

While [the Victim] started to work on the first leash, dog went 8 meter to the front, and [the Victim] called with loud voice (come) to the dog; suddenly voice of explosion raised and fragments of the stones and soil raised to the sky.

This was that I have seen, and said to serve for you.

Statement of [the Victim] Dog Handler of MDS#05

Date: 24/01/2007

When I reach to the parking of vehicle at 7:25 after reading Holy Koran and briefing for team leader [Specialist survey agency].

Than I start warm up and test dog with set leader. After that we went to the reduction of area up to 10am we stay there and work. After that by command of team leader and set leader we went to the boundary to the top of hill. We rest for 30 minutes after that by command of set leader get together went to work area than set leader give me brief than I start work. In the first leash dog complete 8 meter and still want to pull to the in front. He did not accept come so come back so I have to control my dog it is possable fall down in front then I moved one small step than one big step the explosion was start.

[Investigator's] Note: Explanation of the dog pulling handler into unclear area has never occurred during all accreditation and very unlikely to happen in actual M/F.

Analysis

The primary cause of this accident is listed as "Inadequate training" because it seems that, although the anticipated type of mine was known, the MDDs were not "warmed up" using a target mine of that type, or in an area similar to their working area. The "warm-up" is used as a daily "refresher training" for the dogs. Without it, these MDDs were not trained to find the targets.

The secondary cause is listed as a "Field control inadequacy" because it seems that there was pressure on the MDD handler to work quickly and search using only one MDD. This was in direct breach of approved SOPs and was a significant field and senior management control inadequacy.

The Field managers compounded their error by seeking to conceal the truth from the investigators.

The "Inadequate medical provision" listed under "Notes" refers to the fact that the demining group did not have a record of the handler's blood group (a requirement) and apparently did

not have an ambulance on site. The ambulance that took the victim to the hospital was provided by a different demining group. This may explain the 50 minute delay in leaving the minefield for the hospital.