

# DDAS Accident Report

## Accident details

<b>Report date:</b> 25/08/2016	<b>Accident number:</b> 810
<b>Accident time:</b> 08:20	<b>Accident Date:</b> 01/09/2008
<b>Where it occurred:</b> Sagirdash village, Darvoz District, GBAO Region	<b>Country:</b> Tajikistan
<b>Primary cause:</b> Inadequate training (?)	<b>Secondary cause:</b> Management/control inadequacy (?)
<b>Class:</b> Tripwire accident	<b>Date of main report:</b> 10/09/2010
<b>ID original source:</b> None	<b>Name of source:</b>
<b>Organisation:</b> [Name removed]	<b>Ground condition:</b> dry/dusty; grass/grazing area; steep slope
<b>Mine/device:</b> POMZ-2M AP frag	<b>Date last modified:</b> 25/08/2016
<b>Date record created:</b>	<b>No of documents:</b> 2
<b>No of victims:</b> 1	

## Map details

<b>Map east:</b> 070° 43' 12.6"	<b>Map north:</b> 37° 38 '11.0"
<b>Map scale:</b>	<b>Map series:</b>
<b>Map edition:</b>	<b>Map sheet:</b> J-42-58-A (10-42-058-1)

## Accident Notes

inadequate area marking (?)  
inadequate medical provision (?)  
inadequate training (?)

## Accident Report

### Commission's Report on investigation of the mine accident on the road passes of Khaburobod Darvoz District

10 September 2008, Dushanbe

#### 1. INTRODUCTION

Due to the landmine explosion on 01 September 2008, which resulted in one demining casualty, according to the National Mine Action Standard TMAC on behalf of the Government of Tajikistan established a commission for investigation of the mine accident in the field.

This incident occurred during the mine clearance operations in the field. The mine clearance team belongs to [Demining group] which is operating in Tajikistan. The tasking of this area for mine clearance operation is in the priority list.

The commission for investigation consists of the following persons::

[Name removed] – Head of Commission (TMAC)

[Name removed] - Member (Red Crescent Society of Tajikistan )

[Name removed] - Member (Local authority ).

[Demining group] for cooperation with established commission for investigation proposed its representative [Name removed], Operations Officer.

The copy of the commission of investigation tasks are attached B [not attached].

## **2. INSTRUCTION AND DOCUMENTATION PROCEDURE OF THE TASKING**

TMAC registered this task as TS\_IS104 MF6 and according to the existing instruction, the task has been prepared. [Name removed], Head of TMAC Operations on 21 July 2008, sent this task to [Name removed] – [Demining group], Operational Supervisor.

The following documentation was made available to the investigators.

- Report on general survey was available in INSMA (original text, English and Tajik languages);
- Topographic map 1: 50 000 or 1: 100 000;
- Map prepared by locals(manually);
- Initial request letter for clearance;
- Task for technical survey (TT);
- Report on technical survey (TT);
- Task for the mine clearance;
- Monthly report on process of the mine clearance achievement;
- Report on Quality Control in the process of the clearance;
- Completion report on general survey ;
- Registration log book during the operation;
- Tasking HC;
- Report on HC;
- Copy of the initial accident report;
- Copy of the accident report.

In the mentioned accident a civilian deminer who was employed by [Demining group] became a casualty. [“Civilian” is mentioned because many deminers in Tajikistan are seconded soldiers.] He was sent for the mine clearance operation in this minefield by [Demining group].

This mine clearance group had been deployed to this mined area on 20 July 2008 and on this day they had established their camping area. The demining group started its operations on 24 July 2018. Mostly, the group was working from 06:00 to 12:50. The [Demining group] has such a rule that each deminer should work 50 (fifty) minutes and after that ten (10) minutes of rest and then again continue their work for 50 minutes.

TMAC and [Demining group] were well aware of the high level of risk of this area, due to deterioration of the wood stick of POMZ 2M, which meant that most of them fallen on the ground and deteriorated.

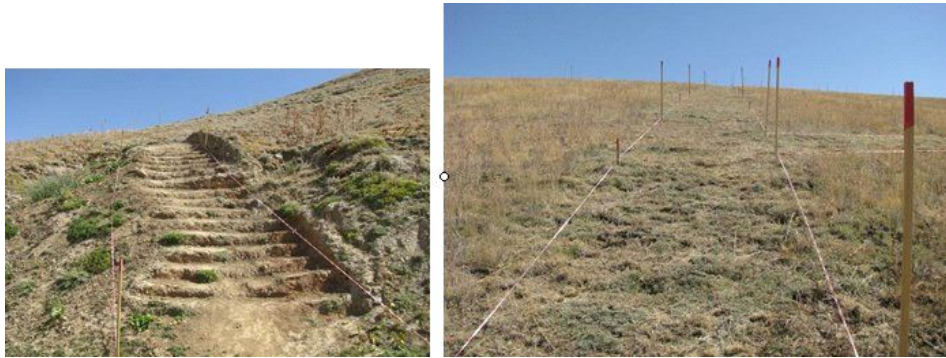
The activities of each task of [Demining group] operations are registered in the minefield record.

### 3. ACCIDENT SITE

The mine accident occurred in the Sagirdash village, Darvoz District, GBAO Region and at the geographical coordinates of 37 ° 38 '11.0 "North and 070 ° 43' 12.6" East, which is located at the altitude of 3260 m above sea level. See Appendix D - Map of J-42-58-A (10-42-058-1) [Not reproduced but held on file].

The mine accident area was intended for use as pasture. A small military base existed in this area before. The minefield is located around the mentioned military base and the clearance field which mine accident happened was rough (bumpy) land.

The total area of the minefield is approximate 200,000 m. Due to the lack of a map for this minefield, the mine clearance group faces a lot of the challenges in their field operations.



[The photographs show the mined area, including steep access in which steps had been cut.]

There is no close car pathway to the accident place and only a 2-metre wide track cleared by the deminers gave access. At a distance of 450 m from the place of the explosion there is a large highway linking Dushanbe-Khorog passing around the minefields #5 and #6.

There are some demolished buildings around the road and on the Khaburabot pass, but because the place belonged to the military and the base was built in 1985-1990, they were not recorded on the map.

During the mine accident and the day of investigation, the weather was warm and the sun shining. There was no wind. Although, in the city of Dushanbe and the regions of the Republic of Tajikistan there was an earthquake at approximately 09:10 o'clock, no one in the accident area could confirm the time of the earthquake (whether it was before or after the incident, or at the same time). The last week the weather had been the same. During the accident the land was dry.

The mine clearance group's camp was located at a distance of the 13 km from the minefield area and the first medical supplies and logistical support were to be provided by the [Demining group].

### 4. ADMINISTRATION AND DISCIPLINE IN THE FIELD

The members of the mine clearance team located in the northern part of the area at a distance of the 13 kilometre from base were living in a tent. [Demining group] had 13 employees who were working under the national supervisor [Name removed] but due to the health issue of [Name removed], the task was executed by national advisor [Name removed].

In addition to the national advisor, the team comprised the team leader, head of unit, deminers and staff assistants. Please see the table below.

### 5. QUALITY CONTROL

Control and monitoring of the all [Demining group] humanitarian Demining team's operations were conducted according to the National Mine Action Standards and [Demining group] SOPs.

The head of [Demining group's country operations] was a supervisor of the project and with the Operational Officer made regular visits to the operational sites, usually one visit per week. The last field visit was conducted on 31 July 2018, by Technical advisor [Name removed].

During clearance, internal quality control is conducted. External quality control is regularly conducted by TMAC and they check almost all of the area searched. The last visit conducted by TMAC in this field was on August 6, 2008.

As a part of the internal quality control, the head of the group or the team leader of the section has the responsibility to check each area at the end of the working day, and make sure that no metal signals occur.

The marking sticks of the team leader and section leader were in their places and the marking stick of the team leader was at the end of the lane where the accident occurred. This bears witness to the claim that the explosion occurred after the checking of the team leader.

During the accident investigation it was found that the marking sticks (50cm) had been installed at a distance of 10 metres between each other instead of the maximum 5 metres required. The team leader explained that they lacked sufficient marking sticks.

## **6. COMMUNICATION**

On the day of the mine accident, in the working area the team had 3 satellite phones but the team leader [Name removed] used the mobile phone to contact the local hospital and inform them that the mine victim would arrive in 30 minutes.

## **7. MEDEVAC PROCESS**

As the result of the mine accident, the deminer [the Victim] was injured in both legs (right leg from above the knee, left leg from the knee down). He received medical assistance during the hour between the mine explosion to arrival at the village hospital of Saghirdasht.

After the mine detonation, the team leader [Name removed] approached the victim's location and, with the assistance of four deminers and the section leader [Name removed], took the victim to the main road close to the Ambulance.

The team medic [Name removed] was in the administration area at a distance of approximately 450 m from the accident place. After the explosion he prepared all the medical stuff accordingly and was waiting on the road when the Victim arrived. Other medics also came to support with First Aid assistance.

In all [Demining group] mine clearance teams, one experienced medical doctor is responsible for providing first aid and trauma-response. The medical personnel are equipped with all the necessary medical equipment for each team in the field.

Each de-miner is trained on specific medical courses including first aid assistance. The medical assistance provided to the mine victim was according to the requirement.

The last training exercise on victim evacuation in the area was conducted on 30 August 2008. A training exercise that involved evacuating a victim to Qal'aixum hospital, which is located in the central district took place on 23 July 2008, three days after the arrival of the team in this mined area. Due to the status of the injuries being not so heavy, the victim was taken to the nearest hospital, which is located in the village of Saghirdasht.

[Name removed] was driver of the ambulance who transferred the mine victim to the hospital.

The next transportation was organised on 2 September 2008 and took the victim from the Saghirdasht hospital in a small car to the Central Russian military hospital in Tajikistan at 17:00.

## 8. MINE TYPE AND ACCIDENT SITE

The fragments from the explosion area found and marking sticks were evidence that the mine was a Russian made anti-personnel mines POMZ -2M.

During the investigation of the explosion area it was confirmed that no other types of mine had been used in this area.

The explosion happened during the placing of a 1.5 metre marking stick. The detonation occurred at a distance of 7.5 metres behind of the deminer.

The mine explosion occurred due to the deminer not paying attention or not identifying the sound of the detector before hammering the marking stick onto the trip-wire of a POMZ-2M.

During the analysis of the place of the explosion, the remaining mine stick and excessive fragmentation found in the area provided evidence that the POMZ-2M was lying on its side. The mine was on the top of the earth. The below shows the depth of the crater.



[The crater and removed fragments are shown above.]

## 9. PPE

The injured de-miner had all the required PPE. After the investigation of the injured de-miner PPE it was found that during the explosion 4 fragments struck his back but did not make any negative impact. [The armour had a poly-aramid back with appears to have no Kevlar insert: this was marked but not holed, see below.]



## 10. DETAILED INFORMATION ON THE DAY OF THE ACCIDENT

The following information is a summary of the responses which members of the investigation commission received from the personnel who participated directly or indirectly during the landmine explosion.

The night before the landmine explosion the team had dinner at approximately 20.00 and then the group members talked a little, watched TV, and at between 21:30 - 22: 00 the team members went to sleep. No evidence was found that the group members were sick or that any unusual behaviour had been seen. During deployment deminers drinking alcohol is strictly prohibited.

On the morning of the day of the accident, the members of the group awoke before 04:00 and ate their breakfast which consisted of tea, bread, sugar and milk. As usual the group started operations at 06:00. In this mine clearance area, the operation took place on one side of the hazardous area.

Before the landmine explosion occurred, the team had two breaks for 10 minutes and at the third working time the cleared lane was checked by the team leader, [Name removed]. The team leader provided additional instruction to the deminer and then left the place.

After receiving guidelines, [the Victim] wanted to change the 50cm marking stick with a 1.5 metre stick. During hammering the marking stick at 08:20 the explosion occurred.

## 11. TIMELINE

08:00	The third working time started
08:20	The explosion occurred
08:20 - 08:35	The victim was transferred to the Ambulance area.
08:35 – 08:40	Medical assistance was provided to the injured.
08:40 – 09:10	The victim was transferred to Saghirdasht village Hospital
09:10 – 09:15	The doctor investigated the injured.
09:45 – 10:25	The doctors take out fragmentation.
10:25 – 10:35	After the completion of surgery, the doctors bandage the patient wounds.

From 10:35 01.09.08 to 10:00 02.09.08, the injured was under the control of the regional hospital Saghirdasht doctors.

At 10:00 02.09.08, the injured was sent by car to the Central Hospital of the Russian military base in Tajikistan in Dushanbe.

## **12. CONCLUSION**

The group [ID removed] was conducting operations in this area, The members of the group knew that the area was planted with POMZ-2M anti-personnel mines. Tools and procedures that were used in this area corresponded to the national and international mine clearance standards.

That day, and the day before the accident, were normal working days and there were no changes that could have affected to the process of the operation. The weather was blue sky, and could not have had a negative impact on the progress of mine clearance operations.

The deminers health was good; there were no complaints about health issues. According to the Head of the Group and the team leader of the de-miners, the behaviour of the personnel was the same to each other as ever.

## **13. SUMMARY**

This mine clearance team of [Demining group] is as a part of the ongoing mine clearance project tasked to work in the district of Darwaz GBAO. On the day of the accident the members of the group conducted mine clearance operation in accordance with their functional responsibilities. They have used their equipment properly and kept it in order.

The working area in which the team was conducted its operation had been evaluated as having a high level of risk by [Demining group] and TMAC.

The deminer who was injured in this explosion, started work for [Demining group] as an ordinary deminer in 2005 and he had received good experience since then. He was trained with all demining equipment and had passed all the training in order to perform manual mine clearance operations. This accident did not occur due to a lack of attention or wrong behaviour of the operating member of the team.

This accident occurred due to neglect of the detector sound, the low metal detector, failure, or failure to check after the 10-minute break, before replacement of marking sticks, or paying less attention on hammering marking sticks with the small shovel in the field.

The back of the body armour used by the deminer prevented him from the getting more wounds in his back. Most likely, if the deminer used only the front part of the armour, the deminer may have received serious injuries in his body.

This anti-personnel fragmentation mine exploded on the surface of the earth. Its stick had rolled on the ground and the mine fell on one side. The area where the mine detonated had not been cleared. It was 6 m away from the right side on the cleared passage in which the replacement of the marking sticks was occurring when the explosion happened.

The medical evacuation was conducted to the regional central hospital on July 23, 2008. The injured had originally been transferred to the village hospital Saghirdasht which does not meet the standards. The training evacuation to this village hospital in Saghirdasht had been never conducted. The injured was transferred to Central Regional hospital on August 30, 2008.

## Victim Report

<b>Victim number:</b> 1013	<b>Name:</b> [Name removed]
<b>Age:</b>	<b>Gender:</b> Male
<b>Status:</b> deminer	<b>Fit for work:</b> presumed
<b>Compensation:</b> Not made available	<b>Time to hospital:</b> 50 minutes
<b>Protection issued:</b> Frontal apron; Long visor	<b>Protection used:</b> Frontal apron; Long visor

**Summary of injuries:** minor Leg; severe Leg

COMMENT: A brief Medical "hospitalization" report was appended to the investigation. See Medical Report. The Victim's age was not noted.

### Medical report

HOSPITALIZATION report

From the sickness history of the victim, in the hospital village of Saghirdasht on 01 September 2008, [the Victim] was registered and at 09:20 in the surgery department of the hospital.

The victim complained of pain in the area of the wounds, omission, infirmity, fast heart and the blood from the wound.

In the investigation of the back of the thigh in the third point average ulcer size 1,5-3,0 cm with the destruction of the tissues and bleeding from the wound. The wound was more than 5 cm in depth. At the back of the legs, feet, third from the left, area of the average size of 0.5 x 0.2 cm with ulcer, tissues damaged. Otherwise, foreign body in the area of the middle third of thigh size 0.5 - 0.6 cm.

Wounds were cleaned. Cuts aseptic processing of primary surgery clause was put in place. The general state of the patient is satisfactory. He has been receiving the necessary assistance.

[Photographs showed puncture wounds on back of right thigh and left calf.]

Diagnosis (diagnosis): damaged ulcer mine-fragments middle of the third part of the back of the thigh.

### Statements

[Statements were taken from all those present. Handwritten copies in Russian are held on record. They add no substantive information to the report.]

#### Statement of the victim

I am a deminer of the 3 group [Name removed]. On 1 September 2008, at 3:00 o'clock woke up from the bed and got my fasting [ate breakfast] and did not go back to sleep. [It was Ramadan.] At 5 we moved from the base to the minefield area. When we arrived to the field, before entering the team leader briefed on safety instructions. Then we entered to the field and we worked 50 minutes and 10 minutes break. At the second working time, I worked and



after second break the team leader came and checked my work and left. After his checking, I got marking stick sized 50 cm and changed it in the place of the marking stick sized 1.5 metres and suddenly from the back side I heard the explosion sound and moved two steps back and my right leg was shaking and I hold with my hand and I saw my hand was bloody and after that I did not know and the guys came and picked up me on the stretcher and took me to the doctor. The doctor gave me injection and they took me to the Sagirdasht Village Hospital.

## **Analysis**

The primary cause of this accident is listed as “*Inadequate training*” because the investigators determined that the Victim had not taken note of the detector signal at the place where he was driving in a marking stick. It is not clear whether he had actually used the detector when replacing the existing stick, or whether the detector was able to detect the tripwire. In order to have pulled a tripwire that initiated a mine at 6 or 7 metres distance, the wire must have been on the surface. High on a grassed hillside, there is no evidence of soil movement that could have buried a tripwire. Also, if it had been buried, it is highly probable that ground friction would have prevented it being pulled.

It was known that only POMZ-2M mines were in the area. The POMZ-2M has a very large metal signature, so it may have been “acceptable” to the demining group for deminers to ignore small metal signals or tune their detectors not to signal on them (especially because the mines had been placed to protect an old military base so there is likely to have been metal rubbish and other fragmentation in the area).

There were not enough marking sticks used in the accident area and the investigators found that the distance between stakes was double the approved maximum distance. This may mean that the area searched was uncertain and that the Victim was placing the stick outside an area that had ever been searched with a detector. This demining group had previous accidents in Tajikistan that were caused by absent or inadequate marking of searched areas so the secondary cause is listed as a “Management control inadequacy” because of their failure to ensure that enough marking sticks were available to the deminers.

An “Inadequate medical provision” is listed in the notes because the demining group took the victim to a village hospital without the necessary facilities and the victim had to be later transferred to another hospital. They may have not realised that the small puncture wounds did not mean that the fragments had not penetrated deeply.