

# DDAS Accident Report

## Accident details

<b>Report date:</b> 19/04/2006	<b>Accident number:</b> 79
<b>Accident time:</b> 09:15	<b>Accident Date:</b> 24/06/1997
<b>Where it occurred:</b> Mergasur minefield, Kurke Village, Barzan District	<b>Country:</b> Iraq
<b>Primary cause:</b> Management/control inadequacy (?)	<b>Secondary cause:</b> Unavoidable (?)
<b>Class:</b> Demolition accident	<b>Date of main report:</b> 25/06/1997
<b>ID original source:</b> SD	<b>Name of source:</b> MAG
<b>Organisation:</b> [Name removed]	
<b>Mine/device:</b> Valmara 69 AP Bfrag	<b>Ground condition:</b> demolition site (explosives)
<b>Date record created:</b> 23/01/2004	<b>Date last modified:</b> 23/01/2004
<b>No of victims:</b> 2	<b>No of documents:</b> 3

## Map details

<b>Longitude:</b>	<b>Latitude:</b>
<b>Alt. coord. system:</b>	<b>Coordinates fixed by:</b>
<b>Map east:</b>	<b>Map north:</b>
<b>Map scale:</b> not recorded	<b>Map series:</b>
<b>Map edition:</b>	<b>Map sheet:</b>
<b>Map name:</b>	

## Accident Notes

inadequate communications (?)  
safety distances ignored (?)  
no independent investigation available (?)  
visor not worn or worn raised (?)

## Accident report

An internal accident report was prepared for the demining group and made available. Dated 25<sup>th</sup> June 1997, the following summarises its content. Along with many appendices. The brief report (edited for anonymity) is reproduced under "Related papers".

The team was part of a Demarcation and Demining effort sent to destroy a "stockpile" of mines that had been mentioned in an advance team report. The cache consisted of 3 x V-69, 4 x PROM 1, 1 x PROM 1 fuze and 2 x V-69 detonators.

A local guide had visited the cache before and led the team to the site. Victim No.1 decided that it was not necessary to clear a safe lane despite the fact that the mines were about 20m inside a marked danger area.

As they were preparing to detonate the pile of mines, local villagers asked them not to destroy the devices so close to their crops (they were afraid of fire). Victim No.1 "neutralised" the 4 PROMS and put pins back in the V-69s, then he and the local guide moved them to a demolition site away from the crops.

The guide then mentioned another V-69 nearby and the two men inspected it. This mine had been tampered with or damaged but Victim No.1 decided that it was safe to move it to the new demolition site. Victim No.2 carried the fuze and detonators from the old site to the new one. Victim No.1 then asked Victim No.2 to lay the demolition cable. He was laying the cable and about 3m behind Victim No.1 when there was an explosion. He stated, "I can confidently say that the mines exploded while [Victim No.1] was busy laying the demolition charges".

Victim No.1 had both hands and feet amputated and suffered severe wounds to his whole body. Victim No.2 suffered a broken leg and serious eye injury. Victim No.1 had not been wearing helmet or visor. Victim No.2 was wearing a helmet with the visor raised.

When the medic arrived at the scene of the accident he saw that Victim No.1 was dying and asked for him to be taken by ambulance to the hospital immediately without stabilisation and without accompanying him.

He then gave first aid to Victim No.2 and took him to Goratu health centre (15 minutes after the accident) and on to Soran hospital (1hr and 15 minutes after the accident). Victim No.1 arrived at Soron hospital an hour after the accident and died 15mins later. He had been carrying the team's radio which was damaged but repaired on site. Victim No.1 had been reminded on several occasions that he was breaking SOPs regarding safety, the requirement to destroy in situ and not to move mines.

## **Conclusion**

The investigator concluded that the accident occurred while Victim No.1 was placing a charge next to a V-69. The mine may have tipped over, or have been on its side and the prongs pushed against the ground. An examination of Victim No.1's injuries showed he was not wearing a helmet or visor and that his "ballistic jacket" was not fastened.

## **Recommendations**

The investigator recommended that the medic's decision to evacuate Victim No.1 without stabilisation should be investigated.

## **Victim Report**

<b>Victim number:</b> 109	<b>Name:</b> [Name removed]
<b>Age:</b> 30	<b>Gender:</b> Male
<b>Status:</b> supervisory	<b>Fit for work:</b> DECEASED
<b>Compensation:</b> not made available	<b>Time to hospital:</b> 1 hour
<b>Protection issued:</b> Frag jacket Helmet	<b>Protection used:</b> Frag jacket

Short visor

**Summary of injuries:**

INJURIES

severe Body

severe Eyes

severe Head

AMPUTATION/LOSS

Hand Both

Leg Below knee

Leg Below knee

FATAL

COMMENT

See medical report.

**Medical report**

No formal medical report was on file but the medic stated Victim No.1 had "both hands and feet amputated. Both eyes lost sight. Wounds to whole body".

A Kurdistan Province Death certificate for Victim No.1 was on file. It recorded the cause of death as severe bleeding from multiple lacerated wounds and renal failure.

His DOB had been 01/07/68

**Victim Report**

<b>Victim number:</b> 110	<b>Name:</b> [Name removed]
<b>Age:</b> 28	<b>Gender:</b> Male
<b>Status:</b> deminer	<b>Fit for work:</b> not known
<b>Compensation:</b> not made available	<b>Time to hospital:</b> 1 hour 15 minutes
<b>Protection issued:</b> Frag jacket	<b>Protection used:</b> Frag jacket, Helmet
Helmet	
Short visor	

**Summary of injuries:**

INJURIES

minor Face

minor Hands

severe Arms

severe Eyes

severe Genitals

severe Leg

COMMENT

See medical report.

## Medical report

The medic stated that Victim No.2 had "wounds of various degrees (serious and minor) on hands and legs. A few wounds in face and head. No injuries were seen in chest and belly". He had a right leg fracture and injured eyes.

Victim No.2 was taken to Soron Hospital with the medic and was then transferred to a hospital at Erbil where he had a 4-hour operation to remove shrapnel from his eyes and body. He was still in hospital on 4<sup>th</sup> August 1997 and there were still foreign bodies in his eyes. His vision was "blurred".

Several pages of medical report (hand-written) and signed by specialists on 26/06/97 are reproduced as far as possible below.

"A patient with multiple shell injury regarding the shells affecting the right [illegible] scrotal region. The shells removed through exploration of Rt testis and spermatic cord through [illegible]. Haematoma evaluation, shards removed. Intact Rt Testis and [illegible] difference. Closure done. 2<sup>nd</sup> post operative day I saw the patient and no complications and good condition regarding this part of the operation.

Signed.

A case of multiple shell injury invading the eye.

Left eye – multiple corneal conjunctival and lens foreign bodies with hypophema. Cleaning done with removal of foreign bodies.

Rt eye – multiple corneal [illegible] lens foreign bodies [illegible].

He can see by both eye.

Signed

Victim aged 28 years

Multiple shell injury to both upper and lower limbs, also injury to both eyes, head and scrotum.

Resuscitation done for him. He received 4 pints of blood, operation done on 24/06/07. There was multiple shell injury to both upper limbs. Wound excision done some wounds sutured.

Wound to Rt index finger with skin and soft tissue loss. Tendons was exposed, needs other debridement and closure of wound.

Fracture of left ring index fingers, put in back."

## Analysis

The primary cause of this accident is listed as "*Management/control inadequacy*" because the main victim was a field supervisor and was in breach of SOPs. The responsibility for selection, training and control of field supervisors lies higher in the management chain.

The secondary cause is listed as "*Unavoidable*" because it seems that Victim No.1 slipped and fell onto the mines he was destroying. This kind of "human error" is recognised as being occasionally unavoidable.

## **Related papers**

The internal demining group investigation (brief) is reproduced below (edited for anonymity).

### **Internal investigator's report**

The accident took place at Mergasur 171 mine field on Tuesday 24 June 1997 at 09:15 hrs. The supervisor had been tasked the previous night by the DDFM to clear a stock pile of mines at the above mine field. The DDFM and mine specialist had given instructions to the supervisor on how this task should be carried out (see DDFM Statement)

The team had arrived on site at approximately 07:30, then located the local guide man who escorted the supervisor, and team leader to the minefield. At the minefield perimeter, a metal demarcation marker could be seen approximately 15m inside the minefield, this marker was indicating the mines stockpile. The supervisor [Victim No.1] went forward with the guide man to look at the mines, the team leader [Victim No.2] remained at the demarcation perimeter. The stock pile consisted of three VS-69 anti personnel bounding fragmentation mines (all fuzed), four PROM-1 anti personnel bounding fragmentation mines (not fuzed), and one PROM-1 fuse.

The supervisor then instructed the team leader to get the deminers to fill sand bags, bring the demolition stores, and lay out the demolition cable. The task had been under way for approximately 1 hour, during which [Victim No.1] had constructed a sand bag wall around the stockpile and had started preparing the demolition.

It was about this point that [Victim No.1] was warned by the peshmergers who were occupying the position close to the minefield, that should the grass catch fire it may spread to crops growing close to the minefield. (None of the written statements of the deminers confirm this, however while I interviewed the deminers all of them confirmed this verbally.) The interviews were attended by the SMS, DDFM, and an interpreter who can verify this.

Following the discussion with the Peshmerger, [Victim No.1] then decided to move the mines to another site, according to the team leader, and the rest of the team they did not witness [Victim No.1] moving the mines as they were all in the rest area, and it was after [the Victim] had moved the mines to the new demolition site, that he informed the team leader.

At the new demolition site [Victim No.1] tasked [Victim No.2] to bring the explosives, detonating cord and also a PROM-1 fuze which had been left at the first site. [Victim No.2] carried out this task and returned to the new demolition pit. The local guide man then informed [Victim No.2] that there was another V-69 mine (inner case) close to where the stock pile had been, and could the team also demolish that mine. This mine was retrieved by [Victim No.1] who included the mine in the demolition. (This explains the fact that there were still three V-69s remaining after the accident).

The guide man went to the rest area, and [Victims No.1 and 2] started to prepare the demolition. According to [Victim No.2] it was while [Victim No.1] was placing the charges that the accident occurred.

Once the team heard the explosion they immediately went to the accident site from the rest area. This is only a distance of 30m. The medic assessed the situation and realised that [Victim No.1]'s injuries were life threatening, and that [Victim No.2]'s injuries were less serious. The medic though did not give any first aid to [Victim No.1] but chose to evacuate him immediately to the hospital without accompanying him. [Victim No.1] did not receive any first aid until he reached Soran hospital, this was approximately 60 minutes later.

The medic then administered first aid to [Victim No.2] by dressing his wounds. [Victim No.2] was then taken to Goratu health centre where the medic gave him an IV saline drip. They then evacuated him to Soran hospital.

Signed: BEM Mines Specialist

Date 02/07/97

## **CONCLUSIONS/RECOMMENDATIONS**

1) Having looked at the amount of explosives and accessories that the team drew from the explosive's store on the morning of the accident, and compared it with the amount found at the scene of the accident, taking into account the team's leader's statement I conclude that as the supervisor was placing a charge next to a V-69 he accidentally activated the mine.

Either, by the mine tipping over and the prongs coming into contact with a mine or the ground, or if the mine was on its side he was placing the charge on the side of the mine and the prongs come into contact with the ground as he was placing the charge in place.

2) On the morning of the accident the supervisor was on more than one occasion reminded of the correct procedures to be carried out when entering a mine field, he was fully briefed by both the DDFM and mine specialist the evening before the task, and by the DDFM the morning prior to leaving the camp. The supervisor failed to carry out his briefing by not clearing a one metre lane to the stock pile and blowing the mines in situ.

3) The supervisor breached sops by moving "no touch" mines (section 10 par 2)

4) The supervisor allowed himself to be persuaded to move the mines, this is quite apparent because the sand bags were in place at the stock pile, and he had started to prepare the demolition charges and had sent the team leader out to arrange the team prior to the demolition.

5) The medic that was on site did not give the supervisor any first aid on site at all, he simply told some of the team to put the supervisor into the ambulance and to take him to the hospital. The medic then treated the team leader by dressing his wounds but did not give him an IV drip until he reached the hospital. There must be a further investigation into the medic's actions.

6) This accident has highlighted that even a well qualified man who has worked for [the Demining group] for over 4 years and was regarded as one of the best supervisors that we had can make mistakes. SOPs were breached, his reasons for moving the mines may have been sound, however he should have called the mine specialist and sought his advice.

It is with great sadness that [Demining group] has lost one of its finest supervisors, I fully recommend that this report be fully explained to all personnel and all points are highlighted regarding SOPs and one of the simplest rule's (IF NOT SURE, ASK).

## Statements

Statements from some of the individuals involved are reproduced below (edited for anonymity).

### Victim No.2

At 6:30 hours, we left the Ops. Base - At first, I thought that we would go to Sare Barde as there was still work to be done. Really, no one had informed me in advance that we would go to Mergasur; however, on our way [Victim No.1] let me know about this My vehicle was moving ahead and therefore it was the first vehicle to arrive at Goratu. Feeling uncertain where to go, I decided to wait in Goratu. Shortly later [Victim No.1]'s vehicle arrived and took over our vehicle. We followed [Victim No.1] till we arrived at Kurke village where [Victim No.1] entered a house . He soon came out with a man whom (as I think) was called [name excised]. Later on, we moved towards a top of a hill on which there was a P.D.K post. The area, located behind the post' was a minefield. After unloading our equipment, we moved towards the post. [Victim No.1] was in the front, the guideman was in the middle and I was at the rear.

We got to the minefield where the demarcation markers were clearly seen Then [Victim No.1] and the guideman entered the minefield, but I remained at the markers outside the mined area. When [Victim No.1] and the guideman were 15 - 20 metres inside the minefield, [Victim No.1] informed me that he had already found the mines stockpile. Meanwhile, I said to [Victim No.1]," What you have already done is against Sops (regulations). I also added that a safe lane should have been cleared starting from the markers up to the stockpile. However, it was [Victim No.1]'s decision to destroy the mines where they had been found. Being my

supervisor, I did not reject [Victim No.1]'s decision. After that, [Victim No.1] asked me to go and prepare the sand bags to be laid around the mines to avoid any burn to the crop. As a result, I went down to the rest area and asked [two deminers] to fill the bags of earth. The deminers did so and then placed the filled bags behind the markers but not inside the minefield. At the same time, [Victim No.1] requested me to extend the demolition cable, check it and get the ambulance ready. As I think, the guideman had also carried two bags of sand to the location.

While I was at the rest area, [Victim No.1] came and said to me "I have made up my mind to move the mines to another place as the present place is unsafe and fire will soon start into the crop and consequently cause a great damage to the people's crop due to the demolition.

I went to [Victim No.1] intending to make a discussion on the subject of moving the mines , but I found that [Victim No.1] had already moved the mines without informing us in advance

After that, [Victim No.1] asked me to go and get out a Prom fuse, a Valmara crown and the explosives which had been left in the minefield. Obeying this, I wore my protective jacket and helmet and brought out the items. Then the guideman asked me to go and get a mine half out of its body, but my answer to the guideman was, "This is a minefield and mines are everywhere and I won't obey you to go into a mined area." But [Victim No.1] went himself and brought the mine. He then asked me to lay the demolition cable, check it and send the sentries to their positions. I was nearly 3 metres behind [Victim No.1] when a bang was suddenly heard. Meanwhile I found myself fallen to ground and rolled on my sides. What I can confidently say is that the mines exploded while [Victim No.1] was busy laying the demolition charges.

Immediately, the deminers, followed by the medic, arrived and then the medic started examining [Victim No.1], but as soon as he realised that [Victim No.1] had seriously been injured, he decided to send him directly to Soran hospital . Then the medic started giving me possible first aid. I was, later on, taken to Goratu health centre where full first aid was given to me. At last, I was taken to Soran hospital.

#### Note

I had no idea of clearing a safe lane because nobody had told me before. I further would like to clarify that no one had laid any force upon [Victim No.1] to move the mines out of the minefield. This was his private decision.

#### **DEMINER 1**

At 6:00 hours in the morning, we left the camp and moved towards Kurke village to carry out a demolition task there. When we arrived there, we first met the guideman whom later on led us to our task site. When [Victims No.1 and 2] returned from the site of the mines stockpile, they asked us to fill bags of earth. While filling the bags, they informed us to return to the rest area. Then, they requested two deminers to lay the demolition cable on ground and extend it to the stockpile site . The relevant deminers did so. Meanwhile, [Victim No.1] said to [Victim No.2], " We 'd better have moved the mines to another place because all the crop will burn due to the demolition." [Victim No.2] answered and said, "all right. That's up to you." Soon later, [the Victims] began to move the mines to another safer area. All of a sudden, a big bang was heard. As a result, we hurried towards the accident site and found both [Victims] rolling on ground. [Victim No.1] was seriously injured as he had lost both his eyes, his limbs as well as there was a big injury in his belly. We helped both medics to give aid to [Victim No.2]. Finally, we moved towards the hospital and arrived there at 10:30 hours.

#### **DEMINER 2**

First of all, we left our camp at 6:30 hours and moved towards Kurke village to destroy a mines stockpile there. After our arrival, [Victims 1 and 2] accompanied by the guide man went to inspect the mines. When they returned, they req two of us to fill bags of earth to be put around the mines. I remained at the rest area. We were asked to lay the demolition cable

as soon as they had informed us to do so. Soon later, [Victim No.2] came to the rest area and began to send the sentries to their positions . He also informed the drivers to move away their vehicles. Meanwhile, [Victim No.1 called Victim No.2] and said to him , "The place where we are going to do the demolition is unsuitable as it is surrounded by crop which will soon catch fire due to the demolition ." He thought they'd have better moved the mines to a safer area. [Victim No.2] went towards [Victim No.1]. Some of us went to inform the villagers about the demolition At 9:15 hours the accident took place. After that, the medic and I hurried to the accident site where we found both casualties crying for help. The medic examined [Victim No1], but he soon returned to [Victim No.2]. We laid [Victim No.1] on the ambulance and took him to Soran hospital. There I offered him a bottle of my blood, but it was of no use because he soon died.