7-8-2004

DDASaccident417

Humanitarian Demining Accident and Incident Database
AID

DDAS Accident Report

Accident details

Report date:	09/07/2005	**Accident number:**	417
Accident time:	08:40	**Accident Date:**	08/07/2004
Where it occurred:	Periya Pullumalai, Batticaloa	**Country:**	Sri Lanka
Primary cause:	Field control inadequacy (?)	**Secondary cause:**	Victim inattention (?)
Class:	Excavation accident	**Date of main report:**	21/07/2004
ID original source:	SL-10	**Name of source:**	MH
Organisation:	Name removed		
Mine/device:	P2Mk2 P4Mk1 AP blast	**Ground condition:**	grass/grazing area soft
Date record created:	09/07/2005	**Date last modified:**	09/07/2005
No of victims:	1	**No of documents:**	3

Map details

Longitude:		**Latitude:**	
Alt. coord. system:	Not recorded	**Coordinates fixed by:**	
Map east:		**Map north:**	
Map scale:		**Map series:**	
Map edition:		**Map sheet:**	
Map name:			

Accident Notes

visor not worn or worn raised (?)

use of rake (?)

long handtool may have reduced injury (?)

Accident report

A formal Board of Inquiry was arranged by the National Mine Action authority and its report made available in 2005. It is reproduced below, edited for anonymity.

BOI Team Members:

UNDP TA, DMAO-Vavuniya, [Name excised]

3rd party demining group Mine Action Specialist, [Name excised] (Programme Manager)

Local Government Servant and National Advisor, [Name excised]

Reference: Accident Investigation & BOI, 8th July 2004, minefield site at Periya Pullumalai, Batticaloa

References:

1) Terms of reference for investigation of demining accident in Sri Lanka.

2) Standard Working Procedures (SWP) For reporting and investigation of demining accidents and incidents of the Sri Lankan Mine Action Programme

3) Standards Operating Procedures – [Demining group] for Mine Action

1. Introduction

This report presents the findings of the Board of Inquiry (BOI) into the circumstances and events of a mine accident, which involved [Demining group] deminer, [Name excised]. The accident took place on the 7th July 2004, during demining operations in a minefield known as Periya Pullumalai in the District of Batticaloa.

a. History of the Minefield

This minefield is located in the area known as Periya Pullumalai and is near the village of Periya Pullumalai, in the District of Batticaloa. The minefield is bounded on the North and East by the Chenkalad Division, on the South by the Nuwaragala Forest Reserve and on the West by Ampara District. The minefield is on the Southern side of the Batticaloa to Badulla road, on the Southern edge of Pullumalai.

[The Demining group] has been working on this site since 1st May 2004. During clearance operations a total of 64 P4-Mk 1 anti personnel blast landmines had been recovered at the site. Mines on this site have generally been laid in strips and sub surface laid to an approximately depth of 7cm. The deminer involved in the accident was in half section, BD3, who had been working on community support clearance of a school and market, until 7 days prior to the mine accident. The deminer and his half section, BD3, started work on the main site on the 10th May 2004.

b. Investigation Team

Following the direction of [Name excised], Special Advisor to the NSCMA, [Name excised] (Technical Advisor District Mine Action Office Vavuniya), [Name excised] ([3rd party demining group] Programme Manager) and [Name excised], representative of the District Government Office were duly appointed to conduct the investigation under the authority of the BOI terms of reference. See attached Annex A-1 to A-2. The members of the BOI made the investigation, conclusions and recommendations in accordance with the BOI terms of reference and in line with the Standard Working Procedures (SWP) for the reporting and investigation of demining accidents and incidents of the Sri Lankan Mine Action Programme.

2. General Findings

The general findings of the BOI are listed below:

a. Details of the Accident

(1) The accident

On 7th July 2004, Deminer, [The Victim], was continuing clearance on a one metre wide safe lane as detailed by his section leader at the 06.45hrs daily briefing, that morning. See Annex D-1 to D-4 “Statements of Concerned Personnel/eye Witnesses.

The lane followed a P4 AP blast mine strip where [The Victim] had found three mines the previous day. On the morning of the accident [The Victim] had worked one half hour shift from 07.30 hrs to 08.00hrs before having breakfast from 08.00 hrs to 08.30 hrs. [The Victim] then started his second half hour shift at 08.30hrs, with his half diction BD3. The accident

took place at 08.40hrs, ten minutes into [The Victim]'s second half hour shift. At the time of the accident [The Victim] was using a heavy rake on the first phase of the three phase raking drill.

(2) The Site

The site is on open ground with medium to long grass with some areas of dense undergrowth and sporadic bushes and trees. The site of the accident was medium length grass with no undergrowth. The site is on a slight rise on the Southern side of the site. See Annex E-1 "Site Sketch Map". The ground consists of loam fertile soil, with a soft to medium/hard density depending on the moisture content of the soil.

[The photograph above shows the accident lane with yellow pickets marking where mines had previously been found.]

(3) The Mine

The crater caused by the explosion was 30 cm wide and 9 cm deep. Investigation of the crater failed to provide any evidence of mine fragments, but the size of the crater is consistent with the blast one would expect from a P4 AP blast mine. This is also consistent with the fact that only P4 AP blast mines have been previously found on this site.

b. Sequence of Events

The table [below] presents the sequence of events from the start of demining operations on the morning of the accident, Wednesday 7th July 2004, until the arrival of the BOI team on the morning of Thursday 8th July 2004. All relevant eye witnesses' statements have been checked and confirmed during the BOI and are attached at Annex D-1 to D-4 "Statements of Concerned Personnel/eye Witnesses" [See Other documents].

1) 06.45hrs: All deminers attended the morning briefing given by section leader, [Name excised].
2) 07.00hrs: The other half section started work. Deminer, [The victim], and his half section BD3 were resting during this shift.
3) 07.30hrs: The other half section changed over shift. Deminer, [The victim], started his 30 minute first shift of the day, with his half section BD3.
4) 08.00hrs: The half section BD3 with deminer, [The victim], change shift and had breakfast.
5) 08.30hrs: The half section BD3 with deminer, [The victim], change shift and started work on second shift of the day.

6) 08.35hrs: Section leader, [Name excised], visited deminer, [The victim], as part of his supervisory duties. During this visit the section leader instructed the deminer, [The victim], to put his visor down as he was working with the visor up.

7) 08.40hrs: Mine explodes. The deminer, [The victim], receives cuts to his face and left forearm. Section leader calls the medic and driver to medical station via radio and goes to scene of accident to find deminer, [The victim], seated with his hands to his face.

8) 08.45hrs: Deminer, [The victim], walked to the medical station, with assistance from the section leader and the driver, [Name excised]. The medical station was some 100 metres from the accident site. On arrival at the medical station the deminer was given first aid treatment to the cuts to his face. [The victim] was then dispatched to Chenkalady Hospital by the site ambulance.

9) 08.50hrs: [Demining group] District office in Batticaloa was informed about the accident via radio.

10) 09.15hrs: Deminer, [The victim], arrived at Chenkalady Hospital and was treated for minor cuts and dirt in eyes. He was kept in hospital overnight for observation, due to concerns about his eyes.

11) 09.30 hrs: [Demining group] Technical operations manager, [Name excised], arrived at Chenkalady Hospital to check on the medical status of the deminer, [The victim].

12) 10.00hrs: [Demining group] Technical field manager, [Name excised], arrived at accident site and interviews witnesses and took written statements.

13) 09.00hrs 15.00hrs: BOI team arrive at the [Demining group] office in Batticaloa and received a briefing from [Demining group] technical operations manager, [Name excised]. BOI Team leader, [Name excised], gave a briefing on the objectives of the BOI. BOI team interviewed the injured deminer at Chenkalady Hospital, then move to site to conduct investigation.

c. Injuries to Personnel

The deminer, [The victim], suffered minor injuries to his face and left forearm. The facial injuries, although bloody, proved to be superficial. [See Medical report.] Due to concerns over the dust and foreign particles in [The victim]'s eyes, he was kept in Chenkalady Hospital overnight for observation.

d. Damage to Equipment

It is standard practice in [the Demining group] to wear protective clothing (PPE) and visor whilst operating in the minefield area. Therefore at the time of the incident, the injured deminer was wearing standard uniform long trousers, T-shirt, work gloves, work boots, Personal Protective Equipment (PPE), safety visor and helmet.

The only damage to equipment was very slight blast damage to the point of one prong of the heavy rake and damage to the inside of the visor.

[Damage to the head of the rake is shown above.]

The damage and blast marks to the visor could only have accrued if the visor was up at the time of the explosion. [Damage included blast mark on the inside of the visor and on the front of its supporting plastic helmet.]

e. Training and experience of personnel

Deminer [The victim] (injured deminer) Graduated 10th March 2004 (Third Batticaloa Demining Class).

Section Leader, [Name excised] Graduated 20 November 2003 (First Batticaloa Demining Class).

f. Timings (Daily work schedule)

[The Demining group] deminers work a shift system of 30 minutes on, 30 minutes off. At the time of the accident the deminer was 10 minutes into his second 30-minute shift of the day, following a 30-minute rest period for breakfast. The normal daily routine is listed below.

06.45 hrs	Daily briefing
07.00 hrs	Work starts, 30 minute shift system
07.30/08.00hrs	30 Minute break for breakfast, depending on shift
11.00 – 14.00 hrs	Lunch break
14.00 – 18.00 hrs	Work restarts until end of day

f. Leave and rest periods

The deminer had taken 8 days leave, 18 days prior to the accident from 12 – 20 June 2004. The deminer had a 30 minute break approximately ten minutes prior to the accident.

g. Internal Quality Assurance

No written records are kept regarding internal Quality Assurance (QA) checks. The [Demining group] QA policy is outlined on page 45 of their SOP. Regular QA checks are performed each day as a matter of course by the section leaders. The [Demining group] TA carries out QA and QC checks as part of his technical support to four [Demining group] teams.

The deminer received a QA check from his Section Leader 5 minutes before the accident. The Team Leader, [Name excised], stated to the BOI that he had verbally warned the deminer, [the Victim], “more than once” to work with his visor down. See Annex D-1 to D-4 “Statements of Concerned Personnel/eye Witnesses”.

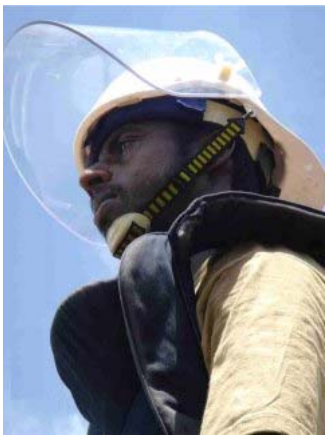
h. External QA

No external QA has taken place.

i. PPE and other equipment

(1) PPE

Although the deminer, [the Victim], was wearing the required PPE in accordance with his organisations SOPs, his visor was up at the time of the explosion. This breach of SOPs led directly to the injuries to his face, which would have other wise been prevented.



[The Demining group took the picture above to illustrate the position of the visor at the time of the accident. Note that the plastic hat is not PPE and is not recorded as a “helmet” under PPE.]

(2) Metal detector

Metal detectors are not used as part of the raking clearance drill. However, metal detectors are used by the TA as part of the QC checks.

j. Refresher Training

The majority of [Demining group] deminers graduated on the 10th March 2004 (Third Batticaloa Demining Class). The majority of senior deminers graduated on the 20 November 2003 (First Batticaloa Demining Class). Due to the relatively recent time since these training courses no refresher training had been conducted.

k. Medical Support

The level of medical support and evacuation available on the day of the accident was appropriate to the needs and in accordance with the organisation’s SOP. There had been a formal medical CASEVAC evacuation practice on the 10th May 2004 and regular internal QA of the medical support was carried out every month. The medic and all those involved should be commended for implementing rapid and effective medical treatment and evacuation of the casualty. This resulted in the casualty receiving first aid treatment within five minutes and arriving at the hospital within 30 minutes.

l. Cause (or Contributing factors) of the Injury

(1) SOP of the organisation.

There is no indication to suggest the accident was caused by an error or oversight of the organisation’s SOP. Section leaders and overall supervisors appeared to a high standard, however the deminer involved in the incident was warned previously by the section leader for working with his visor up. The BOI recommend that the organisational SOPs be reviewed for possible improvements. One possible area for amendment could be additional drills for misted visor procedures.

(2) Application of SOP by the deminer involved.

The BOI could not establish conclusively why the accident took place, as no eyewitnesses saw the incident at the time of the explosion. However, it was obvious that the deminer had his visor up at the time of the explosion. Damage and blast marks to the inside of the visor could only have accrued if the visor was up at the time of the explosion. The deminer insisted that the visor was down at the time of the explosion but could give no explanation for why the accident had taken place. It is the opinion of the BOI that the injuries to the deminers face were a direct result of the deminer’s failure to follow the organisations SOPs. The deminer’s lack of attentiveness may also have been a major contributing factor to the accident.

(3) Command and control structure imposed by the agency.

There is no evidence to suggest that a failure in the command and control structure of the organisation led to the accident. However, the fact that the section leader had verbally

reprimanded the deminer for working with his visor up, 5 minutes prior to the accident, may mean that more serious discipline action should have been taken, rather than a verbal reprimand.

(4) Environmental conditions

There had been heavy rain the night before the demining accident that may have softened the soil to such an extent that the deminer used to the previous days conditions may have used too much force when raking. The deminer involved stated that the conditions were different due to the heavy rain the previous night. However, this explanation does not give a probable cause for the explosion as the deminer had already worked a complete 30 minute shift that morning. Therefore the deminer had more than sufficient time to notice the change in soil conditions and compensate for such change.

(5) Security of the minefield

Control of access to and security of the minefield itself was adequate. The location of the explosion was consistent with the strip of mines that had previously been cleared. The moving or relaying of the mine that caused the explosion is not suspected.

3. Conclusions

The BOI considers three possible scenarios for the cause of the accident, all of which are related to the attentiveness of the deminer. These are:

(1) Option 1 – Lack of attentiveness

The physical evidence proves that the deminer visor was up at the time of the explosion. However, the deminer denied that he was working with the visor up, but could give no plausible reason for the accident. A definitive cause of the accident could not be found as the deminer was the only eyewitness at the time of the explosion, but his statement contradicts the physical evidence. This contradiction combined with the section leader's statement that the deminer was reprimanded for working with his visor up, just minutes before the accident, leads the BOI to deduce that the deminer was not attentive at the time of the accident. Although [the Demining group] has been using the rake method since they started demining operations this is the first reported accident during raking demining operations. Therefore an error in drills due to a lack of concentration, on the part of the deminer, seems to be the logical cause of the accident.

(2) Option 2 – Change in soil & Environmental Conditions

As previously mentioned, heavy rain the night prior to the accident had softened the soil and increased the humidity at the site. The deminer stated that the rain had changed the soil conditions. However, if the deminer had noticed the change in soil conditions then he should have automatically made allowances for the changed conditions. The increase in humidity on the morning of the accident led to misting of visors, which caused the deminers to lift and wipe the visor clean. This may have led the deminer to work with his visor up.

(3) Option 3 – Inappropriate Raking Drills

The deminer involved in the accident had found 3 P4 AP blast mines the day before the accident and was within 5 metres of completing his safe lane. As no mines had been found that morning, where expected, in the strip the deminer may have been under the impression that the mine strip had finished. This may have caused the deminer to rush and use inappropriate and careless raking drills.

4. BOI Findings

It is the unanimous opinion of the members of the BOI that option 1, is the most likely scenario for the cause of the mine accident, with possible contributing factors from option 2 and 3. Namely that the deminer, [the Victim], was not sufficiently attentive, which led to the initiation of the mine. In addition, his breach of the organisations SOPs led to his injuries being worse that they would have been. Although the section leader did give [the Victim] a verbal reprimand, more severe disciplinary action would have been appropriate as [the Victim] had worked with his visor up on a number of occasions.

5. Recommendations

a. Refresher Training

[The Demining group] should conduct short refresher training to highlight the issues raised in this report and to reinforce the importance of following the agencies SOPs.

Based on the BOI initial findings the [Demining group] has taken action to implement a system of regular monthly refresher training sessions and are considering implementing a full refresher training course.

b. Discipline Action

The agencies involved should consider taking appropriate discipline action against the deminer, as they deem fit.

Based on the BOI initial findings the [Demining group] convened a section leader's tribunal. The result of the tribunal was that the deminer, [the Victim], was issued a formal written warning. The tribunal also recommended that a blanket verbal warning be issued to all deminers.

c. Supervision

Team leaders should be reminded of the importance of not only supervising the deminers but also the importance of taking appropriate disciplinary action when deminers fail to follow SOPs.

Based on the BOI initial findings the [Demining group] held a Section Leaders meeting where the authority and responsibilities of the section leaders was reiterated.

d. Review of SOP

It is recommended that the [Demining group] SOPs be reviewed to see if additional procedures are required. Based on the BOI initial findings the [Demining group] are implementing a review of the SOPs.

f. External QA & QC

The DMAO should implement a programme of external QA and QC as soon as the QA/QC teams are fully operational and sufficient resources are available.

6. Summary

In summary the BOI team were unanimous in its conclusion that the logical cause for the explosion was due to operator error (the deminer) with possible contributing factors caused by a change in soil and environmental conditions, due to heavy rain the previous night. The extent of the deminer's injuries, although minor, were worsened due to his failure to follow the organisational SOP.

The organisation and medical evacuation drills were very well implemented, this was due in no small part to the focus and importance places on medical support and casualty evacuation drills by [Demining group] TA, [Name excised], which led to the rapid and effective treatment of the casualty. The site medic should also be commended for dealing with the situation in an effective and professional manner.

The BOI were also unanimous in their appreciation of the professional and transparent attitude of the representative of [The Demining group] in assisting the BOI enquiry. The member of the BOI wish to thank everyone involved with supporting the investigation, at short notice.

Sighed and dated: 18th July 2004

Board of Inquiry Team Leader, District Mine Action Office Vavuniya, UNDP Technical Advisor

[Photographs showed damage to the visor and the plastic helmet (from the front). Captions included the statement that: "…working area where the deminer was raking at the time of the explosion. Note short grass with dry but relatively soft soil, with no large roots."]

Victim Report

Victim number:	544	**Name:**	**Name removed**
Age:		**Gender:**	Male
Status:	deminer	**Fit for work:**	yes
Compensation:	Not made available	**Time to hospital:**	30 minutes
Protection issued:	Frag jacket Short visor	**Protection used:**	Frag jacket, Short visor (raised)

Summary of injuries:

INJURIES

minor Arm

minor Eyes

minor Face

COMMENT

See Medical report.

Medical report

The IMSMA casualty report appended to the Board of Inquiry report stated:

“First aid given within 5 minutes of explosion…[Victim] reached Chenkaladi Hospital, Batticoa… within 30 minutes.”

Injuries:

“Slight cuts to left cheek and bruising to left side of face. Blast abrasions to the left forearm, with dust and dirt particles in both eyes. The Doctor’s prognosis is that he will make a full recovery.”

Photographs taken the day after the accident showed a small swelling on the cheek and light abrasion on the arm.

The [Demining group] “Initial; Investigation report” recorded that:

“Treatments given: Medic conducted initial treatment, cleaned wounds on site and then the deminer was taken to nearest hospital. He was examined by doctor and no treatment given but referred to eye hospital to ascertain if there was any damage to the eye. Eye was examined and cleaned at the eye hospital. The eye was covered with a bandage and he was retained at the hospital for further observation.”

Related papers

Demining group internal INITIAL REPORT

1. Team name/number: BD3
2. Location (Province, District, Village: Batticaloa District, Periya Pullumalai Village
3. Date and time of incident: 7 Jul 2004, 08.40
4. Name people injured: [Name excised]
    a. **Description of injuries:** Small cut on left cheek and left elbow. Dust in one eye

b. **Treatments given:** Medic conducted initial treatment, cleaned wounds on site and then the deminer was taken to nearest hospital. He was examined by doctor and no treatment given but referred to eye hospital to ascertain if there was any damage to the eye. Eye was examined and cleaned at the eye hospital. The eye was covered with a bandage and he was retained at the hospital for further observation.

c. **Current condition of casualties:** No pain, resting comfortably in hospital

5. **Evacuation Routes and Destinations:** Direct from site to hospital in Chenkaladi north of Batticaloa town.

6. **List equipment/facilities damaged:** Visor and heavy rake damaged

7. **Describe how the incident occurred:** Deminer was demining with a rake in his lane when he detonated a mine. We don't know at this stage if he was using incorrect drills, but from the injuries sustained and the damage to the visor it looks as if the visor was either not down fully, or the helmet was not correctly fitted.

8. **Any other information including:**

a. Did the incident occur in a cleared, safe or contaminated area? Contaminated

b. Device type (if known): AP mine Pakistani P4

9. **Other information?** Post accident and evacuation drills went well with the casualty arriving in hospital within thirty minutes.

Board of Inquiry convened consisting of UN Technical Advisor, representative of another demining Agency and a representative from the Government Agent's office.

Sent by [Demining group] Technical Operations Manager, [Name excised], 8th July 2004.

Statements

The following statements were appended as Annexes to the Board of Inquiry report. They are reproduced as received, apart from the exclusion of identifying names.

Reference: Statements of concerned personnel / eye witnesses

Introduction:

Initial hand written statements were taken by [Demining group] Technical Field Manager, [Name excised], on the day of the accident. These hand written reports where then translated and typed up at [the Demining group]'s office in Batticaloa. In all 7 statements were written by [Demining group] staff, 4 of these statements were discounted as [the individuals giving statements] could only confirm hearing the explosion but were not eye witnesses and were some considerable distance from the site of the accident.

The 3 remaining statements are attached below. One statement is from the injured deminer Mr. K. Jeykumar, with comments from BOI interview and two statements are from section leader Mr. T. Mathanasunther Periyaoullumali. During the BOI, the statements of the relevant personnel were confirmed and expanded on during interviews. BOI comments and additional information, where relevant, is included at the end of the individual's statement.

Reference: Victim Statement

As usual today morning I went to do my demining work with all instruments and tools. Normally we follow all the rules and regulations for deminers, which include the safety measures also. I have started my work around 7.30 a.m. After I had my breakfast at about 8.00 a.m. I have restarted my work at 8.30 a.m. When I was doing mines clearing work on my lane I have seen a small lump in my clearing lane. When I try to shape the lump by using heavy rake a mine set-off. After the mine explode I have feel that it was bleeding on my face

and my forearms, I covered my face by fingers and sat down on the spot, team leader took me to the medic spot which is situated in the main lane. Medic gave me some first aid and took me to the Chenkalady Hospital within 30 minutes. To check my eyes I have admitted at Batticaloa base Hospital. More than this the team leader [Name excised] checked me around 2 to 3 minutes before the accident. When the accident took place I had my helmet and visor in the proper way. Signed: [The accident Victim]

BOI Interview:

The following observations were made during an interview of [The Victim], by the BOI team at the Batticaloa Hospital on the 8th July 2004. The BOI confirmed the written statements taken by [the Demining group], the previous day. The following questions and answers should be seen as an amendment to the initial statement of the individual.

BOI: How long have you been working as a deminer and which method do you use?

Deminer: Six (6) months – rake method.

BOI: How many mines have you cleared so far?

Deminer: Four or five.

BoI: Could you explain to me how you use the rake, what is your normal body and head position?

Deminer: My left foot and arm are in front and my head and eyes are focused to the place where I'm raking.

BoI: Did you find mines in that working lane before?

Deminer: Yes, I found 3 P4 in the same lane the day before.

BoI: How deep were these mines were buried?

Deminer: Approx. 7cm

BoI: And the mine which caused the accident?

Deminer: When the detonation happened I had reached approx 7cm.

BoI: Which position was your visor when the accident happened?

Deminer: I had the visor down.

BOI: Can you give any reason why the accident took place?

Deminer: No I can give no reason.

BOI: Were any conditions different, which may have effected the demining?

Deminer: Yes, it had been raining the night before so the soil was heavier to work.

BOI: Were you under the influence of alcohol or any drugs when the accident took place?

Deminer: No.

Reference: Section Leader Statement

I, [Name excised] called all deminers at 6.45 a.m. in the morning and briefed them as usual and took to the demining site and asked them to work and also I visited the places where they were working. At about 7.30am I changed duty to the other deminers and I was on duty. At about 8am I took them for their breakfast who were resting and I too had breakfast. At about 8.30am I changed the shift and allowed them to go for their breakfast and this was when the incident took place and I was about 300 metres away supervising the other deminers. It was about 8.40 I heard a blast and came back to the location and I saw smoke coming up and also I noticed [The Victim] was seated on the ground, I realized that an accident had taken place. While proceeding to the incident site I informed the medic and driver to proceed to the incident site, I also called [Name excised] and took him to assist me. I saw [the Victim] was

having injuries on his cheek and elbow. I with [Name excised] took the injured man to the place where the medic was. After he was treated by the medic, the medic and [Name excised] (driver) took the injured to hospital. Signed: [Name excised]

Reference: Amendment to Section Leader Statement, [Name excised]

[The Victim] of Section A-03 met with an accident in the demining field at about 8.40 in the morning. I, [Name excised] was away about 300 metres from the blasting place. When I was only I heard the blasting noise and turned back saw [the Victim] laying down on the ground. Immediately I informed the medic and the driver and rushed to the place. When I with [Name excised] took the injured to a safety place where the medic was. Later he was then to hospital at about 8.45 with the medic [Name excised] in the vehicle of [Name excised]. Later on I went to the place of the incident where the blast took place and closed the road of the deminers area and brought all the deminers to the camp. Signed: [Name excised]

BOI Interview:

The following observations were made during an interview of [Name excised],by the BOI team at the demining site on the 8th July 2004. BOI confirmed the written statements taken by [the Demining group]. The following questions and answers should be seen as an amendment to the initial statement of the individual.

BOI: Arriving at the accident scene and noticing the type of injuries in the deminer's face, what were your first thoughts?

SL: [The Victim] did not work with his visor down. Just five minutes before the accident I visited [the Victim] on site, told him to keep the visor down and to go slow since the visor would get covered in damp more quickly.

BOI: Did you observe other deminers in your section working "visors up" before?

SL: Yes, on several occasions during the last couple of weeks.

BOI: How did/do you react?

SL: I order them to put the visor down and give them a warning.

BOI: Did you observe [the Victim] working "visor up"?

SL: Yes, several times.

BOI: Why do you think the deminers sometimes do work "visor up"?

SL: In the area we are working now, early morning before the sun is really heating up the ground and air, the deminers face the difficulty that their visors on the inside are getting covered with damp – so they can't see properly.

BOI: And what are they doing?

SL: They lift the visor and wipe the damp off.

BOI: From your perspective, what could have caused the accident?

SL: The ground condition compared to the day before the accident occurred were slightly different – since it has been raining heavily the night before. The ground was softer than the day before.

Analysis

The primary cause of this accident is listed as a *"Field control inadequacy"* because the Victim was working with his visor raised and his error was not effectively corrected. If he was able to work in breach of one basic rule, he may also have been working in breach of others. The secondary cause is listed as *"Victim inattention"* because the investigators decided that this was the most likely cause.