# DDAS Accident Report

## Accident details

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| **Report date:** | 17/03/2007 | **Accident number:** | 439 |
| **Accident time:** | 12:20 | **Accident Date:** | 14/10/2003 |
| **Where it occurred:** | IMSMA ID: LK 133 Urumpirai Minefield, Kopay Division, Jaffna | **Country:** | Sri Lanka |
| **Primary cause:** | Field control inadequacy (?) | **Secondary cause:** | Unavoidable (?) |
| **Class:** | Excavation accident | **Date of main report:** | 16/10/2003 |
| **ID original source:** | none | **Name of source:** | Private |
| **Organisation:** | [Name removed] | | |
| **Mine/device:** | P2Mk2 P4Mk1 AP blast | **Ground condition:** | grass/grazing area hard |
| **Date record created:** | 17/03/2007 | **Date last modified:** | 17/03/2007 |
| **No of victims:** | 1 | **No of documents:** | 3 |

## Map details

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| **Longitude:** | | **Latitude:** | |
| **Alt. coord. system:** | IMSMA ID: LK 133 | **Coordinates fixed by:** | |
| **Map east:** | 394507E | **Map north:** | 1074614N |
| **Map scale:** | | **Map series:** | |
| **Map edition:** | | **Map sheet:** | |
| **Map name:** | | | |

## Accident Notes

no independent investigation available (?)

metal-detector not used (?)

use of pick (?)

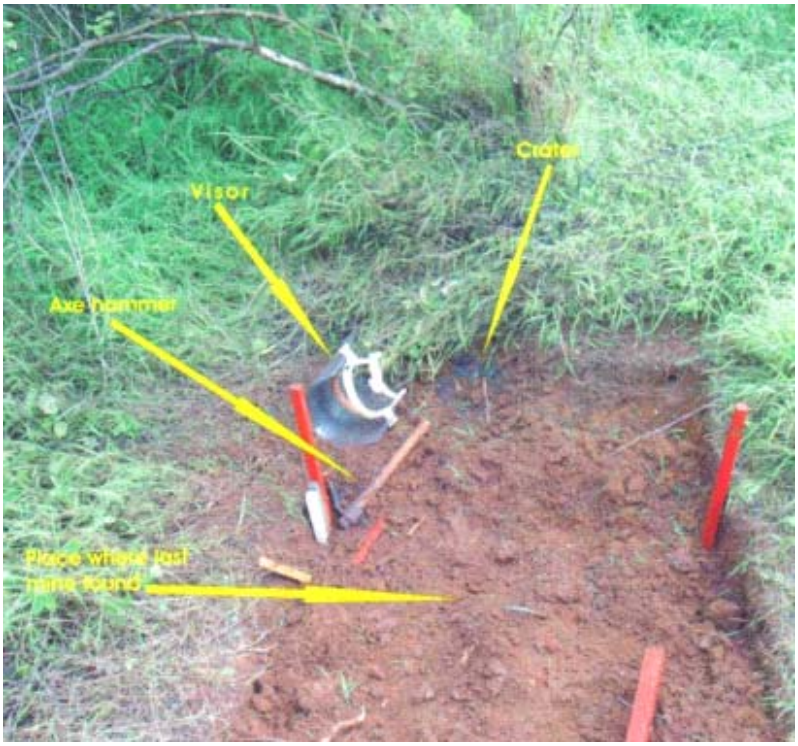
disciplinary action against victim (?)

## Accident report

An internal demining group investigation report was made available in 2006. Apparently an independent report was initiated, but it has not been made available to date. The following is the demining group's own accient report, edited for anonymity.

**Detailed report Part 1 - Description of the incident**

Narrative: The deminer [Name excised] was carrying out one man one lane manual demining drills in accordance with [Demining group] Sri Lanka manual demining SOPs for 100% excavation. He was using the axe hammer tool to excavate the face of his lane down to a depth of 15cm, when the detonation occurred. The mine detonated on the left hand side of his lane as he was using the axe hammer.




[The picture above shows the accident site]

Equipment damaged: Axe Hammer, Metal axe head damaged by blast. No damage was caused to any [other] equipment. Some dust is visible on the outer face of the visor, as well as gloves and hammer scraper. Small blast marks on the hammer scraper. The deminer's body armour was unaffected by the blast.

[A picture of the tool after the accident is shown above.]

[The type of mine involved was the Type 72 A, as] Determined by: Direct observation Fragments found. The mine detonated completely leaving a crater of approx 50 cm across and 25 cm deep.

The ground was hard and flat. The weather was cloudy and mild. The vegetation was “medium” grass.

Last QA monitoring inspection of team had been in October 2003

Qualifications of deminer(s) involved in the incident: Manual demining, Medical.

The Team had been at the site for four days, working for 5 hours and 30 minutes on the day of the accident.

**2. Incident details**

On 14-10-03, at 12:20 hrs deminer [the Victim] detonated a Type 72 A mine in his lane, whilst conducting 100% excavation. No serious injuries were sustained. The Medic/Deminer of Section 4, [Name excised] gave immediate First Aid before the deminer was transported to hospital.

**3. Injuries**

Small Burns to left forearm (no danger of further infection. Not serious). The Deminer is able to hold a conversation and give answers to basic questions.

**4. Treatment**

After the casualty received the initial first aid, he was transported to the Jaffna Teaching Hospital (JTH). A hospital doctor did the initial inspection, and concluded that there is no requirement to give the casualty any treatment (apart from a painkiller pill) due to the injuries not being serious.

{Demining Group] demining Supervisor, [name excised] a qualified GP arrived at JTH together with [Demining Group]'s Senior Medic [name excised], and assessed the condition of the casualty. In their opinion the casualty sustained not serious minor injuries.

According to opinions of [two medics] and the JTH doctor, there is no requirement for a MEDIVAC to Colombo.

**5. Further Action**

The deminer will stay in the JTH until later today, when he is going to be checked by the doctor. At the moment it looks like the casualty will be discharged from the hospital today.

The [Demining Group] Sri Lanka EOD Supervisor [Name excised] and the Demining Supervisor [Name removed] are carrying out an accident investigation. A full investigation report, according to IMAS format will follow this sit rep.

## Conclusions/Observations and Recommendations

**1. Conclusions/Observations**

1. The deminer initiated the mine with his Axe Hammer while conducting a full excavation. At this minefield, due to a high metal contamination, the deminers are not using Metal Detector, but excavating all the land to the depth of 15 cm. The blast took place 1 meter away from the last mine that he found. The deminer should have known better to work more carefully, especially after that he found 3 mines at the same lane with intervals of 1 meter from each other.

2. At the left hand side of the lane, the deminer excavated a block of soil when the blast occurred. In a debriefing after giving his statement, the deminer claimed that there was a block of hard soil at the left hand side of his lane. After 2 attempts to scrape it from the right to left, he tried to repeat that action from left to right and then the accident happened. This information leads to the possibility that the hard
soil block pressed on the mine and caused the accident. But, a close look at the Axe-Hammer blade's edge implies that the deminer hit the mine with his digging tool. The blast marks and dust on the blade are spread from a point in the middle of the blade's edge, backwards toward the rear side of the Axe Hammer which indicated that the deminer was digging from top to bottom. Obviously this is a breach of the HALO Trust Standard Operating Procedures (SOPs).

3. The accident was not caused by inexperience or lack of information on the part of more senior staff. The deminer [the Victim] has been employed as a manual deminer since February 2003 and has cleared many mines in the past 7 months of work. He was working along a clearly defined Sri Lankan Army minefield belt and knew that the likelihood of finding more mines was very high.

4. The actual location of the mine was aside from the lane of the other mines that were found at the same lane (see figure 7). There is a high possibility that the deminer was expecting the mine to be more at the centre of his lane and therefore allowed himself to hit the ground hardly at the left side of his lane.

5. Both the Section Commander (S/CO) and the Task Commander (T/C) should have paid a closer attention to the way that the deminer was conducting his drills. The minefield is an open area therefore it is possible for the S/CO and T/C to see the deminers operating at all times.

6. The CASEVAC procedure was fast and good, but the reporting back to the office and to the O/IC was delayed due to poor coverage of the cellular phone net. In the end, the information was delivered by radio to the next minefield and from there by phone to the O/IC.

**2. Recommendation**

1. All operation in [Demining Group] Trust minefields will stop for the next 2 days and every deminer will go through refresher training in conducting a full excavation method of mine clearance.

2. An "actions on" paragraph be inserted into [Demining Group] Sri Lanka manual demining SOPs detailing the requirement to work evenly and systematically when excavating on hard soil

3. Both the Section Commander and Task Commander to be given final written warnings for failure to closely supervise deminers under their control and make sure that the manual demining drills are conducted in accordance with [Demining Group] SOPs.

4. The manual deminer concerned is to be discharged of his duties and should no longer be employed by [Demining Group] as a deminer.

5. The [Demining Group] will conduct trials with different length of handles and methods of excavation in order to try and guard against over vigorous excavation techniques on individual lanes

6. In cases of hard soil, the use of water should take place to soften the ground prior to excavating. This will prevent the use of force while using excavating tools.

7. In lanes that follow mine lines, especially when there is a clear picture of the distance between mines, deminers should avoid working with Axe-Hammer and use the smaller scraper instead.

8. The [Demining Group] will enter into formal agreement with SLA over the facility of using military flights for CASEVAC purposes.

**Key Timings (All times are for 14/10/03 GMT +5)**

12:20 Uncontrolled explosion at Urumpirai Minefield. CASEVAC Drills implemented: Deminer given treatment by medic for burns on his left arm.

12:30 1) Ambulance departs for Jaffna Teaching Hospital (JTH). 2)T/C cannot contact O/IC with a mobile phone. 1) A medic and a deminer with the same blood group are traveling with the casualty to JTH. 2) The lane is sealed by the T/C until arrival of O/IC

12:40 1) Ambulance arrived to JTH 2) [Name removed] inform [Name removed] of the accident: [Name removed] received the message at the [Demining Group] compound.

12:45 [Name removed] stopped at the office and inform the Demining Supervisor [Name removed] and Dr. [Name removed]. [Name removed] fail to contact the Program Manager [Name removed] in Colombo by mobile phone.

12:48 Jaffna Office assistante (JOA) telephones PM in Colombo. PM gets the relevant information about the accident.

12:55 [Name excised] inform PM of the accident. No details were available accept for the minor nature of injuries.

13:00 [Names excised] arrived to Urumpirai Minefield. An initial investigation takes place on site.

13:15 [Name excised] + Dr. [Name excised] go to JTH to assess the casualty injuries. Dr. [Name excised] stay with [the Victim].

13:20 PM calls [Name excised] (NMASC) [Name excised]'s Secretary answers the phone and informs PM that [Name excised] is out of the office and that he can be contacted on his mobile.

13:26 PM calls [Name excised] (NMASC). PM informs [Name excised] about the accident. [Name excised] suggests an external investigation to be conducted by GA, [Name excised] . PMays OK, and waits for a call from [Name excised] about the external team coming to conduct the external investigation.

13:35 PM contact [Name excised] again. PM instruct [Name excised] to wait on site to external investigator from government and other Demining Agency.

14:00 [Name excised] gives the permission to PM conduct the independent investigation [sic], involve the GA or AGA {Government agent or Assistant GA]. He informs PM that external investigation will take place on Saturday 18th Oct 03.

## Victim Report

| | | | |
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| **Victim number:** | 586 | **Name:** | [Name removed] |
| **Age:** | | **Gender:** | Male |
| **Status:** | deminer | **Fit for work:** | yes |
| **Compensation:** | Not made available | **Time to hospital:** | 20 minutes |
| **Protection issued:** | Frontal apron<br>Long visor | **Protection used:** | Frontal apron, Long visor |

**Summary of injuries:**

INJURIES: minor Arm

COMMENT: See Medical Report.

## Medical Report

The following medical details were recorded in the report of the Internal demining group investigation.

Time spent at site administering treatment: 10 minutes. Time from evacuation at site to arrival at field medical facility or local hospital 10 minutes Distance: 6.7 km.

History Observation and external examination

Mild superficial burn: Left side arm near the elbow after explosive at the Urumpirai Mines land area. .

On Examination :- Left side arm- Mild superficial bum.

Arm movement indicated neither no fracture or dislocation.

No injury, No fracture other part of the body. Patient look well.

Signed: Senior Medic

Patient has been admitted in the Government hospital further specialist investigation.

## Analysis

The primary cause of this accident is listed as a *"Field control inadequacy"* because the internal investigators identified poor field control and disciplined the field supervisors. The secondary cause is listed as *"Unavoidable"* because the deminer may have been working properly (no one was watching) and the tool has been involved in a large number of other accidents with this demining group. The "Axe Hammer" used in this accident is sometimes referred to by the demining group as a "Trowel" or an "Enxada". It is actually a mattock with a handle length that varies. In many accidents with this tool the wooden handle shatters. Because the tool handle did not break in this accident, it is likely that the tool did not impact directly onto the mine. [See Accident 440.]

## Statements

### Statement by Injured Deminer

Today on the 14-10-2003 we started our work at by 6.40 as usual on the Urumpirai (A18) task. In our 9th shift after cutting grass and putting them in their destination I started to scrap from the left. At the moment the blast occurred and I fell down on the backward on the cleared land. Then our task commander and section commander came and took me out of my lane. Then I was put on a stretcher and given first aid. After that I was sent to hospital by Ambulance. After the accident I felt pain and burn on my hand. In the hospital I was given immediate treatment. I had tablets and an injection.

### Statements by Task Commander Urumpirai minefield

Today on the 14-10-2003 we started our work as usual on the Urumpirai (A18) task and round about 11.20 during our 7th shift it started to rain so I sent my deminers to the control point. After 20 min at 11.40 it stopped raining. So we started work, because it was our 8th shift. After that I gave them 10 min break and re-started at 12.20. while I was walking towards the first lane I heard a blast and the section commander [name excised] was blowing the whistle continuously. As I was walking towards the blast sound the section commander informed me that [the Victim], Ins No 075, O+ had got injured. I immediately told the deminer on the next lane [name excised] to bring the stretcher and trauma kit and went in to the accident lane and saw [the Victim] lying on cleared area. Me and the section commander brought him out at the lane and put him on the stretcher and checked him for injuries. After that medic [name excised] gave him first aid on the burn on his left forearm. After that I sent him with the section commander, medic and [name excised] to the Ambulance to be sent to hospital. I closed the accident lane and left [name excised] as a sentry. As I could not inform the base I told the section commander to drop the casualty at the hospital and inform the base I also informed [name excised] of the Chunnakam Seminary task about the incident and asked him to inform [name excised] or the base of the following incident.

### Section Commander Urumpirai minefield

14-10-2003 we were working as usual on our task and round about 11.20 during the 7th shift I stopped work after informing the task commander because it was raining. 11.40 it stopped raining so we started work at 12.10.1 went to see the deminer [the Victim] whom was working in the 4th lane and then proceeded to see the other deminer on the next lane. As I was watching him work I heard a blast so I blew my whistle and informed the task commander and went to the accident lane. I saw the deminer lying on his back on cleared area. Me and task commander took him out of the lane and the medic gave first aid and I took him to the Ambulance with the medic and another deminer with the same blood group. The incident took place at 12.20 we left the site at 12.30 and arrived at the Jaffna Teaching hospital at 12.40.1 admitted him to the hospital and left the medic and the other deminer with him. After that I went to the base and gave them the necessary information and left to my site again.

### Reserve deminer Urumpirai minefield

I was working at the Urumpirai Minefield today. During the last shift at 12.30 I heard a blast, I immediately stopped work. I could hear a whistle being continuously blown and I left my lane I could see that the deminer adjoining my lane was injured. The section commander and task commander immediately brought in the medics, gave him first aid and sent him to hospital. After that they made me close the lane and stand for sentry. After sometime Demining supervisor and survey team came and inspected the area. After that they brought the Kopay Divisional Secretary and showed the area to him and after that I took his tools and went to the control point.

**Reserve deminer 2 Urumpirai minefield**

I a reserve deminer working at the Urumpirai Minefield , heard a blast at 12.30.1 closed my lane and came out and saw the deminer working beside me injured. After that the section and task commanders came and took necessary actions. The medics gave him first aid and he was sent to hospital by Ambulance. After that I remained in the control point until the authorities came and came back to the office.