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### DDASaccident297

HD-AID

*Humanitarian Demining Accident and Incident Database*

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# DDAS Accident Report

## Accident details

<b>Report date:</b> 06/04/2006	<b>Accident number:</b> 297
<b>Accident time:</b> not recorded	<b>Accident Date:</b> 22/05/2000
<b>Where it occurred:</b> Cordon Sanitaire, Mozambique border	<b>Country:</b> Zimbabwe
<b>Primary cause:</b> Unavoidable (?)	<b>Secondary cause:</b> Inadequate equipment (?)
<b>Class:</b> Other	<b>Date of main report:</b> 06/05/2000
<b>ID original source:</b> JM	<b>Name of source:</b> Mounser/AVS 2001:Z04
<b>Organisation:</b> [Name removed]	
<b>Mine/device:</b> R2M2 AP blast	<b>Ground condition:</b> woodland (bush)
<b>Date record created:</b> 19/02/2004	<b>Date last modified:</b> 19/02/2004
<b>No of victims:</b> 1	<b>No of documents:</b> 2

## 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

no independent investigation available (?)

inadequate equipment (?)

inadequate investigation (?)

mechanical follow-up (?)

## Accident report

The following official "accident summary" was made available in January 2001. No other report was made. The summary was compiled by the demining group's site manager.

The following text has only been edited where necessary to conceal the identity of individuals and organisations mentioned.

On 22 April 2000, the Deminer was conducting clearance activities in the CS [Cordon Sanitaire] along the first row mines. As he was working an R2M2 approximately 2m in front of him detonated without any external influences.

At the time of the accident the Crew Supervisor called a casevac, thinking a deminer had detonated a mine. Immediately after the casevac call the Supervisor further reported that it was a false alarm, that nobody was injured. [The victim] then provided the details of the accident.

The deminer sustained no injuries from the mine blast, being protected by his PPE. He was attended to by the Crew Paramedic who confirmed that no injuries were sustained. The deminer returned to work immediately after the medical check.

Two days after the accident the deminer complained of hearing hypersensitivity, where each time a controlled explosion took place, his ears would become painful. The project Doctor conducted an investigation of the individual's hearing and identified that the deminer indeed suffered from hypersensitivity. The Doctor compiled a referral letter for [the victim] to see an ear specialist to determine the damage sustained. The Doctor's initial opinion is that full hearing will be restored.

[The specialist] to whom [the victim] had been referred, recommended 1 month sick leave to allow his ears to heal. The documentation for the special appointment is held by [the company] and the [field Doctor] has not been able to obtain this information. [The victim] returned to work on Wednesday 03 May 00, stating he was fit enough to work.

No on site examination was conducted, as the casevac call had been relayed through as a false alarm. However, a discussion was held at the Field Operations Base to identify why the mine had detonated. From the explanations taken from personnel on site there is no physical reason for the mine to detonate other than a suspicion that this could have been induced by the steel wheels of the ground preparation tractor.

On 30<sup>th</sup> March 2000 a similar accident occurred approximately 90 metres from where this mine detonated. Again the mine detonated without any external influences.

The only measure to be emphasised is the wearing of PPE each time personnel enter the minefield or are to work near mines.

Signed: Operations Manager

## Victim Report

<b>Victim number:</b> 377	<b>Name:</b> [Name removed]
<b>Age:</b>	<b>Gender:</b> Male
<b>Status:</b> deminer	<b>Fit for work:</b> yes
<b>Compensation:</b> not made available	<b>Time to hospital:</b> not applicable
<b>Protection issued:</b> Frontal apron Long visor	<b>Protection used:</b> Frontal apron, Long visor

### Summary of injuries:

INJURIES

minor Hearing

COMMENT

No medical report was made available.

## **Analysis**

The primary cause of this accident is classed as "*Unavoidable*" because the victim appears to have been working properly and fallen victim to a spontaneous detonation.

However, it was known by this time that the mechanical preparation on the site left mines exposed and in a dangerous condition (see Related Papers). The secondary cause is listed as "*Inadequate equipment*". Management revised demolition procedures because of a perceived increased risk, but apparently did not reconsider the manner in which the machines were deployed. This may be seen as a "Management/control inadequacy".

The accident investigation is considered inadequate because no record of a full investigation was found.

## Related papers

In an exchange with one of the Field Supervisors at the site, the researcher asked the following:

Q) It seems that several accidents involved spontaneous detonations of R2M2s after machines had worked in the area. Is this so?

A) True the R2M2 had a strange habit of detonating without anything directly appearing to cause the mine to function. This did usually occur after a machine had been in the vicinity. Remember that we (the mechanical unit) were operating in advance of the manual follow up using bush-cutting equipment, bulldozers and the MineBuster excavator. I witnessed mines detonating without external influence personally – one went off 35m from my vehicle as I was travelling up the safety road.

This happened only in the R2M2 areas and I suspect that the plastic assembly of the fuse housing was damaged (the plastic distorted) and although the metallic balls of the safety release had released, the distortion of the plastic prevented the firing spring from creeping forward and initiating the mine. When the heat of the day expanded the plastic, the spring was released and the pin forced into the stab-detonator.

The thought of moving R2M2 mines in this condition - putting them into a pit to be destroyed (max 10 in a pit) – was unacceptable. So R2M2s found in areas after the machines had worked were burned in-situ. Other mines were still destroyed in pits.

The burning was carried out under an SOP that was drawn up for the procedure and approved by the QA. Basically the mine was marked (nobody worked past a mine on the surface) and when the deminer's forward progress was blocked, the Team Leader would burn the mines (Safety distance 50m min). He would place a firelighter up-wind of the mine and adjacent to it. He would wear full PPE and be careful not to touch or disturb the mine. He would proceed to burn the entire line of mines working into the wind. The average time from burning initiation to completion was 12 minutes. The minimum wait time was set at 15 minutes before the mines were approached (in PPE) and the residue was checked. Only one working box was burned at a time. In the dry season, a line of dried grass placed adjacent to the fire lighters was used as an extended safety measure. This method was used extensively without accident.