

DDAS Accident Report

Accident details

Report date: 17/01/2004	Accident number: 26
Accident time: not recorded	Accident Date: 28/07/1997
Where it occurred: Inchope - Gorangoza Road km 8+800, Sofala Province	Country: Mozambique
Primary cause: Management/control inadequacy (?)	Secondary cause: Other (?)
Class: Missed-mine accident	Date of main report: 07/08/1997
ID original source:	Name of source:
Organisation: [Name removed]	
Mine/device: AT (unrecorded)	Ground condition: route (verge), hard
Date record created: 17/01/2004	Date last modified: 17/01/2004
No of victims: 1	No of documents: 2

Map details

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

Accident Notes

inadequate metal-detector (?)

Accident report

A report compiled on behalf of the Country MAC, dated 7th August 1997, was made available. The following summarises its content.

Prior to the demining company's operations at the site, other demining organisations had undertaken other projects in the area. During their clearance the demining company found one TM-46 (metallic) anti-tank mine and 44 PMNs. Two Pt Mi Ba III (minimum metal) anti-tank mines were found by the road-building contractors and were detonated in-situ.

On the day of the accident a truck initiated a mine with its right front wheel as it turned onto the verge to unload. The driver was sitting above the wheel that caused the detonation. He escaped from the cab before it caught fire. He was taken to hospital but later discharged in "good health". The blast wave threw the truck one-meter forward, destroyed the wheel and

made the cab and front tyres catch fire. [Photographs indicate minimal blast damage to the cab above the wheel arch – implying deflagration rather than detonation of the device, or an incendiary/small blast device.]

The crater measured 1.5 metres by 0.4 metres and large plastic and rubber fragments were found. These were taken to indicate that the mine was probably a TMA2 or a PT56 AT mine. Neither mine, to the MAC's knowledge, had been found in Mozambique prior to the accident. [The photographs were indistinct and the identification of the device highly suspect: the truck burnt out completely but large parts of the mine case were not destroyed in the blast or burned in the subsequent fire.]

Conclusion

The investigation concluded that a plastic anti-tank mine, laid at a depth of 20-25cm was missed by the demining group during its clearance. The detectors the group used could not detect the kind of mine suspected.

Recommendations

The investigators recommended that the demining group's detectors should be replaced by those with a higher sensitivity. Also that the road-building contractors should cease operations due to the unacceptable risk of encountering other such mines. The demining group should then recheck the cleared area with better equipment as soon as possible. All demining organisations operating in Sofala and neighbouring Provinces should be informed about the presence of a TMA2 or PT56 AT mine, and that demining organisations should be required to provide the Country MAC with a list of all (types of) mines found.

Victim Report

Victim number: 40	Name: not recorded
Age:	Gender: Male
Status: driver	Fit for work: presumed
Compensation: not made available	Time to hospital: not recorded
Protection issued: None	Protection used: none

Summary of injuries:

COMMENT

No formal record of the victim's injuries was made.

Analysis

The primary cause of this accident is listed as a "Management/control inadequacy" because the demining group either did not clear the verge, or used a method incapable of locating the threat. The secondary cause is listed as "Other" because it is uncertain what went on during the demining work..

The researcher believes that a 7kg or a 5.5kg mine that detonated would have caused far more extensive damage to the vehicle (which was mainly damaged by fire). Also, a detonation of such a large amount of explosive would not have left large fragments of casing

for the investigators to attempt to identify. If large pieces of casing were found, the device did not detonate properly.

It is possible that the entire accident was a "sham", covering for an accidental fire in the vehicle and subsequent insurance claim.

Related papers

A letter dated 28th July 1997 written by a representative of the road builders stated that the mine was 5.7m from the centre of the road, and added that the driver was "seriously injured". It also mentioned an accident on 22nd July 1997 when an AT mine was found in the same road, and blown up (presumably by the road builders). No other evidence of injury was found.

A lengthy internal report, dated 3rd August 1997 was made in Portuguese by the demining company. Salient points are that the accident occurred when an 18-ton truck hit a mine 5.75m from the centre line at 6:30 on 28th July 1997 while it was turning around to dump gravel. The explosion set diesel fuel alight, which completely destroyed the cab. The driver suffered only minor injuries. On the 2nd June 1997 a smoke grenade had been found and destroyed 210m from the site of the accident. On 4th June 1997 an "M969 anti-tank" [sic] mine was found and destroyed 2.85km from the site of the accident. 14 live cartridges and many assorted pieces of metal were also found in the area using the Ebinger 420 detector.

The demining company's management made a supposedly "scientific" assessment of the accident and concluded that the explosion occurred 0.72m outside the area marked as clear (acknowledging that it is normal to clear up to 0.87 beyond the marked area for the purpose of putting in marking stakes). The formula $C = K \times M \times n^3$ was applied to the explosion, from which it was deduced that the mine must have contained a main charge of 7kg and have been buried to a depth of between 0.25 and 0.3 metres. It is stated that the maximum depth at which the mine could have been activated was 0.42m and that the normal depth to find an AT mine is 0.2m. [These claims are not substantiated with source references.]

The reasons for the accident were given as being because the mine was deeper than usual and it was outside the cleared area. Also because it was plastic and difficult to detect. In subsequent tests the Ebinger 420 was found incapable of detecting this type of mine when it was held more than 0.07 metres away. The demining group decided to try to source a detector sensitive enough to locate "non-metal" mines.