DDAS Accident Report

Accident details

Report date:	27/01/2008	**Accident number:**	530
Accident time:	08:45	**Accident Date:**	04/03/2004
Where it occurred:	M4101 MF, O'Chrey Village, Kamreing Commune, Kamreing District, Battambang Province	**Country:**	Cambodia
Primary cause:	Field control inadequacy (?)	**Secondary cause:**	Management/control inadequacy (?)
Class:	Excavation accident	**Date of main report:**	22/03/2004
ID original source:	None	**Name of source:**	CMAC
Organisation:	[Name removed]		
Mine/device:	PMN AP blast	**Ground condition:**	hidden root mat leaf litter soft woodland (light)
Date record created:		**Date last modified:**	27/01/2008
No of victims:	1	**No of documents:**	1

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

inadequate training (?)

protective equipment not worn (?)

squatting/kneeling to excavate (?)

visor not worn or worn raised (?)

Accident report

The report of this accident was made available in August 2007 as a PDF file. Its conversion to a text file for editing means that some of the formatting has been lost. The substance of the report is reproduced below, edited for anonymity. The original PDF file is held on record. Text in [ ] is editorial. Because the National authority was involved through one of its semi-autonomous “Demining Units (DUs)”, the name of the National authority has been removed. The national authority is presumed to have conducted an independent investigation, and seems to have done so.

The report covered two accidents that happened close together. Both accidents are included in the DDAS separately. The text of the dual-report is impossible to completely separate, so much of it is reproduced in both accident reports. The victim details have been separated. See the next DDAS entry 531 for the partner accident.

INVESTIGATION REPORT INTO MINE ACCIDENT

WHICH OCCURRED ON 04th MARCH 2004 AT M4101 MINEFIELD, O'Chrey Village, Kamreing Commune, Kamreing District, Battambang PROVINCE

REPORT PREPARED BY: DEPUTY DIRECTOR, PLANNING AND OPERATIONS

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MISSION ORDER FOR ASSEMBLY OF FORMAL INVESTIGATION

Orders by: The Deputy Director General, Cambodian Mine Action Centre

A formal investigation is to be conducted as soon as possible for the purpose of collecting and recording evidence into the Mine Accident that occurred on 04 and 09 March 2004 in the M4101 Minefield, O'Chrey Village, Kamreing Commune, Kamreing District, Battambang Province, in which one Section Commander and one Deminer were injured respectively.

The investigation team is to prepare a report and provide comment based on its findings. The Team leader is to present the findings of the investigation to the [National demining agency/authority] executive council within one week of the conduct of the investigation.

Team Leader: [Name removed] Deputy Director Planning and Operations

Member: [Name removed]

Member: STA OPS/TC

The team leader may summons any witnesses to attend who are employees of [National demining agency/authority] and may only request the assistance of any civilian witness/witnesses in helping with the investigation.

TERMS OF REFERENCE

Background

1. What is the history of the minefield?

2. When, where and at what time did the accident occurred?

3. Who were the persons involved?

4. What were the circumstances leading up to the accident?

5. Describe the nature of the accident in detail.

6. When did clearance operations commence in the minefield?

7. Have clearance operations concluded?

8. Has the minefield been formally handed over to the appropriate authority?

Analysis

1. Did the accident occur in the cleared [National demining agency/authority] minefield?

2. What caused the injuries?

3. What was the nature and extent of the injuries to the civilian casualties?

4. What action was taken immediately after the accident was reported to [National demining agency/authority]?

5. What measures could have taken place to prevent the accident?

6. Were any [National demining agency/authority] SOP or written orders breached?

7. Are there any weakness in our current techniques of demining clearance?

8. Comment on other matters disclosed in the investigation, which are not mentioned above that may be relevant to the investigation.

Post Accident

1. Were all accident notifications completed according to internal order/SOP?

2. How can we prevent this from happening again in the future?

3. What if anything has been done to assist the accident victims?

4. What actions has the DU taken to try and prevent a re-occurrence of the same nature?

Signed at: Phnom Penh, 09 March 2004

Deputy Director General, Cambodian Mine Action Centre

FORMAL INVESTIGATION

SUMMARY FINDINGS

General

1. The formal investigation into the accident was conducted over the period 09 – 13 March 2004. In addition to visiting the accident scene, witnesses were interviewed and their evidence recorded. The following is a record of the investigation as well as the summary findings and recommendations.

Terms of Reference

2. The following answers are provided to questions directed by [Name removed] the DDG, and by [Name removed], Director Operations and Planning.

a. Background

What is the history of the minefield? (Witness – IT)

Minefield M4101 area is 44,877 m^2 located in O'Chrey Village, Kamreing Commune, Kamreing District, Battambang Province. One of this belted minefield – K5 was laid by the Cambodian State Soldiers to prevent the penetration of the resistance fighters during 80's. As reported, there were many types of mines laid – PMN, PMD6, POMZ-2. This minefield has been cleared by Mobile Platoon 107 since 08 December 2003. Until the accident date 35,117 m^2 was cleared and 252 AP Mines, 02 AT Mines and 05 UXO. Have been found

When, where and at what time did the accident occur? (Witness – All)

There are two cases of accidents: The first one happened at approximately 0845 hrs 04 March 2004 and the second one happened at approximately 1025 hrs 09 March 2004 at Minefield M4101 at O'Chrey Village, Kamreing Commune, Kamreing District, Battambang Province.

Who were the persons involved? (Witness – All)

[The Victim], Section Commander # 3 of Mobile Platoon 107, the victim.

What were the circumstances leading up to the accident? (Witness – IT, All)

The case on 04/03/04

[The Victim], Id 931799, Section Commander, approached to the head of the clearing lane of the minefield M4101 where one deminer of his section reported that a mine was found, then picked up a trowel of the breaching team without wearing PPE excavated soil to identify the item found, as reported by the deminer, while doing soil excavation the trowel hit the top of the mine underneath. It exploded.

Describe the nature of the accident in detail. (Witness – IT, All)

<u>The case 0845 hrs on 04 March 04</u>: [Name removed], deminer described that the platoon commander and section commander ordered him to conduct demining clearance carefully and try to search and excavate the mound of soil to the old layer of earth. At the accident spot, he detected and excavated three layers of soil to reach the old earth layer then the mine detector emitted a signal. He conducted excavating drill then found a mine, clear enough to identify that it was PMN mine. Then he reported to his Section Commander, [the Victim]. He came back to the tent. Then [the Victim] went to inspect the mine found as reported by [the deminer]. He brought a trowel and without wearing PPE to excavate soil some more to identify the item found, while conducting the excavation the trowel slipped and hit the top of the mine, then it exploded caused serious injuries to his face, neck and right arm. He was evacuated and arrived at Emergency Hospital at Battambang Province at 1215 hrs on the same day. He was operated on and lost his left eye.

[The accident area, showing the point of detonation.]

When did clearance operations commence in the minefield? (Witness – IT)

Clearance operations commenced on 08 December 2003.

Have clearance operations concluded? (Witness – IT)

No. there remains approximately 9,760 m2.

Has the minefield been handed over to the appropriate authority? (Witness – IT)

No, it has not been fully cleared as yet.

b. Analysis

Did the accident occur in a cleared [National demining agency/authority] Minefield? (Witness – IT, All)

- Yes, it happened in the minefield for the case 08:45 hrs 04 March 2004.

What caused the injuries? (Witness – IT, All)

For the case 04 March 04: Based on the nature of the injury and answers of the victim, it was caused by PMN Anti-personnel Mine while he was excavating soil, without wearing PPE, to identify item found as reported by a deminer in his section. The trowel slipped and hit the top of the mine. It exploded causing serious injuries to his face, neck and arms.

What was the nature and extent of injuries to civilian casualties? (Witness – IT, All)

There were none.

What action was taken immediately after the accident was reported to [National demining agency/authority]? (Witness – IT, All)

The victim [was] immediately evacuated to the Emergency Hospital in Battambang. And in the afternoon Thursday on 04 March 2004 DU2 Manager and Operations Officer went immediately to the location of the accident to do primary inspection and give precautionary instruction to all field staff of Mobile Platoon 107 – safety, quality and quantity approach and made report to [National demining agency/authority] HQ.

The accident spot [was] marked. The precaution induction and general order on the morning parade before moving to operate in the minefield was usually delivered by the Platoon Commander, but there were not disciplinary actions taken at the front line and or at DU level – only giving a precautionary rationalization.

What measures could have taken place to prevent the accident? (Witness – IT)

Strict disciplinary action should be applied to whomever breaches the safety rules of demining operations, as referred to in the Human Resources Policies and Procedure (paragraph 4.9.40 and appendix DD) respectively.

Most field staff have worked together for a long time. The work is boring and repetitive and the senses get dulled to the constant and present danger. Deminers psychologically perceive a life fraught with danger to be normal and they become blasé to it. A study should be conducted on deminers alertness to normality compared to the concept of practical EFFECTIVENESS LEADERSHIP APPROACH.

There are ample internal regulations, SOPs and norm of practices that could be could be considered when identifying the roots of the problem but it still remains part of human nature to see things in terms of their own psychological perception.

Were any [National demining agency/authority] SOP or written orders breached? (Witness – IT)

The case 0845 hrs 04 March 04: Yes. It breached Manual Demining SOP 100 paragraph 10 and Manual Demining SOP 114 paragraph 4.2.1 and 4.3.

Are there any problems with our current techniques of demining clearance? (Witness – IT)

No. It was not. It was the negligence of the victim [himself] not paying attention to the safety rules of the manual SOP and/or they perceive hazardous activities as the normal way of life.

Comment on other matters disclosed in the investigation which are not mentioned above which may be relevant to the investigation. (Witness – IT)

In this minefield and within the Mobile Platoon 107, there were mine accidents one after another – one was on 11 December 03 (lost eye), next was on 04 March 04 (lost eye) and the following one was on 09 March 04 (lost leg).

After each of these accidents the Platoon had been given the warning notices of the safety rules and strengthened discipline-oriented rationalization, daily by Platoon Commander and monthly by DU Senior Staff.

c. Post Accident

Were all accident notifications completed according to internal orders/SOP? (Witness – IT)

Yes, they were.

How can we prevent this from happening again in the future? (Witness – IT)

All authorized levels should strictly apply disciplinary action against those who breach cardinal rules (appendix X and DD of the HR Policy and Procedure) and safety rules of Manual Demining SOP.

What if anything has been done to assist the accident victims? (Witness – IT)

The victims were evacuated to Emergency Hospital at BTB province by their colleagues. They were operated on the same dates the accidents happened. They will remain at the Emergency Hospital for further treatment.

What action has the DU taken to prevent a re-occurrence of the same nature?

DU level should closely monitor and conduct surprise checks and charge or apply disciplinary actions on the ground as per his/her authorization level when they find breaches of the cardinal rules and safety rules of manual demining SOPs.

Conclusion

3. The accidents occurred during working hours in [National demining agency/authority] Minefield, M4101 where Mobile Platoon 107, was working under command of [Name removed]. The case on 04 March 04 happened in the minefield and cost the Section Commander one eye and other case on 09 March 04 happened outside the boundary of minefield cost a deminer one leg. Minefield M4101 is at O'Chrey Village, Kamreing Commune, Battambang Province.

4. Based on injury evidence, the reports of all witnesses and the victims themselves, the accidents were caused by their breaching SOPs. In case # one: soil excavation without wearing PPE and case # two: walking outside the marked boundary of the minefield.

5. The cases of accident in Minefield 4101 is a series of accident one after another – the first one happened on 11 December 2003, the second on 04 March 2004 and the third on 09 March 2004. Are they caused by jinx or the negligence of the SOPs violators or the ineffective leadership of front line management and middle management at DU level? Or are they caused by fatigue from the continuous routine that wears out the spirit and alertness until the deminers see life from a different psychological perspective where constant danger is normal and can be ignored. **Recommendations**

6. The investigation team after consideration of all factors makes the following recommendations:

a. Provide more awareness training on hazards of the potential incident that might happen to everyone who breaches SOPs activities and drills.

b. Conduct a study on the understanding of SOPs. Survey all field staff's perception of seeing things in relation to the EFFECTIVENESS LEADERSHIP APPROACH.

c. Entrust all demining field staff through radiating respect rather than evoking fear so that the deminers can express their opinion and speak openly of the problems they encounter and worry about.

d. Reshuffle the first line management within each DU or between DU. Empower the first line management to command and control; it might radiate respect among their colleagues.

e. Information from this and other accident/incident investigations should be forwarded to the appropriate [National demining agency] departments for perusal and discussion.Signed: Investigation Team Leader, Phnom Penh, 22 March 2004

Victim Report

Victim number:	702	**Name:**	[Name removed]
Age:		**Gender:**	Male
Status:	deminer	**Fit for work:**	not known
Compensation:	Not made available	**Time to hospital:**	Three hours and 30 minutes
Protection issued:	Frontal apron Long visor	**Protection used:**	None

Summary of injuries:

minor Chest

minor Face

minor Neck

minor Shoulder

severe Arm

AMPUTATION/LOSS: Eye

COMMENT: See Medical report.

Medical report

No formal medical report was made available. The range of injury is determined from the photograph below.

[Photograph showing Victim with peppering of chest, shoulder, throat and face, as well as a dressing over the missing eye.]

The report records “serious injured to his face, neck and right arm”, so a right arm injury is also presumed.

Analysis

The primary cause of this accident is listed as a “Field control inadequacy” because the Victim was a field controller and was working without PPE when the accident occurred.

The secondary cause is listed as a “Management control inadequacy” because the investigators recognized that new strategies were needed to make long-term deminers suitably cautious and respectful of their SOPs. Suggestions were made that may be rather more effective than the “give orders and punish” attitude of some well known international NGOs.