DDAS Accident Report

Accident details

Report date:	19/05/2006	**Accident number:**	362
Accident time:	13:50	**Accident Date:**	25/01/2001
Where it occurred:	Ban Kok Kao village, Saravane Province	**Country:**	Laos
Primary cause:	Management/control inadequacy (?)	**Secondary cause:**	Other (?)
Class:	Demolition accident	**Date of main report:**	01/02/2001
ID original source:	JPF/JSB	**Name of source:**	MAG
Organisation:	Name removed		
Mine/device:	BLU-26 submunition	**Ground condition:**	demolition site (explosives) residential/urban
Date record created:	21/02/2004	**Date last modified:**	21/02/2004
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

no independent investigation available (?)

inadequate investigation (?)

mine/device found in "cleared" area (?)

inadequate medical provision (?)

Accident report

An internal accident report was made available by the demining group involved and by its local NGO partner. Both are reproduced below, edited for anonymity. Some confusion about the date of the accident (either 25th or 26th January) existed in the reports. The date given in the medical reports is used.

Local NGO/international NGO joint report

The exact circumstances of the accident

1. 011 Wednesday 26 January 2000 a UXO Lao Roving Team (RT) working with [Demining group] -Saravane, was tasked to Ban Kok Kao to clear reported UXO. At one site the villagers had reported four bombies had been buried in a metal container in a mound in the rice fields. These bombies were located by the RT, using an Ebinger 505C, at the bottom of a 30cm hole and identified as BLU 26 series bombies. Only the top two bombies could be seen but the Team Leader (TL) decided not to excavate any further as any movement could result in the BLUs functioning (current [Demining group] policy is not to move BLU 26 series bombies). Disposal was effected by placing a 200g TNT charge on top of the visible BLUs which was then functioned using an electrical detonator.

2. After demolition the TL waited for some five minutes before approaching the site to check for complete demolition of the items. After visual inspection and excavation of the site he was satisfied that the area was safe. He then called two more team members forward and they again visually checked the area and conducted further excavation of the demolition site after which they declared the area safe. They then moved to another site some 400 metres away.

3. Whilst at the next site they heard a secondary explosion and looked back to see five young boys running towards the village from the site of the explosion. The RT ran to the village but could only find one of the boys, [the Victim] aged 12 years. [The Victim] was found to have wounds to his lower abdomen, on both sides.

4 The wound on his left side was a shallow cut approximately 5mm long and the one on the right was 10mm deep puncture which was bleeding but not profusely. The medic then applied first aid in the form of a field dressing and the boy was evacuated by vehicle to the provincial hospital in Saravane.

5 [The Team Leader] then reported the accident to the [demining group] office at Saravane by radio. The accident site was then cordoned off and a further visual search of the area conducted for any sign of explosive components, but none were found. The village elders were also requested to keep people away from the area until a more thorough investigation could be conducted.

6. At about 16:15 hrs [the Demining group TA] Saravane, returned from another site at Lao Ngam and went straight to Saravane Hospital to see how the boy was. He found him still on a [Demining group] stretcher with the drip and was told he required an x-ray but the one at Saravane was not working. He also discovered that the family did not have the money to transport the boy by ambulance to Pakse Hospital and so [the TA] directed that he should be taken there by [Demining group] transport accompanied by a medic. During this time [the Victim] was conscious and appeared lucid.

7 At 17:00 hrs he was admitted to Pakse Hospital where he was x-rayed. The x-rays showed several small fragments in both the left and right side of the abdomen. [The Victim] was operated on by Doctor [name excised] who found that the intestine had been ruptured. During the operation the surgeon removed some 35cm of intestine and the appendix, both of which had been perforated by fragments. The surgeon felt [the Victim] would make a full recovery. No fragments were removed because the surgeon did not have the technology or the facilities for this task. Next day, 27 January 2000, at about 17:30 hrs, [the Victim] died.

The actions of the UXO Lao Teams prior to and after the accident

8. Prior to the accident the RT conducted three demolitions without any difficulties. All clearance tasks were conducted were conducted in accordance with [Demining group] in-country Standard Operating Procedures (SOPs).

9. After the accident, as well as the actions listed above, the other boys involved were - found and interviewed - see Reference B.

10. [The TA] also inspected the accident site and checked the area using an Ebinger 505C, nothing further was found.

The sequence of casualty evacuation activities

11. See paragraphs 4 to 7 above.

The thoroughness of subsequent provincial investigations

12. As can be seen from Reference B the investigation conducted by [Demining group] Saravane was thorough.

Local NGO investigation

1. 0n 1 February 2000, as directed by Reference A, an [internal] team consisting of [the] Chief of Operations, STA Operations, and STA [Demining group] travelled to Saravane to investigate this accident. During the investigation the team visited the site of the accident and also interviewed personnel involved.

2. During the site visit the team were accompanied by:
   a. the Provincial Co-ordinator, (PC);
   b. TA Saravane:
   c. Team Leader;
   d. A representative for the provincial police; and
   e. A representative for the district police.

3. The site visit gave the team a better understanding of the accident and questioning of [the Victim] led the STA Ops to the conclusions listed below.

4. It is understood that the family of the deceased boy have asked for assistance with their medical expenses which are in the region of 938,000 kip.

Conclusions

5. Whilst this was a tragic accident it is difficult to see how it may have been avoided.

6. Whilst no physical evidence has been produced it is the consensus of the TA that the item involved was probably a fuze from the BLU 26/36/59 series bombies. Had the explosion been that of a bombie it is felt that more extensive injuries would have been sustained by the victim and the other boys would also have been injured. It is unknown were this fuze came from, but given the probable total destruction of the target items, it is considered unlikely that the fuze came from the original bombies.

7. The disposal was conducted in accordance with current [Demining group] Standing Operating Procedures and UXO Lao instruction. Consequently it is felt that no blame is to be attached to the TL for this accident.

8. The treatment and evacuation of the victim to Saravane was conducted correctly and promptly. The lack of medical facilities at Saravane and the subsequent delay in evacuation to Pakse is not the fault of [Demining group]. The lack of ability of the Saravane Hospital to deal with traumatic injury should be of serious concern to [Demining group], as should a similar inadequacy at Pakse Hospital.

9. The Certificate of Death gives the cause of death as - infection of tissue caused by the fragmentation cutting the intestine - serious abdominal infection. The nine hour delay between the accident and the operation cannot have helped in this respect.

Recommendations

10. There are no recommendations concerning the actions carried out or the SOPs being used in Saravane.

11. Whilst probably outside the remit of the investigation, the restricted ability of the hospitals concerned to deal with traumatic injuries of this type, is of serious concern. It is not

known if an x-ray at Saravane would have resulted in earlier treatment with a more favourable result but it felt that had [Demining group] in Saravane known of the lack of x-ray facilities they may well have evacuated direct to Pakse. It is therefore recommended that the Ministry of Health be requested to inform the local [Demining group] PC if major equipments, affecting the ability of provincial hospitals to treat traumatic injury, become unserviceable.

12. It is also recommended that [Demining group] pay, or contribute to, the medical bills sustained by this family. This should not be seen as any admission of blame but as an "act of kindness".

Postscript

13. On the morning of the 2 Feb 00, discussions took place between the PC, Assistant PC, and the STAs from [the International and local demining groups involved]. This resulted from a request as to what disciplinary action should be taken against the Team Leader. As can be seen from the above report none of the TAs could find any blame attached to the TL and consequently [the International group's Senior Technical Advisor] refused to suspend him. On arrival back at Vientiane the investigating team were informed that a Steering Committee Member, had taken it upon himself to override this decision and to suspend [the TL] from demolitions. Whilst this has since been sorted out it is also of concern that technical decisions of this kind can be made contrary to the advice of the people hired to offer them or without reference to the [local NGO's] National Office.

Signed: STA

International Demining group's Accident report

Background:

On the 25th January 2000 the Saravan District Roving learn (RT) were undertaking demolition's in Ban Kok Kao. This village was scheduled to receive a RT visit in 1999, but were denied access due to high river levels on the Xe Din river. When the RT arrived at the village the Team Leader made contact with the village headman to gain permission to carry out demolitions in and around the village. Permission was granted and the RT team leader further briefed the village headman on the planned RT activities. The RT had carried out three demolitions that morning without accident and stopped for lunch at 12:00 hrs and recommenced demolitions at 13:00 hrs.

Demolition:

As is quite normal in this situation, villagers were informing the RT of ordnance that was known to them. One villager told the team that he knew of four Bomb Live Unit (BLU) 26s that had been placed in a tin receptacle and then buried in an earth mound approximately one hundred meters from the village. The RT, using an Ebinger 505C detector, located the buried BLU 26s at the bottom of a hole approximately 300mm deep. The RT team leader could see the tin receptacle and could identify the ordnance as being BLU 26s as had been stated.

He decided not to try and excavate the tin receptacle as movement could result in the ordnance exploding. He further decided that he would destroy the ordnance in "situ' using 200grms of Russian TNT and firing the demolition electrically. The RT team leader carried out the demolition in accordance with the [Demining group's] industry Standard Operating Procedures (SOPs) without encountering any problems.

After a successful demolition he approached the seat of the explosion and visually checked the hole and surrounding area (approximately 1.5 square meters) for any explosive components that had not been destroyed. Finding no such items he called forward [two] members of the RT, to further excavate the hole to ascertain that there were no explosive components that had been buried. This was carried out and no such items were discovered.

The demolition area was declared safe and the team retired approximately 400 meters to the next reported ordnance due for demolition.

Accident:

At 13:50 hrs on the 25th January 2000 while the RT were waiting for the next items of ordnance to be located, a secondary explosion was heard in the vicinity of the subject demolition. The RT ran back towards the previous demolition site and saw four young boys running away to the centre of the village. A fifth boy was also seen running, but slower than the other four.

When the RT arrived the four boys had disappeared while the fifth boy was found with wounds to his lower abdomen (right and left hand sides). The RT medic immediately administered first aid to the boy and who was subsequently evacuated to Saravan District hospital and handed over to professional medical personnel. The boy was identified [and found to be] aged twelve years old.

The RT team leader stayed at the demolition site and contacted the [Demining group] office by radio to report the accident. He then cordoned off the area and carried out a further visual search for explosive components, but found none. The village elders were informed to keep all personnel away from the area until an investigation could be conducted.

The [International TA] returned from a Lao Ngam clearance site visit at 16:15hrs and immediately went to Saravan District hospital. The hospital emergency room was completely full with the victim's relatives and there was no doctor in attendance. The victim was on a [Demining group] stretcher and was receiving an intravenous drip.

Through an interpreter the TA was informed that the X ray machine was inoperative at Saravan hospital and that the patient needed to be moved to Pakse hospital for treatment, some 90 minutes away by road. The reason given for not moving the patient was that the relatives did not have sufficient funds for the ambulance. On hearing this the TA arranged for a [Demining group] vehicle and medic to transport the patient to Pakse hospital for treatment. The relatives were given 100,000 Kip by the TA to cover initial medical expenses. The patient arrived at Pakse hospital at 18:30 hrs some five hours after the accident. Whilst at the Saravan hospital and during transportation to Pakse hospital, the patient was conscious and appeared to be lucid.

Injuries:

The victim, aged twelve, received fragmentation wounds to both sides of his abdomen. The wound to his left side was a shallow cut approximately 5mm long and the wound to his right side was a 10mm deep hole. This wound was bleeding but not profusely. [The Victim] unfortunately died on the 27th January 2000.

The district and provincial police were informed and visited the site on the 28th January and the 1st February 2000.

Signed TA

Comments/Recommendations

Senior Technical Advisor

I travelled to Saravan Province on the 1st February 2000 accompanied by [another Senior Technical Advisor] and Head of Operations [Local demining group partner]. We inspected the scene of the accident and questioned the team leader and the [International] TA and unanimously confirmed the findings of his investigation.

The cause of this accident cannot be determined. It is highly probable that the fragmentation that caused the death of [the Victim] came from a fuse. What is not determined is where this fuse and what type it was, appeared from. The team leader and several other RT members

carried out visual searches of the area before the team leader declared the area safe of explosive components.

There were no breaches of Standard Operating Procedures and I have no recommendations to make concerning demolitions undertaken in Saravan Province.

Inadequate medical facilities in Saravan Prefecture and Pakse hospital must play a major role in this accident. The doctor who treated the victim clearly states that he did not have the expertise nor the facilities to deal properly with this type of injury. There are grave misgivings on what standard of medical services [Demining group] staff could expect to receive when a more serious injury is sustained in the field.

Signed: Senior Technical Advisor 1st February 2000

Victim Report

Victim number: 459 **Name: Name removed**

Age: 12 **Gender:** Male

Status: civilian **Fit for work:** DECEASED

Compensation: none **Time to hospital:** 5 hours

Protection issued: None **Protection used:** none

Summary of injuries:

INJURIES

severe Abdomen

COMMENT

Victim died two days later. See medical report.

Medical report

The following medical report is derived from TA notes and a death certificate.

Interview with Doctor, Pakse Hospital

[The Victim] was treated by Doctor [Name excised] at Pakse Hospital. The doctor stated that the patient was admitted at 19:00 on 25th January 2000. His blood pressure and temperature were taken (no figures available) and was then sent for an x-ray. The x-ray showed that there were several small pieces of metal fragments in both the left and right side of the patient's stomach.

At 22:44 on the 25th January 2000 [the Victim] was taken to the operating room. [The] Doctor operated on the stomach and found that the intestines had been ruptured. The content of which were flooding the inside of the abdomen. Thirty-five cm of intestine were removed and the remainder sewn back together. He also found that there were eight puncture holes in the appendix therefore he performed an appendectomy. The doctor then finished the operation and felt that the patient would make a full recovery.

[The Victim] died at 17:30 on the 27th January 2000 in Pakse Hospital, Champasak Province. The death certificate stated that [he] died due infection of tissue caused by fragmentation cutting the intestine and serious abdominal infection.

[The] Doctor was requested to return the metal fragments so that an accurate identification could be made. He stated that he was unable to remove them because they were so small. He did not have the technology or the facilities to perform such an operation. He said that he and his staff tried their best to save the boy, but that he had very limited resources available to him.

Analysis

The group's International management and advisors seem not to have considered the most likely cause of the accident – which is that the demolition was incomplete, leaving the device that injured the Victim. Work at that demolition was over, the area had been checked, so it should have been safe for the boys to approach. It was not, so something was either wrong with the way that the work had been done, or with the rules (SOPs) being used.

The local NGO's management recognised this but were over-ruled by the International staff.

The primary cause of this accident is listed as *"Management/control inadequacy"* because it seems likely that either the demolition team were inadequately controlled or trained, or the SOPs in use were inadequate. The secondary cause is listed as "Other" because it is not possible to be sure what occurred.

In many theatres, demining groups are required to check the available medical facilities and make appropriate Medevac plans prior to starting work in an area. This does not seem to have been the case in Laos.

Statements

The following summarized statements were included in the Demining group's report.

The TA interviewed the four boys that had been seen running away from the demolition area and who had been accompanying [the Victim]. It should be noted that these boys did not speak Leo, but Bakou, a local dialect. This apparently made questioning very difficult.

1st Boy aged 12

[1st boy] stated that he went with his friends to see the place where the explosion had taken place. He had stood 1 – 1.5 meters from the seat of the explosion on the opposite side to the RT. He did not see or touch any explosive components, but can remember hearing a bang and his ears hurting afterwards.

2nd Boy aged 10

[2nd boy] stated that he was standing 5 meters from the demolition area on the opposite side to the rest of the boys. He further stated that [the Victim] was very close to the seat of the explosion and was poking around the vegetation. He heard the other boys say "what is that" when the secondary explosion occurred.

3rd Boy (age not recorded)

[3rd boy] stated that he was 1.5 meters away when the secondary explosion occurred. He had not seen or touched any explosive component. He saw [the Victim] near the site of the initial demolition and tried to pull him away when the secondary explosion happened. He further stated that when the secondary explosion occurred he did not fall over like [the Victim] did.

4th Boy aged 11

[4th boy] stated that he stood behind [the Victim] and could not hear properly after the secondary explosion. He had not seen nor touched any explosive component. He further states that they were all staring into the area of the subject demolition.

Witness (a very old man)

[The witness] informed the TA that he could remember that there were five BLU 26s that had been placed in a metal receptacle in 1973. Further questioning was unable to ascertain whether all five BLUs were together in a metal receptacle or that an extra BLU had been added at sometime in the past.

All the five boys had received a [Demining group] Community Awareness briefing on the dangers of touching or handling explosive components.