

# DDAS Accident Report

## Accident details

<b>Report date:</b> 07/02/2008	<b>Accident number:</b> 557
<b>Accident time:</b> 11:30	<b>Accident Date:</b> 05/07/2007
<b>Where it occurred:</b> CBU 193-B/D, Deir Canoun Ras El Ein, Area 7	<b>Country:</b> Lebanon
<b>Primary cause:</b> Other (?)	<b>Secondary cause:</b> Field control inadequacy (?)
<b>Class:</b> Missed-mine accident	<b>Date of main report:</b> 30/07/2007
<b>ID original source:</b> 010/2007	<b>Name of source:</b> UNMAS
<b>Organisation:</b> [Name removed]	
<b>Mine/device:</b> DPICM submunitions	<b>Ground condition:</b> agricultural (recent) leaf litter trees
<b>Date record created:</b>	<b>Date last modified:</b> 07/02/2008
<b>No of victims:</b> 0	<b>No of documents:</b> 1

## Map details

<b>Longitude:</b>	<b>Latitude:</b>
<b>Alt. coord. system:</b> UTM: 710064 - 677794	<b>Coordinates fixed by:</b>
<b>Map east:</b>	<b>Map north:</b>
<b>Map scale:</b>	<b>Map series:</b>
<b>Map edition:</b>	<b>Map sheet:</b>
<b>Map name:</b>	

## Accident Notes

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

vegetation clearance problem (?)

non injurious accident (?)

## Accident report

The report of this event was made available in February 2008 as a collection of files and pictures. Its conversion to a DDAS file means that some of the original formatting has been lost. The substance of the report is reproduced below, edited for anonymity. The original files are held on record. Text in [ ] is editorial. This was not an “accident” because the missed devices were found – but are included because they were a potential accident, and because the investigation includes details that may help prevent similar events.

## INDEPENDENT INVESTIGATION REPORT 010/2007

[International demining NGO] BAC INCIDENT

AT TASK CBU-193 B/D 5th July 2007

### 1. BACKGROUND

Date: 5th July 2007

Time of Incident: 11:30hrs approx.

Location: Der Canoun Ras El Ein, Area 7, Lebanon

Task: CBU-193-B/D, Task Dossier 7-005

UTM of Task: 710064 – 677794

Task Start / Finish Date: 193-B 20 March 07 / 27th April 07

193-D 1st May 07 / 3rd July 07

Organisation Involved: [International demining NGO]

Unit:

[International demining NGO] BAC Team 1, 193-D

[International demining NGO] BAC Team 2, 193-B

Supervisor: [Name removed] – BAC Team 1&2

Reported by: [Name removed], Farmer (land caretaker).

Reported to: [Name removed], [International demining NGO], QA Officer.

Time of Incident report to MACC QA: 6th July 07, 1100 hrs approx.

Organisation POC: [Name removed], [International demining NGO] Internal QA Officer.

Investigation Date/Time: 6th July 07, 1130 hrs

Investigation Location: Task CBU-193

Investigation Team: [Name removed], [Name removed] (LAF Plans Officer), [Name removed] (MACC SL QA Officer).

ERW Type: US M77 & M46 sub-munition

**Accreditation Details:** [International demining NGO] BAC T-1 Provincial Accreditation – 21st Dec 06 to 21st Jan 07; Full Accreditation 15th Feb 07 to 31 Dec 07; [International demining NGO] BAC T-2 Accreditation – 8th Feb 07 to 8th Mar 07; Full Accreditation 23rd Mar 07 to 31 Dec 07.

CBU 193, due to the significant extent of the site it was sub-divided into 4 parts. During clearance operations a number incidents occurred that were not relayed to the MACC SL concerning interference of the site by local personnel.

## **2. DETAILS OF INCIDENT**

On Thursday 5th of July 2007 at approx. 1130 hrs, land caretaker ([Name removed]) informed one member of [International demining NGO] EOD team (via phone) that his workers ([Name removed] and his father [Name removed]) found one sub-munitions (1xM46), while working inside the citrus orchard, at Task CBU-193B. The M46 was located hanging on the branch knob of lemon tree approx. 1.6 m from the ground level, in an area which had been cleared by [International demining NGO] using sub-surface Battle Area Clearance (BAC) procedures (Schonstedt GA-72Cd Magnetic Locator). A second sub-munition (1xM77) was located in CBU-193D, lying on the ground (a sub-munition imprint was observed on the ground beneath the munition). CBU-193 D was cleared using visual search aided by instruments BAC procedures (reading excavation up to 5cm).

After receiving information from the land caretaker, [Name removed], [International demining NGO] QA Officer, went to the CBU-193B/D to conduct an investigation. After meeting with the land caretaker and confirming the information, he conducted an initial assessment, and postponed a more detailed investigation until the 6th Jul 07.

On 6th July 07 at approx. 0800 hrs [Name removed], returned on site and met with the workers. During this visit the two sub-munition, which had been neutralized and moved to a "safe place" by the local workers. Prior to this the items were marked and photographs taken. [The Internal QA person] reported the incident to [Name removed], MACC SL Snr QA Officer. [Name removed], MACC SL QA Officer was informed of the incident and prepared for the MACC SL investigation.

At 1000hrs on 6th July 07, after liaison with [Internal QA person], the MACC SL investigation team, comprising, [Name removed],[Name removed], and [Name removed], departed for CBU193B/D. After arriving at the CBU193B/D the MACC SL investigation team interviewed Anders and examined the site.

### **Evidence**

The area was flat, the soil condition was firm (normal conditions experienced in citrus orchards) and covered with developed lemon and orange trees.

The 2 sub munitions had been neutralized and placed in this location by the farm workers the day previous. The location of the items was within 10m approx. of an area previously used as a CPT. by [International demining NGO], for clearance of the site.

Both items had the ribbon intact, the M77 did not have any physical damages or rust of any significance possible indicating that it had not been in contact with the ground or exposed to the elements. The M46 had rust on one half of the casing, most of the rust on the lower portion possible were it was in contact with the ground.

According to the information received from [International demining NGO] (photos taken by [International demining NGO] from the originally place of find and place of relocated items, interviews and measurements recorded during the investigation), items were found, neutralized and removed to another place by farm workers.

### **Interview with farm workers ([Name removed] and his two sons)**

[Name removed] informed [International demining NGO] EOD team member that he discovered the sub munitions on his land at approx. 1000hrs on the 4th of July 07 while harvesting his citrus trees. His son ([Name removed]) saw a sub-munition hanging on a lemon tree (M-46) near the power supply facility and his brother secured it and putted it under the rocks (the location shown to [International demining NGO]). [Name removed] while pruning his orange trees located another sub-munition (M-77), he secured and placed it at the same place with the previous sub-munition. The farm workers claimed that they did not know that [International demining NGO] teams were still working in immediate area so they informed [International demining NGO] the following day.

### **Interview with [Internal QA person]**

[Name removed] confirmed that [Name removed] had informed [International demining NGO] through one EOD team member of the situation and that he, [QA person], had subsequently conducted an investigation. On confirmation of the location of the items, he had informed [Name removed], MACC SL Snr QA officer. Photographs of the originally location of the sub-munitions and place of their storage were taken prior to MACC SL Investigation team arriving at the site. However the area was interfered with as the sub-munitions where in the same place where indicated by farm workers.

[The Internal QA person] confirmed that during clearance of the site and after the initial threat assessment, it had been decided to conduct sub-surface clearance at CBU-193. CBU -193 covers large area, so it was been divided into 4 sub areas: A to D. The M46 sub-munition was found hanging on the branch of a lemon tree in CBU-193B. This area was completed using subsurface BAC procedures, while CBU-193D where M77 was found laying on surface was completed using visual aided by instruments BAC procedures).

As there was a high probability of sub-surface sub-munitions it was decided that walking in the area prior to clearance should be avoided at the most of CBU-193. Due to the nature of the ground, flat and lemon/ orange trees, it was decided to conduct clearance using Schonstedt GA-72Cd Magnetic Locators to search 1 metre wide lanes. Having in mind that the area is within grown lemon and orange trees and the soil is solid then not entire area is done using BAC sub-surface procedures. According to [the Internal QA person], the majority of sub-munitions located were found surface or just between 5-10cm sub-surface.

### **Site History**

CBU193 is located within lemon/orange citrus orchard in area 7-005 which is located close to the village of Deir Qanoun Ras El Ein. The area where CBU193B/D is located, belongs to same estate owner, however a new owner had recently purchased the estate and had also employed a new caretaker. The new owner is: [Name removed] and the new caretaker is: [Name removed] (former owner was [Name removed] while the former caretaker was [Name removed]). According to information received from [International demining NGO] during the investigation, this area was highly contaminated with M77/46/42 sub-munitions.

[International demining NGO] commenced BAC operations at CBU-193B on 20 March 2007 and at CBU-193D on 1st May 2007. Most of CBU-193B/D was cleared sub-surface, to 20cm

depth with the balance cleared visually aided by instrument (excavation down to 5cm), as required by MACC SL and LMACC.

The numbers of items located were:

CBU193B is: 24xM77 (22xM-7 surface and 2xM77 subsurface down to 5cm).

CBU-193D is: 104 sub-munitions: 43xM77, 48xM46 and 13xM42 (95 sub-munitions found surface and 9 sub-munitions found sub-surface from 0-12cm).

At the time of war the soil at this site, CBU193 was very firm to very hard, so this is a reason why for the most of sub-munitions were found on the surface. Also information provided by local people indicate that clearance had been undertaken in this area by the local people before [International demining NGO] was assigned to the Task.

CBU193B was completed by [International demining NGO] on 20th March 2007 and a QA Completion Survey conducted by the MACC SL at the task on 23rd March 2007.

CBU193D was completed by [International demining NGO] on 3rd July 2007 but QA Completion Survey conducted by MACC SL has not been completed due to the ongoing investigation.

### **Additional Incidents at Task CBU-193**

On Tuesday 10th July 2007, an M-77 cluster sub-munition was located by plantation workers.

On Wednesday 11th July 2007, an M-77 cluster sub-munition was located by plantation workers.

### **3. CHRONOLOGY OF EVENTS**

4th July 2007

1000-1100: [Name removed], farm worker discovered an M77 and an M46 sub-munition at CBU-193 and one that day he informed [Name removed] land caretaker.

5th July 2007

1100-1130: [Name removed] land caretaker informed [International demining NGO] EOD team member [Name removed].

1130-1200: [Internal QA person] arrived at the site, but [Name removed] was unable to show him place of find or place of store (because the farm workers were absent, meeting was set for next morning).

6th July 2007

0800-0900 [Internal QA person] meet the farm workers, located the sub-munitions and informed [Name removed] MACC SL Snr QA officer about the incident.

0920: [Name removed] informed [Name removed], MACC SL QA Officer of the incident.

0930: MACC SL investigation team departed MACC SL base for the incident site.

0950-1220: MACC SL conducted investigation at CBU-193.

1300hrs: MACC Investigation Team departed CBU-193.

#### 4. CONCLUSIONS

On Wednesday 4th July 2007, a farm worker discovered two sub-munitions, 1 x M77 and 1 x M46 while harvesting his citrus crop at his plantation. The area had been previously cleared by [International demining NGO] using a combination of sub-surface and visual aided by instruments BAC procedures. At the time of the cluster strike, the ground was very firm to hard and an accurate threat assessment by [International demining NGO] had ensured that sub-surface clearance operations were conducted in areas where items are likely to be found sub-surface and surface clearance operations for all other areas.

The items were found, neutralized and removed from the originally place of find by farm workers. Place from where the sub-munition (M46) had been removed was a branch knob of a lemon tree. The item was to have been hanging on the branch knob of a lemon tree, aside the farm road, 1-2m inside grown lemon trees and just about 10m away from the water pump facility.

The place from where the sub-munition (M77) had been removed was still obvious and it was therefore, possible to locate the imprint. The item was situated beside the farm road, in a corner of one plateau, 1-2m inside of the orange orchard. The vegetation was low-medium on surface.

The items were found while the farm workers where doing their routine daily work.

Because none of the sub-munitions were located sub-surface and items were removed from the place of find is very difficult to say that the place that they were located is the original one.

Other factors for being suspicious are:

The items were neutralized and removed in very professional manner.

The M46 which was hanging in a lemon tree and just 1-2m away from the farm road is very difficult to be missed if you passing every day through the area, and while conducting BAC procedures, searchers are cutting some branches to make the way into the plateau.

It is almost 12 month since the conflict is ended, and having that in mind during the winter time that area has strong winds and the tree where the item is found is in open and just in the beginning of the plateau.

The M46 was rusted just at one side and that mostly at the down part of the body.

The M77 found in surface is almost untouched from the rust while the M46 hanging on the knob was much more rusted.

The area where orange and lemon plateaus are placed is cultivated area where farm workers did watering, pesticide and ground preparation on daily and season basis. So is very unlikely that the items where missed by [International demining NGO] searchers and very likely that the items where placed after [International demining NGO] deployment. As well, except all mentioned facts just to mention as an extra information that the relation between [International demining NGO] staff and farm workers, local people weren't good at all as [International demining NGO] Internal QA Officer and Site supervisor stated, so as one recommendation for the future tasks, [International demining NGO] has to inform back to LMAC and MACC SL for every internal incident or misunderstanding with local people and/or farm workers at their future tasks. The incident is therefore, considered as Preventable.

## **5. RECOMMENDATIONS AND FURTHER ACTIONS**

The MACC SL investigation team agrees with the [International demining NGO] investigation report and concludes that the items could be missed during [International demining NGO] BAC operations, however the items may have been placed by other personnel. In addition the following additional requirements are recommended:

[International demining NGO] returns to CBU-193B/D as a matter of urgency and conduct surface clearance of the previously cleared area in which the sub-munitions were located.

The extent of the area to be searched shall be:

A 50m fade out with the centre being the location of each sub-munition located.

A visual search of the base of all citrus trees of CBU 193B and D.

A visual search of all branches of the citrus trees in CBU 193 B and D.

Review all internal [International demining NGO] CLO procedures.

Report all land owner/community related interference and/or problems to the MACC SL for assistance.

Conduct internal investigations for all site related incidents that occur on [International demining NGO] operations sites.

Amend the [International demining NGO] SOP if required to reflect any changes that maybe required.

## **6. ADDITIONAL INFORMATION**

See the [International demining NGO] Internal Investigation Report. [Not made available.]

Report Written By: [Name removed], LAF Operations Officer; [Name removed] LAF Plans Officer; [Name removed], MACC SL QA Officer

30th of July 2007

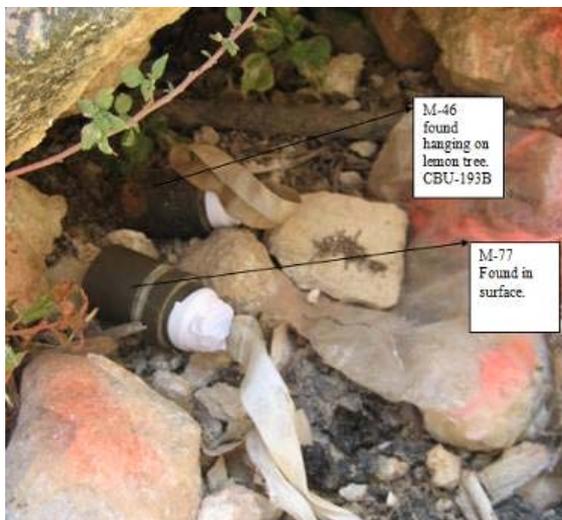
## **Analysis**

The investigation of these events was conducted by nationals in a manner that was both thorough and professional. Serious doubt over whether the submunitions were missed or had been placed after clearance arises because of the condition of the munitions and the fact that they had been moved.

The suggestion that any missed devices would have been seen should be viewed in context, The picture below shows the place where the M46 was reportedly found.



The foliage makes it credible that it could have been missed.



The picture above shows the two devices where they had been moved after tapping around the arming mechanisms.



The picture above shows the site where the M77 was reported to have been found.

While it is unlikely that a submunition left hanging in a tee would rust on one side, a submunition pressed into the ground for a significant period would probably do so. Because the two munitions are similar and had been moved prior to the investigators seeing them, one

cannot be certain which was in the tree and which on the ground. The people who found them may not have thought the distinction of any great significance.

So it is possible that the devices had been missed, and also possible that they had been placed after clearance.

The primary cause of this accident is listed as "Other" because it seems that the relationship between the International demining NGO and local people was poor enough for them to believe that local people would place items where they worked after they had left. If so, the problem of their relationship with local people should be urgently addressed.

The secondary cause is listed as a "Field control inadequacy" because if the devices were missed, the Field supervisors must have allowed the deminers to work in a manner that was not thorough. This may have been a training issue.