

1-19-2007

DDASaccident553

Humanitarian Demining Accident and Incident Database
AID

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DDAS Accident Report

Accident details

| | |
|---|---|
| Report date: 05/02/2008 | Accident number: 553 |
| Accident time: 10:08 | Accident Date: 19/01/2007 |
| Where it occurred: CBU Site No: 483, Nr Al Smaaiyeh Village, Tyre District | Country: Lebanon |
| Primary cause: Victim inattention (?) | Secondary cause: Inadequate survey (?) |
| Class: Excavation accident | Date of main report: 02/02/2007 |
| ID original source: No 001/2007 | Name of source: UNMAS |
| Organisation: [Name removed] | |
| Mine/device: DPICM M77 submunition | Ground condition: agricultural (recent) bushes/scrub leaf litter residential/urban soft trees |
| Date record created: | Date last modified: 05/02/2008 |
| No of victims: 2 | No of documents: 2 |

Map details

| | |
|--|------------------------------|
| Longitude: | Latitude: |
| Alt. coord. system: UTM 707747 / 3677539 | Coordinates fixed by: |
| Map east: | Map north: |
| Map scale: | Map series: |
| Map edition: | Map sheet: |
| Map name: | |

Accident Notes

disciplinary action against victim (?)
metal-detector not used (?)
safety distances ignored (?)
standing to excavate (?)
visor not worn or worn raised (?)

inadequate survey (?)

Accident report

The report of this accident was made available in February 2008 as a collection of mixed text and PDF files. Their conversion has led to some of the formatting being lost. The substance of the reports is reproduced below, edited for anonymity. The original files are held on record. Text in [] is editorial.

The first report is the external BoI investigation of the country MAC. This is followed by the demining group's internal investigation.

REPORT FOR ACCIDENT INVESTIGATION

BOARD OF INQUIRY – No 001/2007

BAC Accident that occurred in Area 7-004 (CBU 834), UTM 707747/3677539 on 19th January 2007 in which [Demining group] BAC Team Leader [Name removed] was injured.

References:

Lebanon National Technical Standards and Guidelines (TSGs)

International Mine Action Standards (IMAS)

[Demining group] Standard Operating Procedures (SOPs)

Map: UNIFIL JENIMAP

MACC SL Mine / UXO information

Introduction

1. In accordance with the National Technical Standards and Guidelines (TSGs), the MACC SL Programme Manager, [Name removed] and [Name removed], NDO Representative, issued a Verbal Convening Order on Friday the 19th January 2007, for an accident investigation Board of Inquiry (BOI). The MACC SL board members are [Name removed] LAF OPS Officer MACC SL and [Name removed], Chief of QA MACC SL.
2. This is a comprehensive report by the Board of Inquiry into the Demining Accident that occurred on 19th January 2007 which is based on the MACC SL investigation, the [Demining group] internal investigation report, statements from [Demining group] personnel involved in the accident, visits to and photographs from the accident site, the accident is considered preventable.
3. The [Demining group] investigation report was forwarded to the BOI on 31st January 2007 at Annex B [Follows this report]. The accident occurred at 1008hrs on the 19th January 2007 in Area 7-004 CBU 834 situated near the village of Al Smaaiyrh, UTM 707743 - 3680042.

Background

4. CBU 834 is part of Task Dossier 7-002 which also includes CBU 753. CBU 834 is a cluster strike area from the recent conflict. The area is used for growing orange and other citrus fruits and it is contaminated with Israeli fired M77 sub-munitions.
5. [Demining group] commenced clearance at this site, 7-004, on 21st November 2006 and up to the time of the accident the [Demining group] battle area clearance team had been

operational in CBU 834 for a total of 3 x operational days. 3 x M77's have been located. CBU 753, site operations commenced on the 21st November 2006, with 6 x operational days worked and a total 86 x sub munitions located.

6. Up to the day of the accident, the area was being visual searched. The searchers had been using their hands to move grass and other vegetation items on the surface.

Events leading up to the Accident

7. On the morning of 19th January 2007 at approximately 0630hrs [Demining group] BAC Team 13 arrived at the work site CBU 834 and was given the pre-operations safety brief and then carried out their equipment check prior to commencing BAC clearance operation on the site. The Team had been operational on this site, 7-004, from the 21st November 2006. Daily BAC clearance operations commenced as of the 0700hrs.

8. On the day of the accident the team consisted of 10 members: Site Supervisor, Team Leader, 6 x searchers, medic and driver. [The Victim]. acting Team Leader, was supervising three searchers in the area of Box C3, [Names removed] who were conducting visual search of the area. [Name removed] was standing in the visually cleared area to the rear of the searchers supervising the surface search operations.

[The accident site.]



9. At approximately 1008hrs, an uncontrolled explosion occurred in box C3, involving [the Victim]. At the time of the accident all team members were wearing PPE (jacket and visor).

Events following the Accident

10. The 3 team members immediately stop search operations and went to the assistance of [the Victim] who was located approximately 3 - 5m to the rear to the three searchers and administered emergency first aid. Medical support arrived almost immediately as the CP was approx. 100m from the site of the explosion and coordinated the movement of [the Victim] out of the working area to the adjacent road for further medical treatment and assessment. Additional treatment occurred at this site and he was then transported at approximately 1010hrs by [Demining group] ambulance to Jabal Amil, Hospital in Tyre.

BOI Post Accident Activities and General Observations

11. On arrival at the accident scene and after an initial reconnaissance by the Investigation Officers, it was ascertained that the BOI could not gain safe access up to the accident scene without additional clearance being conducted. This was requested to be undertaken and a follow site visit was conducted on the 23rd January 2007. During the initial visit on the 19th January 2007 it was possible to view the accident site during the initial inspection, as a road ran adjacent to the accident site which allowed a visual inspection of the site.

12. On the initial inspection of the accident scene on the 19th January 2007 and the follow up visit conducted on the 23rd January 2007, the following general observations were established:

There had been an uncontrolled detonation of an M77 Sub-munitions.

The M77 was either partially or completely buried.

The area of the detonation was located to the rear of the area where visual search operations were being conducted.

The accident occurred in box C3.

M77 fragments were found in the detonation crater.

Equipment, PPE, visor, hand tools and the boots of [the Victim] were located at the site of the explosion and on the road where emergency first aid occurred.

The toe of the right boot confirms the contact point to the M77.

Damage to both the left and right boots was confirmed.

VIEW OF THE ACCIDENT SCENE

Location of the Accident



[The left of the picture is the area in which the three searchers were conducting visual search clearance to the front of the team supervisor.]

[The Victim's boots are shown below.]



[The damaged area on the toe of the right boot where it made contact with the M77 is visible. There was no damage to the sole of boot. Metal fragments entered the right side of the left boot and exited through the right side.]

Past History of the Site

13. The Cluster strike forms one of the many from the recent conflict, in TD 7-004. There has been rain during the past weeks and in addition the area being cleared was adjacent to a road and a concrete water canal, which was approx. 2m above the search area. This may have caused the area to be in damp or wet state. It also may have contributed to the sub-munitions to sink either below ground or to be partially buried.

Accident Detonation Crater

14. The inspection and excavation of the accident detonation crater was conducted the 23rd January 2007 and the following specific observations were noted:

The crater had formed through a either partially buried or buried detonation of a M77.

Metal fragmentation was located from an M77.

Personal Protective Equipment (PPE)

15. At the time of the accident, the searchers and Team Leader were wearing protective vest, helmet and visor.

[The Victim's visor.]



Work History of the Casualty

16. [Demining group] BAC Team 13 was provisional accredited on the 14th September 2006 and subsequently accredited for Full Operations on the 14th November 2006. The Certificate of Full Operational Accreditation was issued by NDO and is valid for the period 14th November 2006 until 31st December 2007 and recognises [Demining group] BAC Team 13 as being competent to conduct BAC clearance operations in South Lebanon.

Sequence, Documentation and Procedure of Tasking

17. Task Dossier Area 7-004 was issued to [Demining group] in September 2006. The TD contains details of 2 x CBU strikes. Up to the time of the accident a total area of 19,590 m² of the area had been cleared by visual clearance, resulting in the disposal of a total number of 89 x Sub-Munitions.

Geography and Weather

18. CBU 834 is located in a mixed banana and orange orchard. The ground is soft and covered **with leaf and branches.**

Site Layout and Marking

19. The site layout and minefield marking prior to the accident was in accordance with National TSGs and [Demining group] SOPs.

Management, Supervision and Discipline

20. There are no reports of disciplinary action being taken against any [Demining group] personnel on CBU 834 to date.

Quality Assurance

21. Internal QA is a continuous process with daily QC and evaluations being conducted by [Demining group] personnel (Site Supervisor). There are no reports of any indifferent evaluation results on the task site.

22. External QA was carried out by the MACC SL QA Section; the last External QA Evaluation on [Demining group] BAC Team 13 was conducted on 15th January 2007, Battle Area Clearance, (Form E), carried out by QA Officer [Name removed]; all evaluation results were acceptable.

Communications and Reporting

23. Communications between CBU 834 and [Demining group] base location are maintained via the use of cell phone. On site communications between teams are also maintained via VHF handheld radios.

24. On the day of the accident, the site had proper and appropriate communications and managed to pass all relevant accident information back to [Demining group] base location, which in turn passed the information to the MACC SL in a timely manner. Annex A details the Initial Casualty Report.

Medical Details

25. Team Leader [the Victim] suffered blast injuries to both feet. After the [Demining group] medic administered medical treatment and he was stabilised on-site he was evacuated by road to Jabal Amel Hospital in Tyre.

Details of Sub-Munitions Involved

26. The M77 HE cluster bomb is commonly referred to among the Lebanese and Palestinian population as the "battery bomb" or "lighter" bomb because of its shape. There M77 HE grenades are dispensed from various sizes of projectiles, which are initiated by mechanical time fuses above the target areas to allow dispersion of the grenade. The M77 has a white nylon ribbon which when pulled or touched can detonate. Shortly after ejection from the projectile, artillery shell or various size of container or dispenser, the M77 HE grenade arms due to the rotation of the white nylon ribbon. This ribbon also acts as stabilizing tail to orient the cone of the grenade towards the target. Upon impact a charge in the grenade launched downward to penetrate armour while the metal grenade body bursts into shrapnel-like fragments to wound and kill personnel. The M77 has a white band around its body.

US M-77



Conclusions

27. Based on the investigation, the statements and visits to the site, the BOI concludes the following:

A M77 detonated after Team Leader [the Victim] kicked an object on the ground with the toe of his right foot, this being the M77.

The area was to the rear of the area currently being visually searched by the three searches to his front.

From the evidence gathered, it can be established that [the Victim] was wearing his PPE correctly at the time of detonation.

The CASEVAC was conducted in accordance with [Demining group] SOPs, with the casualty given appropriate first aid and transported by ambulance to the nearest hospital in good time.

From the facts and evidence gathered it is confirmed that a breach of [Demining group] SOP occurred in this instance and resulted in the detonation of the M77 and injuries to [the Victim].

The three searchers most likely missed the sign or signs indicating the presence of the M77.

Recommendations

28. The following are recommendations based on the BOI conclusions:

Revise all searches on BAC surface search/clearance drills.

Greater attention and constant supervision, by team leaders when conducting both visual and sub-surface clearance in areas where there are soft ground conditions.

Clearance plans must reflect areas, which have soft ground conditions, with a possible risk for sub-surface sub-munitions have to be identified at an early stage before, commence of the clearance process.

Revise Site Supervisors and Team Leaders on the [Demining group] SOPs related to locating a UXO/Sub -Munitions and follow up excavations and or action requirements.

Signed: C/QA Officer, MACC SL; LAF Ops Officer, NDO/MACC SL. 2nd February 2007

Internal [Demining group] Accident Report

19 January 2007, Al Smaeeyeh, CBU 483

Author: [Name removed], TFM, Tyre Section Date: 26 January 2007

Introduction

1. An accident investigation was carried out on 19 and 20 Jan 07 by [Name removed], TFM Tyre into the circumstances surrounding the uncontrolled detonation of a DPICM M77 Sub Munition whilst an acting Team Leader was investigating the presence of the same Sub Munition.

Aim

2. The aim of this report is to identify the causes and circumstances of the accident and, where possible, attribute blame and identify a methodology to prevent reoccurrence.

Accident Scene Details

3. At approximately 1008 Hours on 19 January 2007, [the Victim], an Acting Team Leader employed by [Demining group] Lebanon, was investigating a suspect when he initiated a DPICM M77 Sub Munition. He was working under the supervision of Site Supervisor [Name removed], who was located in Box C3.

4. The accident occurred in CBU Site No: 483 Near the Village of Al Smaaiyeh, in the Tyre District. The Site Supervisor for the task is [Name removed], Team Leader and UN Accredited Site Supervisor of MAT 13.

5. The CBU site confirmed a CBU strike location containing an as yet unknown quantity of DPICM M77 Sub Munitions. The Site had been previously level 1 (visual) searched. Clearance of the site began on 15 January 2007. On the day of the accident one DPICM M77 Sub Munition had been found. The area of the accident was close to a wall and had high, but not dense vegetation. This box was being cleared by a combination of methods and at the time was being processed with both visual and intrusive vegetation removal. CBU 483 had undergone a Risk Assessment to identify search methodology.

6. At the time of the accident the vegetation was approximately 200mm high; the area around the accident site was an old irrigation waterway, the ground was relatively firm and contained a low proportion of stones. The weather was warm and dry with low humidity.

7. Prior to [Demining group], Lebanese Armed Forces and an unknown Palestinian had conducted emergency clearance in the site. This area is mostly citrus groves and as such the land owner had paid unknown individuals to conduct limited clearance.

8. The accident took place at a distance of 31 meters from the east of TP 1 only (2.3) metres from the boundary of CBU 483 and a brick wall leads along the demarcation from SP to TP 1.

Events Surrounding The Accident.

9. Listed below is a chronological events list:

06:30 Hrs MAT 13 Site Supervisor gives safety brief and equipment preparation.

07:00 Hrs Clearance Begins.

10:08 Hrs Uncontrolled Detonation

Followed in sequence by:

Casualty evacuation drills and procedures initiated, 2 [Demining group] Medics arrived to assist casualty at 10:10 Hrs. Basic Life Support was given and the casualty was uplifted by [Demining group] Ambulance to Jabal Amil ER, Tyre.

Site was suspended and evidence secured.

Initial Casualty Report sent to [Demining group] Nabatieh Ops.

NDO/MACC SL, [Demining group] CPM and TOM informed by [Demining group] Nabatieh Ops.

TFM assigned to conduct investigation in conjunction with NDO/MACC SL BOI nominees.

Details of the Accident.

10. The Acting Team Leader [Name removed] was investigating a possible DPICM M77 Sub Munition, probably with his right boot. As a result of the explosion, injuries sustained included fragmentation to the hands, and the left and right foot with left being more serious. No limbs were amputated in the accident or subsequent surgery.

Any Other Relevant Information

11. All [Demining group] staff went on winter closedown and annual leave from 22nd December 2006 to 8th January 2007. Prior to the restart of operations this year, all [Demining group] staff under went two days of Refresher Training.

12. On the day of the accident, the team had worked 3 hours and 10 minutes in the site.

13. MACC SL surveyed the contaminated area in November last year and the dangerous area report was handed to [Demining group] for clearance. Prior to MAT 13 deployment to this site, the Site Supervisor and the TFM in charge have walked the boundary of the contaminated area and the site clearance plan, risk assessment and clearance methodology were discussed and agreed on. Following the risk assessment the team was then tasked to conduct visual intrusive search in the contaminated area as per [Demining group] Lebanon SOPs.

Conclusions

12. After studying all the evidence available I have made the following conclusions:

- a. It is probable that the DPICM M77 Sub Munition was partially buried, how it became partially buried is more contentious. One of the following methods is most likely:
 - i. The team was conducting Visual and Intrusive search, removing vegetation as required, scrub cutting and vegetation removal could displace a sub munition.
 - ii. The inclement weather could have migrated the sub munition.
 - iii. The site having been walked by an unknown Palestinian, Lebanese Armed Forces, and indeed [Demining group], could be responsible.
- b. This possibility that the M77 might be just below the surface of the ground and therefore little evidence (white ribbon) might have been visible and the injured person tried to find out if it was a complete item or just a white ribbon.
- c. The damage to the right boot reveals no damage to the sole. The boot has a large fragment embedded in the toe section. The left boot shows signs of fragmentation but is otherwise undamaged.
- d. The victim was neither using nor witnessed to have used any approved [Demining group] tools or detectors whilst investigating the ground.
- e. There is no evidence to show a formal excavation procedure was started.
- f. The victim, in the investigators opinion, probably investigated the ground and/or sub munition with his right boot toe cap.

Recommendations

13. Based on the conclusions above, I make the following recommendations:

- a. In some tasks it would be prudent to skip Level 1 (Visual Search) and proceed directly onto Level 2 (Electronic Sub Surface Search) based on the Risk Assessment. This should be a Site Specific amendment to the clearance plan. Especially relevant when Sub Munitions are suspected to be sub surface.
- b. All [Demining group] technical staff should be reminded of the dangers associated with this munition and the requirement for strict adherence to [Demining group] Lebanon SOPs. In addition in all instances were a sub munition is suspected the Site Supervisor is to be informed immediately.
- c. The Acting Team Leader [Name removed] should be subjected to formal disciplinary action.

Summary

14. This accident was caused by complacency and poor understanding of the dangers involved in Battle Area Clearance in Lebanon. The individual had received appropriate training and briefing on a frequent basis. He was a relatively experienced Searcher. He therefore had sufficient skills training to complete the task given to him. He has no disciplinary warnings against him written or verbal.

Signed [Name removed] TFM Tyre Section [Demining group] Lebanon

Comments by TOM

1. On initially receiving the news of this accident, I was concerned of a re-occurrence of the accident in MAT 9, that being, a victim standing upon a sub surface sub munition that was in the vertical plane. It would appear however to be case of complacency and poor skills. This raises concerns on 2 levels:

- a. The searcher had been with [Demining group] for 5 months, given the high occurrence of finds and the daily briefing, is a culture of complacency now beginning to set in?
- b. Alternatively is the level of briefing and training not sufficient?

2. Having reviewed the evidence and visited site on the day of the accident I concur with the investigating TFM's conclusions and recommendations. Due to the fact that it rained on the site the following day the photographic evidence does not accurately depict the scene. The fact that a lane had to be cleared to the area was a contributory factor. However the TOM and TFM were able to get with a few feet of the accident site by utilizing the adjacent wall, from which we had an excellent vantage point.

3. It is clear that the item was investigated without using the laid down excavation drills and therefore based on injury pattern the victim used his right boot.

4. The site was released from suspension by the MACC upon completion of a site visit by the BOI and is now proceeding to conduct level 2 search only.

5. I am acutely aware that we do not want to turn BAC tasks into demining tasks however I will strive to identify other electronic means of detection to alleviate the hazards posed by this particularly dangerous sub munition. Steps are already being undertaken in this area.

6. It is clear that disciplinary action will be required pending the outcome of the BOI.

Signed: [Name removed] TOM, [Demining group] Lebanon

Comments by CPM

I have read the report. I have found no serious questions regarding the investigation or the report and agree with the comments by the TOM.

In case of dismissal, the name of the dismissed staff member and the reasons for dismissal will be reported to the NDO.

Signed: [Name removed] CPM, [Demining group] Lebanon

Victim Report

| | |
|---|--|
| Victim number: 727 | Name: [Name removed] |
| Age: 20 | Gender: Male |
| Status: supervisory | Fit for work: not known |
| Compensation: Not made available | Time to hospital: 15 minutes |
| Protection issued: Frag jacket Helmet Long visor | Protection used: Frag jacket, Helmet, long visor |

Summary of injuries:

severe Feet

severe Hand

COMMENT: See Medical report.

Medical report

Medic's statement

Date: 19/01/07

Circumstances: On Friday at 10 o'clock am, Team "13", while clearing in CBU 834, a cluster bomb was blown up and caused the injury of the Team Leader [Name removed] in different injuries. Also the searcher [Victim No.2] was injured, a light injury on his left ear.

Injuries: The Team Leader [Name removed] was injured in his right fingers also in his right toe and his left foot with medium bleeding.

Treatment: First aid was given to the bleeding organs, and he was taken to the hospital with watching the bleeding and breathing.

Medic's comment: The danger of the injuries is medium and it is possible that the injuries reach till the bones.

TA/STA Comment: Confusion is the hand casualty was on right or left hand. Evidently it was the right hand.

Statement : Dr at Jabal Amel Hospital, Tyr

Date : 24/1/2007

In 19/1/2007 date the patient [Name removed] was entering to the hospital, in an emergency case. He was suffering from a wounds resulting from an explosion of a cluster mine, in his right hand with a fractures in the third, fourth and the fifth finger, and big wounds and shrapnel, and he had his two foot injured, with a fracture in the flat of the left foot. We did for him a surgery operation to get out the big shrapnel, and to suturing the wounds. The patient will need another surgery operation of bone graft.

From IMSMA Form

DooB: 22nd Nov 1986

Sketch shows injuries to right hand/finger, right foot/toes, upper limbs and lower limbs.

It took 15 minutes from the time of the accident until arrival at Jabal Amel Hospital, Sour.

The person wore PPE (tick-box).

Victim Report

| | |
|---|--|
| Victim number: 728 | Name: [Name removed] |
| Age: | Gender: Male |
| Status: deminer | Fit for work: yes |
| Compensation: Not made available | Time to hospital: Not recorded |
| Protection issued: Frag jacket Helmet Long visor | Protection used: Frag jacket, Helmet, Long visor (worn?) |

Summary of injuries:

minor Head

COMMENT: "Light injury on his left ear." No Medical report was made available.

STATEMENTS

Statement and witness report 1: Victim No.1

Q1. How long you have been working for [Demining group]?

A1. From 5 months.

Q2. How long you have been working in BAC?

A2. 5 months.

Q3. Prior to the restart of operations this year, have you attended any refresher training?

A3. Yes.

Q4. If the answer is yes, can you tell what subjects have been covered in that training?

A4. Using of machines , methods of work , first aide.

Q5. For how long you have been working in CBU 483?

A5. 3 days.

Q6. Prior to the accident have you found any M77?

A6. Yes we was finding one M77.

Q7. If the answer is yes, the items found was buried, partially buried or surface?

A7. It was a subsurface item.

Q8. How the accident occurred, what is happened?

A8. We was working in a new box, but I was walking in a cleared area before this box, It was 5m distance between me and the others guys, suddenly the accident happened. First I did not sense where is the explosion, next I could not reply to the radio contact, because of my hand suffering then I saw my friend near to me

Q9. Did the item caused the accident was buried or surface?

A9. I don't know exactly.

Q10. In your opinion what was the cause of the accident?

A10. No specified cause for it.

Q11. Any other points?

A11. No.

Statement and witness report 2: Site Supervisor

Q1. How long you have been working for [Demining group]?

A1. Since 1996.

Q2. How long you have been leading Team 13?

A2. Since September 2006

Q3. Did the person involved in the accident attended refresher training?

A3. Yes, he was present and the training took place on 3-4 January 2007.

Q4. Where you were prior the accident?

A4. 4 minutes prior to the accident I was with team leader, then I went down to the box (C3). I was in C3 when the accident took place.

Q5. What actions you took when you heard the explosion?

A5. I returned back quickly, I saw my Team Leader was lying on the ground, then the guys brought the stretcher and transporting him towards the outer boundary of the field.

Q6. On the day of the accident, have you give any safety briefings to the team?

A6. Yes

Q7. If the answer is yes, what subject has been covered?

A7. Brief on visual intrusive search, searching for M77 and I told them to adhere to the [Demining group] BAC SOPs.

Q8. In your opinion what was the cause of the accident?

A8. I don't know exactly, but it seems that he was using his foot in investigating something.

Q9. Who provided the First Aid and how long it took?

A9. The medics from team 6 and my team.

Q10. Do you have any thing else?

A10. Nothing, thanks.

Statement and witness report 3: Medic

Q1. For how long you have been doing this job?

A1. From 7 years.

Q2. For how long you have been working for [Demining group] as a Medic?

A2. From 5 months

Q3. Have you conducted any refresher-training prior the restart of work?

A3. Yes

Q4. If the Answer is yes, can you tell me what subjects are covered?

A4. It was covering :

1- How we comport when we have an accident

2- Steps of first aid

3- The bleeding

4- The unconscious

5- The CPR (cardio pulmonary recitation)

6- The fractions

7- Carrying and transporting of an injured

8- The CASEVAC

Q5. When the accident took place where you were?

A5. I was in the CP

Q6. Then what is happened?

A6. I heard the sound of explosion, I went quickly to the medical bag. I tried to Call the injured but I have no response, but [Name removed] reply to me and Then I forwarded to the injured.

Q7. How long that take to give First Aid?

A7. It was very quick. I don't remember exactly, but I think about 5 minutes

Q8. On the way to the hospital, did the casualty said any thing about the cause of the accident?

A8. He was very scary. He thought that he lost his feet. I calmed him, I asked him about the accident after 2 days in the hospital he said that he was in a cleared area and that he did not see the M77 cluster .

Q9. Do you have any thing to say?

A9. I hope to clear for the MEDIC the way to use the insurance papers because we found some problems in the hospital about this issue

Statement and witness report 4: 2nd Medic

Q1. For how long you have been doing this job?

A1. From 3 years .

Q2. For how long you have been working for [Demining group] as a Medic?

A2. From 6 months

Q3. Have you conducted any refresher-training prior the restart of work?

A3. Yes

Q4. If the Answer is yes, can you tell me what subjects are covered?

A4. It was covering:

- 1- How we comport when we have an accident
- 2- Steps of first aide
- 3- The bleeding
- 4- The unconscious
- 5- The CPR (cardio pulmonary recitation)
- 6- The fractions
- 7- Carrying and transporting of an injured
- 8- The CASEVAC

Q5. When the accident took place where you were?

A5. I was in the CP

Q6. Then what is happened?

A6. The MEDIC [Name removed] informed me by the radio , I went by the ambulance to the Safe point , then we made for the injured the first aid, then we transported Him to the hospital.

Q7. How long that take to give First Aid?

A7. About 5 minutes .

Q8. On the way to the hospital, did the casualty said any thing about the cause of the accident?

A8. No he was suffering.

Q9. Do you have any thing to say?

A9. I prefer to don't inform the family quickly when we have an accident because it will cause some troubles in the hospital, and to inform them when we arrive to a complete view about the state of the injured .

Statement and witness report 5: deminer

Q1. How long you have been working for [Demining group]?

A2. From September 2006.

Q2. Prior the restart of work, have you attended any refresher training?

A2. Yes.

Q3. On the day of the accident, did you receive any safety briefing by the Site Supervisor?

A3. Yes he gave us instructions to take care because it is a dangerous area. He gave us full information.

Q4. Did you found any M77 sub-munitions on the day of the accident?

A4. Yes.

Q5. If the answer is yes, how many, did they were buried or surface?

A5. It was on the surface.

Q6. At the time of the accident where you were?

A6. I was working as searcher in the field .

Q7. When you hear an explosion, what you did?

A7. First I stayed in my place. I heard the voice of [Victim No.1], we went to him, we did the necessary first aid until the arriving of the MEDIC guys .

Q8. Do you have any thing else?

A8. I hope to use detectors before entering to the field, to found the M77 clusters because it is very dangerous.

Statement and witness report 6: deminer

Q1.How long you have been working for [Demining group]?

A1. From 7 months.

Q2. Prior the restart of work, have you attended any refresher training?

A2. Yes.

Q3. On the day of the accident, did you receive any safety briefing by the Site Supervisor?

A3. Yes he give us instructions everyday about safety before and within the work.

Q4. Did you found any M77 sub-munitions on the day of the accident?

A4. Yes

Q5. If the answer is yes, how many, did they were buried or surface?

A5. It was a on the surface.

Q6. At the time of the accident where you were?

A6. I was working a visual search.

Q7. When you hear an explosion, what you did?

A7. First I looked to the team members. I could not see the place of the explosion. When I heard the voice of the injured [Victim No.1], I forwarded to him, I calmed him and we bandaged his wounds.

Q8. Do you have any thing else?

A8. No.

Statement and witness report 7: deminer

Q1. How long you have been working for [Demining group]?

A1. From 5 months.

Q2. Prior the restart of work, have you attended any refresher training?

A2. Yes.

Q3. On the day of the accident, did you receive any safety briefing by the Site Supervisor?

A3. Yes everyday he give us information to take care.

Q4. Did you found any M77 sub-munitions on the day of the accident?

A4. Yes.

Q5. If the answer is yes, how many, did they were buried or surface?

A5. It was on the surface.

Q6. At the time of the accident where you were?

A6. I was working in the field.

Q7. When you hear an explosion, what you did?

A7. I stopped the work, I looked behind me, I saw [Victim No.1] injured, we brought the stretcher, we bandaged his wounds until the MEDIC arrived.

Q8. Do you have any thing else?

A8. I hope to use detectors before entering to the field , to found the M77 clusters because it is very dangerous. By my opinion the cause of the accident is a subsurface cluster.

Statement and witness report 8: deminer

Q1. How long you have been working for [Demining group]?

A2. 2 years and 8 months.

Q2. Prior the restart of work, have you attended any refresher training?

A2. Yes.

Q3. On the day of the accident, did you receive any safety briefing by the Site Supervisor?

A3. Yes everyday he give us information to take care because it is a dangerous area and to don't be quick in the work.

Q4. Did you found any M77 sub-munitions on the day of the accident?

A4. Yes.

Q5. If the answer is yes, how many, did they were buried or surface?

A5. It was on the surface.

Q6. At the time of the accident where you were?

A6. I was far 30 m distance from the accident.

Q7. When you hear an explosion, what you did?

A7. I informed the MEDIC. I went to [Victim No.1], and I helped the MEDIC guys to bandage the injuries.

Q8. Do you have any thing else?

A8. I hope to guide always the team members to take care more within the work. But in our case I think that it was a subsurface item M77. May be he did not see it , or he was trying to sense it by his foot.

Statement and witness report 9: deminer

Q1. How long you have been working for [Demining group]?

A1. From 5 months.

Q2. Prior the restart of work, have you attended any refresher training?

A2. Yes.

Q3. On the day of the accident, did you receive any safety briefing by the Site Supervisor?

A3. Yes he told us to take care because it is a dangerous area and to work carefully.

Q4. Did you found any M77 sub-munitions on the day of the accident?

A4. Yes.

Q5. If the answer is yes, how many, did they were buried or surface?

A5. It was on the surface.

Q6. At the time of the accident where you were?

A6. I was on the road, and the wall was separating me from the place of the accident.

Q7. When you hear an explosion, what you did?

A7. I was nearby to [Victim No.1], I bandaged his hand. I calmed him, we putted him on the stretcher until the MEDIC arrived.

Q8. Do you have any thing else?

A8. I hope to use detectors before entering to the field, to found the M77 clusters because it is very dangerous. By my opinion it was a subsurface item and very near to the surface, but it was very sensible.

Analysis

This is classed as an Excavation accident because the Victim was apparently excavating deliberately with the toe of his boot.

The primary cause of this accident is listed as "Victim inattention" because it must be presumed that the victim did not think the item he kicked could be anything dangerous. It is likely that he did deliberately kick it because the damage to the toe of the boot implies that it was the point of contact. The task was a "visual search" and safety distances appear not to have been in place (inferred from the caption of the photograph showing the crater and the adjacent area where others were working).

The secondary cause is listed as "Inadequate survey" because it seems that the survey had not allowed for the fact that submunitions might have gone subsurface in the soft soil and leaf-litter.

The Medic reported a second Victim with a minor injury to one ear. The BoI and Internal investigators failed to comment on this. Given the helmets that the Victims were issued, an ear injury implies that the helmet might not have been worn at the time.

The M77 has a relatively large metal signature and could be readily detected with one of a range of detectors either designed for ordnance or adjusted to ignore small signals.