

DDAS Accident Report

Accident details

Report date: 04/01/2008	Accident number: 459
Accident time: 08:57	Accident Date: 10/07/2004
Where it occurred: MF ID 11162, "Tvornica -BNT- Slimena 1", Slime Village, Travnik	Country: Bosnia Herzegovina
Primary cause: Management/control inadequacy (?)	Secondary cause: Field control inadequacy (?)
Class: Vegetation removal accident	Date of main report: 19/07/2004
ID original source: Broj: 02-OK-15- 3647/04	Name of source: BHMAL WL
Organisation: [Name removed]	
Mine/device: PROM-1 AP Bfrag	Ground condition: metal fragments metal scrap trees woodland (bush)
Date record created: 04/01/2008	Date last modified: 04/01/2008
No of victims: 4	No of documents: 1

Map details

Longitude:	Latitude:
Alt. coord. system: G/K 6474676 4895881	Coordinates fixed by:
Map east:	Map north:
Map scale:	Map series:
Map edition:	Map sheet:
Map name:	

Accident Notes

vegetation clearance problem (?)
safety distances ignored (?)
protective equipment not worn (?)
visor not worn or worn raised (?)
inadequate area marking (?)

Accident report

This report was made available in 2006 and translated in 2007 specifically for entry to the DDAS. The content of the reports that were made available has been edited for anonymity and is summarised below.

Based on an initial report delivered to BHMACH by the demining organisation on the 10th of July 2004, the director of BHMACH formed an investigative committee with the following members: [Name removed] (presiding), [Name removed], [Name removed] and [Name removed]. This committee created a report which is the main information source for the DDAS. Another document from BHMACH was available: "Lessons Learned from the Demining Accident on 7 March 2004", dated 22 July 2004, three days after the accident report, signed by the BHMACH director, [Name removed]. This second document contains no new information and repeats the recommendations of the investigative committee.

Conditions at the site

Before the investigative committee arrived to the scene of accident, the police (MUP Travnik) had already finished their investigation. The killed deminer had already been transported from the scene of accident. As a member of the police force, one of the members of the BHMACH investigative committee, [Name removed], had participated in the police investigation.

The purpose of the demining task was to enable safe work in the factory BNT. The part next to the fence was mined by the Yugoslav Peoples Army at the beginning of the war. The Croatian Defence Council and the Army of B&H fought against each other at that area later. After the war, there were two mine-related accidents inside the factory. Three PROM-1 mines were removed by the municipality branch of the Civil Defence Travnik in 1997.

The most risky part of the demining task is the area between the asphalt areas in the back yard of the factory. The area towards the fence is tilted [sloping]. These tilted areas are used (the factory was working at the time of the clearance operation) for the disposal of metal waste from the factory and branches from the neighbouring trees. On this risky area, the vegetation is dense and high with grass, bushes and some trees. At the time of accident, the weather was clear and sunny, temperature 20 degrees.



[The site of the accident.]

The work-site layout and marking

The work-site had been properly marked, according to the SOP and the National Standard of B&H.

Supervision and discipline on the work-site; quality assurance

The team leader was [Name removed], who is knowledgeable and experienced. The next level of supervision was the work-site leader (name not given). According to available records, there had been no significant objections to the organisation and the discipline at the work-site. Internal quality control was conducted by [Name removed], twice a week. His reports from the last month contained no important objections. However, the inspections of RO Travnik of BHMACH had reported some critical mistakes during five previous visits to the work site. They found a metal piece 3x3cm on an area cleared with prodders; visible metal fragments on cleared areas; broken marking tapes; large productivity in a lane cleared with a prodder; an area of 2 m² covered with rubble not searched at all. All mistakes had been corrected within a given deadline. Additional monitoring was performed by SFOR (UN protection forces), but their reports are not delivered to the work-site.

Communication and connections

The communications meet the National Standard. Mostly mobile phones are used.

The accident and the medical support

The medical support was appropriate (equipment, vehicle and personnel). The Paramedic was Ms [Name removed]. The accident required additional vehicles because four persons were injured. An ordinary vehicle was used for transport of some injured deminers. After the accident, deminer [Name removed] provided the first aid. After three minutes the paramedic arrived at the scene of accident with her vehicle. Deminer [Victim No.1] was conscious, so she gave him first-aid. The other three victims were not moving. [Victim No.1] was moved to the first-aid vehicle and transported to the nearest hospital. The paramedic stayed at the work-site. She gave first-aid to [Victim No.2], whose artery on his left leg was bleeding. She also helped him to breath. After that she felt the pulse of [Victim No.3] – his pulse was very weak. The team leader and some workers from the factory gathered at the site of accident. [Victim No.2] was transported to hospital Travnik with a civilian vehicle borrowed from the factory, the paramedic travelling with him. She came back quickly afterwards; a medical vehicle had arrived already to the work-site. [Victim No.3] was transported to the hospital, together with the paramedic. Meanwhile, other two medical vehicles appeared (from the Health Centre Travnik and SFOR), but they were not needed, since [Victim No.4] showed no signs of life.

[Victim No.3] died on the way to hospital. [Victim No.1 and No,2] were treated in the hospital and transported to the Clinical Hospital Centre Koševo in Sarajevo. They lives are still in danger and they are still unconscious.

The paramedic acted according to the rules of her profession.

All deminers were insured according to the requirements of the law and the National Standards.

PPE and tools

PPE (frag jacket, and a helmet with a visor) was found to be lying away from the scene of accident. It is obvious that it was not used at the time of accident. If it had been used, it would

not significantly reduce the injuries. Two shears were found near the scene of the accident, two secateurs, a small saw and an antenna for tripwire detection. No prodders and no shovels were found. However, the team leader claimed that the deminers had PPE, detectors, prodders, shovels, shears and base sticks.



[Blood stained shears found near the victims.]

The area was highly metal-contaminated, 20% could be cleared with the help of metal-detectors, the remaining 80% with prodders. Prodding to the required 10 cm depth was difficult because of many stones, excavation was often used. The detectors were functional (UPMAH detonator contained in PMA-3 could be detected at 10 cm depth [presumably in air]).

On the day of accident, the base stick was not used in the lane where the accident occurred. The marking with 0.5 m high sticks and a tape was not applied. Some vegetation was being cut. Four deminers were working close to each other and one of them activated the mine, probably by stepping on it, while pulling out some old dry branches through which some new vegetation had grown.

The reported productivity (reported by the team leader, 8-25 m²) is realistic.

The mine

PROM-1 was probably buried to be activated with a tripwire, but it was hidden in vegetation, so that it could be activated by stepping on it. A tripwire was not found. [The base-plate of the mine was found and photographed.] Another PROM-1 had been found during the same clearance operation. Another three PROM-1 mines were found in 1997. A found PMR-2A and seven PMA-3 mines, clearly pointed to the danger.

Conclusion

The cause of the accident: wanton violation of technical and safety procedures proscribed in the SOPs of the organisation and in the National Standards of B&H.

1. 4 persons instead of 2 working in the same lane (although 2 were planned by the team leader).
2. PPE not worn.
3. mutual distance between deminers too small (should have been 50 m).

- violation of procedures by the assistant of the team leader, who took the assignment from the team leader and allowed taking off the PPE and the work against the prescribed procedures.

Recommendations

- to follow SOPs and the Standard.
- to do more internal quality control, unannounced visits are recommended.
- to organise one-day training with all VF-B teams, to teach them about the causes of this accident.

Victim Report

Victim number: 606	Name: [Name removed]
Age: 32	Gender: Male
Status: deminer	Fit for work: DECEASED
Compensation: Not made available	Time to hospital: Not recorded
Protection issued: Frag jacket Long visor	Protection used: None

Summary of injuries:

FATAL

COMMENT: Severe fragmentation injury. Dead at the site. No Medical report was made available.

Victim Report

Victim number: 607	Name: [Name removed]
Age: 32	Gender: Male
Status: deminer	Fit for work: DECEASED
Compensation: Not made available	Time to hospital: Not recorded
Protection issued: Frag jacket Long visor	Protection used: None

Summary of injuries:

FATAL

COMMENT: Severe fragmentation injuries. Died on way to hospital. No Medical report was made available.

Victim Report

Victim number: 608	Name: [Name removed]
Age: 38	Gender: Male

Status: deminer
Fit for work: not known
Compensation: Not made available
Time to hospital: Not recorded
Protection issued: Frag jacket
Protection used: None
Long visor

Summary of injuries:

COMMENT: Severe fragmentation injuries. Unconscious in hospital at the time of the report. No Medical report was made available.

Victim Report

Victim number: 609
Name: [Name removed]
Age: 34
Gender: Male
Status: deminer
Fit for work: not known
Compensation: Not made available
Time to hospital: Not recorded
Protection issued: Frag jacket
Protection used: None
Long visor

Summary of injuries:

severe Leg

COMMENT: Arterial bleeding. Unconscious in hospital at time of report. No Medical report was made available.

Analysis

The investigators found that the main cause of the accident was “wanton violation of technical and safety procedures proscribed in the SOPs of the organisation and in the National Standards of B&H”. For this reason the primary cause of the accident is listed as a “Management control inadequacy”. So many basic safety rules were being breached at a site where there was known to be a fragmentation mine threat that the conditions must have been known to senior management. The secondary cause is listed as a “Field control inadequacy” because the field managers allowed safety distances and PPE rules to be ignored.

The failure of those with National responsibility to suspend the accreditation of those responsible for such an unprofessional effort would be surprising if it were not for the fact that demining group involved are apparently a branch of the national military. Nonetheless, their lack of professionalism should be addressed with urgency.