7-8-2003

DDASaccident429

Humanitarian Demining Accident and Incident Database
AID

DDAS Accident Report

Accident details

Report date:	01/08/2006	**Accident number:**	429
Accident time:	Not recorded	**Accident Date:**	08/07/2003
Where it occurred:	Mowbr Al-Basara Army Supply Base, Basra	**Country:**	Iraq
Primary cause:	Inadequate training (?)	**Secondary cause:**	Management/control inadequacy (?)
Class:	Demolition accident	**Date of main report:**	29/07/2003
ID original source:	[Name removed]	**Name of source:**	[Name removed]
Organisation:	[Name removed]		
Mine/device:	Propellant	**Ground condition:**	not applicable
Date record created:	01/08/2006	**Date last modified:**	01/08/2006
No of victims:	1	**No of documents:**	1

Map details

Longitude:		**Latitude:**	
Alt. coord. system:		**Coordinates fixed by:**	
Map east:	Long 47, 43', 35"	**Map north:**	North Lat 30,26', 22"
Map scale:		**Map series:**	
Map edition:		**Map sheet:**	
Map name:			

Accident Notes

inadequate training (?)

no independent investigation available (?)

protective equipment not worn (?)

Accident report

A preliminary report was made available in 2005 and is reproduced below, edited for anonymity.

PRELIMINARY INVESTIGATION REPORT 1

Incident:

On the morning 8rd July 2003. [Name excised 1] a Team Leader and Supervisor for [the Demining group] was taking part in a clearance operation with [Name excised 2] and

members of [the Demining group] EOD/Demining team at Mowbr Al-Basara Army Supply Base North Lat 30,26', 22" and East Long 47, 43', 35".

The UN Mine Action Service assigned the task to [the Demining group] by the UN Mine Action Service. [The Demining group] has been on the site now since 1 Jul. And were in the final phases of the clearance task. [The Victim] was in the process of clearing the last of the propellant that was on site. Once collected he had a small pile less than a meter in diameter. He then prepared a propellant trail leading into the main body of the propellant.

[The Victim] used a combination of projectile propellant and black powder from a charge bag in his fuze trail. Once the area was clear of all other personnel he attempted to light this trail. It was at this point that the black powder ignited and flashed causing burns to [his] lower inner right arm and upper side of face.

The medic on site saw [the Victim]. Dr [name excised 2] suggested [the Victim] be transported to the British Medical Hospital. Which he was. At the BMH [the Victim] was treated for the burns mentioned above and released, with instructions to return in two days time for a dressing change [Demining group] personnel then returned [the Victim] to Basra.

Salient Facts:

The following are salient facts involved with this incident:

The mixing of Black Powder in the ignition trail.

The experience of the operator.

Conclusions & Recommendations:

The following are conclusion and recommendations:

Conclusion:

It was the mixing of the Black Powder from the charge bag in with the projectile propellant that caused the flash, which burned the operator.

The operator's lack of experience about the different types of propellants and their effects

Recommendations:

That the use of Black Powder be avoided in the ignition trails of propellant burns.

Only qualified experienced EOD operators carry out propellant burn tasks. Or non qualified EOD personnel carry out these tasks under careful supervision.

Proper ignition sets be used. Consisting of Time Fuze and flares or Railway fuze's. Allowing for a timed burn.

Summary:

This accident was preventable. The wrong choice was made in using the Black Powder in the ignition trail. But this was done through a lack of experience rather then a blatant disregard for the rules for propellant burning. In the future propellant should only be burnt using proper ignition trains involving Time Fuze and flares or Railway fuze's which allow for a controlled timed burn with plenty of time to exit the area to a safe location.

Signed: Demining group Location Manager, Basra, Iraq.

An email among the files made available recorded that: UNMAS would not investigate and that a "signed Verbal warning" [sic] should be given to the Victim.

Overview of Preliminary Investigation Report Concerning [the Victim]

Introduction

This overview has been requested by [the] Operations Manager (and currently Programme Manager) of [Demining group] in Iraq.

The preliminary investigation report deals specifically with an incident in which [the Victim] was injured, whilst in the process of disposing of bulk propellant as part of a clearance task being undertaken in Basra.

The overview seeks to identify areas of concern contained within the Preliminary Investigation Report, identify safety issues, and to make conclusions, and recommendations to the Operations manager for his further action.

Area of Concern 1

That the propellant is described as being “piled” into a configuration of less than 1 metre in diameter. The definition of the diameter configuration does not make clear whether a complete area of ground 1 metre in diameter was covered by the propellant to be burned, or whether propellant had been prepared for disposal by burning in the configuration (crows foot) as shown in [Demining group] SOPs for Iraq, and that this configuration accounted for the 1 metre diameter.

If propellant HAS been piled as described, then it is more likely, given the decrease in insensitivity referred to in a previous overview, that the weight of the propellant on the lower layers is more likely to cause “flash through”.

Recommendation

That ALL EOD Operators familiarise themselves with “profile depth” requirements and constraints, when disposing of bulk propellant by burning, and ADHERE to them.

Area of Concern 2

That an initiation trail be led INTO propellant to be burned, and not AWAY from the propellant.

Lying an initiation trail from the firing point TO the propellant necessitates walking back along the trail, once laid, and the scope for missed step, and subsequent compression and ignition of the initiation trail is greatly increased.

Recommendation

That EOD Operators immediately CEASE the laying of initiation trails FROM the firing point, and back to the propellant to be disposed of.

Area of Concern 3

That a mixture of black powder and propellant was used as the constituents for the initiation trail. This is an INHERENTLY DANGEROUS practice, the likely results of which have formed the basis for the report in the first place. Mixtures of propellants and powder grains should never have been allowed.

Recommendation

That all EOD operators immediately cease the practice of mixing propellant types in order to form initiation trails.

Area of Concern 4

That the level of experience of the operator has been quoted as a significant factor in this incident. It might well be true that [the Victim] does not have the depth of experience in an EOD field (as opposed to mine clearance), if this has been identified as a probable cause by the location manager, then the location manager should have taken all necessary steps to ensure that:

[The victim] was not to have conducted disposal, or;

That [the Victim] was to be supervised whilst conducting the disposal.

Recommendation:

That where senior location personnel are aware of possible “experience gaps” in operator skills and knowledge, that the operator works under supervision of an experienced and QUALIFIED operator until such time as sufficient knowledge of procedures and associated hazards has been assimilated by the individual.

That [Demining group] identify the “skills pool” available in country, and where necessary,, adjust personnel to location to ensure an “even spread” of experience and knowledge.

Signed: Safety and QC Officer, Team Manager and Senior EOD Operator [Demining group] Baghdad.

Victim Report

Victim number: 572 **Name:** [Name removed]

Age: 32 **Gender:** Male

Status: supervisory **Fit for work:** yes

Compensation: Not made available **Time to hospital:** Not recorded

Protection issued: Not recorded **Protection used:** None

Summary of injuries:

INJURIES

minor Arm

minor Face

COMMENT

Propellant burns. See Medical report

Medical report

Notes read:

Patient was exposed to flames of propellant burn causing 1st and 2nd degree burns involving Rt upper limb and the Rt side of the face and Rt ear, also the upper lip and eyebrows, nostrils”

“Burned by propellants – right arm and right side of face. Nasal hairs singed. Scores 61/2 out of 10 for pain on a scale of 1-10. Pain is increasing over time.

BP: 159/94”. Other notes are in English but illegible.

In an exchange between the Victim’s superiors it was noted that “All that was hurt was his pride. He will be on light duties ‘till Thur.” In the same exchange (08.07.2003 12:34) “The powder flashed and he received a burn to his lower right arm and right side of face. But they are not serious. Not even close to [the victim of Incident 426]'s. He was taken to BMH dressed and released.”

Analysis

The primary cause of this accident is listed as *"Inadequate training"* because the internal investigation identified the Victim's lack of experience as a cause. The fact that he was repeating an accident that he had attended at the same place only six days earlier indicates that he lacked enough experience to learn from the earlier event. [See accident 426.] The secondary cause is listed as a *"Management Control Inadequacy"* because the demining group allowed the Victim to be given tasks for which he was not suitably qualified and/or experienced.

The internal investigation was thorough and blunt in its analysis, demonstrating the demining group's professionalism. It is regretted that the national MAC did not make its own investigation.