

DDAS Accident Report

Accident details

Report date: 03/01/2008	Accident number: 454
Accident time: 14:15	Accident Date: 04/05/2006
Where it occurred: Khoshal Khan Hostel Complex, Dasht-i-Padola, Chehelstoon, Kabul City	Country: Afghanistan
Primary cause: Field control inadequacy (?)	Secondary cause: Management/control inadequacy (?)
Class: Mechanical excavation	Date of main report: 29/05/2006
ID original source: Ops-27/266/06	Name of source: UNMACA
Organisation: [Name removed]	
Mine/device: M-19 AT blast	Ground condition: dry/dusty
Date record created: 03/01/2008	Date last modified: 03/01/2008
No of victims: 1	No of documents: 2

Map details

Longitude:	Latitude:
Alt. coord. system: WGS 84	Coordinates fixed by: GPS
Map east: 06915881 E	Map north: 3445088 N
Map scale:	Map series:
Map edition:	Map sheet:
Map name:	

Accident Notes

dog missed mine (?)
mine/device found in "cleared" area (?)
mechanical detonation (?)
protective equipment not worn (?)
inadequate survey

Accident report

The report of this accident was made available in August 2007 as a PDF file. Its conversion to a text file for editing means that some of the formatting has been lost. The substance of the Bol report is reproduced below, edited for anonymity. The original PDF file is held on record.

A single report covered two accidents (one on 2nd and one on 4th) that occurred at the same site. Where appropriate, the detail of the accident is repeated in the two records held in this database.

Text in [] is editorial comment.

Cover letter

File:OPS-27r214/06

To: Chief of Operations/DPM, UNMACA

From: Area Manager UNAMAC Kabul

Date: 29 May, 2006

Subject: Demining Incidents Investigation Report

Attached please find the investigation report along with its supporting documents and photos of the two demining incidents occurred on [Demining group]-99 wheeled loader on 02 & 04 May, 2006 in Khoshal Khan Hostel Complex locates in Dasht-i-Padola, Chehelstoon Area of Kabul City.

This area is a high contaminated area in which 9 mine accidents have been occurred during the past years. Considering the background of this area, uncertified clearance depth of the mines in this task, the speed of the hostel construction activities, relocating soils of this area by locals as construction material and removal of the extra soil and excavation of the ground from the original undisturbed level of land that is time consuming and hard work to be done manually, the AMAC, Kabul preferred using mechanical methodology for clearance of this area. Therefore the Area Manager of AMAC, Kabul discussed the matter with [Demining group], to clear this area as the [Demining group] agreed and for clearance of this area by using their VTF funded machinery. The area of the hostel has been estimated 181,000 sqm and considered as a task. Two Mechanical teams (MC-05 and 11) have been deployed for clearance of the task and the clearance has been started on 13 May, 2006. During the clearance of this task the teams have discovered two M-19 AT mines in and two demining incidents occurred on [Demining group]-99 loader bucket.

AMAC, Kabul Quality Management and OPS Assistants have investigated the two incidents, the findings and recommendations are inserted in the report which is forwarded for your info and further action.

Demining Investigation Report

M19 AT mines detonated under Gill bucket of a [Demining group]-99 wheeled loader, the loader was engaged in clearing anti-tank minefield.

History of the Minefield

This MF locates at Dashti Padula of Chelstone, Ward -7, Kabul city and have been enclosed by the walls of under construction Khoshal Khan Khatak Secondary School Hostel as it

covers 181,000 sqm area. It has been appraised as a high impact area. It was fighting front line between Jamiat and Hezb Islami fighters in the years 1992 to 1996.

At first time this area had been surveyed by [Survey group] on 06 April 1997. The survey team had divided this area to four minefields (MF# 353, 387, 392, and 395). The minefields of this area were cleared by [Mine Dog group] at the same year. After clearance of these tasks by [Mine dogs], in this area about 9 accidents on local people have been occurred of which two accidents has been recorded, investigated by AMAC, Kabul investigation team and reported to UNMACA of 05 April 2006. One accident occurred on 12-12-2005 at 11:00 am, as a result an Eight Cylinder truck was blown up. The second accident erupted on 12 Feb. 2006 at 15:30 hrs, as a result a Hino truck was blown up. Due to occurrence too many accidents and possibility of more mines with uncertified depth in this area, Area Manager of AMAC, Kabul decided for re-clearance of this area by mechanical teams. Therefore the AMAC area Manager contacted [Demining group] as the [Demining group] agreed. As it has been reported to UNMACA in the mentioned investigation report.

As construction of hostel has already been started in this area some more activities will also be conducted in the remaining area of the SHA, in order to clear the SHA at the soonest convenient time, it requires using machinery system. The issue has been verbally discussed and coordinated with [Demining group] and they are willing to use their VTF funded machinery system for the clearance of this SHA.

Since clearance of this task has been started by [Demining group], two anti tank Iranian M-19 mines were also discovered by [Demining group] in this task. The depth of the two mines was less then 30 cm.

LIAT has been tasked to cover this area as new SHA for the community

Description of the incident/accident

In a two days period, two anti-tank mine blasted under Gill bucket of [Demining group]-99 wheeled loader when it was preparing cross lanes for ripping of the site. The type of the two mines was M-19. Details of the incidents are explained below:

1. One anti tank mine blasted on 02 May 2006 at approximately 10:45 hrs. This incident caused no casualties and the damage to the bucket was minimal (just one left side tooth of the loader bucket was snapped off). The broken tooth of the bucket immediately was changed with new one and next day the loader started to work normally. The type of the mine was M-19 and depth of this mine was less then the assigned 30 cm clearance depth (21 cm).
2. On 04 May, 2006 approximately 14:15 hrs the second anti tank mine exploded under the bucket of the said loader. The type of this mine also was M-19 and the depth of the mine was about 40 cm. The second incident created a large hole having about 30 cm radius in the middle down side and up edge of the bucket and the pipes of the loader hydraulic system was also defected. This explosion was too powerful as compared with the first explosion. The second explosion caused no casualties but due to powerfulness of the explosion the loader operator although had no physical injuries, went to shock.

Site conditions (at the time of the incident/accident). The terrain was described as uneven, confined hillside. The soil was medium, dry. The weather was clear, warm and calm. There was no vegetation.

16. Team and task details

QA check has not been conducted, since the team has come to this task on 13th April 2006. The team works in two shifts: shift one from 6:00 am to 12:00 noon. Shift two from 01:00 pm to 5:00 pm. There is a break from 09:30 to 09:45. The hand-tool used was a "trowel".

Medical and first aid

Time of accident to Paramedic was on the accident site: 14:16 pm. At 14:25 the ambulance left to the hospital (8.5 km away) and arrived at 14:45.

Conclusion

The operator worked alone in two shifts from 06:00 am to 17:00 pm. based on verbal information we got from team leader of MC-05.

In the first accident, the mine exploded under a tooth of the bucket as the top of the mine was open so the mine pressure spread out in the open area so it caused minimum damage.

The depth of the cut in the first accident place was less than the minimum assigned 30 Cm excavation depth.

In the second accident the mine detonated under the bucket at the middle.

The second incident mine was located downside up a small hill, as the sediment soils during many years has gathered on and around the place of accident.

In the second accident, the mine exploded under and the bucket blocked the middle of the loader bucket as the top of the mine, so, the pressure of the mine could not spread out. Therefore, it made a big hole in the bucket and dig out the ground vaster and deeper as compared with the first explosion.

In the second accident, the explosion occurred near a hill as the excavation depth should be considered the maximum assigned depth which is 70 Cm, but as we saw the site it has not been considered during excavation.

Technical survey has not been carried out and accurate scaled map was available in the site with the team.

Recommendations

Technical survey should be conducted at first in order to collect more and precise information about the site situation, depth of mine; mine type etc prior to starting clearance operation.

Since the area is uneven, the team leader should prepare a free hand map with highlighted critical points and show in it the clearance depth of the site different parts

The team leader based on his experience is to consider and examine each part of the ground and ensure that the required depth during excavation is considered.

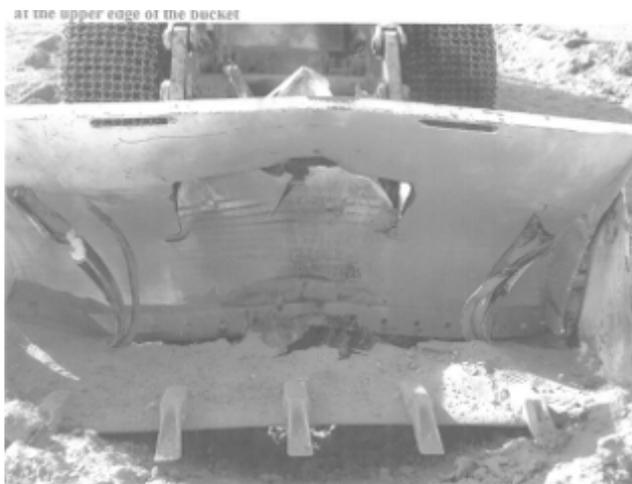
For each loader working in the MF is to be appointed two operators, especially for those working in two shifts.

The team should meet clearance depth from original ground surface.

The out look of the second incident place.



In the second incident the explosion made two holes one at the bottom and the second at the upper edge of the bucket.



The left hand tooth was snapped off and landed 180 meters away from the first incident point.

Victim Report

Victim number: 602	Name: [Name removed]
Age:	Gender: Male
Status: driver	Fit for work: presumed
Compensation: Not made available	Time to hospital: 30 minutes
Protection issued: None	Protection used: None

Summary of injuries:

COMMENT: Victim suffered physical and mental shock. See Medical report.

Medical report

No formal medical report was made available.

In an investigator's interview the medic reported:

1. On 4 May 06, at approximately 14:15 hrs, when the team was busy in clearance of the Khushal Khan Hostel complex, suddenly an Anti Tank mine exploded under bucket of our team loader ([Demining group]-99). After the incident, I immediately reached, with the team ambulance having plate no. [Demining group]-226, to the incident point.] saw that the loader operator is in semi shock condition. After applying first aid, the operator was shifted by the team ambulance to the Ibni Sina hospital for further treatment. The operator spent one night in the hospital and one day after on 05 May, 2006 was discharged from hospital his condition is good for now.
2. At 14:25 hrs he was gotten to the ambulance and reached to the hospital at 14:45 hrs. Any injury was not seen in his body, but he had pain in his lcarl and Limbo when their X-Ray was taken it was seen that they were normal.
3. Taking the view of the doctor about his fitness, the operator was rested for some days at his home.

STATEMENTS

Statement and Witness Report 1

Data of the person making the statement / witness report

[Team Leader – on leave at time of accident. Experienced since 1997.]

Question:

1. Dear Commander although you were not present in the field while the accident occurred after you returned to duty in your opinion what will be the cause of the accident?
2. From the technical point of view we know that during the excavation first the bucket teeth must touch the ground therefore due to this reason first the bucket teeth must be destroyed and then the body of the bucket but in this case the bucket teeth is completely save and the center of the bucket frame got damaged would you like to say what will be the cause of the accident?
3. Dear commander to avoid from such accidents in the future and solve the same problem what is your idea and recommendations?

Answer:

Dear sir I would like to state in my opinion as the excavation is done as per norm of SOP (30 cm) and the depth of mine was more than 30 Cm so, the accident has happened due direct pressure on the mine.

2. Since the excavation is done as per the norm of SOP and the mine was deep therefore it seems that during the excavation pressure has been brought on the mine and the pressure on the mine has caused the explosion it is worth mentioning to state during the excavation the bucket teeth is move a little bit to the back and the weight of the bucket it self plus the excavated soil is caused the explosion.

3. As per my observation long period has passed from the time of plantation of these mines and they have plant these mines very deep and unprofessional. The two previous accidents which have occurred in the area seem the depth of the mine was deeper from the SOP norm so my recommendation is to increase the depth of the excavation from the current depth which is 30 Cm.

Statement and Witness Report 2

[Medic, experienced Since March, 2006.]

Questions:

1. Please explain how the incident occurred,
2. How long took shifting the injured person to the hospital, whether he had physical injury or just was shocked.
3. How do you appraise the condition of the injured and where is he for the time being?

Answers:

1. On 4 May 06, at approximately 14:15 hrs, when the team was busy in clearance of the Khushal Khan Hostel complex, suddenly an Anti Tank mine exploded under bucket of our team loader ([Demining group]-99). After the incident, I immediately reached, with the team ambulance having plate no. [Demining group]-226, to the incident point.] saw that the loader operator is in semi shock condition. After applying first aid, the operator was shifted by the team ambulance to the Ibni Sina hospital for further treatment. The operator spent one night in the hospital and one day after on 05 May, 2006 was discharged from hospital his condition is good for now.
2. At 14:25 hrs he was gotten to the ambulance and reached to the hospital at 14:45 hrs. Any injury was not seen in his body, but he had pain in his lcarl and Limbo when their X-Ray was taken it was seen that they were normal.
3. Taking the view of the doctor about his fitness, the operator was rested for some days at his home in Jabul Saraj.

Statement and Witness Report 3

[Deminer, experienced since 2002.]

Questions:

1. As a witness, please explain how and when the incident occurred, what you were doing at the time of incident and what you did after the incident?
2. Being an experienced deminer, can you explain what the cause of the incident was and what is your recommendation for avoiding occurrence of such incidents in future?
3. Were you subjected to internal revision courses, when was the date of your last revision course and also say that when the time of QA of your team was?

Answers:

1. Before the incident I was busy in sentry of the field to prevent entering the local people during the loader operation in the field. The incident occurred in the MF No. 1339 on 04 May,

2006 at 2:15 pm. I urgently went toward the loader [Demining group]-99 to cooperate for evacuating the operator from the loader set.

2. The excavation depth in this task has been assigned 30 cm, in order to avoid unprecedented incidents the excavation depth as you see has been increased to more than 40 cm, unfortunately in spite of that this incident occurred. Since the excavation depth is more than the assigned depth, I don't have any thing to say for avoiding such incidents in future.

3. Every year after [Demining group] annual leave all the [Demining group] personnel are made subject to revision course. The last course held on Feb. 2006. The last internal QA was conducted by Director of [Demining group] on 18 April 2006,

Statement and Witness Report 4

[Team Leader controlling MC-11 team. Experienced since 1995.]

Questions:

1. Dear [Name removed] as observer of the accident scene that happened to [Demining group]-99 what were you doing while the accident occurred and what did you do after the explosion?
2. After the situation got normal did you see the accident point from near and the loader it self if yes what was the cause of the above mentioned accident?
3. Dear [Name removed] you were the witness of another previous accident in the area in that accident the loader was less damaged compare to this accident it means in this accident the loader has got more damaged so what do you think the cause of the accident?
4. What is your opinion to avoid the possibility of such accidents in the future?

Answer:

1. Dear sir while the accident occurred I was following the loader of [Demining group]-111 which was busy in a separate cross line after explosion we stopped the operation and asked the team leader to direct us what to do?
2. The only cause of the accident is the depth of the mine from the excavation level as per SOP
3. As per my observation I think there were two M-19 mines therefore this explosion was stronger than the previous one.
4. I don't have any Idea about this and waiting for further instruction from my superior.

Analysis

The primary cause of this accident is listed as a "Field control inadequacy" because the investigators determined that the operator was not processing the ground to the required depth. If the mine had not detonated it would have been left behind. The secondary cause is listed as a "Management control inadequacy" because this failing had been noted in an accident two days before and had not been corrected. The uneven ground and the improvised machine may have combined to make it unrealistic to expect the operator to be able to

maintain an even depth. If this is the case, those responsible for giving the task to a machine that was unable to conduct would be demonstrating a further "Management control inadequacy".

The fact that the area had already been "cleared" using dogs and was being subjected to a second inefficient "clearance" method raises some questions about whether quality is being sacrificed for speed, and whether mines are still being left behind.

The "Inadequate survey" referenced under Notes is mentioned because the investigators recommended that a Technical Survey to determine the depth of the mines be conducted.