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Landmines in Libya

Landmines are an unfortunate part of Libya’s past and present. As such, the author discusses the various types of mines that have been found so far, providing a technical overview of each. With his landmine analysis, King warns of the difficulties that lie ahead as deminers begin to address the problem.

by Colin King [Fenix-Insight Ltd.]

Until recently, the primary threat from mines in Libya originated from the Western Desert Campaigns of the Second World War (June 1940–February 1943) and a series of conflicts with Chad between 1978 and 1987. During the recent civil war, it emerged that Libya also has substantial landmine stockpiles, and that both anti-personnel and anti-tank mines had been laid during the hostilities. In addition to the common Cold War legacy weapons found in many countries, there have been some unexpected finds, including landmine types of which little was previously known.

What follows is a brief technical overview of the mines and mine threats recently found in Libya, including some of the questions raised by these findings.

Type 84

Perhaps the most significant recent find is the Chinese Type 84. For many years those working in demining knew about this rocket-dispensed scatterable munition (84 represents the approximate year of introduction), but there were no reports that the mine had ever been deployed and little technical detail was available. Suddenly, in May 2011, these mines were used against the port of Misrata, and for a time a number remained unexploded in the streets before they were cleared.

The Type 84 used in Libya differs slightly from those shown in Chinese sales literature, but key features remain, including a parachute, three folding prongs (designed to stick into the ground on impact) and electronic magnetic influence fuze. Initiation using magnetic influence is particularly significant given that compatible fuzes not only fail with alarming regularity, but also provide another potential means of accidental initiation.

The Chinese Type 84 is a scatterable AT mine initiated by a magnetic influence fuze.

Belgian M3 and M3A1

The most common mines in Libya appear to be the Belgian M3 and M3A1—around 250,000 are stockpiled in Benghazi alone. Although a relatively simple and basic AT mine, the M3 is notable for its minimal metallic content (which makes it very difficult to detect) and powerful 6 kg charge of TNT, RDX and aluminum.

Unlike the M3, the M3A1 incorporates two auxiliary fuze wells for booby trapping; one in the side and one in the base. Use of the SP suffix was previously unknown, and this is believed to refer to an export version for tropical use. In this variant, sand-colored paint had been sprayed over the olive green used on most Chinese mines; this is clearly visible around the internal voids and wells. There is a large auxiliary fuze well in the base for booby trapping, but there have been no sightings of the anti-handling devices used with this mine.

The Belgian M3 is a minimum-metal mine with a powerful charge of TNT, RDX and aluminum.

The Chinese TAB-1 is a Brazilian AP blast mine that has already been responsible for a number of casualties in Libya. It was also used in Ecuador and Peru, but little was known of its make-up until it was examined recently.

The Chinese Type 72 SP AT mine, with blast-resistant fuze, to the left.

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The TAB-1 is a Brazilian AP blast mine.

The M3A1 is a variant of the M3 which incorporates two auxiliary fuze wells.

The Chinese Type 72 SP AT mine, with blast-resistant fuze to the left.

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The Belgian NR 413 fragmentation mine can be initiated by any of four tripwires. AP fragmentation weapons with significant main battle tanks, and would have also been found in Benghazi. Both the Yugoslav TMA-5 and the Czech PT Mi-Ba-III are minimum-metal AT blast mines that can be difficult to detect. These are large mines capable of immobilizing main battle tanks, and would completely destroy any civilian vehicle. The PT Mi-Ba-III fuze incorporates a cocked striker, meaning that the mechanism is spring-loaded and therefore capable of functioning at any time. The plastic collar retaining the striker is vulnerable to deterioration in hot dry conditions, making this mine extremely dangerous to handle. This mine was believed to have been responsible for a number of casualties during the First Gulf War (1990–1991) and is definitely a blow-in-place item.

Conclusion

The mine threat in Libya could create a significant challenge for deminers, with a combination of unrecovered minefields, difficult detection, the presence of tripwires and the potential deterioration of fuze mechanisms. Demining nongovernmental organizations have already begun clearance operations with the United Nations Mine Action Service Joint Mine Action Coordination Team, working to coordinate operations. In addition to the standard process of survey, minefield delineation and clearance, a major stockpile deconstruction program will also be needed. Sadly, despite widespread adoption of the AP Mine Ban Convention, mines have once again played a role in modern conflict. They bring with them the dangerous, costly and laborious process of demining, along with the disheartening prospect of long-term socioeconomic impact on the communities where they are found.

See endnotes page 83

Kabul City Clearance Project

After decades of conflict in Afghanistan, the Kabul City Clearance Project is addressing the dangers of mine and unexploded ordnance that pose a threat to the safety and livelihood of Kabul’s expanding urban population. KCCP is an 18-month collaborative project that utilizes the resources of Afghan Technical Consultants, a local clearance nongovernmental organization, to implement a mine-clearance plan in 36 impacted communities.

by Mohammad Akbar Oriakhil [Mine Action Coordination Centre of Afghanistan]

Decades of conflict have left Kabul City, Afghanistan ravaged by war and contaminated with landmines and unexploded ordnance. Despite the great achievements of mine-clearance operations to date, 92 confirmed hazardous areas (which were recorded in a polygon survey) remain within Kabul’s city limits, rendering only approximately six square kilometers available for pasture, farming and housing. More safe land is urgently needed by a rapidly growing urban population. Thousands of people have lost their lives or become disabled in mine and unexploded-ordnance accidents in the city, and currently approximately two people every month are fatally or seriously injured.

The KCCP is working to clear Kabul City of mines based on a two-phase plan. Phase 1, which is underway, consists of 44 of the confirmed hazardous areas; Phase 2 consists of 48 additional CHAs and will be implemented in early 2012. The KCCP continues clearance at the current rate of progression, meeting or exceeding their target timeline, and they receive adequate funding for the second phase, they could completely remove all known hazards in Kabul City within an operating period of 18 months.

Notes

1. The Russian invasion and its subsequent regime from 1978 to 1990
3. Northern Alliance and Taliban fighting from 1995 to September 2001
4. Aerial campaign by Coalition and NATO Forces commencing October 2001

Historical Achievement of Mine Action

Mine and UXO survey and clearance, which was commenced in 1994 by several organizations including ATC, Organization for Mine Clearance and Afghanistan Rehabilitation, The HALO Trust, Mine Clearance Planning Agency and Mine Detection Dog Center in Kabul City. After some years, two more national and international mine-clearance organizations—Demining Agency for Afghanistan and Danish Demining Group—became involved in this process. The mentioned organizations are supported by the United Nations Voluntary Trust Fund, the Office of Weapons Removal and Abatement in the U.S. Department of State’s Bureau of Political-Military Affairs (PM/WRA) and other bilateral donors. Since then, significant progress has been made in clearing the land.

Conclusion

The Kabul City Clearance Project is a significant undertaking and represents a major step forward in removing the threat of landmines and unexploded ordnance from Kabul City. The project is well underway and is expected to be completed by the end of 2012. The success of the project will have a profound impact on the safety and well-being of the population of Kabul City, and will help to pave the way for future development and prosperity in the region.