



# **CONTENTS**

| Introduction   | 4  |
|--|----|
|  |    |
| Key findings   | 5  |
| Overview of documented materiel                          | 6  |
| Recently manufactured ammunition (2010 and after)        | 8  |
| Circumstances and materiel documented                    | 9  |
| Ammunition captured in northern Syria - Gatash           | 9  |
| Ammunition captured in northern Syria - Avdoké           | 9  |
| Ammunition captured in northern Iraq - Sinjar Mountains  | 13 |
| Ammunition recovered in northern Iraq - Gwer and Hawerah | 14 |
| Endnotes   | 16 |

# INTRODUCTION

This Dispatch from the Field presents an analysis of a sample of small-calibre ammunition recovered from Islamic State (IS) forces in Iraq and Syria. Its findings derive from a series of Conflict Armament Research (CAR) field investigations conducted in the Kurdish regions of northern Iraq and northern Syria 22 July–15 August 2014.<sup>1</sup>

In Syria, the CAR investigation team worked alongside Kurdish People's Protection Units (YPG) to document ammunition captured during offensives against IS forces—primarily near Ayn al-Arab (Kurdish: Kobanê) and Ras al-Ayn (Kurdish: Serekanî). In Iraq, the team worked closely with Peshmerga forces loyal to the Kurdish Regional Government to document spent cartridges from captured IS positions.

The rapidity with which the team documented ammunition following hostilities, and the team's close collaboration with the YPG and Peshmerga forces that had fought the offensives, makes it strongly likely that IS forces used all of the materiel highlighted in this Dispatch.<sup>2</sup>

CAR documented more than 1,700 cartridges in the following locations:

- Gatash, Syria (GPS: 36.8435248, 38.0462551), captured on 22 July 2014
- Avdoké, Syria (GPS: 36.688712, 38.794497), captured on 13 July 2014
- Sinjar Mountains (North of Bara), Iraq (GPS: 36.445314, 41.509781), captured on 4 August 2014
- Between Gwer (Al Kuweyr), Iraq (GPS: 36.110200, 43.576160) and Hawerah, Iraq (GPS: 36.11694, 43.59356), fired on 10 August 2014

CAR continues to trace the origins of the ammunition described below and will deploy additional field investigation teams to Iraq and Syria to document materiel from IS forces.

Map 1
CAR documentation sites in Iraq and Syria



# **KEY FINDINGS**

## A DIVERSE PROFILE

The sample includes ammunition manufactured in 21 countries during a period of nearly 70 years (1945–2014). The variety and age of ammunition used by IS forces indicates a large array of ammunition supply sources, which is attributable to the group having captured materiel during numerous engagements, and against various opponents, across Iraq and Syria. China, the Soviet Union/Russian Federation, and the United States (US) are the top three manufacturing states represented in the sample. Ammunition in service with Iraqi and Syrian defence forces is also significant in the sample.

#### **IRANIAN AMMUNITION**

IS forces in Iraq and Syria use Iranianmanufactured ammunition dating from 2006 to 2013. If transferred deliberately, the presence of this ammunition outside of Iran violates UN Security Council Resolution 1737 (2006), which prohibits Iran's export of ammunition.<sup>3</sup> Dates of manufacture indicate the production and export of this materiel during the on-going Syrian conflict.

## **US AMMUNITION**

CAR documented more than 300 US-manufactured cartridges, dating from the 2000s—nearly 20 per cent of the materiel documented in this report. IS forces appear to have acquired a large part of their current arsenal from stocks seized from, or

abandoned by, Iraqi defence and security forces. The US gifted much of this materiel to Iraq.

#### **WOLF-BRANDED AMMUNITION**

The Russian Federation manufactures 7.62 x 54R mm ammunition, which is marketed by Sporting Supplies International, Inc. (a US company) under the brand name WOLF. IS forces use significant quantities of this ammunition in Iraq and Syria. The US government has distributed WOLF ammunition widely to allied states in the region.

## **RUSSIAN AMMUNITION**

IS forces in Syria use Russian-manufactured ammunition produced as recently as 2013. The age of this ammunition suggests a short chain of custody—as little as seven months from manufacture in Russia to capture from IS forces in Syria. Syrian defence forces are a plausible source of this ammunition.

## **SUDANESE AMMUNITION**

Sudanese-manufactured ammunition recovered from IS forces illustrates Sudan's growing role as an ammunition producer and as a supplier of military materiel to parties engaged in armed conflicts, not only in Africa, but also in the Middle East.



THE VARIETY AND AGE OF AMMUNITION USED BY ISLAMIC STATE FORCES INDICATES A LARGE ARRAY OF AMMUNITION SUPPLY SOURCES.

# **OVERVIEW OF DOCUMENTED MATERIEL**

CAR documented ammunition manufactured in 21 countries, with dates of production ranging from 1945 to 2014. Two production periods, the 1970s-80s and the 2000s, are most represented in the sample and primarily consist of ammunition manufactured in China, Serbia, Soviet Union/ Russian Federation, and the US.

Note: The CAR investigation team documented a total of 1,775 cartridges. Of these 45 were either insufficiently marked, or too damaged, to determine the year of manufacture and country of origin. This left a sample of 1,730 cartridges, which is presented in Table 1.

CAR recovered most of the 1970s-80s-dated ammunition in the sample from IS forces in Syria. Ammunition from this period is predominantly of Chinese and Soviet manufacture. By contrast, the sample of ammunition recovered in Iraq is mainly

US-manufactured and comprises 5.56 x 45 mm cartridges, which are used in US-supplied M16 and M4 assault rifles of the Iraqi defence and security forces.

The entire sample collected in Iraq and Syria includes the following calibres:

- 9 x 19 mm (NATO) for use in self-loading pistols and sub-machine guns
- 5.56 x 45 mm (NATO) and 7.62 x 39 mm (Warsaw Pact) – each for use in assault rifles
- 7.62 x 51 mm (NATO) and 7.62 x 54R mm (Warsaw Pact) - each for use in rifles and assault rifles
- 12.7 x 108 mm and 14.5 x 114 mm (Warsaw Pact) each for use in heavy machine guns

| Country            | Total | Country                   | Total |
|--------------------|-------|---------------------------|-------|
| China              | 445   | Syria                     | 18    |
| Soviet Union       | 338   | Czech Republic            | 18    |
| United States      | 323   | Iraq                      | 14    |
| Russian Federation | 154   | Albania                   | 9     |
| Serbia             | 142   | Bosnia and<br>Herzegovina | 9     |
| Romania            | 77    | Germany                   | 4     |
| Bulgaria           | 63    | Hungary                   | 3     |
| North Korea        | 34    | Sudan                     | 2     |
| Turkey             | 27    | Slovakia                  | 2     |
| Iran               | 26    | Poland                    | 2     |
| Kyrgyzstan         | 20    |                           |       |
| Total Sample       |       |                           | 1730  |

#### Table 1

**Total number of cartridges** documented by country of manufacture



| Total cartridges in the sample                            | 1,775<br>(1,730 identifiable)   |
|---|---|
| Total countries of manufacture                            | 21  |
| Total calibres documented                                 | 7   |
| Earliest date of manufacture                              | 19454   |
| Latest date of manufacture                                | 2014  |
| Top five countries of manufacture (in order of frequency) | 1) China<br>2) Soviet Union<br>3) United States<br>4) Russian Federation<br>5) Serbia |

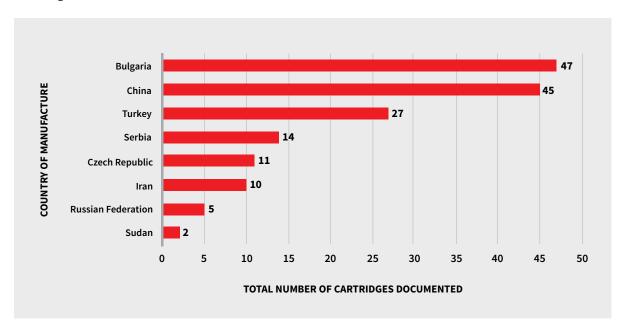
# Table 2 The sample in brief

# RECENTLY MANUFACTURED AMMUNITION (2010 AND AFTER)

- 10 per cent of the sample dates from 2010 or later (see Figure 1).
- Chinese and Bulgarian cartridges account for more than half of this recently manufactured ammunition.
- 7.62 x 54R mm ammunition, employed in PKMpattern general-purpose machine guns and some rifles, comprises nearly half of the recently manufactured ammunition in the sample.
- 5.56 x 45 mm ammunition is the second most common type in this date range. It is a NATO standard calibre in widespread use among Iraqi defence and security forces.

- Unusually, 7.62 x 39 mm ammunition, used in Kalashnikov-pattern assault rifles that are prolific in the region, accounts for only five per cent of the sample.
- Of the 9 x 19 mm pistol ammunition documented, Turkish-manufactured cartridges, dating from 2011 to 2014, accounted for 17 per cent of the sample. CAR documented samples of this ammunition in both Iraq and Syria.

Figure 1
Cartridges manufactured 2010–14



# CIRCUMSTANCES AND MATERIEL DOCUMENTED

## AMMUNITION CAPTURED IN NORTHERN SYRIA - GATASH

## **Description**

The YPG captured two 120 mm mortar ammunition boxes containing 237 rounds of 14.5 x 114 mm ammunition. The sample includes ammunition manufactured in China, Iraq, North Korea, Romania, and the Soviet Union. Most of the cartridges date from the 1970s and 1980s.

## **Captured on**

22 July 2014

## **Captured in**

Gatash, Syria (GPS: 36.8435248, 38.0462551)

#### **Documented on**

25 July 2014

## Materiel

#### Two Chinese 14.5 x 114 mm cartridges manufactured in 2009 and 2011





## AMMUNITION CAPTURED IN NORTHERN SYRIA - AVDOKÉ

# **Description**

The YPG captured five different ammunition calibres from IS forces in Avdoké. Most are 7.62 x 54R mm in calibre and manufactured in the 1980s. They include cartridges manufactured in Iran, the former Czechoslovakia, the Russian Federation, and the United States.

# **Captured on**

13 July 2014

## **Captured** in

Avdoké, Syria (GPS: 36.688712, 38.794497)

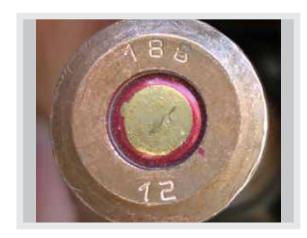
# **Documented on**

26 July 2014

# **Materiel**

# 7.62 x 54R mm

Russian 7.62 x 54R mm ammunition, manufactured at LVE Novosibirsk Cartridge Plant JSC in 2012 and 2013.





ISLAMIC STATE FORCES IN IRAQ AND SYRIA USE IRANIAN-MANUFACTURED AMMUNITION DATING FROM 2006 TO 2013.

Iranian 7.62 x 54R mm ammunition, manufactured in 2006, 2008, and 2013 by the Defense Industries Organization (DIO) Ammunition and Metallurgy Group (AMIG).







The dates of manufacture indicate that, if intentionally transferred from Iran (initial destination unknown), such a transfer would contravene UN Security Council resolution 1737 of 23 December 2006, which prohibits such exports.

# **7.62 x 54R mm** (contd)

# WOLF 7.62 x 54R mm ammunition with unknown date of manufacture.



WOLF is a trademark of Sporting Supplies International (SSI), a company based in California,<sup>5</sup> which markets certain lines of Russian-manufactured military ammunition. Although SSI markets WOLF ammunition to US civilians, the US government has widely purchased and distributed it.<sup>6</sup> CAR also documented identical WOLF ammunition at a checkpoint captured from IS forces by Peshmerga units in Iraq on 10 August 2014 (see below).

# 7.62 x 51 mm/.308 Winchester7

Czech .308 Winchester ammunition, manufactured in 1987 by Sellier and Bellot, mixed with Syrian 7.62 x 51 mm ammunition, manufactured in 1960 by the Industrial Establishment of Defence.





CAR found the ammunition loaded into the magazine of a Croatian Elmech EM 992 sniper rifle.

# 9 x 19 mm

Turkish 9 x 19 mm ammunition, manufactured in 2013 and 2014 by Makina ve Kimya Endüstrisi Kurumu (MKE).





CAR found the ammunition loaded into the magazine of a semiautomatic pistol. YPG forces also captured Turkish ammunition manufactured in 2013 from IS forces in Iraq.

# 7.62 x 39 mm

Iranian 7.62 x 39 mm ammunition manufactured in 2011, 2012, and 2013 by the DIO, AMIG.<sup>8</sup>







Sudanese 7.62 x 39 mm ammunition manufactured in 2012 by the Military Industry Corporation (MIC).



# 12.7 x 108 mm

Chinese 12.7 x 108 mm ammunition manufactured in 2009 and 2010.





# **AMMUNITION CAPTURED IN NORTHERN IRAQ - SINJAR MOUNTAINS**

# **Description**

During an assault on IS forces in Iraq, the YPG captured  $5.56 \times 45$  mm ammunition loaded into the magazines of 11 M16A4 assault rifles and  $9 \times 19$  mm ammunition found in the magazine of a Glock G19 semi-automatic pistol.

# Captured on

4 August 2014

## **Captured in**

Sinjar Mountains (North of Bara), Iraq (GPS: 36.445314, 41.509781)

## **Date documented**

11 August 2014

#### Materiel

# 5.56 x 45 mm

US 5.56 x 45 mm ammunition manufactured in 2005, 2006, and 2007 at the Lake City Army Ammunition Plant, Independence, Missouri, US. The Lake City Army Ammunition Plant is a US Government-owned facility operated by Alliant Techsystems (ATK).







Serbian 5.56 x 45 mm ammunition manufactured in 2007 by Prvi Partizan A.D.



# AMMUNITION CAPTURED IN NORTHERN IRAQ - GWER AND HAWERAH

# Description

Peshmerga forces directed the CAR investigation team to several IS firing positions, which the force had occupied before being displaced by a Peshmerga offensive on 10 August 2014. CAR documented heavy concentrations of expended 5.56 x 45 mm, 7.62 x 39 mm, and 7.62 x 54R mm ammunition at these positions. The US and Serbian 5.56 x 45 mm ammunition matches samples previously captured in Iraq from IS forces.

## Fired on

10 August 2014

#### **Documented in**

Locations between Gwer (Al Kuweyr), Iraq (GPS: 36.110200, 43.576160); and Hawerah, Iraq (GPS: 36.11694, 43.59356)

#### **Date documented**

13 August 2014

# **Materiel**

# 5.56 x 45 mm

US 5.56 x 45 mm ammunition manufactured in 2005, 2006, 2007, and 2008 at the Lake City Army Ammunition Plant, Independence, Missouri, US.









# **5.56 x 45 mm** (contd)

Serbian 5.56 x 45 mm ammunition manufactured in 2009 and 2010 by Prvi Partizan A.D.









# 7.62 x 39 mm

Iraqi 7.62 x 39 mm ammunition manufactured in 1998 by the Al Yarmouk State Establishment.



# 7.62 x 54R mm

7.62 x 54R mm WOLF ammunition, identical to WOLF cartridges documented in Syria (see above).



# **ENDNOTES**

- 1 For an analysis of previously captured IS weapons see Conflict Armament Research. 2014. 'Islamic State Weapons in Iraq and Syria: Analysis of weapons and ammunition captured from Islamic State forces in Iraq and Syria.' Dispatch from the Field. London: CAR. September.
- 2 This Dispatch aims to review physical evidence from the ammunition captured from IS forces, or collected from the battlefield, in order to provide a fuller understanding of its types and origins. In the absence of other forms of documentary evidence, it is not yet possible to attribute responsibility for the supply of this ammunition to IS, or to identify the complete chain of custody of the ammunition presented in this Dispatch.
- 3 United Nations Resolution 1737 (2006), expanded by resolutions 1747 (2007), 1803 (2008) and 1929 (2010). <a href="http://www.un.org/sc/committees/1737/">http://www.un.org/sc/committees/1737/</a>
- 4 CAR documented one Soviet-manufactured 7.62 x 54R mm cartridge from 1945.
- 5 Sporting Supplies International, Inc. n.d. 'WOLF Performance Ammunition.' <a href="http://www.trademarkia.com/wolf-performance-ammunition-75431657.html">http://www.trademarkia.com/wolf-performance-ammunition-75431657.html</a>
- 6 Chivers, C.J. 2009. 'Arms Sent by U.S. May Be Falling Into Taliban Hands.' *New York Times*. 19 May. <a href="http://www.nytimes.com/2009/05/20/world/asia/20ammo.html?pagewanted=all&\_r=0">http://www.nytimes.com/2009/05/20/world/asia/20ammo.html?pagewanted=all&\_r=0</a>.
- 7 Jenzen-Jones, N.R. 2014. Following the Headstamp Trail: An Assessment of Small-Calibre Ammunition Documented in Syria. Small Arms Survey Working Paper No. 18. Geneva: Small Arms Survey. April. <a href="http://www.smallarmssurvey.org/fileadmin/docs/F-Working-papers/SAS-WP18-Syria-Headstamp-Trail.pdf">http://www.smallarmssurvey.org/fileadmin/docs/F-Working-papers/SAS-WP18-Syria-Headstamp-Trail.pdf</a>
- 8 CAR documented Iranian 7.62 x 39 mm ammunition from 2013 at a position occupied by IS forces in Iraq until 10 August 2014.



CAR CONTINUES TO TRACE THE ORIGINS OF THE AMMUNITION AND WILL DEPLOY ADDITIONAL FIELD INVESTIGATION TEAMS TO IRAQ AND SYRIA TO DOCUMENT MATERIEL FROM IS FORCES.



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