

## FRONTLINE PERSPECTIVE

# INSIDE ISLAMIC STATE'S IMPROVISED WEAPON FACTORIES IN FALLUJAH

## KEY FINDINGS

### INDUSTRIALISED PRODUCTION

Effective organisation and a strict division of labour has allowed Islamic State (IS) forces to manufacture improvised weapons on a quasi-industrial scale.

### WEAPON VOLUMES IN THE THOUSANDS

Due to these efficiencies, single workshops have manufactured many thousands of weapons over a matter of months. This large-scale, and highly organised, production supplies IS with a range of improvised rockets and bombs to supplement its arsenal of military grade weapons.

### BUREAUCRATIC ORGANISATION

Documents recovered by CAR field investigation teams in Fallujah confirm that IS's 'Committee for Military Development and Production,' oversees improvised weapon production and coordinates labour and manufacturing capacity across a range of workshops.

### INNOVATION

Workshop notes retrieved from a production facility in Fallujah indicate a research and development programme, with IS forces having tested various types of weapons prior to full-scale production.



IS forces captured Fallujah in January 2014 and occupied the city until its liberation by Iraqi forces on 26 June 2016. CAR field investigation teams entered the city on 29 June 2016, alongside the Iraqi Counter-Terrorism Service and Popular Mobilisation Forces. The teams systematically documented improvised weapon production workshops and collected documentary evidence left by IS forces in the Shurta neighbourhood.

Recently abandoned machinery, component parts, and chemical precursors found in the Fallujah workshops indicate that IS forces engaged in large-scale improvised weapon production until Iraqi forces launched liberation operations in late May 2016.

In two workshops, CAR field investigation teams recovered documents, which detail the daily production of weapons<sup>1</sup>. One document, issued by the IS 'Committee for Military Development and Production' in the 'Western Provinces,' records production management's daily schedules for 2016. This document, and the physical evidence observed in the facility, suggests a sophisticated production chain, involving seven different workshops responsible for various stages of a weapon's production.

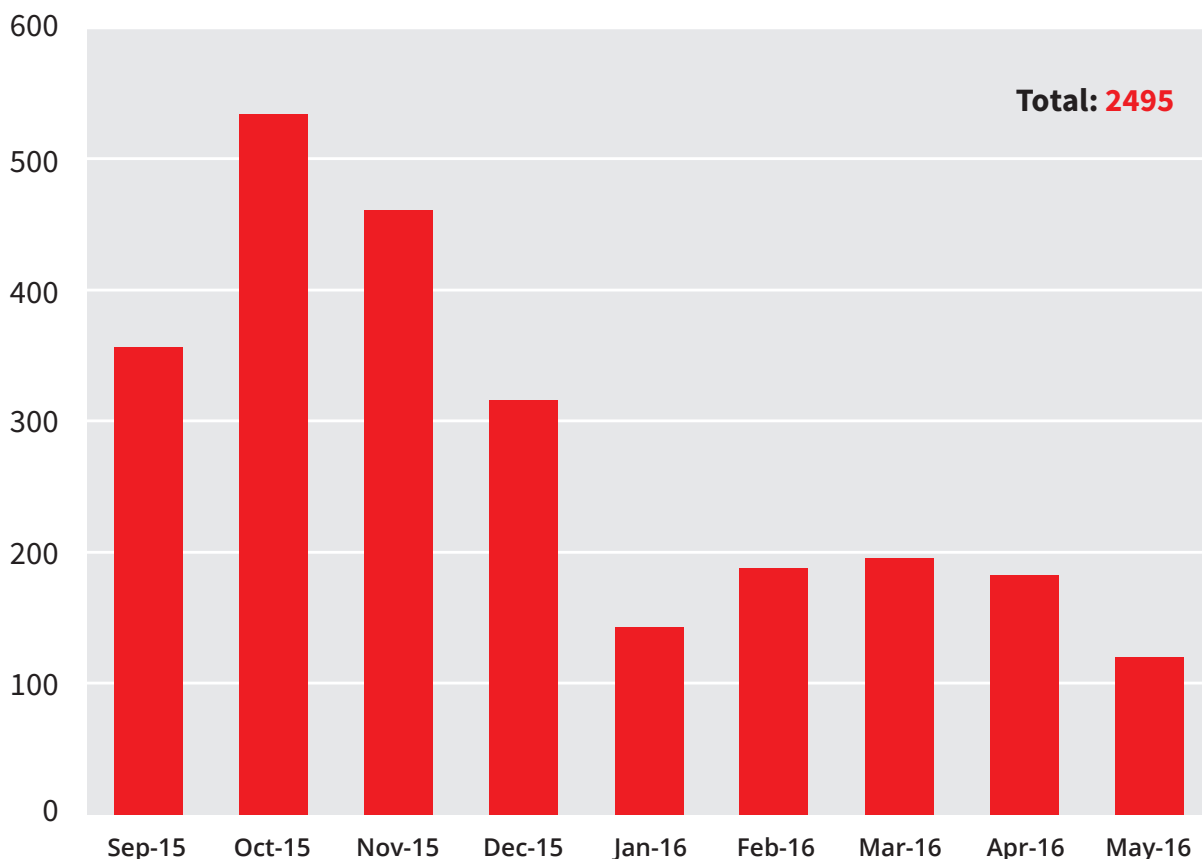
العدد	اسم الورشة	اليوم
٣	ورشة أبو خطاب الجنابي	السبت
٣	ورشة أبو قاسم	الأحد
٣	ورشة أبو عائشة	الاثنين
٣	ورشة أبو يونس	الثلاثاء
٣	ورشة أبو اسلام اللقي	الأربعاء
٣	ورشة أبو جعفر كورة	الخميس
٣	ورشة أبو طيبة اللقي	الجمعة

ملاحظة / يكون تواجد الأخوة المرابطين أمام مكتب العقار الساعة ٦،٣٠ مساءً

أبو احمد لتطوير والتصنيع الحربي  
الاندر

**Production management's daily schedule for 2016**

### Fallujah – IRAM production for one workshop



مرفقيات قنابل الكوارتز في تعصبات الرقوس  
مذا هواريخ الخرافة بالتفانيل والتواريز

عدد الرقوس	كمية المتبل	بالمساعين	التاريخ	مباردين	أسماء
١٢	٧٢٠		٢٠١٥/١٠/١٣		الشارع
١٨	١٠٨٠		٢٠١٥/١٠/٢١		الأرجاء
١٨	١٨٠		٢٠١٥/١٠/٢٤		الجمعة
١٧	١٠٠		٢٠١٥/١١/٠١		الأحد
٢٢	١٣٢٠		٢٠١٥/١١/٠٦		الإثنين
٢٠	١٢٠٠		٢٠١٥/١١/٠٧		الثلاثاء
١١	٦٦٠		٢٠١٥/١١/٠٨		الأربعاء
٢٠	١٢٠٠		٢٠١٥/١١/٠٩		الخميس
٢٠	١٢٠٠		٢٠١٥/١١/١٠		الجمعة

**Document listing improvised weapon production in one workshop from September 2015 to May 2016.**



**Notes detailing required lengths of detonating cord and indicating that a high-ranking IS bureaucrat, in this particular case the assistant to the 'governor,' issues spools of detonating cord.**

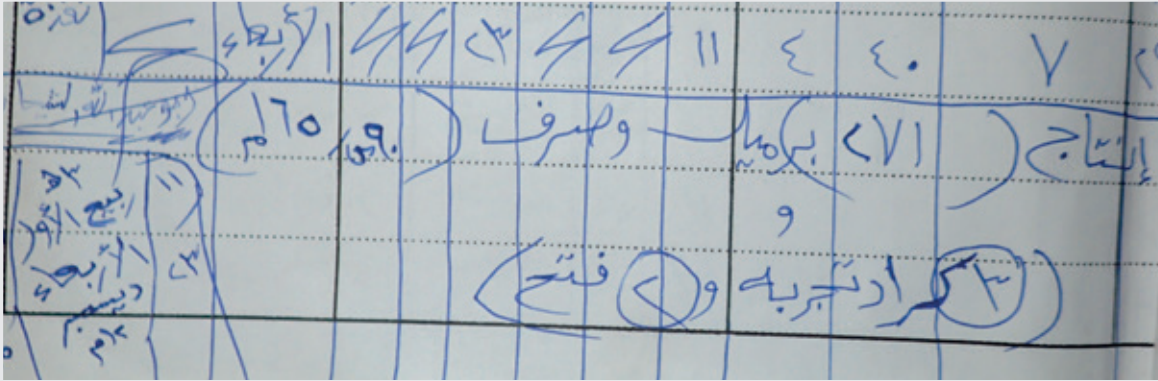


**Lathe (left) and lathe-produced point detonating fuses (right)**

The complexity of production is clearly demonstrated in one of the workshops visited by a CAR field investigation team. This workshop manufactured improvised rocket-assisted munitions (IRAM); a process that involved machining warheads, rocket motor nozzles, and coupling screws. Machined cones were then welded to warheads and fitted with workshop-lathed

point detonating fuses. In another facility, IS forces filled the warheads with homemade explosive and loaded homemade propellant.

CAR field investigation teams previously documented similar evidence in the production of improvised weapons in Kobane and Tikrit, in 2015, and in Ramadi in 2016.<sup>2</sup>



Notes indicating that IS forces tested three 'Grad' rockets, and two 'Fateh' rockets in December 2015, prior to larger-scale production.

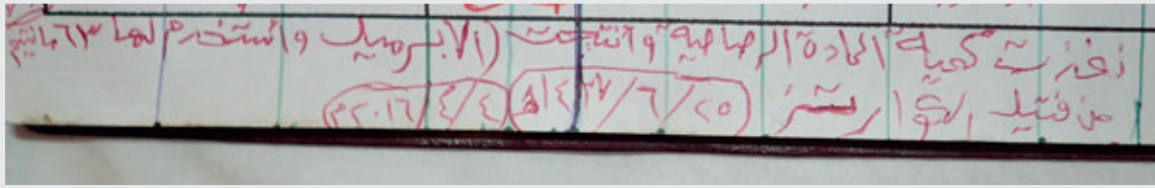
جدول هواريخ الفتح في تعبئة الرؤوس العربية

التسليم	العدد	التاريخ		التاريخ		مخ	مخ
		اليوم	الشهر	اليوم	الشهر		
١	٦	١٩	٥	٢٧	٢	٢٠١٦	أبو عبد الله الشياطين
٢	٧	٢٠	٥	٢٨	٢	٢٠١٦	أبو عبد الله الشياطين
٣	٢	٢١	٥	٢٩	٢	٢٠١٦	أبو عبد الله الشياطين

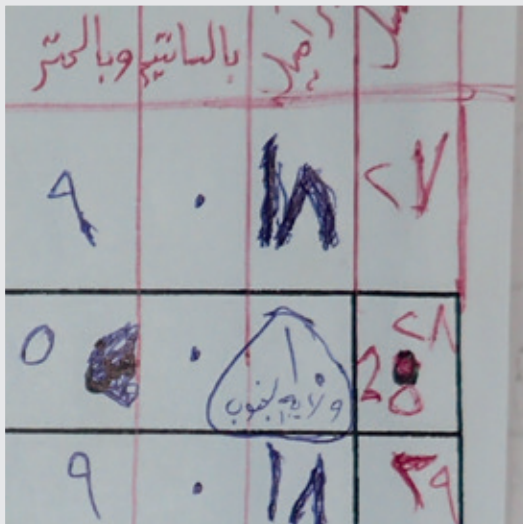
Document recording the production by IS forces of 15 'Fateh' rockets, following the December 2015 tests. The workshop produced the rockets between 27 February and 2 March 2016, and transferred them to two facilities in Fallujah (these are named in Document 1).

التسليم	العدد	بالسنة	بالسنة	اليوم	الشهر	اليوم	الشهر	التاريخ	الملاحظات
٧	١٥	٧	٥	١٩	٥	٢٧	٢	٢٠١٦	أبو عبد الله الشياطين
٨	٢٤	١٥	٥	٢٠	٥	٢٨	٢	٢٠١٦	أبو عبد الله الشياطين
٩	٢١	١٥	٥	٢١	٥	٢٩	٢	٢٠١٦	أبو عبد الله الشياطين

Notes dated February 2016, which detail the movement of component parts between workshops, including the names of supplier and recipient facilities. The notes confirm a systematic approach to production, with specialised manufacturing tasks performed by different workshops.



**Notes dated April 2016, in which workshop personnel write concerning 'grey material,' which is used in the production of weapons. This grey material is likely a mixture of ammonium nitrate and aluminium, which is one of the most commonly observed homemade explosive substances produced in Iraq.**



**Notes dated April 2016, in which workshop personnel write that 10 improvised weapons are destined for the 'Southern Province,' which is situated south of Baghdad. These notes underscore how Fallujah's workshops supplied IS forces elsewhere on a 'manufacture to order' basis.**

١٠	٢٨	١	١٠	١٠	٢٨
٢	٢٩	٢	١٠	١٠	٢٩
٥	٤٠	٥	٥	٥	٤٠
٤	٤١	٤	٥	٩	٤١
١	٤٢	١	١	١	٤٢
٥	٤٣	٥	٥	١٥	٤٣
٣	٤٤	٣	١٥	١٥	٤٤
٥	٤٥	٥	٤٥	٤٥	٤٥
١٣	٤٦	١٣	٧	٥	٤٦
١٠	٤٧	١٠	١٠	١٠	٤٧

**The last entry in the document, dated late May 2016. Entries cease following the launch of operations by Iraqi forces to recapture the city.**

## ENDNOTES

<sup>1</sup> CAR commissioned two, independent translations of the recovered documents. CAR would like to express thanks to Ali Aziz and Farah al-Mousawi for translation.

<sup>2</sup> See Conflict Armament Research. 2006. 'Tracing the supply of components used in Islamic State IEDs.' London: Conflict Armament Research. February. [http://www.conflictarm.com/wp-content/uploads/2016/02/Tracing\\_The\\_Supply\\_of\\_Components\\_Used\\_in\\_Islamic\\_State\\_IEDs.pdf](http://www.conflictarm.com/wp-content/uploads/2016/02/Tracing_The_Supply_of_Components_Used_in_Islamic_State_IEDs.pdf)