Lessons learned from CAESAR deployment in Iraq

By Col. Olivier Fort

From August 2016 till April 2019, the French Army has been committed, alongside with the U.S. Army, in Operation Inherent Resolve (Chammal for France) with Task Force (TF) Wagram and its CAESAR guns. More than 1,100 French Soldiers have been deployed within this TF in Iraq to support ground troops in the liberation of territories under Daesh control, with a record of more than 2,500 fire missions conducted. This article deals with the lessons learned by the French Army on the longest commitment of CAESAR guns in operations. One has to wonder if when the new gun was dubbed CAESAR, its designers had in mind the famous line from Gladiator, “at my signal unleash hell.”

Since 2008, when it was fielded in the French artillery, the CAESAR gun has been, almost constantly, deployed in operations: 2009-2012 in Afghanistan, 2013-2018 in Mali/Sahel area of operations, 2016-2019 in Iraq. From these operations, in differ-
ent circumstances, many lessons have been learned. The French artillery itself has gained a great deal of useful knowledge from Iraq, in a near high-intensity context. Alongside the “Redlegs,” the French gunners unleashed 16,000 rounds on the Islamic state of Iraq and the Levant (ISIL) from September 2016 to December 2018, living up to all expectations of them. The French artillery commitment was decided by President François Hollande, in the aftermath of the terror attack, in Nice, on July 14, 2016. Since then all the artillery regiments from the combined arms brigades have deployed at least once for a five-month tour.

The originality of Operation Chammal for us, is double. First, only artillery and no infantry or cavalry troops were deployed. Second only the gun end, with a minimal logistic autonomy, and artillery C2, were deployed (no forward observers, radars or unmanned aerial vehicles (UAVs) were deployed). UAVs and radars were part of the U.S. battalion. The French artillery force was called TF Wagram. Initially there were six guns and then from April 2018 this changed to three guns. The mission was similar to that of the U.S. gunners, to support the Iraqi army and liberate its territory, and the CAESAR detachment was therefore integrated in the U.S. artillery battalion.

The rapid evolution of this pattern of operations uniquely enabled all artillery regiments to operate in different circumstances, and bring different lessons to the fore.

**Long-range artillery: 68th Régiment d’Artillerie de Marine. August 2016 - February 2017**

This mandate took part in the move toward Mosul, and the liberation of East Mosul. As the Iraqi forces were closing in on Mosul, CAESAR’s 52-caliber gun provided long-range capability to the artillery force. The rate of progression was fast and the long-range gun was quickly needed. The clearance to deploy the gun further north, closer to the frontline, took time at the national level. Consequently 75 percent of the fire missions were fired at charge five and six above the M777 or Paladin maximum range (with classic munitions). The maximum range achieved on a mission was 37,608 meters (versus 29,090 meters in Afghanistan).

This operation marked the return of high-intensity operations for the ground troops, supported by our artillery, not seen since the campaign in Indochina. The Iraqi infantry showed impressive bravery, but they sustained very high losses fighting in an urban environment combined with ISIL fanaticism. For that reason direct support to the infantry regained all its importance beyond just destroying the enemy: to also prevent them from moving, to conceal our allies, and to boost the morale of those who risked their lives at close range with powerful strikes at the right time. A long-forgotten aspect of the covering mission by the artillery was particularly necessary, ISIL sometimes used UAVs so that the Iraqi infantry would waste their ammunition firing against them. ISIL would then assault these units with less combat power. In that circumstance, artillery firepower became even more critical.

**Near high intensity rates of fire: 11th Régiment d’Artillerie de Marine. February - June 2017**

This mandate was the liberation of West Mosul. During this period 11th RAMa fired 5,366 rounds, which doubled the previous and the following mandate. The rate of fire was 200 rounds per gun per month, a steep change from the Afghanistan operations between 2009 and 2012 (13 rounds per gun per month) and Mali in 2013 (52 rounds per gun per month). Direct support missions continued with an accelerated pattern, a 45 minute long smoke fire mission, conducted to mask the maneuver of the Iraqi infantry. During this phase the French artillery was used intensely to prevent moves to and from the dense urban areas and to fix the enemy infantry and it did so with a noticeable efficiency.

The use of our artillery in urban areas was not allowed, due to the absence of a guided 155 mm munition to avoid collateral damage, a major capability lesson from this conflict. Tests are currently being undertaken to qualify the Excalibur on the CAESAR. The French gunners were impressed by the clever, and very efficient, counter, indirect fire tactics, displayed by the U.S. gunners, using guided 155 mm. Above all, the rules of engagement took into account the threat posed by ISIL indirect Fires to the coalition troops and civilians.

According to a United Nations report by United Nations Assistance Mission for Iraq/Office of the United Nations High Commissioner for Human Rights, among the Ninawa governorate civilian victims in Mosul, between Oct. 17, 2016, and July 10, 2017, of the 3,486 casualties that had an identified cause of death or injury, 41 percent were due to artillery strikes, of which 95 percent were due to ISIL artillery. Although in an urban area this artillery was quickly silenced.

**11th RAMa cleverly decided to use artillery deception in combination with the U.S. gunners**

In order to localize ISIL mortars, some fake smoke fire missions were activated by the French gunners, so ISIL, expecting an attack, shot a defensive mortar fire mission. The mortars were detected and swiftly destroyed by guided munitions. This tactic was regularly conducted with warning rounds, as the ammunition of choice, to elicit an enemy artillery response. This ammunition had already been used in Afghani-
stan with the same effect. It gives the advantage of having a ballistic identical to the high explosive (HE) round, and a very limited amount of explosive. It is therefore possible to use it in urban areas without risks of collateral damage.

High intensity missions in very hot temperatures: 93rd Régiment d'Artillerie de Montagne. June - October 2017

Operations became more mobile after the liberation of Mosul. In this situation, CAESAR again displayed the impressive qualities previously demonstrated during the Mali campaign in 2013. However, in the Iraqi summer of 2017, the combination of extreme temperature of up to 47 degrees Celsius, and high-intensity fire missions tested and proved the extreme resilience of the gun. CAESAR is the only 52-caliber gun in the world that has been used in operations near to high intensity, and in such extreme conditions. The 52-caliber guns logically have higher pressures in the tube, and at high temperatures the pressure further increases. CAESAR passed the test very well, vindicating the extensive trials taken in Djibouti a decade ago.

In this mobile phase the mountain gunners operated their three-gun platoons far from each other, in different trajectories. This also outlined the limits of very small artillery platoons for deployments (a normal French artillery platoon has four guns). In fact, on occasion, the extreme temperatures would have required time to let a gun cool down, and this could have been a challenge with only three guns at hand. Despite these extreme conditions, CAESAR again proved its reliability, as once more, no gun-related accidents occurred. This is often a much underrated quality.

High mobility operations: 40th Régiment d'Artillerie. October 2017 - February 2018

The following mandate saw another change of scene, and greater mobility. The 40th Régiment used CAESAR in an artillery raid, at night, to destroy enemy positions from an extremely unexpected direction, creating a state of uncertainty. The enemy defensive positions, part of an outer defensive ring, were destroyed at long range from the rear. Once more this operation was the outcome of a close cooperation between French and U.S. gunners.

The French guns were under the direct support from Paladins, deployed in the forward operating base that they departed from. More mobile operations needed more mobile logistics. The logistical autonomy of TF Wagram had to be reinforced as it could not rely as much as it had previously on the convoys close to the theatre depots.

First missions near Syrian border: 3rd Régiment d'Artillerie de Marine. February - June 2018

For a while TF Wagram remained the only artillery to support ground operations close to the Syrian border. During these operations in the desert, collateral damage risks were nonexistent. Fire missions were called to destroy small targets, to deny enemy movements and to harass and to destroy dug-in munitions caches. In the last case it combined the gun’s accuracy and the deep penetration of FRAPPE fuzes.

During this mandate, the very rough conditions of living in the western desert frontiers, brought to light the well balanced structure of our artillery detachment, particularly the gun crew. The five-man crew are necessary for regular, tactical, gun maintenance operations, in a very hot and dusty environment. Moreover, for a time poor sanitary conditions affected the crew, and lesser numbers could have had consequences on the operational availability of the gun detachment. Also taking into account that a truck-mounted gun, has far less maintenance requirements than a tracked gun with a turret. These examples are invaluable for capability development.

Danger close fire missions: 35th Régiment d’Artillerie Parachutiste (RAP). June - October 2018

More than the previous deployments, the 35th RAP had to support troops in close contact. Once again, (regardless of the great ac-
accuracy of CAESAR), guided munitions are key, especially in urban environments. However, standard HE are critical to keeping the enemy’s head down and destroying them at a distance when possible. This would not be achievable with a guided 155 alone.

**First operational mission for BONUS anti-armor shell: 68th Régiment d’Artillerie d’Afrique (RAA). November 2018**

On Saint Barbara day 2018, 68th RAA was able to use BONUS ammunitions for the first time in war operations. A column of 40 makeshift ISIL armored vehicles was sent to assail an allied Arab forces position. A fire mission of four BONUS shells destroyed eight vehicles, thus achieving a 100 percent hit rate. This fire mission was of primary importance, because standard training conditions cannot easily replicate realistic combat conditions for such ammunitions that are able to hit moving targets. In total 17 BONUS have been fired before Jan. 11. This mandate also signals itself by the very important battle damage assessment (BDA) inflicted on the enemy. Since ISIL bands liked to break enemy encirclement, the creation of a sizeable buffer zone encouraged them to gather for counterattacks, a trap into which they often fell.

This munition has proved invaluable and could be of primary importance in a conventional warfare situation.

Concluding a decade of operational commitments, artillery operations in Iraq have further strengthened the technical and tactical expertise of the French artillery. Closer from conventional operations, this particular operation enabled our gunners to have a very powerful physical impact on ISIL, and also to reiterate that the efficiency of artillery support isn’t exclusively measured in BDA, nor on the number of ammunitions fired. Artillery as general support fixing the enemy movements at a distance, and at close range smoothed the maneuver of the supported infantry.

Regarding urban warfare, and particularly counterbattery in this context, a lot of lessons have been identified and at first hand the necessity to field guided 155 mm ammunition. In extreme terrain and operational conditions, this operation has once more vindicated the capability choices made in the past 15 years, particularly regarding CAESAR gun and BONUS. The range of 52-caliber munitions will shortly be extended to smoke and illuminate. More CAESARS have now been ordered to replace our armored self-propelled gun, the AUF1.

Finally, despite initial proce-dural and technical constraints due to the fact that France is not a Five Eyes member, interoperability with the U.S. artillery has worked very well, and will be further developed during the NATO exercises in Europe. This interoperability is both technical, and cultural and spans through C2 systems to munitions and tactical understanding.

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*Task Force Wagram emplaces the CAESAR weapon system. (Courtesy image)*