The King of Battle and the defeat of the ISIS Caliphate
Lessons learned from Operation Inherent Resolve 18-19

By Capt. Mathew J. Sullivan
On March 22, 2019, Syrian Democratic Forces (SDF) announced that the village of Baghouz, Syria, had finally been liberated from ISIS. Many fighters remain dispersed throughout Iraq and Syria, the fall of this last sliver of territory within the Middle Euphrates River Valley (MERV) mark the territorial defeat of the Caliphate. Over the last year, cannon artillery played a tremendous role in attaining this victory. From April 2018 to January 2019, troopers from the Field Artillery Squadron “Task Force Steel,” 3rd Cavalry Regiment, deployed to Iraq and Syria in support of SDF. The purpose of this article is to share some select experiences and lessons learned in employing expeditionary Fires in an austere environment. First, we will provide an overview of how cannon artillery impacted the fight against ISIS. Then, we will provide some artillery tactics, techniques and procedures (TTPs) artillery precision-guided munitions (PGMs), operations in an expeditionary setting and maintenance and sustainment in an austere environment.

When TF Steel deployed, ISIS still controlled a 1,200-square kilometer area surrounding Dashisha, a town near the Iraq-Syria border, as well as numerous cities and towns within the MERV. Over the course of nine months, TF Steel supported SDF as part of the Combined Joint Task Force – Operation Inherent Resolve (CJTF-OIR). Second Platoon, A Battery, “King,” supported the fight from over 15 expeditionary fire bases within Syria, while B Battery, “Lion,” provided cross-border Fires from Iraq.

Throughout June 2018, the platoons provided Fires in support of the Dashisha clearance operation. This operation only lasted a few weeks as the massed Fires from air assets, artillery and mortars quickly pushed ISIS to their last stronghold in the MERV. In the coming months, ISIS prepared a defense-in-depth for the upcoming SDF clearance of the MERV by placing improvised explosive devices (IEDs) along suspected SDF axes of advance. Just prior to the offensive, 2/A targeted one of these axes with M825A1 smoke, detonating no less than five IEDs and permitting the SDF to begin their operation unimpeded the following day.

With the beginning of the SDF clearance of the MERV, the onset of fall brought frequent rain and sandstorms. This severely inhibited the ability of intelligence, surveillance and reconnaissance (ISR) and fixed-wing platforms to support SDF and, unfortunately, the enemy knew this. With coalition aircraft unable to see, ISIS launched a massive counteroffensive. While the enemy attacked SDF battle positions in the MERV,
ISIS cannons, rockets and mortars targeted 2/A's howitzers. It was at this time that the all-weather capable King of Battle excelled. Over the course of three days in mid-October, the platoon endured over 70 rounds of indirect fire (IDF), all while continuing to support SDF at the forward line of troops (FLOT) and respond with counterfire. The co-located target acquisition platoon (TAP) from the Utah National Guard's 65th Field Artillery Brigade played a critical role in the counterfire process by providing accurate targeting data from their Q-53 Radar System. The combined efforts of 2/A, the TAP and Marine Corps mortars ultimately halted the enemy's advance. Over the course of those three days, approximately 400 rounds were shot and dozens of ISIS targets were destroyed, neutralized or suppressed to include enemy IDF assets, vehicle-borne improvised explosive devices (VBIEDs), command and control (C2) nodes, and troops in the open.

As the fight pushed deeper into the MERV, 2/B established Fire Base Sa’hem across the border while 1/B conducted “Operation Swift” in December, an air assault to establish a fire base in Makhmur, Iraq. From these locations, Lion prosecuted deep targets within the MERV while 2/A continued to support SDF at the FLOT. By January 2019, ISIS was contained to a few small villages in the MERV, and the platoons were replaced by C Battery, “Carnage,” 2nd Battalion, 32nd Field Artillery Regiment, 1st Brigade Combat Team, 101st Airborne Division (Air Assault). Carnage continued to support the fight until the enemy was contained to the village of Baghouz. In total, TF Steel fired nearly 4,000 conventional and precision-guided munitions (PGMs) in support of SDF.

The precision-guided M982A1 Excalibur and the near-precision M1156 Precision Guided Kit (PGK) were heavily employed in support of SDF, with TF Steel shooting the entire theater's stock of PGK. There are many nuances to employing Excalibur (EXCAL) and PGK, and expertise is hard to attain in training given the financial burden associated with the cost of these munitions. Section and platoon-level leadership should start by familiarizing themselves with the Quick Reference Guide for M1156 Precision Guided Kit. While this publication focuses on PGK, the steps provided to ensure a howitzer is PGM capable is 90 percent of the work in employing these types of munitions. The most frequent issue encountered in maintaining PGM capability was simple key loaders (SKLs) dropping “black” keys. In an expeditionary environment, it is absolutely critical to establish a process for receiving keys remotely from the battalion or brigade S6, and to bring multiple SKLs forward. No matter how well SKLs were maintained, stored and powered down following the proper sequence, over the course of deployment they still occasionally dropped fill. Therefore, having these measures in place will ensure PGM capability is maintained despite issues with a SKL. In addition, units should coincide daily maintenance with a PGK or EXCAL dry-fire mission in order to consistently verify the PGM capability of the howitzers.

With PGK’s threshold Circular Error Probable (CEP) of ≤ 50 meters, this fuze played a critical role in supporting friendly forces in suburban environments. Given its CEP, it also reduced the total number of rounds needed to achieve the desired effects on target. PGK serves as an effective and cost-efficient alternative to EXCAL, and it is important to keep the following considerations in mind regarding how and when to employ the fuze. Not only must the Five Requirements for Accurate Fire be carefully managed, but MET should be updated ideally every 30 minutes instead of the standard four hours. Failure to do so may result in the fuze not being able to correct its flight path sufficiently and deciding not to arm during the “command arm decision” in the last five seconds of the flight path. When transporting PGK, special care and attention must be paid to the fuze’s canard covers. These covers often lost pins and proved feeble in an austere environment, which meant that canard covers had to be replaced in order to set the fuze. PGK should be applied to M549A1 Rocket-Assisted Projectile whenever the rocket will be utilized, and whenever friendly forces are along the gun-target line (note that PGK is not compatible with the older M549 model). This will help mitigate dispersion from the high probable error in range, as well as account for any inconsistencies in the rocket’s burn rate. When able, PGK can also be utilized to mitigate the effects of a cold tube. We found that doing so prevented the first two rounds from landing short, and permitted the following rounds to achieve effects on target with a standard point-detonating fuze.

Throughout the deployment, TF Steel fired over 40 EXCAL with outstanding results. This PGM was utilized on multiple occasions to destroy ISIS C2 nodes, stationary VBIEDs, construction equipment, as well as enemy in buildings. It was especially useful during Danger Close engagements. On one occasion, SDF were cut off and pinned down by ISIS machine gun fire originating from a building only 50 meters away. An EXCAL with a delay setting penetrated the building and destroyed the threat, permitting SDF freedom of maneuver. Even when fired past 37 kilometers (near its maximum range), all rounds landed within their CEP of ≤ 10 meters. Oftentimes, firing the round high angle is not ideal given airspace coordination considerations. It is important to note that with updated Advanced Field Artillery Tactical Data System (AFATDS) software, the M982A1 version of EXCAL can be fired at low angle to reduce its maximum ordinate. No matter how much the projectiles were taken in and out of their casing or transport-
ed, they proved very durable and performed flawlessly. The weight of the projectile is 104.1 pounds (roughly equivalent to the weight of a fused M795 high explosive round). When transported in its casing the projectile weighs 156 pounds and consumes a considerable amount of space. In an expeditionary environment, this was its most significant drawback. However, this was mitigated by factoring it into planning considerations and load-out plans.

Given constant fluctuations in the FLOT, load-out plans were extremely important. At a moment’s notice, the platoons could be required to transport howitzers, vehicles, personnel, ammunition, containers and personal belongings to a new location. There was often only time to conduct a map recon instead of performing doctrinal reconnaissance, selection and occupation of position. With this expeditionary mission set, there were some key considerations that enabled success when hastily moving to a new fire base. First, whether a unit is providing its own organic security or has a dedicated security attachment, it is important to both perform sweeps and create a hasty security plan for the new location. Often times the location might only have a relatively small space that is tenable for artillery. Howitzers should be dispersed as much as possible (at least 75 meters) from each other while avoiding any obstacles in front of the gun. This will ensure the howitzers’ Muzzle Velocity Systems don’t conflict and will avoid potential site-to-crest issues. Finally, in case of the need to rapidly exfiltrate, it is important to ensure that there is not excess ammunition on ground so as to prevent use by the enemy. While there are many other things that will be refined during position improvement, these considerations will allow a unit to safely and rapidly establish a new fire base, employ as many howitzers as possible and provide Fires despite inadequate conditions.

Staying well-supplied on projectiles, fuzes, propellants and primers proved challenging. After sending the ammunition request it would take a minimum of two weeks for the rounds to arrive at the fire base. This was due to the fact that that ammunition had to be procured from Kuwait, then transported to Iraq, and from there to Syria. Therefore, it was imperative that fire direction officers and platoon leaders closely monitored their ammunition consumption and forecasted upcoming requirements. Obtaining parts for the M777A2s at these austere locations proved to be even more of a challenge.

Sustaining the required rate of fire at high charges, all while constantly relocating in a sandy, desert environment proved exacting on the howitzers. Despite thorough and frequent preventive maintenance, checks and services, over time there were still issues with the primary feed mechanism lever, obturator spindle group, dog coupler, elevation belt, power conditioning and control module as well as the DAGR and antenna cables. Depending on whether theater had the part on hand, it could take upwards of a month to receive parts. At certain points in the deployment, 2/A in Syria was forced to employ temporary solutions to keep firing and eventually could only sustain firing capability by rotating between two theater-provided and three organic M777A2s. In order to mitigate these problems, it was imperative to have an experienced, resourceful small arms/artillery repairer capable of creative solutions to keep howitzers in the fight, to establish a relationship with the program manager – towed artillery systems for both assistance in troubleshooting rare/infrequent issues and expediting parts forward, and to bring as many spare howitzer parts forward ahead of time. For any artillery unit that might assume a similar mission set, commanders and executive officers should begin working with their battalion staff to refine the supply process for ammunition and howitzer parts as early as possible.

While there are many other topics that could be discussed, the abovementioned were some of the most important lessons learned while employing expeditionary Fires against the enemy in Iraq and Syria. The defeat of the Caliphate is the culmination of five years of effort by both the SDF and CJTF-OIR. While thousands of men and women across all services and many nations contributed to the fight against ISIS, it is certain that U.S. Army cannon artillery played a decisive role in its territorial defeat.

As the Army continues to shift focus from the counter-insurgency fight to potential conflicts with near-peer adversaries, field artillery has become a top modernization priority. Recent innovations include the capability to effectively double the maximum range of the M777A2 howitzer, as well as the creation of new self-propelled artillery platforms such as the 105 mm “Hawkeye” and 155 mm “Brutus.” As the modernization effort continues, special attention and effort should be paid not only to increasing range and mobility but also to tackling the challenges associated with operating in an austere and expeditionary environment.

References


Capt. Matthew J. Sullivan is currently a student at the Field Artillery Captains Career Course at Fort Sill, Okla. He held all key artillery lieutenant positions and most recently served as the platoon leader for 2nd Platoon, A Battery, Field Artillery Squadron, 3rd Cavalry Regiment in Syria.