## UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF COLUMBIA


## MEMORANDUM OPINION AND ORDER

## I. INTRODUCTION

From 2004 through 2011, the U.S. military faced insurgent attacks in Iraq that Plaintiffs allege were materially supported by Iran. This case involves 99 attacks, and is brought by over 352 Plaintiffs, consisting of military servicemembers and contractors, their estates, and their family members. Plaintiffs' seek relief for the personal injuries of surviving victims, the deaths of victims who were killed, and the intentional infliction of severe emotional distress endured by the families of those injured or killed. Given the scope of Plaintiffs' claims, this litigation is proceeding in phases.

In Lee v. Islamic Republic of Iran, this court found Defendant Islamic Republic of Iran ("Iran") liable for four of the 99 attacks at issue in this litigation. 518 F. Supp. 3d 475 (D.D.C. 2021) (Lee I). Three of the attacks involved "explosively formed penetrators" (EFPs), an Iranian signature weapon. $I d$. at 483. In finding Defendant liable for those attacks, this court took judicial notice of Karcher v. Islamic Republic of Iran, 396 F. Supp. 3d 12 (D.D.C. 2019) (Karcher I) and Fritz v. Islamic Republic of Iran, 320 F. Supp. 3d 48 (D.D.C. 2018), two other cases brought against Iran for its role in killing and injuring U.S. servicemembers in Iraq. Id. at 480. At this
point in the litigation, the court's task is to determine whether Iran is liable for 27 additional nonbellwether attacks against U.S. servicemembers in Iraq between 2005 and 2011. Twenty-five of the attacks were allegedly committed using EFPs, and two of the attacks were allegedly committed with Improvised Rocket-Assisted Munitions (IRAMs).

Collectively, these 27 attacks implicate the claims of: (1) 17 Plaintiffs who were personally injured in the attacks; (2) four Plaintiffs representing the estates of individuals killed in the attacks; and (3) 47 Plaintiffs seeking damages as a family member of a victim injured or killed in the attacks. The court will reserve damages determinations arising from these 27 attacks, as well as issues of liability and damages on the remaining 68 attacks, for later proceedings.

## II. LEGAL STANDARD

Plaintiffs seek default judgment against Iran under the Foreign Sovereign Immunities Act ("FSIA") because Iran has failed to defend this lawsuit. See Pls.' Second Proposed Findings of Fact \& Conclusions of L. in Supp. of Their Mot. for Default J., ECF No. 53 [hereinafter Pls.' Second Proposed Findings]. "[T]he entry of a default judgment is not automatic and requires the exercise of sound discretion." Salzman v. Republic of Iran, No. 17-cv-2475-RDM, 2019 WL 4673761, at *2 (D.D.C. Sept. 25, 2019) (internal quotation marks omitted). A claim for default judgment under the FSIA is governed by the statutory requirement that "[n]o judgment by default shall be entered . . . against a foreign state . . . unless the claimant establishes his claim or right to relief by evidence satisfactory to the court." 28 U.S.C. § 1608(e); Jerez v. Republic of Cuba, 775 F.3d 419, 423 (D.C. Cir. 2014). "[T]he FSIA leaves it to the court to determine precisely how much and what kinds of evidence the plaintiff must provide, requiring only that it be satisfactory to the court." Han Kim v. Democratic People's Republic of Korea, 774 F.3d 1044, 1047 (D.C. Cir. 2014) (internal quotation marks omitted). "[I]ndeed, the quantum and quality of
evidence that might satisfy a court can be less than that normally required." Owens v. Republic of Sudan, 864 F.3d 751, 785 (D.C. Cir. 2017), vacated \& remanded on other grounds sub nom. by Opati v. Republic of Sudan, 140 S. Ct. 1601 (2020).

In addition, "[a] plaintiff seeking default judgment must persuade the trial court that subject-matter jurisdiction and personal jurisdiction over the defendant are satisfied." Karcher I, 396 F. Supp. 3d at 21. "A default judgment rendered in excess of a court's jurisdiction is void." Jerez, 775 F.3d at 422.

## III. FINDINGS OF FACT

The court's Findings of Fact will consist of two parts. See Karcher v. Islamic Republic of Iran, No. 16-cv-232-CKK, 2021 WL 133507, at *6 (D.D.C. Jan. 14, 2021) (Karcher II). First, the court will incorporate prior factual findings from its opinion in Lee I-which address Plaintiffs' attempts to serve Iran, Iran's relationship with Hezbollah and other proxy groups operating in Iraq, and the nature and use of EFPs-and will make additional factual findings regarding the nature and use of IRAMs in Iraq. Second, the court will analyze each attack and determine whether it can be traced back to Iran and its proxies.

Per Plaintiffs' request, the court takes judicial notice of Karcher II, pursuant to Federal Rule of Evidence 201(b), which "extends to judicial notice of court records in related proceedings." Rimkus v. Islamic Republic of Iran, 750 F. Supp. 2d 163, 171 (D.D.C. 2010). In Karcher II, Judge Kollar-Kotelly found Iran liable for 12 of the 27 attacks at issue here. Plaintiffs also have submitted to the court expert reports and underlying records for the 27 attacks at issue, including the 12 already adjudicated in Karcher II. As "the FSIA does not require this Court to relitigate issues that have already been settled in previous decisions," the court can "review evidence considered in an opinion that is judicially noticed, without necessitating the re-presentment of such
evidence." Murphy v. Islamic Republic of Iran, 740 F. Supp. 2d 51, 59 (D.D.C. 2010) (internal quotation marks omitted). The court therefore may rely on the evidence presented to the Karcher II court, but must nonetheless "reach [its] own, independent findings of fact." See Rimkus, 750 F. Supp. 2d at 172. The court here has independently reviewed the evidence submitted.

## A. Service of Process

As a threshold matter, the court must make a factual finding concerning Plaintiffs' attempts to serve Iran, which is a component of the court's personal jurisdiction analysis. Plaintiffs attempted to serve Iran by mailing "one copy of the summons, [amended] complaint, and notice of suit, together with a translation of each" by registered mail with return receipt through the U.S. Postal Service to Dr. Mohammad Zarif, Iran's head of the Ministry of Foreign Affairs. See Aff. Requesting Foreign Mailing, ECF No. 18; Certificate of Mailing, ECF No. 20 [hereinafter Certificate of Mailing].

When 30 days passed without a response from Iran, Plaintiffs served Iran via diplomatic channels. See Aff. Requesting Foreign Mailing, ECF No. 22 [hereinafter Diplomatic Service Request]. The Department of State transmitted a summons, Amended Complaint, and notice of suit to Iran through the Embassy of Switzerland in Tehran on December 18, 2019. Letter from J. Hess, Attorney Adviser, Overseas Citizens Servs., Office of Legal Affairs, to Angela D. Caesar, Clerk of Court for the U.S. District Court for the District of Columbia (Jan. 21, 2020), ECF No. 26 [hereinafter Dep't of State Service Attempt]. Thereafter, Iran had 60 days-or until February 18, 2020, accounting for weekends and holidays-to respond to the Amended Complaint. 28 U.S.C. § 1608(d). It failed to do so.

## B. Iran's Responsibility for the Non-Bellwether Attacks

## 1. Expert Testimony

In Lee I this court qualified seven experts that were previously qualified in Karcher I. See Lee I, 518 F. Supp. 3d at 481-82. The court incorporates herein its prior qualification of the seven experts who testified at the Karcher I trial: Dr. Matthew Levitt, Lieutenant General (Ret.) Michael L. Oates, Colonel (Ret.) Leo E. Bradley III, Captain (Ret.) Donald Wade Barker, Colonel (Ret.) Kevin Lutz, Russell L. McIntyre, and Michael P. Pregent. ${ }^{1}$

## 2. Iran's Material Support to Hezbollah and Other Proxies in Iraq

The roots of Iran's involvement in Iraq date back to the late 20th century, when Iran began supporting Shi'a groups in the region and developed relationships with terrorist organizations that would ultimately operate in Iraq. In 1979, the Supreme Leader of Iran, Ayatollah Khomeini, established what became known as the Islamic Revolutionary Guard Corps ("IRGC"), which was designed to implement the Ayatollah's "vision for an Islamic theocratic government in Iran." McIntyre Report, PX-157², at 4-5. During the 1980s, Iran built up combat forces composed of religious extremists and created "a fully functional militia backed by the Islamic Revolutionary Guard Corps-Qods Force" ("Qods Force"). Levitt Report, PX-154, at 7; McIntyre Report, PX157 , at $5 \&$ n.6. The Qods Force "trains, advises and logistically supports terrorist and insurgent movements, and performs related clandestine and covert special operation activities, on behalf of the Iranian government." McIntyre Report, PX-157, at 6.

[^0]At the same time, Iran and the IRGC were "provid[ing] critical assistance to newlyemerging Hezbollah, which swore an oath of fealty to Iran." Id. at 7. In exchange for Hezbollah's unwavering dedication to Iran and its revolutionary aims, Iran "bankroll[ed], arm[ed] and train[ed] Hezbollah." Id.; see also Levitt Report, PX-154, at 9.

Iran's proxies were already operating in Iraq prior to 2003, when the United States and coalition forces launched Operation Iraqi Freedom and dismantled Saddam Hussein's regime. Levitt Report, PX-154, at 6-7. With Hussein out of power, Iran seized the "historic opportunity to reshape its relationship with Iraq and, in the process, increase its influence in the region." Id. at 7. Iran sought to install "weakened decentralized and Shi'a-dominated" leadership in Iraq and therefore set out to "foster unity among Iraq's various Shia parties and movements so that [it] could consolidate Shia political control . . . over the new Iraqi government." Id. at 8.

To that end, Iran developed numerous Shi'a proxies with a presence in Iraq. Iran backed the Office of the Martyr Sadr, a movement that "spoke for Iraq's disenfranchised Shi'a" and was led by Muqtada al-Sadr. Oates Report, PX-153, at 17. In 2003, the Office of the Martyr Sadr opened "an armed wing" called Jaysh al-Mahdi ("JAM"). Id. Iran offered the movement and its armed wing "financing and weapons training," and the Qods Force "dispatched Hezbollah operatives . . . to help establish JAM and provide it with logistical assistance." Id. al-Sadr ultimately split JAM into different branches to address competing priorities and developed "Special Groups" that were specifically designed to attack American and coalition forces. Id. at 22-24. The Special Groups were successful, and "[f]rom 2003 to 2006, the IRGC primarily used JAM as its proxy to conduct terror operations against U.S. and Coalition Forces in Iraq." McIntyre Report, PX-157, at 16. Iran later recruited new leadership for a Special Group called

Asayb al-Haq or "AAH." Id. at 38-39. AAH also "acted as an Iranian proxy in Iraq, carrying out the IRGC's agenda and promoting its interests." Id. at 39.

Iran provided its proxies with training, weapons, and financial support. Through Hezbollah, Iran brought operatives "into Iran for training and smuggling weapons across the border into Iraq" and sent IRGC and Qods Force operatives to Iraq. Pregent Report, PX-155, at 12. Iran also used its resources specifically to support EFP attacks: "[O]ne of Iran's primary forms of material support to the Special Groups was financing, manufacturing and deploying EFPs." Oates Report, PX-153, at 24. Iran funneled to Special Groups in Iraq EFPs that "were professionally manufactured and specifically designed to target U.S. and Coalition Forces' armor, such as armored patrols and supply convoys." Id. Iran also backed its proxies with extensive financial resources; by August 2007, Iran, through IRGC and the Qods Force, was estimated to be "providing between $\$ 750,000$ and $\$ 3$ million worth of equipment and funding to Special Groups every month." Pregent Report, PX-155, at 12.

## 3. Explosively Formed Penetrators (EFPs)

Twenty-five of the 27 attacks Plaintiffs claim Iran materially supported involved a uniquely lethal weapon known as an explosively formed penetrator, or EFP. EFPs are explosive devices that are intentionally "designed to defeat armor." Barker Report, PX-158, at 5. According to Barker, the earliest known EFPs "appear[ed] on modern battlefields in the 1990s as a weapon deployed in Lebanon by Hezbollah." Id. at 6. EFPs became insurgents' weapon of choice in Iraq after the United States began to "up-armor" its military vehicles, particularly its Humvees, in response to increased attacks from local militias and terrorist cells. See id. at 12-13. EFPs enabled insurgents to specifically target and explode even these heavily armored U.S. military vehicles, and their use against U.S. forces quickly proliferated starting in 2005. See id. at 13-14.

The EFPs that were detonated "in Iraq were generally made with a precision manufactured concave copper disk liner and [high-energy] explosive . . . packed behind the liner." Id. at 6 (footnote omitted). EFPs travel at high speeds and can "pierce through several inches of militarygrade armor like a fist through a wall." Id. at 7 (internal quotation marks omitted). The weapons create "a massive blast overpressure, capable of blowing the doors and turrets from vehicles close to the device," and "the heat and force of the penetrator [can] shatter [a] vehicle's armor and materials inward," propelling "razor-sharp shards of Teflon and steel ripping through the interior compartment." Id. The heat generated by EFPs is powerful enough to "ignite engine fuel and set vehicles ablaze." Id.

EFPs detonate after being armed via remote frequency or insulated command wire. Id. at 10. EFPs that employ a command-wire trigger allow insurgents to detonate the device from a distance of up to 100 meters from the blast site, while remote-frequency triggers give insurgents a 300 -meter range. Id. Once armed, EFPs are "triggered using a passive infra-red device" that is attached to the EFP and can, "for example, detect the heat signature of a passing vehicle" and "send an electrical current [to] set off [an] explosion within the EFP's casing." Id.

## 4. EFPs in Iraq

To combat lethal EFP attacks, the U.S. military began adding even more armor to its vehicles and increased its use of Bradley Fighting Vehicles ("Bradleys") in Iraq. Id. at 15. When the additional armor failed to provide meaningful protection, the U.S. military developed technology that jammed the radio frequencies that insurgents used to trigger EFPs and began using a device known as a Rhino, which was attached to the front of a combat vehicle and simulated the heat of the vehicle to prematurely trigger EFPs. Id. at 16. With each advancement in U.S. technology, however, EFP warfare evolved to become even more stealthy and sophisticated.

See id. at 15-18. For example, when the United States introduced radio-frequency jammers, insurgents began "modulating the frequencies of their remote activators." Id. at 16. And when the United States began attaching Rhinos to its vehicles, insurgents began angling EFPs "backward to account for" the early triggers. Id. at 18.

The sophistication of the devices in Iraq was beyond the capacity of individuals with basic training in IED construction. See Tr. 3 at 18:23-19:10; see also Barker Report, PX-158, at 16. Barker opined that insurgents' ability to defeat the United States' sophisticated countermeasures would not have been possible "without the active involvement, training, equipment and support of the IRGC." Barker Report, PX-158, at 16. Oates testified similarly at the Karcher trial that "the rapid capability development of the Shi'a militia in Iraq from a weapons training and tactics procedure, the speed with which they achieved this capability and their ability to adapt led [him] to believe that there was external assistance provided." Tr. 1 at 98:5-9.

These opinions are confirmed by U.S. military forensic analyses of IED and EFP detonations. Tr. 5 at 27:14-28:10. Via such analyses, the U.S. military was able to "identify signatures by bomb makers" and "the emerging enemy tactics, techniques and procedures" that were being used. Id. "The U.S. military traced much of the machinery used to manufacture the EFPs, high explosives and [passive infra-red] devices deployed in Iraq to Iran and its illicit supply chain." Oates Report, PX-153, at 25. U.S. intelligence ultimately traced tens of thousands of devices that interfered with the United States' counter-EFP measures from Iran to Baghdad. Tr. 5 at 48:16-49:12. Moreover, the U.S. military concluded that Iran and its proxies "provided training both inside and outside of Iraq for Iraqi militants in the construction and use of sophisticated IED technology and other advanced weaponry." Office of the Coordinator for Counterterrorism, U.S. Dep't of State, Country Reports on Terrorism 2008 (Apr. 2009), PX-18, at 183.

These reports are consistent with Barker's testimony at the Karcher trial. Barker explained that "EFPs are extremely complicated systems to build," so Iran and its proxies "would build [EFPs] complete, [and] bring them in as a complete total system, ready to go." Tr. 3 at 44:13-16. Iraqi operatives would then emplace the EFP by "get[ting] in a local vehicle" that was equipped with "a false floor." Id. at 44:19-22. The operatives would pretend that the vehicle had broken down on the road and "pull over on the side of the road" to "raise the hood." Id. at 44:20-21. Meanwhile, operatives inside the vehicle would "pull[] the floor out," "crawl out," "lay the device in the predetermined position[,] and drive away." Id. at 44:22-24.

## 5. Improvised Rocket-Assisted Munitions (IRAMs)

IRAMs are rocket-launched IEDs made from large metal canisters, scrap metal, and ball bearings, and are typically initiated by an "impact type fuze." Pls.' Second Proposed Findings, Ex. B, ECF No. 53-2 [hereinafter Lutz Report], at 1453. The metal canisters are "usually propane gas tanks that have been drained of their contents and filled with high explosives-up to several hundred pounds." Id. Essentially, IRAMs are "airborne versions" of IEDs that are usually "propelled by either a 107 mm or 240 mm military rocket motor and launched from fixed or mobile sites by remote control means such as a cell phone, cordless phone or command wire." Id. Because IRAMs "are launched in an arced trajectory," they can be "aimed over walls that enclose forward operating bases and other military facilities, in a similar manner to a conventional mortar." Id. at 145-46.

In the Karcher I trial, McIntyre, who was qualified by this court in Lee I as an expert "on IED threats to U.S. forces, specifically in Iraq between 2003 and 2011," Lee I, 518 F. Supp. 3d at 482, testified that IRAMs consisted of an empty propane gas tank filled with C4 explosives, nails,

[^1]and chain pieces in order to create "a shrapnel effect which would be truly horrific," Tr. 3 at 110:4 -15. McIntyre explained that IRAMs are propelled by a "107-millimeter rocket motor that was removed from the rocket itself." See Tr. 3 at 110:4-6.

## 6. IRAMs in Iraq

IRAMs are "a signature weapon of Kata'ib Hezbollah ("KH"), an Iranian-backed Shi'a militia Special Group that operated in southern Iraq." See Barker Report, PX-158 at 51 n.88. KH was formed by Iran in 2007, and since then the group has been "responsible for numerous terrorist acts against Iraqi, U.S., and other targets in Iraq." See Karcher II, 2021 WL 133507, at *9. KH was designated as a Foreign Terrorist Organization by the U.S. State Department in June 2009. See id. Barker, who was qualified by this court in Lee I as an expert on "IEDs, EFPs, and counterIED technology," 518 F. Supp. 3d at 482, explains that "IRAMs first appeared in Iraq in November 2007, and, like EFPs, were typically employed against Coalition Forces in the Shi'a dominated areas of southern Iraq." Barker Report, PX-158 at 51 n.88. McIntyre testified in Karcher $I$ that IRAMs were supplied by the IRGC-Qods Force almost exclusively to KH. See Tr. 3 at 110:1722.

Oates, qualified by this court in Lee I as an expert "on the tactical and strategic threats faced by US and Coalition Forces in Iraq [between] 2003 and 2008 . . . including the specific threat to US military forces from [IEDs] and other ordnance, including [EFPs]," 518 F. Supp. 3d at 481, testified that KH perpetrated attacks against Coalition Forces in Iraq using "EFP weapons" and "some sophisticated mortar rounds that were rocket assisted, IRAM[s]." Tr. 1 at 124:5-21. IRAMs deployed by Iranian-backed Special Groups in Iraq tend "to be inaccurate because they lack[] any guidance system and [are] not manufactured to military specifications," which often causes "stabilization issues." See Lutz Report at 146.

## 7. The Attacks

Having established Iran's presence in Iraq and its assistance in developing and providing EFPs and IRAMs, the court now turns to Plaintiffs' evidence of the 27 attacks at issue. The court will first address the 12 attacks adjudicated in Karcher II and will next examine the remaining 15 unadjudicated attacks. The court may rely on the evidence presented to the Karcher II court, but must nonetheless "reach [its] own, independent findings of fact." See Rimkus, 750 F. Supp. 2d at 172. The court here has independently reviewed the Karcher II decision, as well as supplemental evidence from expert Lutz provided to the court regarding Iran's responsibility for each attack.

The court will analyze the attacks using the following framework adopted by the Karcher I court. First, the court will "summarize each attack and identify the harms inflicted" on the respective Plaintiffs. Karcher I, 396 F. Supp. 3d at 30. Then, the court will "identify the key elements of the attack" that indicate whether it was in fact an EFP or IRAM strike. Id. On this point, the court will "make its determinations primarily by applying the evidence of EFP [and IRAM] characteristics," rather than relying on expert testimony. Id. Finally, the court "shall trace the connection," if any, to Iran, based in part on "Mr. Lutz's assessment that a given attack was likely the work of an Iran-sponsored Special Group." Id.
a. September 28, 2005 attack in Umm Qasr: Sergeant Steve Morin, Jr. and Sergeant Margarito Martinez, Jr.

Plaintiffs Brianna Renee Navejas and Sergeant ("Sgt.") Margarito Martinez, Jr. claim that Iran is liable for a September 28, 2005 attack on U.S. forces in Umm Qasr, Iraq. See Am. Compl. 991 237-51. Plaintiff Navejas is the step-daughter of Sgt. Steve Morin, Jr. who was killed in the attack, id. $\mathbb{T \|}$ 239, 241, and Sgt. Martinez was injured in the attack, id. $\mathbb{T \|}$ 245-47.

On September 28, 2005, Sgt. Morin and Sgt. Martinez were part of a unit "providing route security for a supply run between Camp Navistar, in Kuwait near the Iraqi border, and Camp Bucca, located in Umm Qasr, Iraq." Lutz Report at 2. The convoy "consisted of five uparmored M1114 HMMWVs," Sgt. Morin was driving the second vehicle in the convoy, id., and Sgt. Martinez was the front-seat passenger in the third vehicle, Sealed Mot. for Leave to File Certain Docs. Under Seal, ECF No. 54, Ex. A, ECF No. 54-2 [hereinafter Ex. A ${ }^{4}$ ] at 8. As Sgt. Morin's vehicle approached a road bridge, it "was struck on the right side by an" explosive which detonated and sent the vehicle "careen[ing] off of the roadway," rolling "several times before coming to a rest." Lutz Report at 2; see also Ex. A at 8. Sgt. Morin's Casualty Report confirms he was killed in action on September 28, 2005, in Safwan, Iraq, which is near Umm Qasr, Ex. A at 6, and his official death certificate confirms he died from a "penetrating shrapnel wound of the head." Karcher II, 2021 WL 133507, at *14. Plaintiffs have provided additional evidence confirming the circumstances of Sgt. Morin's death in the form of a declaration from Sgt. Martinez, who confirms that "[Sgt.] Morin had been thrown from his HMMWV, and appeared to have sustained injuries to the back of his head. He was dead." Ex. A at 8. Sgt. Martinez confirms that he was present and injured during the attack. Id. at 7-8.

The court finds sufficient evidence in the record showing that the explosive responsible for Sgt. Morin's death and Sgt. Martinez's injuries was an EFP. First, the SIGACT Report attributes the damage resulting from the attack to a "Directional IED," which Lutz explains is a term used to describe an EFP attack. Lutz Report at 2. Second, photographs provided to Lutz by Sgt. Morin's family show "the armor on the passenger side door was entirely defeated," and "[w]hat appears to be an exit penetration is also visible on the roof." Id. at 3. The photographs show the "EFP slug

[^2]traversed the crew compartment from right to left, embedding shrapnel and what appear to be fragments of the liner in the driver's window." Id. at 4.

Lutz concluded the attack "was part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollah-trained Special Group proxies." Id. at 4. He drew this conclusion from the "totality of the available record," including evidence that "the EFP was precision manufactured and copper lined," indicating "it was designed by Hezbollah and the IRGC and likely supplied by the IRGC." Id. at 4-5. Based on a review of the record evidence, the court agrees with Plaintiffs' expert that Iran, acting through its proxies, was responsible for the September 28, 2005 EFP attack on U.S. forces.

## b. April 1, 2006 attack in Baghdad: Sergeant Israel Devora-Garcia

Plaintiffs Adrian Sandoval and Rosa Esther Sandoval claim that Iran is liable for the April 1, 2006 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. q\| 322-28. Plaintiffs are siblings of Sgt. Israel Devora-Garcia, who was killed in the attack. Id. $\mathbb{4 \|}$ 327-28.

On the evening of April 1, 2006, Sgt. Devora-Garcia and another soldier were part of a convoy traveling from the $2^{\text {nd }}$ Battalion, $6^{\text {th }}$ Infantry Regiment along Route Jackson in Baghdad when they "spotted a suspicious looking area of the curb." Lutz Report at 24. The two soldiers dismounted to get a better look at the area, and when Sgt. Devora-Garcia leaned over a pile of trash to shine his light on the unidentified object, the IED detonated instantly, killing him and wounding the other soldier, who later died at a hospital. Id. at 24, 26. Sgt. Devora-Garcia's Casualty Report confirms he was killed in a hostile action in Baghdad on April 1, 2006. Ex. A at 20.

There is sufficient evidence in the record to demonstrate that this attack was the result of an EFP. The IED report lists the "main charge configuration" as an EFP, and the SIGACT Report
identifies the mode of attack as a "Directional IED" which, as explained above, indicates the use of an EFP. Lutz Report at 25. There were at least two EFP incidents at that location over the previous 60 days, and the fragmentation recovered included "two bolts that had holes drilled in them," which is consistent with an EFP attack. Id. at 25 . The explosive ordnance disposal (EOD) report notes that, based on the "fragmentation that was recovered and the area in which the [d]etonation occurred[,] it is reasonable to assume that the device was in fact a multiple EFP array." Id. at 25 .

Lutz concluded that Sgt. Devora-Garcia was killed using "an EFP of original Hezbollah and IRGC design that was supplied by the IRGC," and that "the weapon was likely deployed by an IRGC-sponsored Special Group." Id. at 24. Lutz further opined that the EFP was "likely precision manufactured and copper-lined" and an "IRGC-sponsored Special Group was likely involved in the assembly and emplacement of the EFP." Id. at 27. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for Sgt. Devora-Garcia's death in the April 1, 2006 attack was an EFP traceable to Iran and its proxies.

## c. April 25, 2006 attack in Baghdad: Staff Sergeant Shane Irwin

Plaintiffs Staff Sergeant (SSG) Shane Irwin, Helen Marguerite Irwin, Nicole Irwin, and minor T.R. claim that Iran is liable for the April 25, 2006 attack on U.S. forces in Sadr City, Iraq. See Am. Compl. 19 345-54. Plaintiff SSG Irwin was injured in the attack, and the remaining plaintiffs are SSG Irwin's mother, sister, and daughter. Id. $\mathbb{4 \|}$ 346, 350-53.

Around 1:13 a.m. on April 25, 2006, SSG Irwin, SSG Erik Roberts, and SSG Luke Murphy were traveling with a convoy when "their up-armored M1114 HMMWV was struck by a multiarray EFP." Lutz Report at 28. SSG Irwin was driving the vehicle, and "suffered lacerations, smoke inhalation and ruptured ear drums." Id. at 28-29. SSG Irwin's medical report confirms
that he had "exposure to [a] blast event occurring in April 2006 while in Iraq [when] driving [a] vehicle that was hit with an EFP." Ex. A at 22.

There is sufficient evidence to demonstrate that this attack was the result of an EFP. The SIGACT Report states that the attack was the result of a "Directional IED," which "indicates the likelihood that this attack involved the use of an EFP." Lutz Report at 29. The Post Blast Analysis "determined the IED strike to be a multiple array EFP." Id. The fact that "the vehicle was set ablaze" due to the explosion supports the conclusion that it was the result of an EFP attack. Id.

Lutz concluded that an "EFP array" was used to attack the vehicle, and the damage "strongly indicates that the EFP array was likely copper-lined and precision manufactured." Id. at 32. Lutz further opined that an "IRGC-sponsored Special Group was likely involved in the assembly and emplacement of the array." Id. Photographic evidence shows an "exit wound" in the rear passenger door, which "indicate[s] that the EFP detonated along the left side of the vehicle," and shows significant damage to the up-armored M1114 HMMWV, which is a strong indicator that the blast was a result of an EFP. Id. at 30. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for SSG Irwin's injuries in the April 25, 2006 attack was an EFP traceable to Iran and its proxies.

## d. May 5, 2006 attack in Mahawil: Staff Sergeant Nathan Vacho

Plaintiff E.V. claims that Iran is liable for the May 5, 2006 attack on U.S. forces in Mahawil, Iraq. See Am. Compl. $1 \mathbb{1 4}$ 364-71. Plaintiff is the daughter of SSG Nathan Vacho, who was killed in the attack. Id. बी $368-71$.

On the morning of May 5, 2006, a patrol consisting of four up-armored M1114 HMMWVs was returning from a mission at the Regional Embassy Office in Mahawil when an EFP exploded and struck the first HMMWV on the left side. Lutz Report at 33-34. SSG Vacho was a passenger
in the first HMMWV. Id. at 34. The explosion and subsequent crash killed two soldiers, including SSG Vacho, and wounded three others. Id. at 34 . Eventually, two of the three wounded succumbed to their injuries, and the only surviving soldier sustained partial amputations. Id. at 34. After the attack, the convoy was hit with "small arms fire." Id. at 35. SSG Vacho's Casualty Report confirms he was killed in action on May 5, 2006 in Baghdad as a result of "[b]last and blunt force injuries." Ex. A at 29.

There is sufficient evidence for the court to conclude the attack was from an EFP. The investigating officer determined that the IED was an "approximately 3-5 EFP array judging from penetration holes and spalling," and found "an exit hole through the roof above the rear passenger side door," consist with EFPs. Lutz Report at 36. The investigators concluded that it was "possible the EFP was RC (remote control) armed and PIR (passive infrared) initiated" because "no command wire or other triggering devices were recovered from the scene." Id. at 36. The SIGACT Report states that the IED was an "EFP 5 to 8 array . . . with a PIR trigger," which Lutz explains means that the "investigators on site assessed the weapon to be an EFP array that created five to eight projectiles and was remotely armed via a long-range cordless telephone and triggered via a PIR device." Id. at 37. The IED Report identifies the main charge configuration as an EFP, and the CEXC Report concludes that the up-armored HMMWV was "struck by an EFP" that was PIR initiated "because (1) the lead vehicle was struck; (2) the EFP penetrations centered on the crew compartment; and (3) the convoy was moving at a high rate of speed, making it unlikely that the device was triggered via either command wire or remote frequency." Id. at 38. Finally, there was "visual evidence of the presence of copper found inside the vehicle during the post-blast analysis." $I d$.

Lutz concluded that the attack "involved the use of a copper-lined EFP array of original Hezbollah and IRGC design that was likely assembled and emplaced by an IRGC-sponsored Special Group." Id. at 33. Lutz based his conclusion on "damage to the vehicle [which] strongly indicates that the multi-array EFP was precision manufactured" and the "fragmentation recovered from the attack site [which] indicates that the multi-array EFP was copper-lined." Id. at 42. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for SSG Vacho's death in the May 5, 2006 attack was an EFP traceable to Iran and its proxies.
e. November 2, 2006 attack in Baghdad: Lieutenant Colonel Eric Kruger

Plaintiffs estate of Eric Kruger, minor C.K., and minor E.K. claim that Iran is liable for the November 2, 2006 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. बीT 515-23. Plaintiffs are relatives of Lieutenant Colonel (LTC) Eric Kruger, who was killed in the attack. Id. बT 520 23.

On the afternoon of November 2, 2006, a patrol of four up-armored M1114 HMMWVs and 20 personnel departed Forward Operating Base Volunteer ("FOB Volunteer") toward FOB Loyalty. Lutz Report at 71. Approximately 10 minutes into the trip, an EFP struck the passenger side of the lead HMMWV, killing LTC Kruger and three others. Id. at 71. The slug from the IED "penetrated the crew compartment between the passenger side front and rear doors, traveling up and back through the crew compartment, and exiting the vehicle above the left rear seat." Id. at 71. Kruger's Casualty Report confirms he was killed in a hostile action on November 2, 2006, in Baghdad. Ex. A at 45.

There is sufficient evidence for the court to conclude that the attack was from an EFP. The investigating officer confirmed that the IED was "copper-lined" and likely detonated by a command wire or remote. Lutz Report at 71. A senior official who observed the site shortly after
the attack found "distinct copper-residue" and "four golf-ball sized copper slugs on the traffic circle." Id. at 72. Additionally, the Serious Incident Report notes that the lead vehicle was struck by a "large platter charge or EFP," and the CEXC Report notes that there were "copper fragments." Id. The SIGACT Report categorizes the attack as a "Directional IED" and notes that the door was struck "by a large copper EFP." Id. at 72-73. The SIGACT Report further states that the "attackers emplaced the EFP at an angle to defeat the vehicle's Rhino" anti-PIR device. Id. at 73. A witness stated that a small sedan passed the traffic circle ahead of the lead HMMWV without incident, which "indicates that the terrorists who emplaced the EFP were monitoring the convoy and likely remotely armed the EFP during the interval between the two vehicles." Id. The IED Report identifies the main charge configuration of the weapon as "EFP." Id.

Lutz concluded that the attack "was part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollah-trained Special Group proxies. Lutz further opined that the attack "involved the use of a large, well-concealed and emplaced single, copper-lined EFP" and the "damage to the vehicle and the recovery of copper slugs strongly indicate that the EFP was precision manufactured and copper-lined, and that it was designed by Hezbollah and the IRGC and likely supplied by the IRGC." Id. at 76. Based on a review of the record evidence, the court agrees that Iran, acting through its proxies, was responsible for the November 6, 2006 EFP attack on U.S. forces.

## f. November 13, 2006 attack in Baghdad: Sergeant Kurtiss Lamb

Plaintiff Sgt. Kurtiss Lamb claims that Iran is liable for the November 13, 2006 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. वโ| 524-28. Plaintiff is a U.S. servicemember who was injured in the attack. Id. ब19 525-28.

On the evening of November 13, 2006, a five-vehicle convoy from Headquarters Company, $1^{\text {st }}$ Battalion, $26^{\text {th }}$ Infantry Regiment was on a combat patrol traveling west. Lutz Report at 78. The lead vehicle, an up-armored M1151 HMMWV was hit by "a multi-array EFP," killing driver Private First Class (PFC) Jang Ho Kim and injuring Sgt. Lamb. Lutz Report at 79. Sgt. Lamb’s Casualty Report confirms that he was injured on November 13, 2006, in a hostile action when his "combat patrol traveling on Route Brewers . . . encountered an IED." Ex. A at 48.

There is sufficient information in the record for this court to conclude that the attack was the result of an EFP. The SIGACT Report categorizes the mode of attack as "Directional IED," which "indicates that this attack likely involved an EFP," and the report includes comments from a witness that the vehicle was "struck . . by a multiple-array EFP." Lutz Report at 79. The IED report notes that the main charge configuration "was an EFP that was PIR initiated." Id. Photographic evidence shows "an EFP penetration point is visible on the rear passenger door." Id. at 80. The CEXC Report states that "a 5 or 6 x Explosively Formed Penetrator (EFP) was employed," and "assessed that 2 larger EFPs directly targeted the passenger compartment of the M1151, while a smaller EFP was aimed at the gun cupola." Id. at 81. The CEXC Report states "that the multi-array EFP was copper-lined." Id.

Lutz concluded that the attack "was part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollah-trained Special Group proxies," and involved "a multi-array EFP." Id. at 82. Specifically, Lutz notes that the EFP "was precision manufactured and copper-lined." Id. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for Sgt. Lamb's injuries in the November 13, 2006 attack was an EFP traceable to Iran and its proxies.
g. December 31, 2006 attack in Baghdad: Private First Class Alan Blohm

Plaintiff estate of Alan Blohm claims that Iran is liable for the December 31, 2006 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. ब| $\mid$ 563-68.

On the morning of December 31, 2006, a convoy of two up-armored M1114 HMMWVs and a Joint Engineering Rapid Response Vehicle ("JERRV") departed FOB Kalsu. Lutz Report at 84 . That afternoon, at approximately 1:10 p.m., the lead HMMWV "was struck on its right side by a multi-array EFP," killing PFC Blohm, who was struck by fragments of the EFP. Id. at $84-$ 85. PFC Blohm's Casualty Report confirms that he was killed in a hostile action on December 31, 2006 in Baghdad. Ex. A at 51.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The AR 15-6 Investigation Report states that the attack was from an "EFP with PIR," and the "blast pattern and copper residue on the vehicle struck indicates the devise was a copperlined EFP, with at least three arrays." Lutz Report at 85. The report further confirms that the attack was likely triggered by a "remote control arming with a PIR device," and explains that the "copper residue on the vehicle" indicated that the "EFP's copper slugs penetrated the armor and ballistic glass . . . surrounding the gun turret atop the HMMWV." Id. The SIGACT Report confirms that the mode of attack was a "Directional IED" and "the lead vehicle was struck by an EFP." Id. at 86. The IED Report lists the main charge configuration as an EFP, and notes that "the blast pattern and copper residue on the vehicle struck indicates the device was a copper-lined EFP, with at least three arrays" and "a PIR device" was likely used." Id. at 86. Lutz's Report also includes an "Event Storyboard" prepared by the Battalion's Command, Control, and Communications Operations group, which states that the device used in the attack was "an EFP
with Passive Infrared (PIR)," and notes that a "JAM cell" was operating in the area. Id. at 87; see Karcher II, 2021 WL 133507, at 12-25 (discussing the role of Jaysh al-Mahdi in Iraq); supra at 6.

Lutz opined that the "attack involved the use of a multi-array copper-lined EFP" and determined that the "slugs created by the EFPs penetrated the vehicle's turret armor and transparent armor, and struck PFC Blohm in the head and hip, which resulted in his death." Lutz Report at 92. Lutz further stated that the "damage to the vehicle strongly indicate[d] that the multi-ray EFP was precision manufactured" and "was designed by Hezbollah and the IRGC and likely supplied by the IRGC." Id. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for PFC Blohm's death in the December 31, 2006 attack was an EFP, traceable to Iran and its proxies.

## h. January 22, 2007 attack in Baghdad: Specialist Brandon Stout

Plaintiffs Andrew Jeffrey Anderson and Elizabeth Lynn Islas claim that Iran is liable for the January 22, 2007 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. बT 612-18. Plaintiffs are siblings of Specialist ("SPC") Brandon L. Stout, who was killed in the attack. Id. वTT 613-17.

On the evening of January 22, 2007, a patrol consisting of five HMMWVs was traveling south on Route Pluto to FOB Rustamiyah from Camp Victory. Lutz Report at 93. SPC Stout was driving the fourth vehicle in the patrol, an M1114 HMMWV, which "was struck by a multi-array EFP on the right side of the vehicle," causing the driver-side doors to be "blown open by the EFP strike." Id. at 93-94. SPC Stout was ejected from the vehicle, along with an interpreter who was seated behind him, and was found dead approximately 20 meters behind the vehicle. Id. SPC Stout's Casualty Report confirms he was killed in action on January 22, 2007 in Baghdad due to "[b]last and ballistic fragment injuries." Ex. A at 53.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The AR 15-6 Report notes that the "vehicle was struck by an EFP." Lutz Report at 94. The SIGACT Report confirms that the vehicle "was struck on the right side by a multiplearray EFP." Id. The IED Report lists the main charge configuration as "EFP" and confirms that the "vehicle was struck in the right side by a multiple-array EFP that penetrated both doors on the right side." Id. at 95. Importantly, the IED Report states that Route Pluto "has been a hotspot for EFP activity in the past, but attacks have significantly increased over the past several weeks. EOD/WIT have been to three separate cells for EFP activity at this intersection in 7 days." Id. Furthermore, the record contains photographic evidence depicting the damage from the EFP blast, and the Event Storyboard indicates that the attack was "most likely a command detonated EFP." Id. at 96-98.

Lutz concluded the "attack involved a multi-array EFP that was most likely command wire initiated" and was "emplaced on the edge of the road alongside Route Pluto." Id. at 99. Lutz opined that the "damage to the vehicle and the blast overpressure ejecting SPC Stout and the interpreter from the vehicle strongly indicates that the multi-array EFP was precision manufactured and copper lined." Id. Furthermore, Lutz concluded that an "IRGC-sponsored Special Group was likely involved in the assembly and emplacement of the multi-array EFP." Id. at 100. Based on a review of the record evidence, the court agrees that Iran, acting through its proxies, was responsible for the January 22, 2007 EFP attack on U.S. forces.
i. April 6, 2007 attack in Baghdad: Private First Class Daniel Fuentes

Plaintiff Emma McGarry claims that Iran is liable for the April 6, 2007 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. बTl 673-78. Plaintiff is the fiancé of PFC Daniel A. Fuentes who was killed in the attack. Id. ब¢ 675-78.

At approximately 12:30 a.m. on April 6, 2007, a four-vehicle convoy was on patrol in the vicinity of the West Rashid neighborhood of Baghdad when the second vehicle in the convoy (an up-armored M1151 HMMWV) was "struck on its left side by a multi-array EFP that had been angled upwards to impact the vehicle's doors and gunner's turret." Lutz Report at 105. "The attack killed PFC Fuentes . . . and injured three other soldiers." Id. at 105. PFC Fuentes's Casualty Report confirms he was killed in action on April 6, 2007, in Baghdad from a "[b]allistic injury." Ex. A at 58.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report categorizes the mode of attack as "Directional IED" which, as previously discussed, "indicates that this attack likely involved an EFP." Lutz Report at 106. The report further states that post-blast analysis "revealed the IED was an EFP array ... [and] was angled up to impact the doors and gunner[']s turret." Id. The IED Report is consistent with the SIGACT Report, and lists the main charge configuration as an EFP that "was surface laid and angled in an upward direction" in order "to impact the driver[']s door and the gunner's turret." Id.

Lutz concluded the attack "involved a multi-array EFP that was angled upward to purposefully focus formed penetrators(s) at a passing HMMWV's driver's side crew compartment doors and its gunner's turret." Id. at 109. Lutz further opined that the damage to the vehicle "strongly indicates" that the device "was precision manufactured and copper-lined, and that it was designed by Hezbollah and the IRGC and likely supplied by the IRGC." Id. at 110. Furthermore, the record contains photographic evidence depicting damage to the vehicle, which supports the conclusion "that the multi-array EFP was angled upwards and measured out to strike the driver's door and the vehicle's gunner." Id. at 108. The court finds satisfactory evidence in the record to
demonstrate that the explosive responsible for the death of PFC Fuentes in the April 6, 2007 attack was an EFP traceable to Iran and its proxies.

## j. June 2, 2007 attack in Baghdad: Sergeant Shawn Dressler

Plaintiffs Tanya Suzzette Dressler, Daniel Dressler, and James Dressler claim that Iran is liable for the June 2, 2007 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. बी 740-47. Plaintiffs are siblings of Sgt. Shawn Dressler, who was killed in the attack. Id. बT 944 -46.

On the evening of June 2, 2007, a six-vehicle patrol consisting of four M1114 up-armored HMMWVs and two M2A2 Bradleys drove west into the Muhalla 879 neighborhood of Baghdad, and then headed toward the International Zone to pick up a local national from the $28^{\text {th }}$ Combat Support Hospital. Lutz Report at 125. The patrol drove north onto Route Cedar, crossed over Route Steelers, and continued north in the northbound late, eventually approaching an unmanned Iraqi National Police checkpoint. $I d$. at 125-26. The gunner in the lead vehicle scanned the area thoroughly and, after detecting no threat, continued to move north through the checkpoint. Id. at 126. Shortly after, the third vehicle in the patrol "was struck by what EOD assessed was either an IED or an EFP," and the vehicle occupants received non-critical wounds. Id. The remaining vehicles accelerated to move past the kill zone, and a multi-array EFP struck the second vehicle in the patrol (an M1114 HMMWV), critically wounding Sgt. Dressler and SPC Joshua David Brown. Id. Sgt. Dressler's Casualty Report confirms he was killed in action on June 2, 2007 in Baghdad due to "[b]allistic fragment injuries." Ex. A at 68.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The AR 15-6 Investigation notes that "copper from the multi-array EFP was found," and that the "EFP was initiated by the command wire that was traced back to a house" where "two military aged males" were found in possession of "what was believed to be the trigger." Lutz

Report at 128-29. The report contains pictures "showing the holes caused by the multi-array EFP, and . . . where copper from the multi-array EFP was found." Id. at 129-31. The SIGACT Report also confirms that the "second blast site . . involved a multi-array EFP." Id. at 131. The IED Report concludes that the "IED was a multi-array EFP initiated by command wire" and the "firing point" came from a house located "approximately 200 meters west of Route Cedar." Id. at 132. The report further notes that there was a "rise in the number of EFPs used" in the area. Id.

Lutz concluded that the attack involved a "multi-array EFP" and the vehicle damage "strongly indicates that the EFP array was precision manufactured and copper-lined." Id. at 137. Specifically, the "presence of command wire with attached male / female connectors used to initiate the EFP array, along with the directional offset of the EFP array to defeat vehicle IED counter measures, are signatures of Lebanese Hezbollah design, training and involvement." Id. Lutz further concluded that "the damage to the vehicle strongly indicates that the EFP array was precision manufactured and copper-lined" and the attack "was part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollahtrained Special Group proxies." Id. Based on a review of the record evidence, the court agrees that Iran, acting through its proxies, was responsible for the June 2, 2007 EFP attack on U.S. forces.

## k. August 26,2008 attack in Sadr City: Sergeant Nicholas Koulchar

Plaintiffs Sgt. Nicholas Gene Koulchar and Michael Koulchar claim that Iran is liable for the August 26, 2008 attack on U.S. forces in Sadr City, Iraq. See Am. Compl. $\mathbb{T \|}$ 1079-86. Sgt. Koulchar was injured in the attack, and Plaintiff Michael Koulchar is Sgt. Koulchar's brother. Id. बๆ| 1080-85.

On the evening of August 26, 2008, Sgt. Koulchar, SPC Carlo Alfonso, and SPC Tyler Latham were in the third vehicle of a convoy travelling northeast on patrol in the Sadr City area
of Baghdad. Lutz Report at 169. The vehicle was Mine-Resistant Ambush Protected (MRAP), and was "travelling in a staggered formation, when an [IED] detonated against the right side of his vehicle, traversing from right to left." Id. The explosion was followed by "light small arms fire coming from the east that lasted for approximately one minute." Id. Sgt. Koulchar's Casualty Report confirms he was wounded in a hostile action on August 26, 2008, in Sadr City when his "vehicle was struck by an IED." Ex. A at 85-86.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report concludes that the device used in the attack was an "EFP w/ approximately 20 lbs of unk[nown] bulk explosives" and the "EFP had a copper cone and metal body." Lutz Report at 170. The CJTF-Troy Report confirms "that the EFP had a copper liner." Id. The IED Report confirms, based on "post blast analysis," that the "EFP had a copper cone and metal body." Id. at 172. The Event Storyboard noted "an increase in EFP attacks in the area," with this attack being the fourth EFP attack within three kilometers over the previous 30 days. Id. Additionally, the Storyboard reported that the attack was likely conducted by IRGC's Specialty Group members "attempting to re-establish a presence in Sadr City." Id.

Lutz concluded that the "attack involved a concealed, copper-lined EFP emplaced in a tactically advantageous position in a tin shack aligning the convoy route, elevated on a stand so as to inflict maximum injuries to the occupants of an MRAP." Id. at 173. Lutz further opined, consistent with the Event Storyboard, that an "IRGC-sponsored Special Group was likely involved in the assembly and emplacement of the EFP." Id. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for injuring Sgt. Koulchar in the August 26, 2008 attack was an EFP traceable to Iran and its proxies.

1. January 10, 2009 attack in Baghdad: Staff Sergeant Justin Bauer and Sergeant First Class Patrick Ward

Plaintiffs Connie Haddock, Jacob Bauer, Jeremy Bauer, SFC Patrick Ward, and Jarrett Ward claim that Iran is liable for the January 10, 2009 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. $\mid \mathbb{T}$ 1092-109. Plaintiff Haddock is the mother of SSG Justin Bauer, who was killed in the attack, and Plaintiffs Jacob Bauer and Jeremy Bauer are SSG Bauer’s brothers. Id. बT 109698. Plaintiff SFC Ward was injured in the attack, and Plaintiff Jarrett Ward is SFC Ward's son. Id. $\boldsymbol{T} \boldsymbol{T}$ 1101-04, 1108.

On the evening of January 10, 2009, a four-vehicle convoy consisting of an Iraqi National Police pick-up truck, two MRAP MAX PRO Pluses, and one MRAP RG-33 was traveling south on Haab Road near Route Florida when the lead vehicle in the convoy, a MAX PRO Plus MRAP SSG Bauer was commanding, was struck by an IED on the "driver side fuel tank, the hull just below the bottom of the door, and the hull/door hinge point." Lutz Report at 174-75. One slug "traveled completely through the vehicle and exited out the passenger side of the vehicle" and another slug penetrated "the forward driver door hinge." Id. at 175. SSG Bauer's Casualty Report confirms he was killed in hostile action on January 10, 2009 in Baghdad from "[b]last [i]njuries." Ex. A at 89. The declaration of Andrew Bradley, a servicemember who was injured in the attack, confirms that SFC Ward was in the third vehicle in the platoon, and assisted in extracting Bradley out of his vehicle, while "under attack by a sniper on a nearby roof." Id. at 90-91.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The AR 15-6 Investigation Report states that the attack "was initiated with a command wire EFP" containing "copper plate[s]." Lutz Report at 175. The SIGACT Report confirms that "a copper lined, multiple array, command fired EFP" was responsible for the attack, and that the
vehicle damage was "consistent with 6 inch EFP slugs." Id. at 176. "EOD recovered command wire from the attack site and copper fragments from the vehicle." Id. at 175. The IED Report describes the attack device as a "[c]ommand fired multiple array EFP . . . consistent with 6 inch EFPs." Id. at 176. Similarly, EOD concluded that "the device is assessed as a copper lined, multiple array, command wire initiated EFP" and "damage to the vehicle is consistent with $3 \times 6$ inch EFP slugs." Id. at 178. The Event Storyboard also states that the device was "a copper lined multiple array, command wire initiated EFP" and that "damage to the vehicle is consistent with 3 x 6 inch EFP slugs." Id. at 182. The SIGACT Report further notes that there were seven similar events within a two-kilometer radius, which indicated "that the placement and construction of EFPs is being refined in this area." Id. at 177. Finally, EFP fragments were found at the scene. Id. at 180.

Lutz concluded that the attack "involved a multi-array copper EFP that was command wire initiated" and "was part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollah-trained Special Group proxies." Id. at 183. Lutz further opined that "damage to the vehicle and recovery of copper fragments from the scene of the attack strongly indicates that the EFP was precision manufactured and copper lined." Id. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for the death of SSG Bauer and the injuries of SFC Ward in the January 10, 2009 attack was an EFP traceable to Iran and its proxies.

The court now turns to the 15 attacks not adjudicated in Karcher II. 13 of the attacks were from EFPs, and two of the attacks were from IRAMs.
m. December 8, 2005 attack in Baghdad: Specialist Adam Mattis and Second Lieutenant Terrance Peterson.

Plaintiffs SPC Adam Mattis, Second Lieutenant ("2LT") Terrance Peterson, III, and Petra Spialek claim that Iran is liable for the December 8, 2005 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. बT $252-71$. Plaintiffs SPC Mattis and 2LT Peterson were injured in the attack. Id. बTโ 255-56, 265-66. Plaintiff Spialek is the mother of 2LT Peterson. Id. ब| 270.

On the morning of "December 8, 2005, a five-vehicle convoy from 1st Battalion, 76th Field Artillery Regiment, 4th Brigade Combat Team, 3rd Infantry Division was conducting a combat patrol heading south on Route Pluto when the second vehicle in the convoy, an up-armored M1114 HMMWV, was struck" by an IED, which "was emplaced in a big dirt mound on the right side of the road." Lutz Report at 6. As a result of the EFP attack, one soldier was killed and three soldiers, including SPC Mattis and 2LT Peterson, were wounded. Id. Both SPC Mattis and 2LT Peterson submitted medical records confirming they were injured in an IED blast on December 8, 2005. Ex. A at 10-11, 13-15. SPC Mattis received a Purple Heart for wounds received as a result of hostile enemy action on December 8, 2005; 2LT Peterson received a Purple Heart ${ }^{5}$ on February 2, 2006. Id. at 12, 16 .

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report notes that EOD units responded to the scene of the attack and, after conducting a post-blast assessment, determined that the "IED was composed of a 5 EFP

[^3]array." Lutz Report at 6. The WIT 3 Report states that an "EFP attack occurred, striking the second vehicle," an up-armored M1114 HMMWV, and assessed that "the five-to-eight EFP array used in the attack" was placed near a dirt mound "in front of a chain link fence" on the roadside of Route Pluto. Id. at 7. Investigators believed another mound was used as the EFP's aiming point. Id. Additionally, the IED Report lists the main charge configuration as "EFP," and confirms that the EFP was located on the right side of the road. Id.

Lutz concluded that the attack that injured 2LT Peterson and SPC Mattis was part of an orchestrated campaign by the IRGC and Hezbollah "conducted by one of the IRGC's Hezbollahtrained Special Group proxies." Id. at 11. Based on the damage to the vehicle, Lutz determined that the attack involved a multi-array EFP which was "likely precision-manufactured" and contained "HE [high-energy] explosives." Id. He further concluded that an "IRGC-sponsored Special Group was likely involved in the assembly and emplacement of the multi-array EFP." Id. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for SPC Mattis and 2LT Peterson's injuries in the December 8, 2005 attack was an EFP traceable to Iran and its proxies.

## n. January 5, 2006 attack in Baghdad: Sergeant Jason Lopez Reyes

Plaintiffs estate of Sgt. Jason Lopez Reyes, Gladys E. Reyes Centeno, Veronica Lopez Reyes, and Zoraima Lopez claim that Iran is liable for the January 5, 2006 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. ब| 1 272-80. Plaintiff Reyes Centeno is the mother of Sgt. Lopez Reyes, who was killed in the attack. Id. $\mathbb{\|}$ 274, 276. The remaining Plaintiffs are sisters of Sgt. Lopez Reyes. Id. $\boldsymbol{\| T} 277,279$.

On January 5, 2006, at about 1:30 p.m., a 10 -vehicle convoy involved in a personnel transport mission was traveling north on Route Tampa from Baghdad toward Camp Taji. Lutz

Report at 12. A IED located "on the western side of [the] median closest to the north bound lane" struck the third vehicle in the convoy, "an up-armored HMMWV," killing Sgt. Lopez Reyes. Id. (internal quotation marks omitted). A "second multi-array" IED located about 27 meters away killed a U.S. Army medic and injured six additional soldiers. Id. Sgt. Lopez Reyes's Casualty Report confirms he was killed in action in Baghdad on January 5, 2006. Ex. A at 18.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report states that "the two explosive devices used in the attack were EFPs." Lutz Report at 13. Similarly, the WIT 6 Report confirms that "two multi-array EFPs were used in the attack." Id. The SIGACT Report and the WIT 6 Report both note that, following the attack, EOD discovered a video camera at the attack site, which the WIT 6 Report characterizes as "likely emplaced by the attackers" and "strong evidence that Hezbollah TTP were used in this attack." Id. The CEXC Report confirms that in addition to the fact that "Hezbollah's specific tradecraft is identifiable in the connectors used to set up the wiring of the weapon itself," "both the emplacement of the camera and the method of its concealment signify a high probability that this attack was directed by Hezbollah-trained and directed Special Groups operatives." Id. at 21. The IED Report does not describe the device itself but "notes that it was located in the median of the road and was placed on an unconcealed surface." Id. at 13. The WIT 6 Report further characterizes this attack as "the first dual EFP array consisting of multiple EFPs in this area." Id.

Lutz concluded that " $[a]$ multi-array EFP was the weapon used to attack the up-armored HMMWV causing the death of SGT Reyes" and that this attack was "part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollahtrained Special Group proxies." Id. at 23. Lutz further concluded that " $[t]$ he damage to the vehicle strongly indicates that the multi-array EFP was likely precision-manufactured." Id. The court
finds satisfactory evidence in the record to demonstrate that the explosive responsible for the death of Sgt. Lopez Reyes in the January 5, 2006 attack was an EFP traceable to Iran and its proxies.

## o. July 22, 2006 attack in Baghdad: Private Daniel Evans

Plaintiffs Private ("PV2") Daniel J. Evans and Justin Evans claim that Iran is liable for the July 22, 2006 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. Tq 421-27. Plaintiff Justin Evans is the brother of PV2 Evans, who was injured in the attack. Id. ब9 424-27.
"At approximately 9:11 a.m. on July 22, 2006, a four-vehicle convoy from 67th Armored Regiment, 4th Brigade Combat Team, 4th Infantry Division was conducting a combat patrol in the northbound lane on Route Pluto in the Sabah Nisan neighborhood of eastern Baghdad." Lutz Report at 43. Route Pluto was a "major artery for Coalition Forces vehicles traveling through eastern Baghdad and was the scene of numerous EFP attacks perpetrated by IRGC-backed Special Groups." Id. During the patrol, the second vehicle in the convoy (an up-armored HMMWV) was struck by an IED on the passenger side's rear quarter panel, injuring PV2 Evans. Id. at 43-44. PV2 Evans's Casualty Report confirms he was injured in Baghdad by "enemy forces" "when an IED detonated" on July 22, 2006. Ex. A at 31-32.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The IED Report lists the devices main charge configuration as "EFP," and notes that Anti-Iraqi Forces use IEDs along roadsides. Lutz Report at 44. The SIGACT Report notes that EOD confirms that the vehicle deployed counter-IED measures when attacked. Id. The SIGACT Report and IED Report indicate that, based on the damage to the vehicle, the attack "was consistent with a single EFP charge using a steel liner." Id. Investigators recovered fragments in the blast seat "consistent with light cast steel" that is not used in "military ordnance." Id.

The question of whether the attack can be attributed to Iran and its proxies is a closer call. Lutz disagreed with the investigation's finding that the EFP was made with a steel liner, explaining that although "the casing for the EFP was likely made from steel . . . it is unlikely that the EFP's liner was made of steel" because, while "not physically impossible, it is highly unlikely that an EFP liner made of steel would have formed into a slug capable of punching through the M1114 HMMWV's armor and killing Private Evans." Id. Lutz further explained that, due to the difference in melting points for steel and copper, "EFPs with steel liners . . . tend to shatter when employed in EFPs versus forming a slug/rod penetrator when copper liners are employed in EFPs." Id. at 44 n .11 . Accordingly, Lutz concluded that the reference to "steel liners" was "likely erroneous," and that the casing, and not the liner, was made of steel. $I d$. at 44.

Based on the damage to the vehicle, Lutz determined that the device causing PV2 Evans's injuries was a single EFP that was likely "steel-encased," "copper lined," and "precisionmanufactured." Id. at 47. He further opined that the "EFP was likely assembled and emplaced by an IRGC-sponsored Special Group." Id. The court finds Lutz's explanation about the "likely erroneous" finding of a steel liner persuasive, and finds sufficient evidence in the record to conclude that the attack was the result of an EFP traceable to Iran and its proxies.

## p. August 26, 2006 attack in Jisr Diyala: Corporal Edgardo Zayas

Plaintiffs estate of SPC Edgardo Zayas, Suheil Campbell, Alexander Zayas, and minor A.Z.-C claim that Iran is liable for the August 26, 2006 attack on U.S. forces in Jisr Diyala, Iraq. See Am. Compl. बT 434-42. Plaintiff Campbell is the widow of SPC Zayas, who was killed in the attack. Id. ब|q 436-38. Plaintiffs Zayas and minor A.Z.-C are the children of SPC Zayas. Id. 991 440-41.
"At approximately 10:50 p.m. on August 26, 2006, a five-vehicle convoy from 1st Squadron, 61st Cavalry Regiment, 4th Brigade Combat Team, 4th Infantry Division was conducting a combat patrol heading north on Route Wall Street in the Jisr Diyala neighborhood of Baghdad." Lutz Report at 48. As the patrol passed the Tuwaitha security wall, the lead vehicle (an up-armored HMMWV) was struck, killing driver SPC Zayas and wounding another soldier and a local interpreter. Id. at 48-49. SPC Zayas's Casualty Report confirms he was killed in hostile action from a "[p]erforating ballistic injury of the chest" in Jisr Diyala on August 26, 2006. Ex. A at 34.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report notes that EOD responded to investigate the attack, and "observed one major penetration of the vehicle armor on the driver's door," which was "likely caused by a four-to-six-inch copper lined shaped charge." Lutz Report at 49. (internal quotation marks omitted). The vehicle's counter-IED capabilities deployed during the attack. Id. Investigators believed the IED "was radio controlled since no command wire, pressure plates or electronics were located at the scene." Id. Responders found copper residue on the power pole and driver's side door during the investigation. Id. at 50. The CEXC Chem Lab Report notes that "RDX based explosives," a common name for military-grade high explosive, were used in the EFP. Id. at 53. Investigators classified the device as a "large copper lined shaped charge." Id. at 50.

Notably, none of the reports explicitly identify the IED as an EFP, instead identifying the attack device as a "shaped charge." Id. However, that is not dispositive of the analysis. Lutz explains that at the time of this attack (August 2006), "EFPs were first being consistently identified and there was still lingering confusion on the part of EOD and WIT teams . . . [which] were not sufficiently attuned to the distinctions between shaped charges and EFPs." Id. at 49 n.1. Lutz
opined that "the type of device used in this attack was almost certainly an EFP" because a conventional shaped charge "would have left a relatively small penetration hole, not a three-inch penetration hole in the driver's door." Id.

Lutz concluded that SPC Zayas was injured as part of the IRGC's orchestrated campaign to use "Hezbollah-trained Special Group proxies" to attack U.S. targets. Id. at 53-54. Lutz opined that the "damage to the vehicle strongly indicate[d] that the EFP was likely copper-lined and precision-manufactured," and that "HE explosives were used." Id. at 54. He concluded that the "EFP was likely assembled and emplaced by an IRGC-sponsored Special Group." Id.

Although contemporaneous reports failed to identify the device as an EFP, Lutz's explanation about the novelty of EFPs at the time, and the difficulty of distinguishing between conventional roadside IEDs and EFPs, are persuasive. Based on the damage to the vehicle, the references to a copper-lined shaped charge, and the presence of copper residue, the court agrees with Plaintiffs' expert that Iran, acting through its proxies, was responsible for the August 26, 2006 EFP attack on U.S. forces.

## q. September 20, 2006 attack in Baghdad: Specialist Luis Junior Puertas

Plaintiffs SPC Luis Junior Puertas, Lidia Sullivan, and Gabriela D. Puertas VergaraDonoso claim that Iran is liable for the September 20, 2006 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. 91443 -51. Plaintiff Sullivan is the mother of SPC Puertas, who was injured in the attack. $I d$. $\mathbb{4}$ 444-49. Plaintiff Puertas Vergara-Donoso is the sister of SPC Puertas. Id. $\mathbb{4} 450$.

At approximately 11:31 a.m. on September 20, 2006, a four-vehicle convoy from B Company, 3rd Battalion, 67th Armored Regiment, 2nd Brigade, 4th Infantry Division conducted a combat patrol along Route Gold in the Karikur Afandi neighborhood of Baghdad. Lutz Report at 55. During the patrol, an explosive detonated from behind a concrete base and struck the lead
vehicle (an up-armored HMMWV) on the driver side, wounding SPC Puertas, two other soldiers, and an interpreter. Id. at 55. SPC Puertas received a purple heart on September 21, 2006, the day after the attack. Ex. A at 36.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report notes that EOD responded to investigate the attack and concluded, based on the "several EFP bore holes found in the vehicle," that "the IED consisted of several EFPs, all initiated at one time." Lutz Report at 55-56. The SIGACT Report further concludes that the EFP was emplaced behind a concrete wall, was "armed via radio control before the convoy entered the kill zone," and was "initiated" by a PIR device. Id. (internal quotation marks omitted). The IED Report lists the main charge configuration as "EFP" and notes that "copper residue" was found "on the penetration holes in the HMMWV's armor." Id. at 56. The IED Report further notes that "the multi-array EFP was deployed in such a way as to counter the use" of the vehicle's counter-IED equipment, including its Counter Radio-Controlled IED Electronic Warfare (CREW) system. Id. (internal quotation marks omitted). Specifically, "the multi-EFP array had EFPs aimed at several points along the left side of the vehicle" which "would negate the vehicle's defense." Id. According to Lutz, the damage to the vehicle "strongly indicates that the multi-array EFP was likely copper-lined and precision-manufactured" and was likely assembled and emplaced by an IRGC-sponsored Special Group. Id. at 57. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for the injuries of SPC Puertas in the September 20, 2006 attack was an EFP traceable to Iran and its proxies.
r. September 30, 2006 attack in Baghdad: Private First Class Christopher Melendez

Plaintiffs PFC Christopher Michael Melendez, Narciso Melendez, and Christina Melendez claim that Iran is liable for the September 30, 2006 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. 9 |l $452-60$. Plaintiff Narciso Melendez is the father of PFC Melendez, who was injured in the attack. Id. बब $453-55,458$. Plaintiff Christina Melendez is the sister of PFC Melendez. Id. ब 459.

At approximately 12:50 a.m. on September 30, 2022, a four-vehicle convoy from the B Company, 3rd Battalion, 67th Armored Regiment, 4th Brigade Combat Team, 4th Infantry Division conducted a combat patrol traveling along Route Florida in the Karikur Afandi neighborhood of Baghdad. Lutz Report at 58. During the patrol, the lead vehicle was struck on the driver's side by an explosive which penetrated the vehicle's armor, blew out the windows, and sprayed the vehicle with shrapnel, wounding PFC Melendez and another soldier. Id. PFC Melendez's medical report confirms he was injured in an IED blast on September 30, 2006, and lost both legs as a result of the attack. Ex. A at 38 ; Lutz Report at 62 .

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The IED Report notes a post-attack investigation revealed the device was a multi-array EFP near two parallel power poles with a large electricity box. Lutz Report at 59. The IED Report lists the main charge configuration as EFP and contains WIT 3's comments that "the vehicle was likely hit by a multiple array EFP . . . [and] [c]opper residue and armor penetrations were found." Id. The WIT Report includes a scene diagram with a picture depicting "the power pole which served as the probable aiming point for the EFP." Id. Investigators believed that Anti-Iraq Forces
"probably chose [that] location due to the narrow road and probability of producing major damage to any vehicles or personnel struck." Id.

Lutz concluded that PFC Melendez was injured as part of the IRGC's orchestrated campaign to use "Hezbollah-trained Special Group proxies" to attack coalition targets. Id. at 62. Lutz determined that a multi-array, precision-manufactured, and copper-lined EFP was used to attack PFC Melendez's HMMWV and caused PFC Melendez' injuries. Id. at 62-63. Lutz further opined that high energy explosives were used to construct the EFP. Id. at 63. Finally, Lutz determined that an IRGC-sponsored Special Group likely assembled and emplaced the EFP. Id. Based on a review of the record evidence, the court agrees with Plaintiffs' expert that Iran, acting through its proxies, was responsible for the September 30, 2006 EFP attack on U.S. forces.
s. October 22, 2006 attack in Baghdad: and Private First Class Tyler Norager and Private James Gmachowski

Plaintiffs PFC Tyler Norager, Private (PV2) James Gmachowski, Shalee Norager, and minor M.N. claim that Iran is liable for the October 22, 2006 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. $\mathbb{T}$ | 477-81, 507-14. Plaintiffs Gmachowski and Tyler Norager were injured in the attack. Id. $\mathbb{T} \boldsymbol{\|} 478-80,508-10$.

On the morning of October 22, 2006, a four-vehicle convoy from the 1st Battalion, 26th Infantry Regiment, 2nd Battalion, 1st Infantry Division conducted a mounted patrol along Route Florida. Lutz Report at 64. During the patrol, the lead vehicle, an M1151 HMMWV with level 1 armor, was struck on the passenger side by an IED. Id. The attacked injured PV2 Gmachowski and PFC Norager and killed two others. Id. at 64-65. PV2 Gmachowski and PFC Norager submitted medical reports confirming they were injured in an "HMMWV on Route Florida when the vehicle struck an IED." Ex. A at 40-43.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report notes that EOD performed a post-blast analysis and determined that the convoy was attacked by a "steel-lined IED" that was either a "large shape charge or multiarray EFP." Lutz Report at 65. The report notes that the "EFP had been placed on the side of the road, possibly in a drainage ditch," and the "blast crater . . . measured $6 \times 5 \times 3$." Id at 65 . The IED Report lists the main charge configuration as an EFP. Id. at 66.

Lutz disagreed with the SIGACT Report's conclusion that the device was potentially a "large shape charge" and "steel-lined," and concluded that the IED was an EFP based on the vehicle's damage and the injuries sustained. $I d$. at 65 n .9 . Lutz noted that the IED was likely steel-cased and copper-lined because of "the difference in the melting point of the two metals," concluding that "steel liners tend to shatter" while copper liners form "a slug/rod penetrator" when used in EFPs. Id. He determined that the "types of injuries are more consistent with a strike from a precision-made, copper-lined EFP." Id. Lutz found that PV2 Gmachowski and PFC Norager were injured by a multi-array, precision-manufactured, and likely copper-lined EFP striking their HMMWV. Id. at 69. Lutz further found that the IRGC-sponsored Special Group likely assembled and emplaced the EFP. Id. Based on a review of the record evidence, the court agrees with Plaintiffs' expert that Iran, acting through its proxies, was responsible for the October 22, 2006 EFP attack on U.S. forces.

## t. April 4, 2007 attack in Nasiriyah: Specialist Ryan Sabinish

Plaintiffs SPC Ryan Sabinish, minor R.J.S., and minor S.J.S. claim that Iran is liable for the April 4, 2007 attack on U.S. forces in Nasiriyah, Iraq. See Am. Compl. वT\| 662-72. SPC Sabinish was injured in the attack, and minors R.J.S. and S.J.S. are his daughters. Id. 9 【T 663-66, 670-71.

On April 4, 2007, at about 7:43 a.m., an explosive struck the lead vehicle in a three-vehicle security patrol that was traveling north in the northbound lane on Route Tampa toward Nasiriyah. Lutz Report at 101. The IED "was emplaced on the left side of the road and struck the driver's side of the vehicle just forward of the driver." Id. As a result, "the engine block [was] destroyed and all the tires [were] damaged." Id. at 102. Prior to the attack, the patrol had "slowed down to check on a previous detonation site," but had not "notice[d] anything out of the ordinary." Id. at 102. SPC Sabinish submitted a declaration confirming that he was injured on April 4, 2007, while serving in Iraq. Ex. A at 55-56. He confirms that he was driving the "third M1114 HMMWV as part of a three-vehicle security patrol heading north on 'Route Tampa' in Nasiriyah, when the lead vehicle was struck by an [IED] on the driver's side." Ex. A at 56.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report, IED Report, Log Report, and Serious Incident Report state that the lead vehicle in the security patrol was struck by an EFP. Lutz Report at 102-03. The IED Report classifies the main charge configuration as an EFP and the "Initiation Sub-Type" as "Passive Infrared." Id. at 102. The Log Report states that "the device was a single slug EFP of approximately $10-15 \mathrm{~kg} \mathrm{~N}[\mathrm{et}] \mathrm{E}[$ xplosive] $\mathrm{C}[$ ompound] ... which resulted in the main slug impacting on $\mathrm{l}[\mathrm{eft}] \mathrm{h}[\mathrm{and}] \mathrm{s}[\mathrm{ide}]$ front panel just forward of the driver." Id. (alterations in original). The Log Report notes that "[e]vidence recovered at the site . . . suggest[s] that the EFP did not form correctly, possibly due to inferior casing materials used, assisting in its deflection by the panel into the engine bay." Id. at 102-03.

Lutz concluded that "[a]n EFP was the weapon used to attack the M1114 HMMWV in SPC Sabinish's convoy" and that the attack was "part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollah-trained Special Group
proxies." Id. at 103. He further noted that "[t]he damage to the vehicle strongly indicate[d] that HE [high-energy] explosives were used in the construction of the EFP" and that "[a]n IRGCsponsored Special Group was likely involved in the assembly and emplacement of the EFP." Id. at 103-04. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for the injuries of SPC Sabinish in the April 4, 2007 attack was an EFP, traceable to Iran and its proxies.

## u. April 6, 2007 attack in Baghdad: Staff Sergeant John Kirby

Plaintiff SSG John Kirby claims that Iran is liable for the April 6, 2007 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. 9q 679-83. Plaintiff was injured in the attack. Id. 94T1680-81.

On April 6, 2007, at about 12:35 a.m., a multi-vehicle convoy involved in a mounted blackout patrol was traveling east on Route Denham in eastern Baghdad. Lutz Report at 111. When the lead vehicle noticed an ambulance traveling south on a road perpendicular to Route Denham, the lead vehicle "drove past the intersection to provide security while the second vehicle blocked the road and stopped the ambulance." Id. A second ambulance approached and stopped behind the first ambulance. Id. After the other vehicles in the convoy had stopped and their occupants had begun to exit, an explosion on the north side of Route Denham struck the third vehicle, an HMMWV, killing its driver and wounding the truck commander and two rear passengers. Id. at 111-12. SSG Kirby's Casualty Report confirms he was "wounded in action" in Baghdad on April 6, 2007 "when his vehicle struck an IED." Ex. A at 61.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report describes the attack as an "EFP Blast." Lutz Report at 112. The report further notes that "command wire [was found] near the blast seat," and EOD's blast analysis
confirms that the attack was caused by "EFP impact. Multiple array, $4-5$ steel lined with command wire." Id. The WIT Report's diagram "depicts how, after the third vehicle was struck by the multi-array EFP, it continued to travel until it collided with the first stopped ambulance." Id. at 113.

Lutz concluded that "[a] multi-array EFP was the weapon used to attack the HMMWV injuring SSG Kirby," and that the attack was "part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollah-trained Special Group proxies." Id. at 115. Lutz further observed that the attack occurred "in a location of previous EFP attacks," and that the damage to the vehicle "strongly indicate[d]" both precision-manufacturing of the EFP and "the likely use of HE explosives in the construction of the multi-array EFP." Id. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for the injuries of SSG Kirby in the April 6, 2007 attack was an EFP, traceable to Iran and its proxies.

## v. April 9, 2007 attack in Baghdad: Private First Class Brian Holden

Plaintiffs Leasa Dollar and Eugene DeLozier claim that Iran is liable for the April 9, 2007 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. 14 684-90. Plaintiff Dollar is the mother of PFC Brian Holden, who was killed in the attack. Id. $\mid \mathbb{T}$ 684-88. Plaintiff DeLozier is PFC Holden's stepfather. Id. © 689.

On April 9, 2007, at about 3:15 p.m., a four-vehicle convoy was traveling south in the southbound lane of Route Wild in southeastern Baghdad. Lutz Report at 116. A "dual-array copper-lined" IED struck the first vehicle and "penetrated the right side of the vehicle in two locations." Id. at 116-17. The IED had been located amidst "dirt, cement blocks, and concertina wire barricades." Id. PFC Holden, who was the vehicle's driver, and two other soldiers in the
vehicle were killed. $I$ d. at 117,124 . About 90 minutes after the attack, another explosion, which EOD determined was "most likely the result of a hand grenade," occurred about 100 meters to the south and injured a soldier providing security at the attack site. $I d$. at 117. PFC Holden's Casualty Report confirms he was killed on April 9, 2007, in Baghdad "when his vehicle struck an IED." Ex. A at 64-65.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report "notes that the post blast analysis determined that the device used in the attack was an EFP." Lutz Report at 117. Similarly, the IED Report classifies the main charge configuration as an EFP and determined the device "was a dual array EFP." Id. The CJTF Troy Report confirms that the "A[nti] A[rmor] IED consisted of a dual-array, copper-lined EFP set in dirt, cement blocks, and concertina wire barricades." Id. at 118 (alterations in original). The Event Storyboard references Battalion S2's summary and assessment of the attack, which notes: "As with a previous EFP attack and EFP find on RTE Wild, an Iraqi Police checkpoint was within 250 m of the attack." Id. at 123. A "small amount of command wire" was found at the attack site, however the CJTF Troy Report confirms that "its involvement in the strike is inconclusive due to the amount recovered and type vs. A[rea of] O[peration] trends." Id. at 118 (alterations in original).

Lutz noted that despite limited photographs of vehicle damage, the damage was indicative of an EFP strike and "strongly indicates that the EFP was precision manufactured and copperlined" and that "HE [high-energy] explosives" were likely used "in the construction of the EFP." Id. at 124. Lutz ultimately concluded that an "EFP array" caused PFC Holden's death and that this attack "was part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollah-trained Special Group proxies." Id. Lutz explained that the brigade that included PFC Holden's unit had "experienced multiple EFP attacks during
this time period," and EFPs had previously been "deployed by Special Groups" on Route Wild. Id. at 117. Based on a review of the record evidence, the court agrees with Plaintiffs' expert that Iran, acting through its proxies, was responsible for the April 9, 2007 EFP attack on U.S. forces.
w. June 10, 2007 attack in Baghdad: Sergeant Matthew Lammers

Plaintiffs Barbara Lammers, Gary Lammers, and Stacy Pate claim that Iran is liable for the June 10, 2007 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. बๆ 748-66. Plaintiffs Barbara and Gary Lammers are the parents of Sgt. Matthew Lammers, who was injured in the attack. Id. $\mathbb{T} \boldsymbol{\|} 748-50,763-64$. Plaintiff Pate is the sister of Sgt. Lammers. Id. $\mathbb{\|} 765$.

On June 10, 2007, at about 8:56 a.m., a four-vehicle convoy was traveling on Route Jackson in the Saydiyah neighborhood of the West Rasheed district in southern Baghdad. Lutz Report at 138. An explosive struck the passenger side of the lead vehicle, injuring Sgt. Lammers and three other soldiers in the vehicle. Id. Sgt. Lammers' Casualty Report confirms he was wounded in action on June 10, 2007, in Baghdad "when the vehicle struck an IED." Ex. A at 71.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The Event Storyboard referenced EOD's conclusion that "the strike is consistent with an EFP, with an unknown initiation system." Lutz Report at 139. It assessed that "the initiation system for this EFP . . . most likely was PIR or command wire due to the fact that it hit the first vehicle." Id. at 140. The SIGACT Report and the Casualty Report state that the injuries suffered by Sgt. Lammers, amputations above the knee and of the left upper extremity, are "consistent with a strike from an EFP," and "typical of the type of injuries sustained by other service members in Iraq injured in EFP strikes." Id. at 139, 144.

Lutz determined that photographs of the vehicle damage caused by the explosion "provide further visual confirmation that the vehicle was struck by an EFP" because " $[t]$ he focused blast
penetration hole in the armored passenger door is a distinct signature of a precision manufactured and copper-lined EFP." Id. at 140. Lutz ultimately concluded that "[a]n EFP was the weapon used" in the attack that caused Sgt. Lammers's injury and that this attack "was part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollah-trained Special Group proxies." Id. at 144. Lutz reasoned that "[a]lthough the documents produced by CENTCOM do not provide details about the explosives used or the metallic content of the weapon's liner, EOD's assessment that the strike was consistent with an EFP-together with the photographs taken of the vehicle-strongly indicate that the EFP used in the attack was a precision manufactured and copper-lined EFP." Id. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for the injuries of Sgt. Lammers in the June 10, 2007 attack was an EFP, traceable to Iran and its proxies.

## x. April 28, 2008 attack in Sadr City: Sergeant First Class Ronald Sloan

Plaintiff SFC Ronald Sloan claims that Iran is liable for the April 28, 2008 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. वT\| 1025-29. Plaintiff was injured in the attack. Id. 991026-27.

At approximately 1:13 p.m. on April 28, 2008, eight explosives were launched from a cargo truck located on the north perimeter wall of Joint Security Station ("JSS") Sadr City. Lutz Report at 146. The cargo truck contained eight launch tubes that were likely remotely fired using a cell phone. Id. The explosives struck the north side of the Tactical Action Center in JSS Sadr City causing "considerable damage" and injuring 15 U.S. servicemembers, including SFC Sloan. Id. SFC Sloan's Casualty Report confirms he was wounded in action on April 28, 2008, in Baghdad ${ }^{6}$ "when the JSS received indirect fire." Ex. A at 78-79.

[^4]The court finds sufficient evidence in the record to conclude that the attack was the result of an IRAM. The SIGACT Report lists the attack as "Lob Bomb Attack (5X Rockets)" and identified the "Bongo truck. . . around the school on Rte Mexico" as the "launch site for the attack." Lutz Report at 147. The Report notes that the attack "impacted [the] roof of JSS Sadr City" and that there were "several UXOs [unexploded ordnances]," two of which were later determined to be "rocket motors." Id. The SIGACT Report further states that the "initiator for the strike was possibly a timer" and the proximity of the Iraqi Police station to the Coalition forces "that were attacked indicates the likelihood that the attack was conducted by JAM [Special Groups] or another rogue JAM element." Id. The Indirect Fire Report (IDF Report) lists the type of munition as "Rocket." Id. at 148. The CEXC Reports note that "the evidence collected from the attack included a metal box with electric components, mobile phone parts, 4 X improvised fuzes, a bag containing Frag, 4X nose cones, and 4X improvised rocket launcher." Id. at 157. The Event Storyboard noted that the indirect fire "consisted of 5x rounds of improvised rocket assisted mortars." Id. at 160. The Storyboard explained that there has been an "increase in [indirect fire] attacks [that] is likely related to the dust storm," which inhibits the ability of Coalition Forces to defend themselves against incoming rocket fire, and noted that the "attacks are expected to continue until weather conditions improve." Id.

There is compelling photographic evidence as well. The JTF Troy Report includes photographs "of the point of origin and the vehicle used to launch the IRAMs, . . . of the rocket fuzing, rocket fragmentation, nose cones and 107 mm rocket motors." Id. at 148. The JTF Troy Report states that the attack consisted of "eight IRAM rockets" and the launch site "consisted of one Bongo Truck with eight launch tubes and was positioned on the North Perimeter wall of JSS

SADR." Id. EOD confirms that "[e]ight Mk 3 IRAM rockets were launched," a "Bongo Truck was used to launch the rockets," and they recovered "rocket fuzes." Id. at 149.

Lutz concluded that it was "highly probable" that the attack "was committed at the general direction of the IRGC and Hezbollah by their Special Group proxies using weapons provided by the IRGC and training provided by the IRGC and Hezbollah." Id. at 161. Specifically, Lutz opined that the attack was "likely committed by KH at the direction of the IRGC and (Lebanese) Hezbollah" and that the 107 mm rockets used in the IRAM attack "were a trademark of Iran's support for groups such as KH." Id. Additionally, Lutz pointed to the "level of sophistication and technology used in the IRAM arming and firing system" as an indication that "the attack was carried out by a well-trained and sourced terrorist group, most likely KH, that was equipped and trained by IRGC forces and Lebanese Hezbollah members." Id.

Furthermore, Lutz noted that the attack "took place during a period of increased operational tempo by IRGC-directed Special Groups." Id. Between "February and April 2008, EFP attacks against Coalition Forces increased by 40 percent," and IRGC-sponsored Special Groups "gradually escalated indirect-fire attacks between March 23, 2008, and March 28, 2008, during which they launched 91 separate barrages that dropped a total of 344 rockets and mortar rounds on the Green Zone in Baghdad." Id. The indirect fire attacks "coincided with coordinated JAM Special Groups assaults against all 11 Iraqi Security Forces checkpoints around Sadr City. Beginning in late April, U.S. forces (working in concert with Iraqi Security Forces) launched an offensive directed against JAM and JAM Special Groups based in and around Sadr City." Id. The context of this "intensified conflict" contributed to Lutz's conclusion that Iranian-backed forces are responsible for the attack. Id. The court finds satisfactory evidence in the record to
demonstrate that the explosive responsible for the injuries of SFC Sloan in the April 28, 2008 attack was an IRAM, traceable to Iran and its proxies.
y. April 29, 2008 attack in Baghdad: Specialist Preston Charles Kaplan

Plaintiffs SPC Preston Charles Kaplan, Nicole A. Kaplan, Noni Kaplan, David Kaplan, Jaime Zarcone, and Jessalyn Holt claim that Iran is liable for the April 29, 2008 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. बTl 1030-41. Plaintiff Nicole Kaplan is the wife of SPC Kaplan, who was injured in the attack. Id. $9 \mathbb{T} 1031$-33, 1036. Plaintiffs Noni and David Kaplan are SPC Kaplan's parents, and Plaintiffs Zarcone and Hold are SPC Kaplan's sisters. Id. 4T1037-40.

On April 28, 2008, at about 10:11 p.m., a four-vehicle convoy was traveling north on Route Cubs in the Kadamiyah neighborhood of northern Baghdad. Lutz Report at 162. An explosive, which had been placed "on the right side of the road in a drainage ditch," struck the front passenger door of the second vehicle. Id. SPC Kaplan and another soldier were injured in the attack, and one soldier was killed. Id. at 163. SPC Kaplan's Casualty Report confirms he was wounded in action on April 29, 2008, in Iraq when he "encountered [] IED and RPG fire." Ex. A at 82-83. The court notes that the report does not specify the city of injury. Id.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The SIGACT Report classifies the "IED Type" of the device as an EFP. Lutz Report at 163. Similarly, the IED Report classifies the main charge configuration as an EFP and describes the device as "consistent with a single EFP array containing 2-3 steel EFPs." Id. Although no EFP fragments were recovered, the IED Report notes that "command wire, [a] water bottle used as a wire spool with [a] white quick disconnect, [and] one white project box (found 10M away in a bush)" were found at the attack site and in the surrounding area. Id. (third alteration in original).

The CJTF Troy Report adds that "command wire was the only source of initiation found which ran approximately 100 m northeast to a firing point." $I d$. at 164 . The Event Storyboard contains the observation that "S[pecial] G[roups] C[riminals] in Kadamiyah conducted this attack in response to C[oalition] F[orces] activity in Sadr City." Id. at 166 (alterations in original).

The Lutz Report notes that despite references to "steel EFPs," it is more likely that the EFP casings were made of steel and the liners made of copper because, due to differences in melting point, "steel liners tend to shatter when employed in EFPs versus forming a slug/rod penetrator when copper liners are employed in EFPs." Id. at 162 n.3. Lutz concluded that "[a]n EFP array consisting of 2 to 3 EFPs was the weapon used" in the attack that injured SPC Kaplan and that this attack "was part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollah-trained Special Group proxies." Id. at 167. Lutz further concluded that the vehicle damage "strongly indicates" both precision-manufacturing of the EFP and "the likely use of HE [high-energy] explosives in the construction of the EFP array." Id. Lutz's conclusion is supported by the Event Storyboard, which noted that Special Groups "conducted this attack in response" to Coalition Forces activity in Sadr City. Id. at 166. Based on a review of the record evidence, the court agrees with Plaintiffs' expert that Iran, acting through its proxies, was responsible for the April 29, 2008 EFP attack on U.S. forces.
z. September 8, 2009 attack in Baghdad: Senior Airman Victor Ray Wise

Plaintiff Senior Airman (SrA) Victor Ray Wise, II claims that Iran is liable for the September 8, 2009 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. बT 1143-51. Plaintiff


Around 10:00 a.m. on September 8, 2009, a four-vehicle convoy consisting of two M1151 HMMWVs and two MRAPs from Detachment 2, 732nd Expeditionary Security Forces Squadron,

93d Military Police Battalion was traveling north on Route Jackson near FOB Falcon in southern Baghdad. Lutz Report at 184. As the convoy was entering the traffic circle on Route Jackson, the third vehicle (an M1151 HMMWV) was struck by an explosive "on the right side of the vehicle toward the rear of the truck commander's door." Id. at 184-85. The explosive, which "consist[ed] of a copper cone, steel case, and approximately 50-60 lbs of unknown bulk explosives, had been emplaced between a brick wall and the road on Route Jackson." Id. The attack injured SrA Wise and two others and killed 1LT Joseph Helton. Id. at 184-85. SrA Wise's medical report confirms he was injured on September 8, 2009, "in [an] IED blast," and he received a purple heart for wounds received in action on that date. Ex. A at 93, 97. The court notes that neither document confirms the injury occurred in Baghdad. Id.

The court finds sufficient evidence in the record to conclude that the attack was the result of an EFP. The AR 15-6 Report states that the vehicle was "struck by an Explosively Formed Projectile (EFP)" and that "[v]isual evidence taken after the blast [shows] that the EFP was encased in concrete and hidden behind the curb. When detonated, the EFP penetrated it's [sic] casing, went through the curb, through the 1151 armor and into the cab of the vehicle." Lutz Report at 185. The SIGACT Report lists the IED type as EFP, and further notes that the devise is believed to be a "single EFP with a copper cone" and ""was most likely angled upward at a $0-5$ degree angle and forward approximately 5-10 degrees' in order to clear the curb where it had been emplaced." Id. at 186 (quoting SIGACT Report). The IED Report confirms that the main charge configuration was an "EFP with copper cone approximately 10 inches in diameter and a thin steel case" that was believed to be "command detonated using either R[adio] C[ontrol] or command wire." Id. The IED Report notes that "it appears that the [third vehicle] was specifically targeted due to the angle of the EFP, [and because] the first two vehicles (MRAPs) passed the device, [while the] third
vehicle (HMMWV) [was] struck," and the JTF Troy Report makes the same conclusion. Id. at 186-87, 190. The CJTP Troy Report confirms that the device was "a single copper plate EFP with thin steel casing" that was placed at a "vertical angle [of] possibly 0-5 degrees." Id. at 187. The JTF Troy Report is consistent, stating that "the strike appeared to be from a single EFP approximately 10 inches in diameter, with a copper cone and light steel case." Id. at 190.

The CJTP Troy Report notes that this was "the third EFP attack within the [area] in the past 90 days" and opines that Former Special Groups (FSG) are responsible for the attack, "due to their previous activity within the area." Id. at 187. Notably, the SIGACT Report also opines that "FSG has a presence in [the] area and [is] possibly the one to blame for this attack." Id. at 186. The CEXC Report found that "a RDX based explosive was used in the manufacturing" of the EFP, which Lutz confirms is "a common component in HE explosives, including Iranian manufactured C-4." Id. at 193.

Based on this evidence, Lutz concluded the attack "was part of the EFP campaign orchestrated by the IRGC and Hezbollah that was conducted by one of the IRGC's Hezbollahtrained Special Group proxies." Id. at 194. Lutz further opined that the weapon used was a "single EFP approximately 10 inches in diameter, with a copper cone (liner) and light steel case and contained approximately $50-60 \mathrm{lbs}$. of an unknown bulk explosive" and that the "copper slug entered the M1151 HMMWV on the right side near the rear of the truck commander's door killing 1LT Helton and injuring SrA Wise." Id. The court finds satisfactory evidence in the record to demonstrate that the explosive responsible for the injuries of SrA Wise in the September 8, 2009 attack was an EFP, traceable to Iran and its proxies.
aa. June 6, 2011 attack in Baghdad: Private First Class Christopher Brook Fishbeck

Plaintiff Stephanie Kidder claims that Iran is liable for the June 6, 2011 attack on U.S. forces in Baghdad, Iraq. See Am. Compl. q\| 1159-64. Plaintiff is the widow of PFC Christopher Brook Fishbeck, who was killed in the attack. Id. $\mathbb{\| T l} 1160-61$.

Around 5:35 a.m. on June 6, 2011, seven explosives were launched from a cargo truck that was used as a mobile launch platform against JSS Loyalty in eastern Baghdad. Lutz Report at 197. Two of the explosives failed to detonate, two impacted near the launcher outside JSS Loyalty, and the remaining three detonated near housing units in JSS Loyalty causing a fire that destroyed 30 of the units and damaged 28 units. Id. The two recovered devices had explosive weights of 52.3 and 75.2 pounds. Id. The attack killed six U.S. servicemembers, including PFC Fishbeck. Id. PFC Fishbeck's Casualty Report confirms he was killed on June 6, 2011, in Baghdad "as a direct result of [indirect fire]." Ex. A at 99.

The court finds sufficient evidence in the record to conclude that the attack was the result of an IRAM. The SIGACT Report lists the "Event Category" as "Indirect Fire" and the "Modes of Attack" as "IRAM." Lutz Report at 197. The report further states that the IRAMs "measured 240 mm in diameter," that "7X impacts were confirmed, 2 of which did not detonate," and that the attack's point of origin "was 150 meters" from a Federal Police checkpoint. Id. The report adds that this attack "matches similar TTPS to the (16) IRAM attacks assessed to be conducted by KH between 2007 and 2010," and concludes that "[d]ue to the nature of this attack, this event was coordinated by a [KH] Element, likely based out of Sadr City." Id. at 198-99. The SIGACT Report further states that this was the first IRAM attack on COL Loyalty since April 28, 2008, and that the last IRAM attack in USD-C's area of operation was January 3, 2011. Id. at 199.

Importantly, "KH claimed and posted videos of both [of] the . . . attacks." Id. The SIGACT Report predicts that " KH[] inten[ded] to increase IDF attacks within Baghdad, with specific threats to utilize al-Ashtar rockets (240mm) within the V[ictory] B[ase] C[omplex], I[nternational] Z[one] and Mal'ab al Shaab areas." Id.

The CEXC Triage Report lists items recovered from the scene, which include "[f]ull IRAM 1 weight 191.2 lbs , explosive weight 52.3 lbs ." and "[f]ull IRAM 2 weight 196.6 lbs (w/ expended rocket motor), explosive weight 75.2 lbs ," Id. The JTF Troy Report notes that EOD discovered " 1 x fired 107 mm rocket motor, verified by visual recon, as well as an 8 ' x 8 ' blast seat $\ldots 1 \mathrm{x}$ 240 mm [IRAM] . . . 1ea expended 107 mm rocket motor with a bolted-on base plate, and found a 12'x6'x3' blast seat...fragmentation consistent with 1 ea expended 107 mm rocket motor . . . [and] one IRAM and one fuze" at the scene. Id. at 199-200.

Lutz concluded that it was "highly probable" that the attack involved the use of IRAMs "propelled by 107 mm and 240 mm rockets that were supplied by the IRGC," and that KH , an IRGC proxy group, was likely responsible. Id. at 196. According to Lutz, the "U.S. government has publicly confirmed the IRGC's provision of 240 mm rockets to Shi'a Special Groups (particularly KH) in Iraq." Id. at 198. For example, in July 2007, then-Brigadier General Kevin J. Bergner briefed the media regarding the U.S. intelligence community's assessment that Shi'a Special Groups were being trained by Hezbollah instructors in a course that "teaches the use of indirect fire weapons including 60 mm and 120 mm mortars, and $107 \mathrm{~mm}, 122 \mathrm{~mm}$ and 240 mm rockets." Id. Lutz opined that because of this support, it is "unsurprising" that "the SIGACT Report for the June 6, 2011 attack contains an intelligence assessment that the attack was likely committed by KH." Id.

Lutz agreed with the Department of Defense's Joint Improvised Explosive Device Defeat Organization's ("JIEDDO") assessment that "IRAMs—at least from 2007-2011—were a signature weapon 'used by Iranian-backed militias that operate with the aid of Iran's Islamic Revolutionary Guards Group.'" Id. at 196. Lutz explained that following the attack, KH posted a video "showing multiple IRAMs being fired at FOB Loyalty followed by several explosions. The video contains a subtitle providing the date and location of the attack and KH's logo." Id. at 204. ${ }^{7}$ Based on a review of the record evidence, the court agrees with Plaintiffs' expert that Iran, acting through its proxies, was responsible for the June 6, 2011 IRAM attack on U.S. forces.

## IV. CONCLUSIONS OF LAW

The courts next considers three questions of law: (1) whether there is subject matter jurisdiction over the claims arising from the 27 non-bellwether attacks at issue, pursuant to the FSIA's terrorism exception to sovereign immunity; (2) whether the court has personal jurisdiction; and (3) whether Iran is liable for Plaintiffs' injuries under the federal cause of action associated with the FSIA's terrorism exception. Lee I, 518 F. Supp. 3d at 490; see also Karcher II, 2021 WL 133507, at *63.

## A. Subject Matter Jurisdiction

The FSIA provides "the sole basis for obtaining jurisdiction over a foreign state in our courts." Argentine Republic v. Amerada Hesse Shipping Corp., 488 U.S. 428, 434 (1989). "Under the FSIA, a foreign state is immune from the jurisdiction of American courts unless the case falls within one of a list of statutory exceptions . . . ." Kilburn v. Socialist People's Libyan Arab Jamahiriya, 376 F.3d 1123, 1126 (D.C. Cir. 2004). Plaintiffs claim that this court has jurisdiction

[^5]over Iran under a statutory exception known as the "terrorism exception." Pls.' Second Proposed Findings at 2; Pls.' Proposed Findings of Fact \& Conclusions of L. in Supp. of Their Mot. for Default J., ECF No. 23 [hereinafter Pls.' Proposed Findings], at 15.

Pursuant to the terrorism exception:
A foreign state shall not be immune from the jurisdiction of courts of the United States or of the States in any case not otherwise covered by this chapter in which money damages are sought against a foreign state for personal injury or death that was caused by an act of torture, extrajudicial killing, aircraft sabotage, hostage taking, or the provision of material support or resources for such an act if such act or provision of material support or resources is engaged in by an official, employee, or agent of such foreign state while acting within the scope of his or her office, employment, or agency.

28 U.S.C. § 1605A(a)(1).
The terrorism exception applies only if three additional requirements are met. First, the foreign state must have both (1) been "designated as a state sponsor of terrorism at the time the" underlying act occurred or designated because of the act and (2) been so-designated at the time the claim was filed or in the six-month period before the claim was filed. Id. § 1605A(a)(2)(A)(i)(I). Second, at the time of the attack, the victim must have been a national of the United States, a member of the armed forces, or an employee or contractor of the United States. Id. § 1605A(a)(2)(A)(ii). Third, if "the act occurred in the foreign state against which the claim has been brought," the plaintiff must have "afforded the foreign state a reasonable opportunity to arbitrate the claim." Id. § 1605A(a)(2)(a)(iii).

Plaintiffs have easily satisfied most of these jurisdictional prerequisites. First, Plaintiffs seek money damages against a foreign state. See Am. Compl. at 142. Second, Plaintiffs are seeking to recover for their personal injuries, including "physical injury, extreme mental anguish, and pain and suffering that ultimately led to their deaths" and "severe emotional distress, extreme
mental anguish, loss of sleep, loss of appetite, and other severe physical manifestations, [and] the loss of their loved ones' society, companionship, comfort, advice and counsel." Id. $\mathbf{1 4} 1167,1172$, 1177. Third, Iran has been continuously designated as a state sponsor of terrorism since 1984. See Determination Pursuant to Section 6(i) of the Export Administration Act of 1979—Iran, 49 Fed. Reg. 2,836, 2,836 (Jan. 23, 1984); Salzman, 2019 WL 4673761, at *12 ("Iran is a designated state sponsor of terrorism and has been since 1984."). Fourth, Plaintiffs have submitted documentation establishing that the victims from the 27 attacks at issue are U.S. nationals or servicemembers. See generally Ex. A. Fifth, the relevant acts occurred in Iraq, not Iran, see, e.g., Am. Compl. ब 1 , so the requirement to afford Iran the opportunity to arbitrate is not implicated here.

The only remaining jurisdictional inquiries are whether Plaintiffs' injuries were (1) caused by (2) "the provision of material support or resources" for (3) "an act of torture, extrajudicial killing, aircraft sabotage, [or] hostage taking" by "an official, employee, or agent of such foreign state while acting within the scope of his or her office, employment, or agency." See 28 U.S.C. $\S 1605 \mathrm{~A}(\mathrm{a})(1)$. The court addresses these three factors in reverse order, starting with whether Plaintiffs' claims are predicated on an extrajudicial killing.

## 1. An Act of Extrajudicial Killing

The FSIA defines "extrajudicial killing" by reference to the Torture Victim Protection Act of 1991 ("TVPA"). $I d . \S 1605 \mathrm{~A}(\mathrm{~h})(7)$. Under the TVPA an "extrajudicial killing" is:
a deliberated killing not authorized by a previous judgment pronounced by a regularly constituted court affording all the judicial guarantees which are recognized as indispensable by civilized peoples. Such term, however, does not include any such killing that, under international law, is lawfully carried out under the authority of a foreign nation.

Pub. Law No. 102-256, § 3(a), 106 Stat. 73 (1992). "[T]his definition contains three elements:
(1) a killing; (2) that is deliberated; and (3) is not authorized by a previous judgment pronounced by a regularly constituted court." Owens, 864 F. 3 d at 770.

Regarding the first element, the court agrees with the recent decision in Cabrera v. Islamic Republic of Iran, which held that subject matter jurisdiction under the FSIA extends to circumstances where, as here, the "injuries are the foreseeable result of a defendant nation's material support for acts of extrajudicial killings." Memorandum Opinion, Cabrera v. Islamic Republic of Iran, No. 18-cv-2065-JDB (D.D.C.), ECF No. 130 [hereinafter Cabrera], at 2. In other words, the attack does not have to result in a killing-"injuries resulting from 'deliberated' attempts to kill fall within the scope of Section 1605A(a)(1)," Karcher I, 396 F. Supp. 3d at 58, if there is evidence showing that the injuries were "caused by a defendant nation's provision of material support for acts of extrajudicial killing," Cabrera at 7. Based on the record evidence, this court concludes that each of the 27 attacks resulted in a killing, or resulted in injuries which were the foreseeable result of Iran's material support for acts of extrajudicial killings. See generally Lutz Report; Ex. A.

Next, the court must determine whether the killings and attempted killings were "deliberated." Id. §3(a) "A 'deliberated' killing is simply one undertaken with careful consideration, not on a sudden impulse." Salzman, 2019 WL 4673761, at *13 (internal quotation marks omitted). Twenty-five of the 27 attacks at issue involved the detonation of EFPs. EFPs must be strategically placed and later armed via either remote frequency or command wire to properly detonate. See Barker Report, PX-158, at 10. Planning an EFP's location and constructing a means to trigger the device requires forethought, and an EFP therefore cannot be detonated on "a sudden impulse." See Salzman, 2019 WL 4673761, at *13. In addition, the court received expert testimony that EFPs were constantly retooled to overcome U.S. defenses that attempted to
make EFPs less deadly, indicating that EFPs were intentionally designed to inflict maximum harm on their targets. See Barker Report, PX-158, at 12-18.

The remaining two attacks involved IRAMs, which "are essentially airborne versions of IEDs," typically propelled by a "military rocket motor" and launched "by remote control means such as a cell phone, cordless phone or command wire." Lutz Report at 145. IRAMs are "launched in an arced trajectory" in order to "enable[] them to be aimed over walls that enclose forward operating bases and other military facilities." Id. at 146. IRAMs are made from "large metal canisters," which are "usually propane gas tanks that have been drained of their contents and filled with high explosives - up to several hundred pounds." Id. at 145. Additionally, the court received expert testimony that IRAMs are specifically intended to create "a shrapnel effect which would be truly horrific." Tr. 3 at 110:4-15. Building an IRAM, strategically targeting a fortified military base, and constructing a trigger requires forethought and cannot be executed on "a sudden impulse." See Salzman, 2019 WL 4673761, at *13. The court therefore concludes that causing or attempting to cause death by detonating an EFP or launching an IRAM constitutes a "deliberated killing."

Finally, there is no evidence that would suggest that the killings and attempted killings in any of the 27 attacks were authorized by a judgment of a regularly constituted court or were lawfully carried out under the authority of a foreign nation. The killings or attempted killings of persons at issue here are therefore extrajudicial killings under the FSIA.

## 2. Material Support or Resources by an Official or Agent of Iran

Plaintiffs next must establish that an official or agent of Iran provided material support to the actors who carried out the EFP and IRAM attacks. The FSIA defines "material support or resources" as:
any property, tangible or intangible, or service, including currency or monetary instruments or financial securities, financial services, lodging, training, expert advice or assistance, safehouses, false documentation or identification, communications equipment, facilities, weapons, lethal substances, explosives, personnel . . . , and transportation, except medicine or religious materials[.]

18 U.S.C. § 2339A(b)(1); 28 U.S.C. § 1605A(h)(3) (defining "material support or resources" by reference to 18 U.S.C. § 2339A).

Plaintiffs have provided numerous examples of Iran funneling material support through the IRGC and Qods Force to terrorist proxies in Iraq. And, as the court in Karcher held, the Qods Force "is at least an agent of Iran, if not a part of the government such that individuals working for [the Qods Force] would be officials or employees of Iran." Karcher I, 396 F. Supp. 3d at 55. This material support manifested as millions of dollars of funding, training, and advanced weaponry. See, e.g., Pregent Report, PX-155, at 12; Oates Report, PX-153, at 24. Thus, Plaintiffs have established that Iran provided material support for the terrorist attacks that harmed them.

## 3. Causation

Finally, for the court to have subject matter jurisdiction over this matter, Plaintiffs must prove that Iran's "provision of material support or resources" caused Plaintiffs' "personal injury or death." 28 U.S.C. § 1605A(a)(1). The D.C. Circuit has adopted a proximate cause standard for the FSIA terrorism exception. See Kilburn, 376 F.3d at 1128; Owens, 864 F.3d at 794 ("In Kilburn, we held a plaintiff must show proximate cause to establish jurisdiction under § 1605(a)(7), the predecessor of the current FSIA terrorism exception. Because § 1605A(a) restates the predicate acts of $\S 1605(\mathrm{a})(7)$, it stands to reason that proximate cause remains the jurisdictional standard." (citation omitted)). The touchstone of proximate causation is the existence of "some reasonable connection between the act $\ldots$ of the defendant and the damage which the plaintiff has suffered." " Owens, 864 F.3d at 794 (quoting Kilburn, 376 F.3d at 1128). There are two components to this
inquiry: "First, the defendant's actions must be a 'substantial factor' in the sequence of events that led to the plaintiff's injury. Second, the plaintiff's injury must have been 'reasonably foreseeable or anticipated as a natural consequence' of the defendant's conduct." Id. (citation omitted) (quoting Rothstein v. UBS, 708 F.3d 82, 91 (2d Cir. 2013)).

Plaintiffs have satisfied both components of proximate cause. Iran's support was a "substantial factor" leading to Plaintiffs' injuries because Iran provided the funding, training, and weaponry that was used to injure Plaintiffs. See Pregent Report, PX-155, at 12; Oates Report, PX153, at 24; Lutz Report at 198. This support was particularly crucial with respect to EFPs: as the U.S. military developed countermeasures to make EFP attacks less lethal, Iran's training, technology, and provision of resources equipped insurgents with EFPs that could respond to U.S. countermeasures and inflict maximum damage. See Tr. 1 at 98:5-9; Oates Report, PX-153, at 25 (noting that the U.S. military traced components of EFPs to Iran's illicit supply chain); Tr. 5 at 48:21-49:12 (noting devices that interfered with counter-EFP measures were likewise traced to Iran).

Plaintiffs' injuries were also a reasonably foreseeable consequence of Iran's conduct. The U.S. military has successfully traced EFP devices that circumvented the United States' counterEFP measures to Iran. Tr. 5 at 48:21-49:12. The U.S. government also has confirmed that the IRGC-Qods Force supplied "JAM Special Groups members with" IRAMs and "coordinated the training of JAM Special Groups." Lutz Report at 198. It is clear from Iran's financial support and its provision of evolving and ever-more lethal weaponry to insurgents in Iraq that Iran reasonably anticipated-and indeed, intended-that its support would lead to the death and serious injury of U.S. soldiers. See Karcher I, 396 F. Supp. 3d at 56-57 (finding harm to plaintiffs was reasonably foreseeable consequence when Iran intended "to kill people, not just disable vehicles");
see also Owens, 864 F.3d at 797-98 (finding bombings were a reasonably foreseeable consequence of Sudan's provision of "opportunities" to al Qaeda and Osama bin Laden) (internal quotation marks omitted). Likewise, the suffering of the families of victims of Iran-supported attacks was a reasonably foreseeable consequence of Iran's support for terrorist attacks in Iraq. See Salzman, 2019 WL 4673761, at *14 (finding "the related suffering of [victims'] family members" was "reasonably foreseeable").

The court therefore concludes that Iran's material support for the extrajudicial killings and attempted killings involved in the 27 attacks proximately caused Plaintiffs' injuries, and the court has subject matter jurisdiction pursuant to 28 U.S.C. § 1605A(a)(1).

## B. Personal Jurisdiction

As with subject matter jurisdiction, the court has "an independent obligation . . . to satisfy itself of its personal jurisdiction before entering a default against a missing party." Kaplan v. Cent. Bank of the Islamic Republic of Iran, 896 F.3d 501, 512 (D.C. Cir. 2018). Under the FSIA, a court has personal jurisdiction over a foreign sovereign where the court has subject matter jurisdiction and "service has been made under" 28 U.S.C. § 1608. 28 U.S.C. § 1330(b). "In other words, under the FSIA, subject matter jurisdiction plus service of process equals jurisdiction." GSS Grp. Ltd. v. Nat'l Port Auth., 680 F.3d 805, 811 (D.C. Cir. 2012) (internal quotation marks omitted).

The FSIA provides four means for serving a foreign state. See 28 U.S.C. § 1608(a). First, a plaintiff may effect service "by delivery of a copy of the summons and complaint in accordance with any special arrangement for service between the plaintiff and the foreign state or political subdivision." Id. § 1608(a)(1). If service cannot be made under such an arrangement, then the plaintiff may effect service "by delivery of a copy of the summons and complaint in accordance with an applicable international convention on service of judicial documents." Id. § 1608(a)(2).

If the plaintiff cannot serve the defendant via the first two methods, then the plaintiff must attempt to effect service "by sending a copy of the summons and complaint and a notice of suit," as well as "a translation of each into the official language of the foreign state, by any form of mail requiring a signed receipt, to be addressed and dispatched by the clerk of the court to the head of the ministry of foreign affairs of the foreign state concerned." Id. § 1608(a)(3). If, after 30 days, service cannot be effected by this third option, the plaintiff may attempt service through diplomatic means. To do so, the plaintiff must provide the clerk of court with two copies of the summons and complaint, and a notice of the suit, along with a translation of each into the official language of the foreign state, which the clerk of court transmits to the Secretary of State. Id. § 1608(a)(4). The Secretary of State will then "transmit one copy of the papers through diplomatic channels to the foreign state and shall send to the clerk of the court a certified copy of the diplomatic note indicating when the papers were transmitted." Id.

Plaintiffs could not serve Iran under the first two mechanisms of service, as the United States and Iran do not have a "special arrangement" for service and "Iran is not party to an international convention on service of judicial documents.'" Salzman, 2019 WL 4673761, at *15 (quoting Ben-Rafael v. Islamic Republic of Iran, 540 F. Supp. 2d 39, 52 (D.D.C. 2008)). Plaintiffs therefore first attempted to effect service under the third mechanism—via registered mail with return receipt requested. See Certificate of Mailing. When Iran did not respond after 30 days, Plaintiffs served Iran via diplomatic channels. See Diplomatic Service Request; Dep’t of State Service Attempt. Under 28 U.S.C. § 1608(c)(1), service was deemed effected "as of the date of transmittal indicated in the certified copy of the diplomatic note"-in this case, December 18, 2019. See Dep't of State Service Attempt. Accordingly, this court finds that Plaintiffs properly effected service on Iran under 28 U.S.C. § 1608(a)(4).

Because the court concludes that it has subject matter jurisdiction and Plaintiffs have properly effected service, the court likewise has personal jurisdiction over Iran. See GSS Grp., 680 F.3d at 811.

## C. Liability

Finally, the court must determine whether Iran is liable for Plaintiffs' injuries with respect to the 27 non-bellwether attacks at issue. Plaintiffs bring their claims under 28 U.S.C. § 1605A(c). See Am. Compl. T|T] 1165-1178. Section 1605A(c) provides that "[a] foreign state that is or was a state sponsor of terrorism" and any of its agents are liable "for personal injury or death caused by acts described in subsection (a)(1) of that foreign state, or of an official, employee, or agent of that foreign state, for which the courts of the United States may maintain jurisdiction under this section for money damages." 28 U.S.C. § 1605A(c). The section "creates a cause of action for the same conduct that gives rise to subject-matter jurisdiction under the terrorism exception to sovereign immunity." Karcher II, 2021 WL 133507, at *67; see also Karcher I, 396 F. Supp. 3d at 59; Allan v. Islamic Republic of Iran, No. 17-cv-338, 2019 WL 2185037, at *6 (D.D.C. May 21, 2019); Fritz, 320 F. Supp. 3d at 86-87. "Importantly, Section 1605A(c) also creates vicarious liability 'for the acts of [Iran's] officials, employees, or agents,' in this case, the IRGC and its leadership, Hezbollah, and Iraqi proxies." Karcher II, 2021 WL 133507, at *67 (quoting 28 U.S.C. $\S 1605 \mathrm{~A}(\mathrm{c}))$. Liability is limited, however, to U.S. nationals, members of the armed forces, employees or contractors of the U.S. government, and legal representatives of any of those individuals. See 28 U.S.C. § 1605A(c).

Plaintiffs' § 1605A(c) claims fall into three categories: (1) U.S. soldiers injured in Iraq by terrorist acts that Iran materially supported; (2) the estates of U.S. soldiers killed in Iraq as a result of such acts; and (3) the family members of the injured and deceased U.S. soldiers. See generally

Am. Compl. The first two categories comprise the § 1605A(c) claims of 21 Plaintiffs.
Surviving Plaintiffs: (1) Margarito A. Martinez, Jr.; (2) Shane Irwin; (3) Kurtiss Lamb; (4) Nicholas Gene Koulchar; (5) Patrick Ward; (6) Adam Mattis; (7) Terrance Peterson, III; (8) Daniel J. Evans; (9) Luis Junior Puertas; (10) Christopher Michael Melendez; (11) James Gmachowski; (12) Tyler Norager; (13) Ryan Sabinish; (14) John Kirby; (15) Ronald Sloan; (16) Preston Charles Kaplan; (17) Victor Ray Wise, II. Am. Compl. $\mid \mathbb{T}$ 243, 252, 262, 345, 421, $443,452,477,507,524,662,679,988,1030,1079,1100,1143$.

Estates of Deceased U.S. Soldiers: (1) Lawrence Kruger, on behalf of the Estate of Eric Kruger; (2) Denise Vennix, on behalf of the Estate of Alan R. Blohm; (3) Veronica Lopez Reyes, on behalf of the Estate of Jason Lopez Reyes; (4) Suheil Campbell, on behalf of the Estate of Edgardo Zayas. Am. Compl. $\mathbb{1 / T}$ 278, 439, 520, 568.

These Plaintiffs' claims "derive from the injuries or deaths of members of the U.S. armed forces." See Karcher II, 2021 WL 133507, at *68. "Given the factual and legal overlap" this court's finding of "subject-matter jurisdiction over each of these Plaintiff's claims also establishes their entitlement to relief under 28 U.S.C. § 1605A(c)." Id.; see also Salzman, 2019 WL 4673761, at * 15 ("There is almost total 'overlap between the elements of $\S 1605 \mathrm{~A}$ (c)'s cause of action and the terrorism exception to foreign sovereign immunity, and a plaintiff that offers proof sufficient to establish a waiver of sovereign immunity under § 1605A(a) has also established entitlement to relief as a matter of law.") (cleaned up) (quoting Foley v. Syrian Arab Republic, 249 F. Supp. 3d 186, 205 (D.D.C. 2017)); Allan, 2019 WL 2185037, at *6 ("[M]ost courts conduct the analysis together, since evidence sufficient to establish jurisdictional causation will almost always establish a theory of 'personal injury' necessary to prevail under § 1605A(c)."). The court has subject matter jurisdiction over these Plaintiffs' claims under the terrorism exception; accordingly, the court also
concludes that Iran is liable for these Plaintiffs' injuries under 28 U.S.C. § 1605A(c).
The remaining $\S 1605 \mathrm{~A}(\mathrm{c})$ claims at issue are those of family members of U.S. soldiers injured or killed in the 27 non-bellwether attacks. See generally Am. Compl. Family-members may recover for emotional distress under § 1605A(c) if: "(1) they are members of a victim's immediate family" and "(2) they are present at the time, or the defendants' conduct is sufficiently outrageous and intended to inflict severe emotional harm upon a person [who] is not present." Rezaian v. Islamic Republic of Iran, 422 F. Supp. 3d 164, 179 (D.D.C. 2019) (internal quotation marks omitted). Liability is limited to U.S. nationals. See 28 U.S.C. § 1605A(c)(1).

The second prong is easily met-"acts of terrorism are, by their very nature, intended to harm and to terrify by instilling fear of further harm." Murphy, 740 F. Supp. 2d at 73; see Karcher II, 2021 WL 133507, at *69 ("[T]he Court is satisfied that these acts of terrorism were 'sufficiently extreme and outrageous to demonstrate that' Iran's intent was 'to inflict severe emotional harm on even those not present at the site of the act.'") (quoting Roth v. Islamic Republic of Iran, 78 F. Supp. 3d 379, 400 (D.D.C. 2015)). The "'immediate family' requirement is strictly construed in FSIA cases; generally, only spouses, parents, siblings, and children are entitled to recover." Roth, 78 F. Supp. 3d at 400 (quoting Murphy, 740 F. Supp. 2d at 75). Each family-member Plaintiff must provide evidence satisfying the "immediate family" requirement, see Karcher II, 2021 WL 133507, at $* 69$, and Plaintiffs have failed to do so. Additionally, Plaintiffs have not provided evidence showing family-member Plaintiffs are U.S. nationals, as required by 28 U.S.C. $\S 1605 \mathrm{~A}(\mathrm{c})(1)$. In the absence of such evidence, the court makes no finding as to the § $1605 \mathrm{~A}(\mathrm{c})$ claims of the family-member Plaintiffs arising from the 27 non-bellwether attacks.

## V. CONCLUSION AND ORDER

For the foregoing reasons, the court grants the motion for default judgment against Defendant as to the 27 non-bellwether attacks considered herein, with respect to the surviving Plaintiffs and the Plaintiffs representing estates. The court makes no liability findings as to the remaining family-member Plaintiffs. The court requires further information to establish that family-member Plaintiffs are (1) immediate family members and (2) nationals of the United States.

Plaintiffs shall appear for a telephonic status conference on February 17, 2023, at 2:00 p.m., to discuss further proceedings in this matter.

Dated: January 30, 2023



[^0]:    ${ }^{1}$ For ease of reference, the court has omitted the titles of Plaintiffs' expert witnesses after the first reference.
    ${ }^{2}$ For simplicity, the court has adopted a modified convention for citations to evidence submitted to the Karcher I court. All transcripts from the Karcher I trial are denominated with "Tr." and a number 1 through 5 indicating the volume in which the cited testimony appears. A transcript designated "Tr. 1," for example, appears in the first volume of the transcript from the Karcher I trial. Exhibits from the Karcher I trial are denoted by their title and "PX," followed by the exhibit number assigned to the exhibit during the Karcher I trial.

[^1]:    ${ }^{3}$ PDF pagination is used for the Lutz Report.

[^2]:    ${ }^{4}$ ECF pagination is used for Exhibit A.

[^3]:    ${ }^{5}$ 2LT Peterson's Purple Heart certificate does not confirm the date his injuries were sustained. Ex. A at 12, 16. However, the Purple Heart was awarded less than two months after the December 8 attack, leading the court to conclude that it was awarded for injuries sustained in the December 8 attack.

[^4]:    ${ }^{6}$ SFC Sloan's Casualty Report states that he was injured in Baghdad. Sadr City is a suburb of Baghdad.

[^5]:    ${ }^{7}$ Plaintiffs provided the court with a link to the KH video as part of the underlying documents Mr. Lutz relied on when preparing his expert report. Sealed Mot. for Leave to File Certain Docs. Under Seal, ECF No. 54, Ex. C, ECF No. 54-29, at 75-77. The court was not able to access the video, as the link does not work.

