TIMES INSIDER

I Used My Bomb Training to Report on the Beirut Explosions

In the past month, my military background helped The Times cover three breaking stories.

While serving in an explosive ordnance disposal unit in the Navy, John Ismay deployed to Iraq in 2007.Credit...Via John Ismay

By John Ismay

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Times Insider explains who we are and what we do, and delivers behind-the-scenes insights into how our journalism comes together.

Journalists don't always need years of schooling in a subject to be able to report effectively on it. You don't have to be a graduate of Juilliard to profile a cellist. You don't need to have played in the N.F.L. to cover the Jets. But sometimes, the backgrounds we bring to our reporting fields can be invaluable. I cover armed conflict for The Times Magazine's At War section, and during these past few weeks, my experiences as a former naval officer have come in handy in helping colleagues across the newsroom cover three breaking stories.

The first story was about a fire that broke out on July 12 and then burned out of control for four days on the U.S.S. Bonhomme Richard, a large amphibious assault ship that was docked in San Diego. The firefighting training I received after getting my commission in 1999, combined with my subsequent experience working on a destroyer, allowed me to ask informed questions and dig deeper into how such a blaze might have erupted. I found people who had served on the Bonhomme Richard as firefighting leaders, and in talking shop, we were able to explore a reasonable series of conditions that may have contributed to the devastation of the ship.

In Portland, Ore., when a reporter's cellphone video captured a man named Christopher David being beaten after walking up to federal law enforcement officers during a protest on July 19, I spotted something familiar. As Mr. David turned away from his attackers, I instantly recognized his sweatshirt: It is issued to new midshipmen on their first day at the U.S. Naval Academy. I reached out to him via Twitter and found we shared an alma mater — he was in the class of 1988. Our common language helped me understand Mr. David's argument when he called the federal officers' behavior a "failure of leadership," and I contributed that perspective to our coverage of the protests. We later expanded the interview into its own article the next day.

After I served aboard a warship, I transitioned to a part of the Navy called explosive ordnance disposal, and the 10 months I spent learning the basics of being a bomb squad technician in the early 2000s became an asset when the first videos emerged on Tuesday of the explosions on Beirut's waterfront. I watched and rewatched the videos for clues about what might have happened, texted buddies I'd served with and posted queries in a couple of Facebook groups that were open only to current and former bomb techs.

We observed footage of two separate events. The first was a fire with white smoke and small pop-pop-pop explosions like firecrackers going off in the blaze. The second was an explosion with an eruption of reddish-black smoke, sending a powerful shock wave through the city. While social media ran wild with speculation, we stuck to what we knew: analyzing explosives and measuring their destructive effects.

When a spokesperson for the Lebanese government issued a statement pointing to 2,750 tons of ammonium nitrate fertilizer as the most likely culprit, I started pulling out some old handbooks and running the numbers.

To gauge the expected blast and fragmentary effects of exploding munitions, we were trained to determine first which explosive material was present and then calculate its comparative weight in TNT to use as a common reference point. After that, the rest is simple math. But for ammonium nitrate, a fertilizer stored in bulk, there is no simple textbook answer.

There were multiple factors to consider — including how the fertilizer might have degraded after years in relatively open storage near the water and whether there were other

compounds present that may have contributed to the blast — so I had to interpret them as best I could. The worst-case scenario I proposed was that these thousands of tons of fertilizer had about 40 percent of the power of TNT. I built a spreadsheet that calculated how strong the blast would be at various ranges and what the resultant damage might be at each. I shared it with colleagues while they were busily geo-locating videos of the aftermath taken from social media posts.

My 40 percent figure seems to have held up, given the video evidence I've seen so far of broken glass and damaged buildings even thousands of feet away. Those 2,750 tons of ammonium nitrate would have had the power of about 2.3 million pounds of TNT when it exploded — far more than the most powerful conventional U.S. air-dropped bomb, but less than one-thirteenth the 15,000-ton TNT equivalent of the nuclear bomb dropped on Hiroshima 75 years ago this month.

In much smaller quantities, burning ammonium nitrate might not explode. But similar incidents around the world have shown that when thousands of tons of it catch fire in a contained environment, the additional heat and pressure can lead to a mass detonation. My hope was that by examining this the way I was trained in the Navy, I could offer some context on how something as seemingly innocuous as fertilizer could cause so much damage.

As I learn more about what happened, you'll be the first to know.