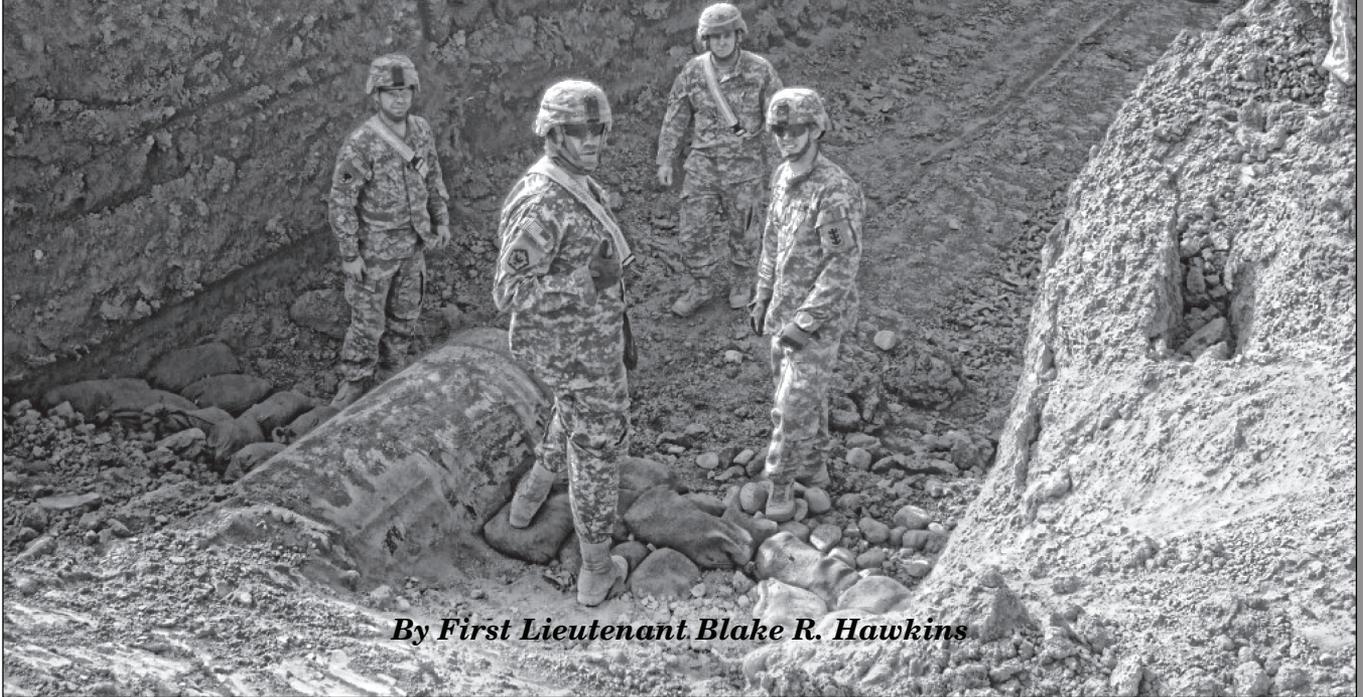


# LESSONS LEARNED: A YEAR IN IRAQ



*By First Lieutenant Blake R. Hawkins*

**T**his summary of lessons learned after a year as a platoon leader of a horizontal construction platoon in Iraq details what one unit learned that might help other units that deploy. It will also serve as a reference for the specific missions our platoon executed and what we learned from them. The lessons learned apply across a broad spectrum of operations, no matter what engineer missions are being performed. The 561st Engineer Company deployed with more than 150 Soldiers—3 line platoons, and 1 maintenance platoon during Operation Iraqi Freedom. The platoons included 2 horizontal platoons and 1 vertical platoon.

One of the most important things we learned—through good and bad experiences—is the importance of a reconnaissance. The unit being serviced will send pictures and descriptions of the work it wants done and may even specify what equipment to bring. But that unit's leaders probably are not engineers, and even if they are, they will not be executing the mission. The battalion will be pushing for an accurate schedule and the earliest possible start date. Remember that the schedule is likely to be much more accurate if you have walked the site yourself. It could save additional trips to bring up equipment that you would not realize you needed if you had not been to the site before.

We also found out the hard way that the platoon needs a little time between long missions—generally anything longer than 10 days. The unit needs maintenance time for any of the equipment that malfunctioned during the

previous mission and to prepare and resource the equipment set for the next mission. Also, it will keep morale higher if the Soldiers have time to recover from long days on the worksite and enjoy whatever local amenities are available. It is important to be aware of the effects that long back-to-back missions can have on Soldiers, especially if they are pushed hard to complete those missions by a certain date. Finishing projects early did not lengthen our time between missions because there was always another project waiting. Leaders should give Soldiers days off while on the project, because that is one of the few times they can control their own schedule.

Between missions, it is vitally important to keep the equipment running properly in case it is needed for the next mission. This is also the time to accomplish all the different services, annual and semiannual, before the next mission starts. Make friends with the Soldiers in the maintenance section. If they want to help you, a lot can be accomplished in a short amount of time. For any mission that requires a lot of equipment, it is also important to take mechanics; repair parts; and petroleum, oil, and lubricants. Equipment breaks down, and most forward operating bases (FOBs) do not have mechanics who know how to work on engineer equipment or have parts for it.

No matter what the mission is, don't forget about drainage. It does rain in Iraq, and the water does not infiltrate the ground as it does in most places in the world, sitting instead on top of the ground for days at a time. The finished

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project may look good when it is complete in the dry season, but may end up underwater when it rains. If available, use surveyors to ensure that the water is draining away from the project. If surveyors are not available, do the best you can with a trained eye.

Train younger Soldiers on as many pieces of equipment as possible on each project. This will affect progress, but it is a good opportunity to cross-train operators on different machinery. Most of them will be noncommissioned officers on their next deployment, and this is the time to get them the training and proficiency they need for promotion. Before the mission starts (and before the reconnaissance, if possible), make sure to get a clearly defined scope of work. Customers frequently asked for additional work once a project was started. If the requested job was small, and we were capable of doing it with our equipment, we would oblige them. But remember that your battalion assigned specific work and that there are more missions waiting after completion of the current job.

Following are lessons learned from specific missions:

- In building an earthen road to Class B standards, we learned that the most important factor is the availability and application of water. Without water, there is no compaction and the road will not hold up. If there is not a large, renewable water source nearby, it might be necessary to locate and convoy to one. This might not be practical and will inevitably draw out your timeline. Technically, this is a “make-or-break” issue for the project. During the middle of winter, working 24 hours a day, we used approximately 30,000 gallons of water a day for a month. We estimated that to construct the same road in the middle of the summer, with its heat and evaporation, would take approximately 60,000 gallons a day. Also, for best results, surveyors should be on-site the day the project starts and for as many additional days as possible. Ensure that the surveyors do not emplace center-line grade stakes until near the end of the project. It is difficult for the Soldiers to operate big equipment around the stakes, and in the end, the stakes are knocked out anyway.
- Having a mechanic on-site was important, because he constantly worked to keep the mission on schedule. He fixed the water distributor four or five times and used parts from one scraper to keep another working. During the project, several pieces of equipment broke down. Extra parts and equipment should be on standby, ready to push out to the jobsite. After completing

the project, ensure that the customer understands that no matter how well-built the road is, it will need maintenance. Rain and high-speed traffic wear the road surface down quickly.

- Reconnaissance is paramount for rapid crater repair (RCR) missions. Pictures and dimensions reported by the operational environment owner may fail to convey the true scope of the work required. If cement is used for an RCR mission, it should contain accelerant. Otherwise, Soldiers may have to wait at each hole for hours while cement sets.
- Missions that require spending weeks in a desolate location can be improved by taking along some items that will improve the quality of life. We spent approximately 45 days in the blistering heat of an Iraqi summer, living in the middle of an agricultural field while we built a joint combat outpost. One of the biggest morale boosters the unit had was a refrigerator van that let us keep ice on hand. Cold drinks and ice are invaluable in this type of environment and made life much more bearable.
- Try to get some unified ground rations express (UGRE) before starting the mission. UGRE are self-heating, three-course meals that serve 12 Soldiers or more and are much tastier than meals, ready-to-eat. Packages of chips, fruit juice, Gatorade®, and other snack items from the dining facility help to break the monotony of eating the same food day after day.
- Bring along anything that can provide shade, since the sun will drain everyone’s energy, and Soldiers will welcome a cooler place out of the sun to rest. Of course, working at night when possible allows Soldiers to work longer and reduces the threat of heat injury.

Firsthand knowledge of the worksite before a mission begins, and equipment maintenance when the mission is complete, were two of the major lessons learned during the 561st Engineer Company’s deployment. The value of training and simple morale boosters during the mission was another valuable lesson learned. Taking proper care of Soldiers and their equipment is crucial to a successful deployment.



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