



Project Spotlight

Lodge Foundry Void Fill - South Pittsburgh, TN



Owner: Lodge Manufacturing Co. Engineer: S&ME
Installer: SiteMix Pressure Grouting, LLC

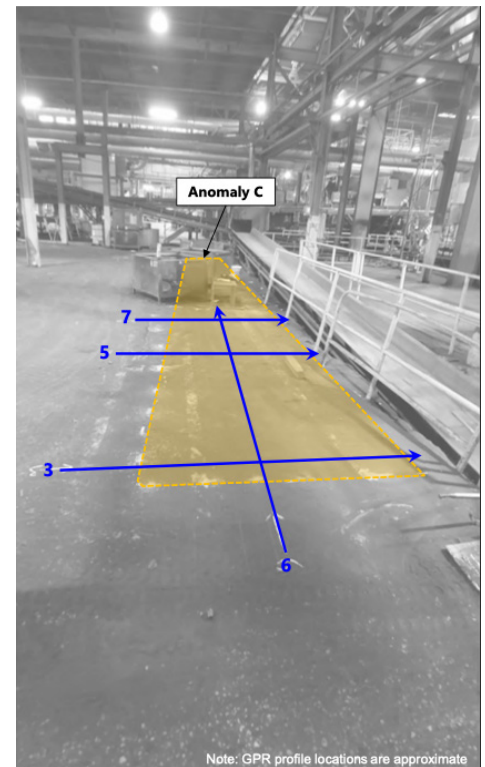
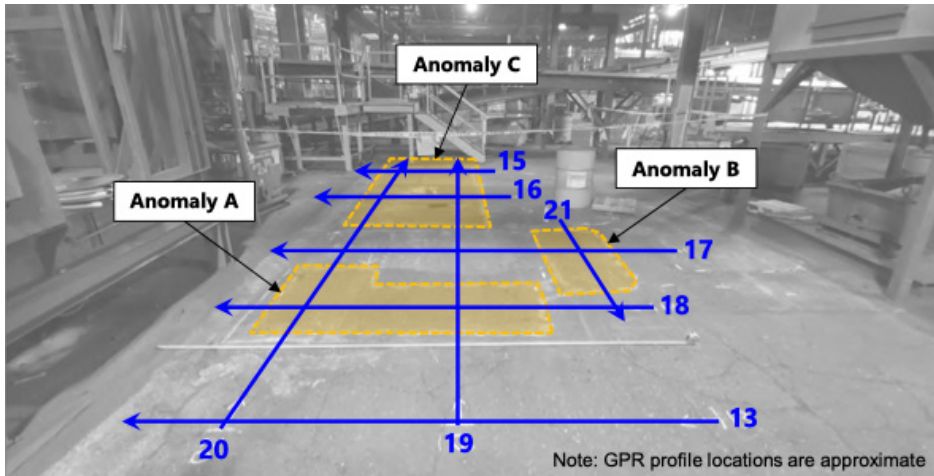
Background Information

Anyone who has walked into a kitchen store, or a department store for that matter, is probably familiar with the Lodge brand of cast-iron cookware. Established in 1896, Lodge is the oldest manufacturer of cast-iron products in the United States. The Lodge Foundry, located in South Pittsburgh, Tennessee, is where all Lodge cookware begins.



Recently, staff at the Lodge Foundry noticed a few cracks occurring due to settlement in the foundry's concrete floor. A team from BACE Structural Engineering was brought in to determine the underlying cause of the settlement. Upon examination, the team found a large void underneath the foundry floor. The void appeared to be an old, unused basement that had been only partially backfilled, leaving an empty space between the backfill material and the foundry floor. A team from S&ME, Inc. evaluated the area using ground-penetrating radar to determine the extent of the underlying void, which ranged from two inches to four feet in depth.

Due to the significant size of the void, and the unique challenge of filling void spaces around the existing loose backfill material, S&ME recommended that a highly fluid and lightweight material be utilized for this application.



Project Details

Given the special considerations for this void fill project, the contractor SiteMix Pressure Grouting, LLC, considered a number of lightweight fill material options before deciding to use a low-density cellular concrete (LDCC) that utilized AERLITE-iX™ - a non-pervious foaming agent manufactured by Aerix Industries™ - to achieve the flexibility and compressive strength needed for this particular project. The use of AERLITE-iX LDCC would enable the void to be completely filled while also stabilizing the floor above and reducing the potential for future settlement of the existing backfill material.



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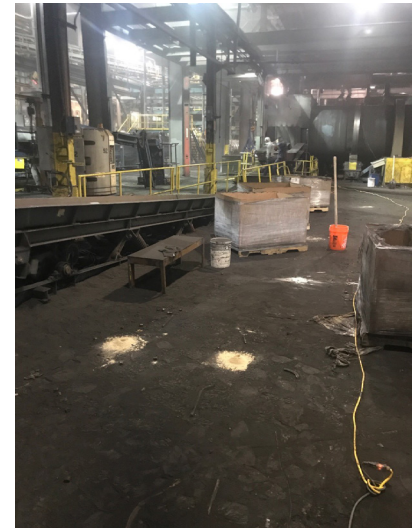
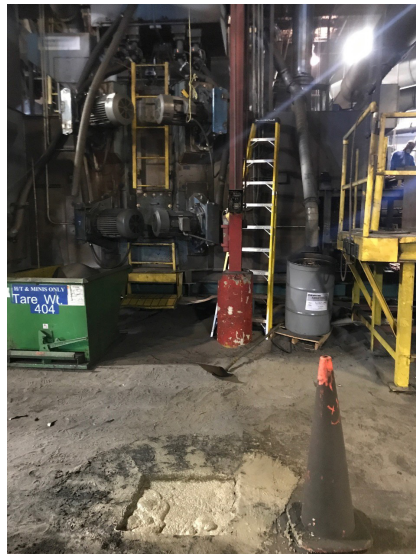
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Project Details, continued

The first step in this two-day project was to drill observation holes and feeder holes in the floor slab—observation holes were placed along the void edge while feeder holes were placed in the center, to ensure the LDCC reached every corner and crevice of the void space. On the second day, the four-person crew from SiteMix pumped the LDCC throughout the void space, beginning at the smallest void area and pumping to the largest area. A total of 45 cubic yards of LDCC was used, and pumped for distances of up to 250 feet.



Aerix Added Value

Aerix's AERLITE-iX LDCC is ideal for void fill applications like this one, where high levels of fluidity, flexibility, and compressive strength are essential. For the Lodge Foundry, LDCC not only provided the strength needed to ensure structural stability for the long haul, it also enabled this application to be completed within days, causing minimal disruption to the manufacturing operations. With AERLITE-iX, Lodge can seamlessly continue its production of stellar cookware in a foundry that will stand firm for years to come.