ANIKA E. WIRT & ZACHARY A. MUSSELMAN, Department of Natural and Physical Sciences, Shepherd University, Shepherdstown, WV, 25443. Ground Penetrating Radar Survey of Old Roman Catholic Burying Ground, Shepherdstown, WV.

In fall 2024, members of Saint Agnes Catholic Church contacted Shepherd University and requested help in identifying unmarked graves in the Old Roman Catholic Burying Ground; a historic graveyard deeded to Saint Agnes in 1795. The Burying Ground is located on a hill within a karst landscape. The soil within the survey area has a profile consisting of silt loam near the surface and clay common below 60 cm. Boulders are frequent throughout soils in the survey area. The survey was conducted using a Leica DS2000, a dual-antenna GPR system producing frequencies at 250 and 700 MHz. An 8 m by 16 m grid survey was conducted using transect spacing of 25 cm, resulting in 98 swaths. Using a cloud-based processing software, we analyzed both individual swaths and depth slices. There were multiple locations within the survey grid that suggest subsurface anomalies. Roots were clearly identifiable from the surface to ~50 cm, and near surface boulders exist sporadically. An area of strong reflection exists near the eastern edge of the grid starting at ~75 cm depth and may potentially be associated with a burial. Factors complicating the interpretation of GPR data included local soil texture, soil moisture retention, frequency of near-surface outcrops and boulders, and the time elapsed since interment.