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Probing The Buried Remains of The Todos los Santos, City of San Salvador in Hoping Island with Shallow Subsurface Geophysics Method

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The study in ancient sites with GPR is widely documented over several decades. This non-invasive geophysical method provides a rapid measure for anthropogenic objects and therefore serves as a guide for possible excavation for the next stage of archaeological surveys. City of San Salvador, which is a Dutch colonial city consisted of fortress, hospitals and churches in 17 century, is located in the Hoping Island in Keelung, Taiwan. The fortress and its affiliated structures were abandoned and left collapsing since the mid-17th century. Some relics of the fortress wall were still remained until the early 20th century but the fast development projects in the island has caused the relics demolished or buried under building or road pavements. Many wells and bones have been found around the area belong to over three hundred years ago. As a consequence, the government initiated a new excavation project at the parking lot where the ancient convent of Todos los Santos is believed since 2011 in order to find the remains of the convent in city of San Salvador. Meanwhile we have surveyed with GPR to help guiding the excavation location. In this case, we surveyed with wide-angle-refraction/reflection (WARR) of GPR as well as common-offset array, to compensate the defect of traditional common-offset of lack of longitudinal resolution with velocity profile, and the combination of velocity profile and common-offset data helped distinguish the signals from other noises and further located the position of subsurface structures. After data analysis and numerical modeling of the buried materials, we have located the possible remains of walls of the convent or other structures around 0.9 to 1.3 meters in depth that can offer useful information to better plan the archaeological excavations.