

DRONE ENABLED EM61

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In 2020, a collaboration between Geonics, Ltd. and SPH Engineering, Inc., the developer of the Universal ground Control System (UgCS), resulted in the adaption of the EM61, broadly applied deep looking metal detector, for use with a small UAS. In 2021, the Drone Geoscience (DG) team was given the privilege to test newly developed EM61 Lite, a standard EM61 modified for use with the drone, which in our case is a Matrice 600 Pro hexacopter made by DJI.

Due to the payload limitations of our drone, the first attempt at lifting the EM61 Lite was unsuccessful. After some creative re-engineering of system suspension for the coils and testing different approaches to providing power to the EM61 electronics, the DG Team conducted field trials at ultra-low altitude to successfully map a buried oil and gas pipeline. In this presentation, I will discuss the results of our field trials and share the current thinking regarding achieving a successful implementation of a drone enabled EM61.