The study was designed to assess the ability of an experimental tool – a fractured rock passive flux meter (FRPFM) - to measure groundwater specific discharge and mass flux in a fractured bedrock setting, and compare and contrast the results with results obtained using investigative methods typically deployed at Superfund sites to characterize fractured bedrock hydrogeology. The FRPFM offers a unique combination of capabilities in a closed borehole, thereby reducing the chances of vertical borehole flow and cross contamination that can occur during open borehole tests. The tool can locate active or flowing fractures, identify individual fracture orientation (strike, dip, and dip azimuth), and determine cumulative groundwater flux and flow direction.