We present a 1:5000 geological map for Kima’Kho Mountain situated in northern British Columbia, Canada. Kima’Kho is an alkali-olivine basaltic Pleistocene volcano (\(^{40}\)Ar/\(^{39}\)Ar of 1.82 +/- 40 ka), rising 460 m from its base, comprising two major structural elements: 1) a central vent, dominated by lapilli-tuff and minor pillow lava and dykes; and 2) a lower elevation surrounding plateau comprising an extensive sequence of dipping (up to 30°) beds of basaltic tuff-breccia overlain by a series of \(\geq\) 11 flat-lying, subaerial lava flows. The lapilli-tuff is dominated by juvenile scoriaceous lapilli within a partly-palagonitized fine-ash matrix. The basaltic tuff-breccia, stratigraphically overlying the lapilli-tuff, features intact pillow basalt and basalt fragments within a matrix of ash to lapilli-sized glassy basalt fragments, and are inferred to be subaqueously deposited. The entire stratigraphic sequence hosts two “passage zones” (Jones, 1969), near-horizontal horizons separating subaqueously deposited foreset beds of basaltic tuff-breccia and the subaerial capping lavas. The presence of the double passage zone at Kima’Kho indicates at least two distinct levels to a sustained lake. These lithofacies, and their stratigraphic relationships, suggest sustained volcanic eruption from beneath and within a thick (>100 m) sheet of ice. The eruption sequence includes: a) an explosive (subaqueous and subaerial) initial phase, b) effusive subaerial eruption of basalt lava that fed pillow lava deltas within an englacial lake, and c) continued effusion of basalt after the lake level dropped to produce a capping sequence of subaerial lavas. 