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Description of core samples from Whitewater Creek, Kingston

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Specimens of diamond-drill core from the upper dam site at Whitewater Creek, Kingston, have been examined.

69-114: 91' DDH11

The piece of core is a white friable siliceous rock with angular fragments of quartz up to 1 or 2 mm across.

In thin section it consists of angular, completely unsorted fragments of quartz with minor feldspar, muscovite, biotite and tourmaline, together with a small amount of clay minerals, the finest material being opaque white.

The rock is a poorly compacted siliceous mudstone.

69-115: 50' DDH13

The specimen of core is a fine to medium-grained rock composed of grains of quartz and flakes of white mica with occasional angular fragments of quartz and irregular black pieces of two lustrous masses of graphite flakes up to 1 cm across.

In thin section the rock is similar in mineral content to 69-114, but the grain size is much coarser and opaque interstitial siliceous and argillaceous material, although still present, is very much less, so as to be no more than cement. The larger quartz grains show strain and recrystallisation.

There is also about 10% of feldspar and 10% of lithic fragments, some of which may be weathered feldspar.

The rock is a gritty feldspathic sandstone.

69-116: 30' DDH14

The hand specimen is a creamy white, somewhat friable rock consisting of quartz grains about 0.5 mm across, a few flakes of muscovite, some opaque white clay material and occasional black masses of lustrous graphite flakes.

In thin section the rock is a mosaic of angular quartz grains, some showing peripheral regrowth, with minor feldspar, lithics, white mica and opaque white material.

The rock is a feldspathic sandstone.

69-117: 60' DDH14

The hand specimen is a slightly friable, fine-grained white rock with small irregular patches of dark organic material. Opaque white grains and flakes of white mica are visible.

In thin section the rock is a mosaic of angular quartz grains averaging about 0.25 mm across with a little fresh feldspar showing lamellar twinning, a few lithic fragments and some white opaque interstitial material.

The rock is a feldspathic sandstone.

69-118: 163' DDH15

The hand specimen is a white and grey mottled fine-grained rock with abundant angular, glassy fragments of quartz up to 1 mm across but rather poorly sorted and averaging about 0.2 mm across, together with dark lithic fragments and much very fine grained soft white material.

In thin section the rock consists of angular grains of quartz and lithic fragments set in a plentiful, very fine grained white opaque matrix. Among the lithic fragments are pieces of basaltic material consisting of feldspar needles and glass, and there is also dark brownish glass in the matrix.

The rock is a tuffaceous sandstone.

69-119: 37' DDH17

The hand specimen is a creamy white to dark green granular mass merging into solid opaline silica of similar colours.

In thin section the rock is a porous mass of loosely compacted opaque grains which on thin edges are seen to be composed of masses of irregular globules of silica about 0.02–0.03 mm across. The globules have a radial structure and show a black cross between crossed nicols.

The rock consists of opaline silica.

69-120

In thin section the rock is a mosaic of angular quartz grains averaging 0.25 mm across. Minor grains of feldspar and rock fragments are present and there is a minimal amount of white argillaceous matrix.

The rock is a feldspathic sandstone.

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