Table 1. Kimberlite indicator and other heavy minerals picked by ODM from the Banks Island samples (or as determined by EPMA), and their chemical composition.

Picked Heavy Minerals Geochemistry

Garnet Group

Al -members

Pyrope $(Mg,Fe,Mn)_3Al_2Si_3O_{12}$

Cr-Pyrope $Mg_3(Al,Cr)_2Si_3O_{12}$

Almandine $Fe^{2+}_3Al_2Si_3O_{12}$

Spessartine $Mn_3Al_2Si_3O_{12}$

Ca -members

Grossular $Ca_3Al_2Si_3O_{12}$

Andradite $Ca_3Fe^{3+}_2Si_3O_{12}$

Clinopyroxene

Augite $(Ca,Na)(Mg,Fe,Al)(Al,Si)_2O_6$

Diopside $CaMgSi_2O_6$

Hedenbergite $CaFeSi_2O_6$

Chrome Diopside $Ca(Mg,Cr)Si_2O_6$

Bronzite (Enstatite) $Mg_2Si_2O_6$

Others

Barite BaSO4

Chalcopyrite $CuFeS_2$

Clinochlore (chlorite) $Mg_5Al(AlSi_3O_{10})(OH)_8$

Corundum Al_2O_3

Epidote $Ca_2(Al_2Fe^{3+})[Si_2O_7]O(OH)$

Fluorite CaF_2

Galena PbS

Hematite Fe_2O_3

Kyanite $Al_2(SiO_4)O$

Malachite $Cu_2(CO_3)(OH)_2$

Pseudorutile $Fe_2Ti_3O_9$

Pyrite FeS_2

Rutile TiO_2

Siderite $FeCO_3$

Sphalerite ZnS

Staurolite $Fe^{2+}Al_9Si_4O_{23}(OH)$

Titanite $CaTi(SiO_4)O$

Spinel Group

Aluminium Spinels

Spinel $MgAl_2O_4$

Gahnite $ZnAl_2O_4$

Hercynite $FeAl_2O_4$

Chromium Spinels

Chromite $FeCr_2O_4$

Olivine

Forsterite Mg_2SiO_4

Fayalite Fe_2SiO_4

Mg-ilmenite

$(Fe^{2+},Mg)TiO_3$