

Notes on some Ti and Zr chemistry from some “dolerites’ from the Groundrush area

Seventeen analyses were supplied, including two repeats and one greywacke, leaving 14 individual igneous analyses. No location data was supplied and the samples were not assumed to be fresh. Major element analysis was by XRF.

Ti/Zr ratios are commonly used to determine lithology in mafic/intermediate rocks. The Table below gives the Ti/Zr ratios and interpreted rock type.

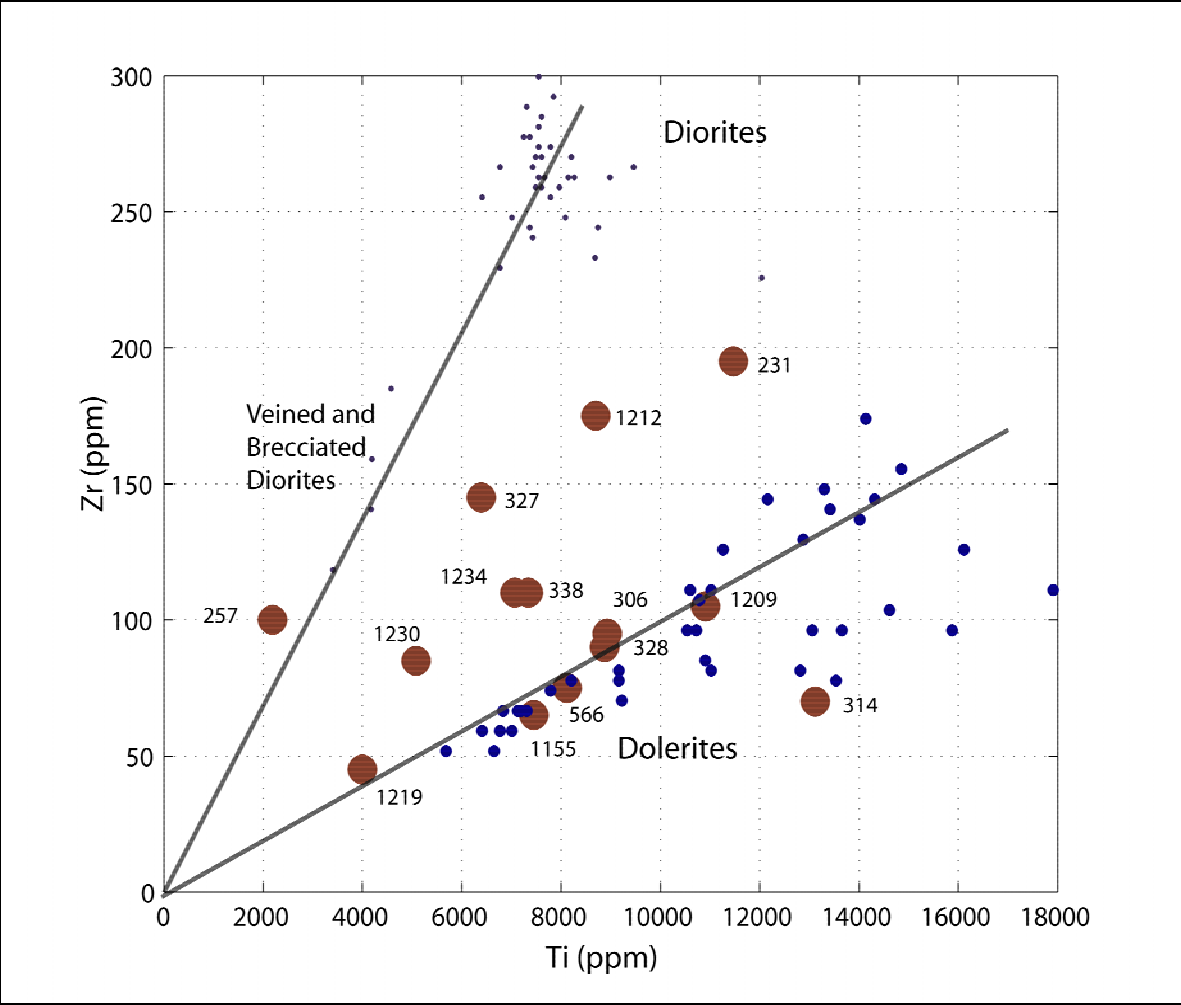
Sample	Ti/Zr	Rock Type
231	59	Intermediate/mafic boundary
257	22	Intermediate
306	94	Mafic
314	187	Mafic
327	44	Intermediate
328	99	Mafic
338	67	Mafic
566	108	Mafic
1155	115	Mafic
1209	104	Mafic
1212	50	Intermediate
1219	89	Mafic
1230	60	Intermediate/mafic boundary
1234	64	Mafic

The Ti and Zr data were plotted on a graph with the data from Groundrush drillholes GHD 8, 60 and 62. Samples can be placed into three groups on this diagram.

Firstly, sample 257 , with a Ti/Zr ratio of 22, lies on the diorite trend and plots close to a group of veined and brecciated diorite samples from GHD 62. These samples preserve the Ti/Zr ratios of the igneous rock but have lower abundance of these elements, due to dilution with, in this case, quartz vein material. This sample reports high CO₂ and acid-soluble Ca, probably indicating dilution with carbonate veining. It should be followed up.

Secondly, a group of samples shows the same ratios as the dolerites from GHD 8, 60 and 62. A third group of samples has Ti/Zr ratios not seen in the research dataset. Either these represent a distinct mafic association or there has been some modification of the Ti/Zr ratios.

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WHOLE ROCK GEOCHEM ON DOLERITES ON ML 22934, sampled July 2004

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