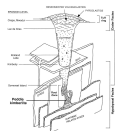


PEDDIE

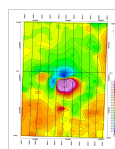
CANADA

A magnetic survey confirmed the existence of a cluster of kimberlites and IP was able to characterize the intrusion facies.

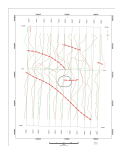


The Jurassic Peddie kimberlite is an example of a kimberlite system that has been eroded down to the hypabyssal facies.

Magnetic surveys can be used to detect circular anomalies associated with kimberlites. However, not all kimberlites have the same magnetic character. Some show a positive expression, some negative, others no expression at all. Additional tools must be utilized in diamond exploration.

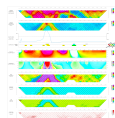


At Peddie, the MAG signature is very strong and sharp, indicating that we are dealing with fresh kimberlite rocks, of the hypabyssal facies.



A frequency-domain HLEM survey revealed many poor conductors (at high frequency), one of them coinciding with the eastern edge of the pipe.

A gravity survey was also conducted but the results were inconclusive.



The IP signature of Peddie kimberlite exhibits a short time constant, characteristic of oxides (magnetite is associated with hypabyssal facies).

For kimberlite at diatreme or crater facies, the IP response would show a long time constant, resulting from the effect of clay minerals formed by weathering.

The characterization exercise at Peddie shows that Mag can be a useful tool for the identification of kimberlite pipes, but Spectral IP remains the only tool that allows facies identification.