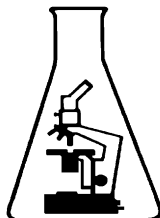


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X-RAY FLUORESCENCE ANALYSIS ON A POWDERED ROCK SAMPLE (PMD3)

prepared for

**PACIFIC MINERAL DEVELOPMENTS PTY LTD
INNISFAIL**

Order Number: 0320
Invoice Number: 00003368
Client Ref: Sam Catalano

Issued by

A handwritten signature in black ink, appearing to read 'Ken Spring'. The signature is fluid and cursive.

K. E. Spring B.Sc.(Hons), MAppSc
19 October 2010

Sample Label: PMD3

Date Received : 29/09/10

Sample type : Powered rock sample

Work Requested X-ray fluorescence whole rock analysis of powdered rock sample

Method

A small sub-sample was supplied to ALS Chemex on 29/09/10. The rock sample was investigated by X-ray fluorescence (whole rock) analysis by ALS Chemex. The XRF whole rock analysis determines the major oxides content of the rock as well as loss on ignition.

Results:

The results indicated (in weight percent):

12.95%	Al ₂ O ₃
0.04%	BaO
9.38%	CaO
0.05%	Cr ₂ O ₃
13.2%	Fe ₂ O ₃
1.68%	K ₂ O
10.55%	MgO
0.18%	MnO
2.56%	Na ₂ O
0.76%	P ₂ O ₅
43.8%	SiO ₂
2.37%	TiO ₂
0.13%	SrO
2.26%	Loss on ignition

The differences in mineralogical composition between the analyses is related to

- XRF determines composition in weight % and is calculated from a very small subsample of the original powdered rock sample.
- determining composition of a rock by XRF is complicated by some minerals which have a continuous range of compositions dependent on elemental variations and the same oxides being present in more than one mineral and in different combinations.
- Combinations of more than three minerals in a rock sample makes identification of the mineral assemblage extremely difficult (ie. prone to misidentification of minerals)

Comments

The supplied powdered rock sample is considered to be basalt, an extrusive basic igneous rock.

The calcium oxide content is 9.38% and the SiO₂ content is 43.8% which gives a calcium/ silicate content of 53.18% probably occurring in a range of minerals.