

MANTLE CODE SHEET for the Barkly Phosphate Project Nov/Dec 2009

Weathering	<i>mantle</i>
weak	1
weak - mod	2
moderate	3
mod - strong	4
strong	5

Structure	<i>mantle</i>
shear	<i>sh</i>
fracture	<i>fr</i>
joint	<i>jt</i>
vein	<i>ve</i>
slickensides	<i>sl</i>
brecciated	<i>br</i>
fault	<i>fa</i>
bedded	<i>bd</i>
foliated	<i>fo</i>
schistose	<i>sch</i>
mylonitic	<i>myc</i>

Grain Size	<i>mantle</i>
very fine	VFGR
fine	FGR
medium/fine	MFGR
medium	MGR
med/coarse	MGR
coarse	CGR
very coarse	VCGR
very coarse/Coarse	VC-CGR
very fine-fine	VF-FGR
very fine/medium	VF-MGR

Colour	<i>mantle</i>
white	WH
creme	CM
yellow	Y
red	RD
green	GN
khaki	KH
purple	PU
brown	BR
black	BK
grey	GY
orange	OR
beige	BE
molted	-
pink	PI
oche	RE/OR
blue	B
mauve	P
green/blue	GR/B
grey/green	GY/GR
cream/grey	CG
pink/red	PR
grey/white	GW
tan	TAN

Shade	<i>mantle</i>
light	L
medium	M
dark	D

Lithology	<i>mantle</i>
adamellite	<i>ad</i>
granite	<i>gr</i>
granite gneiss	<i>gr</i>
pegmatite	<i>pg</i>
soil	SOL
alluvium	<i>av</i>
colluvium	<i>cv</i>
saprock	<i>sr</i>
chert	CHT
mudstone	<i>ms</i>
siltstone	SLT
sandstone	SST
conglomerate	<i>cg</i>
greywacke	<i>gw</i>
basalt	<i>ba</i>
andesite	<i>ad</i>
rhyolite	<i>ry</i>
syenite	<i>sy</i>
tuff	<i>tf</i>
crystal tuff	<i>xt</i>
lithic tuff	<i>lt</i>
pegmatite	<i>pg</i>
aplite	<i>ap</i>
dolerite	<i>do</i>
gabbro	<i>gb</i>
diorite	<i>di</i>
granodiorite	<i>gd</i>
granite	<i>gr</i>
<i>metavolcanic</i>	<i>mv</i>
<i>volcanics</i>	<i>vc</i>
<i>mylonite</i>	<i>my</i>
Limestone	LIM
Dolomite	DOM
Cavity	CAV
Dolomitic Limestone	DL
Clay	CLY
Geothite	GEO
Calcite	CAL

Texture	<i>mantle</i>
bedded	<i>bd</i>
foliated	<i>fl</i>
gneissic	<i>gn</i>
greissen	<i>gr</i>
hornfels	<i>hf</i>
laminated	<i>lm</i>
porphyritic	<i>po</i>
schistose	<i>sc</i>
sheared	<i>sh</i>

Veining	<i>mantle</i>
carbonate	<i>cb</i>
chlorite	<i>cl</i>
epidote	<i>ep</i>
gypsum	<i>gy</i>
haematite	<i>hm</i>
iron products	<i>fe</i>
pyrite	<i>py</i>
quartz vein	<i>qv</i>
sericite	<i>se</i>
talc	<i>tl</i>
unknown	<i>uk</i>

Alteration	<i>mantle</i>
carbonate	<i>cb</i>
clay	<i>cy</i>
sericite	<i>se</i>
chlorite	<i>cl</i>
ferruginous	<i>fe</i>
greisen	<i>gr</i>
haematite	<i>hm</i>
silica	<i>si</i>
potassic	<i>k</i>
limonitic	<i>lm</i>
biotite	<i>bt</i>

Mineralisation	<i>mantle</i>
arsenopyrite	<i>as</i>
chalcocopyrite	<i>cp</i>
galena	<i>ga</i>
metal oxides	<i>mx</i>
metal sulphates	<i>ms</i>
pyrite	<i>py</i>
sphalerite	<i>sp</i>
sulphide(var)	<i>su</i>
Pyrrhotite	<i>po</i>
unknown	<i>uk</i>

Alt.Strength	<i>mantle</i>
weak	1
weak - mod	2
moderate	3
mod - strong	4
strong	5
increasing	
decreasing	
variable	

Fizz Test	<i>mantle</i>
no reaction	NR
very weak	VW
weak	W
weak - mod	W-M
moderate	M
mod - strong	M-S
strong	S
very strong	VS

Angularity	<i>Mantle</i>
rounded	R
sub-rounded	SR
sub-angular	SA
angular	A

Mineral. Style	<i>mantle</i>
disseminated	<i>d</i>
vein	<i>v</i>
semi-massive	<i>sm</i>
massive	<i>m</i>

P2O5 EST %	<i>Mantle</i>
Low P (0.5-3)	L
Low-Med P (3-4)	LM
Med P(4-6)	M
Med-High P (6-8)	MH
High (8-10)	H
Very High P (10+)	VH

Note:

For trace amounts worthy of mention use 0.1% (must be numerical value)

Use "sulphide" code for fine grained aggregates and rare variants

Use "unknown" code (uk)for features that need further investigation: use sparingly

Use "no code" for features that will require future coding

P2O5 EST % - were base upon the what the Mantle XRF readings showing at the time

Rec % - was a subjective estimate of the contents in the bulk sample bag, as the bulk were very large for the sample, accuracy of the estimate was greatly reduced

Lithology - Carbonates (Limestone, Dolomite and Dolomitic Limestone) were generally simplified to Limestone unless there was more indication there was a larger Dolomitic component.

Grain Size - as with VFGR litho especially the Limestone unit, it was difficult to accurately determine the Angularity of grain and was left blank when unsure. A sand folder was used to help distinguish the various grain roundness and size.

Fizz Test - BTRC001-BTRC018 was done using HCL with 50% water, hardware/supermarket HCL, BTRC019-BTRC036 done using Lab grade 30% HCL diluted with 50% water, often the acid was warm from being in the sun during the days of temperature of 40+ degrees heat.