APEX Geoscience Australia
Logging Codes

Regolith Group	
al	Alluvium
ct	Calcrete
cv	Colluvium
cy	Clay Zone
eo	Aeolian
fk	Ferricrete
hp	Hardpan
la	Lacustrine
le	Lacustrine Evaporites
lg	Lag
ls	Lower Saprolite
lt	Lateritic
mz	Mottled Zone
sa	Saprolite
sc	Silcrete
sd	Sand (residual)
sl	Soil
sr	Saprock
tr	Transitional zone
us	Upper Saprolite

Colour Intensity	
d	dark
e	earthy
m	moderate
l	light

Grain Size	
cg	coarse grained
mg	medium grained
fg	fine grained

Horizon	
BOA	Base of all transported cover
BOCO	Base of complete oxidation
BOCW	Base of complete weathering
REDOX	REDOX
TOFR	Top of fresh rock
TOP	Top of palaeochannel
TOSR	Top of saprock
WT	Water table

Colour	
bg	Blue-Green
bk	Black
bl	Blue
br	Brown
cw	Cream
gb	green-brown
gg	Grey-Green
gr	Green
gy	Grey
ob	orange-brown
og	Olive
ok	Ochre
or	Orange
pk	Pink
pu	Purple
rb	Red-Brown
rd	Red
wh	White
yb	Yellow-Brown
ye	Yellow
yg	Yellow-Green

Weathering	
CW	Completely Weathered: most rock material decomposed/disaggregated to soil, some rock fragments may remain
SW	Strongly Weathered: colour altered and harness severely reduced, some texture visible
MW	Moderately Weathered: stained throughout rock, texture preserved
PW	Partially Weathered: stained along discontinuity surfaces, original colour recognisable
FR	Fresh: no visible signs of rock weathering

Regolith Variant					
bx	Breccia	li	Limonitic	ps	Pisoliths (>2mm)
ca	Calcareous	Lim	Limonite rich soil, <0.15 Ni	qt	Quartz
ch	Chert	lk	Lithic Fragments	sd	Sand
cs	Carbonaceous	lls	Lat lower saprolite	Ser	Serpentinite - fresh ultramafic
cy	Clay	lo	Loess	si	Siliceous
du	Duricrust	lsap	Laterite saprolite	sm	Smectite
fe	Ferruginuous	Lsi	Ferruginous laterite with silica boxwork	su	Sulphides
gm	Gypsum	lt	Lateritic	tc	Talcy
go	Goethite	lus	Laterite upper saprolite	Wum	Weathered ultramafic unit
gs	Gossan	Mag	Magnesite	ys	Sand-Clay
gv	Gravel	mb	Mega-Mottled	zs	Silt
ha	Halides	md	Mud		
Hm	Haematite rich Soil < 0.15 Ni	mf	Mn-Co-Fe		
hp	Hardpanised	mu	Mottled		
ir	Ironstone	nd	Nodules		
is	Iron Segregation	no	Nontronitic		
Lfe	Ferruginous Laterite	oo	Ooliths (<2mm)		

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Logging Codes

Rock Group	
a	Amphibolite Metamorphism
b	Mafic Extrusive (basalt)
c	Chemical Sediments
d	Ultramafic Intrusive
e	Migmatite
f	Acid Extrusive
g	Acid Intrusive (Granitoid)
h	Hornfels
i	Intermediate Extrusive/Intrusive
k	Charnokite
l	Lamprophyre/Kimberlites
m	Marble
o	Mafic Intrusive
p	Massive Sulphide
r	Greenschist Metamorphism
s	Sediment
t	Granulite Metamorphism
u	Ultramafic Extrusive
v	Vein Material (>90% of interval)
x	Calc-Silicate
y	Mylonite
n	Not Logged

Lithology	
Amphibolite Metamorphism	
aa	Amphibolite Undifferentiated
ab	Biotite Schist
af	Quartz-Grunerite Schist
ag	Gneiss
an	Banded Amphibolite
ao	Ortho-Amphibolite
ap	Para-Amphibolite
aq	Quartzo-Feldspathic Schist (+/-biotite)
as	Schist
Mafic Extrusive (basalt)	
bm	High-Mag Basalt
bp	Picritic Basalt
bs	Spilitic Basalt
bt	Tholeiitic Basalt
bv	Undifferentiated
Chemical Sediments	
ce	Evaporites
ch	Chert
ci	BIF
cu	Undifferentiated
cz	Phosphorites
Migmatite	
eu	Undifferentiated
Acid Extrusive	
fc	Dacite
fo	Thyodacite
fr	Rhyolite
fu	Undifferentiated Acid Volcanics
Acid Intrusive (Granitoid)	
ga	Alkali Feldspar Granite
gd	Granodiorite
gg	Granite
gl	Aplite
gm	Monzogranite
gp	Porphyry
gs	Syenogranite
gt	Tonalite
gu	Undifferentiated
gz	Pegmatite
Hornfels	
hu	Undifferentiated

Lithology cont.	
Intermediate Extrusive/Intrusive	
id	Diorite
im	Monzonite
ip	Porphyry
is	Syenite
it	Trachyte
iu	Undifferentiated Intermediate
iv	Andesite
iy	Trachy-Andesite
Charnokite	
ku	Undifferentiated
Lamprophyre/Kimberlites	
lc	Carbonatite
lk	Kimberlite
ll	Lamproite
lp	Phyric Lamprophyre
Marble	
mu	Undifferentiated
Not Logged	
NL	Not Logged
NT	Not translated
Mafic Intrusive	
oa	Anorthosite
ob	Gabbronorite
od	Dolerite
og	Gabbro
on	Norite
ot	Troctolite
ou	Undifferentiated
Massive Sulphide	
pb	Base Metal
pp	Pyrite
pu	Undifferentiated
Greenschist Metamorphism	
rb	Biotite Schist
rc	Chlorite Schist
rl	Slate
rm	White Mica (+/-quartz) Schist
rp	Phyllite
rq	Quartzo-Feldspathic Schist (+/-mica)
rs	Schist
rt	Talc Schist
Sediment	
sb	Breccia
sc	Conglomerate
sd	Dolomite
sg	Greywacke
sh	Shale
sk	Coal
sm	Limestone
sp	Sandstone
st	Siltstone
su	Undifferentiated
Granulite Metamorphism	
tu	Undifferentiated
Ultramafic Extrusive	
ud	Dunite
uh	Hornblendeite
uk	Komatiite
up	Peridotite
ur	Serpentinite
uu	Undifferentiated Ultramafic
uw	Wehrlite
ux	Pyroxenite

Ultramafic Intrusive	
dd	Dunite
dh	Hornblendeite
dk	Komatiite
dp	Peridotite
dr	Serpentinite
du	Undifferentiated Ultramafic
dw	Wehrlite
dx	Pyroxenite

Lithology cont.	
Vein Material (>90% of interval)	
vn	Vein Material (>90% of interval)
Calc-Silicate	
xm	Magnetite-Rich Skarn
xs	Skarn
xu	Undifferentiated
Mylonite	
yu	Undifferentiated

Vein Mineral	
AM	Amphibole
AO	Asbestos
CB	Carbonate
CL	Chlorite
CV	Other
EP	Epidote
HM	Hematite
HC	Hematite-carbonate
HQ	Hematite-quartz
PX	Pyroxene
QA	Quartz-Albite
QC	Quartz-Carbonate
QK	Quartz-Kspar
QS	Quartz-Sulphide
QT	Quartz
UNK	Unknown (historic data)

Vein Texture	
VA	Fibrous Antitaxial
VB	Buck
VC	Colloform
VF	Fibrous
VG	Vuggy
VL	Laminated
VM	Comb-Cockade
VR	Replacement
VS	Saccroidal
VX	Breccia
VY	Fibrous Syntaxial

Vein Mode	
MS	Massive
MW	Stockwork
ST	Stringer
VD	Boudinage
VE	En Echelon
VI	Sigmoidal
VO	Anastomosing
VP	Ptygmatic

APEX Geoscience Australia
Logging Codes

Rock Variants	
ac	Actinolite
ad	Andalusite
al	Agglomerate
at	Adcumulate
ay	Amygdaloidal
bd	Banded
bi	Biotite
cb	Carbonate
cd	Chloritoid
cg	Coarse-Grained
ch	Cherty
cl	Chlorite
cm	Cumulus
co	Cordierite
cp	Chalcopyrite
cs	Carbonaceous
cz	Chill Margin
fd	Feldspar
fg	Fine-Grained
fq	Feldspar-Quartz
fu	Fuchsite
fx	Flow Top Breccia
ga	Garnet
gp	Granophyric
gr	Graphitic
gs	Oxidised (gossan)
gu	Grunerite
hb	Hornblende
ky	Kyanite
lk	Lithic
mc	Mesocumulate
mg	Medium-Grained
ms	Muscovite
mt	Magnetite
oc	Orthocumulate
ol	Olivine
oo	Oolitic
pb	Porphyroblastic
pc	Porphyroclastic
pg	Phlogopite Phyric
pl	Plagioclase Phyric
po	Pyrrhotite
pp	Porphyritic
pw	Pillowed
px	Pyroxene
py	Pyrite
qf	Quartz-Feldspar
qt	Quartz
qz	Quartzite
sd	Sandy
si	Silty
sm	Sillimanite
so	Staurolite
sr	Serpentine
st	Stromatolitic
su	Sulphide-Facies
sx	Spinifex
tc	Talc
tf	Tuff
tl	Lapilli Tuff
tm	Tremolite
tw	Welded Tuff
tx	Crystal Tuff
vb	Volcanic Breccia
vc	Volcaniclastic

Texture	
af	Acicular
ah	Aphanitic
an	Augen
ar	Aphyric
at	Adcumulate
ay	Amygdaloidal
bd	Banded/Layered
be	Bedded
bf	Flow Banded
bl	Bladed
bo	Botryoidal
bx	Breccia (primary)
ck	Concretionary
cm	Cumulate
cz	Chill Margin
dv	Devitrified
dx	Detextured
eq	Equigranular
ex	Eutaxitic
fb	Fibrous
ff	Felted
fol	foliated
fr	Fragmental
fx	Flow Top Breccia
gb	Graded
gl	Glomeroporphyritic
gn	Gneissic
gp	Granophyric
gt	Granitic
gx	Glassy
hx	Hyaloclastic
ib	Idioblastic
ig	Intergranular
in	Interbedded
kp	Clast-Supported
lb	Lepidoblastic
lm	Laminated
ln	Lineated
ma	Massive
mc	Mesocumulate
mh	Microporphyritic
mk	Matrix-Supported
mp	Migmatitic
nb	Nematoblastic
nh	Anhedral
ob	Sub-Ophitic
oc	Orthocumulate
oh	Ophitic
oi	Ocelli
pb	Porphyroblastic
pc	Porphyroclastic
pi	Panidiomorphic
pk	Poikilitic
pp	Porphyritic
pr	Crowded (pheno-rich)
pv	Poikiloblastic
pw	Pillowed
rm	Ripple Marked
sc	Saccaroidal
sp	Seriate
sw	Spherulitic
sx	Spinifex
ty	Trachytic
uh	Euhedral
vs	Vesicular

Texture cont.	
vw	Variolitic
xb	Cross Bedded
xm	Sorted - mod.
xn	Xenolithic
xp	Sorted - poorly
xw	Sorted - well

Deformation Fabric	
bx	Brecciated
ce	Cleaved
cf	Cataclasite
cn	Crenulated
fc	Fractured
fl	Folded
fm	Foliated - mod.
fs	Foliated - strongly
fw	Foliated - weakly
hy	Hydraulic Breccia
jt	Jointed
kd	Kinked
ln	Lineated
my	Mylonite
sh	Shear - heterogeneous
sk	Slickensides
sz	Schistose

Def/Alt Intensity	
w	Weak
m	Moderate
s	Strong
i	intense

Alteration Type	
AB	Albitisation
AM	Amphibole
AR	Argillic (clay alteration)
BC	Biotite-Carbonate
BI	Biotite
CA	Other
CB	Carbonate
CC	Chlorite-Carbonate
CF	Carbonate-Fuchsite
CL	Chlorite +/- Saussurite
EP	Epidotisation
HC	Haematite-Carbonate
HM	Haematite
KS	Potassic (ks, bi)
LX	Leocoxene
NO	Nontronite
NT	Not Translated
PH	Phyllitic (wm, si, cy)
PR	Propylitic (cl, ep, zt, cb)
PT	Serpentinisation
PX	Pyroxene +/- Ol, Ga
SE	Sericite
SF	Sea Floor Saussuritisation
SI	Silicification
SK	Skarn
TC	Talc
TB	Talc-Carbonate
TO	Tourmaline
UR	Uralitisation
US	Saussuritisation
SC	Sericite-Carbonate
SQ	Sericite-Quartz

Alteration Mode	
fc	fracture controlled
pv	pervasive
py	patchy
sr	selective replacement
sv	vein selvedge
bn	banded

Mineralisation Type	
ag	Silver
ao	Asbestos
as	Arsenopyrite
au	Gold (native)
az	Azurite
bn	Bornite
cc	Chalcocyte
cp	Chalcopyrite
ct	Cuprite
cu	Copper (native)
cv	Covellite
en	Enargite
gl	Galena
hm	Haematite
le	Lepidolite
mf	Mn-Co-Fe
ml	Malachite
mn	Manganese
mo	Molybdenite
mt	Magnetite
NR	Not recorded
os	Sulphide (oxidised)
pe	Petalite
pn	Pentlandite
po	Pyrrhotite
py	Pyrite
sb	Stibnite
sc	Scheelite
sn	Cassiterite
sp	Sphalerite
spo	Spodumene
su	Sulphide
sv	Sulphur
te	Tellurides
wf	Wolframite

Mineralisation Mode	
BB	Blebs
DS	Disseminated
MS	Massive
MW	Stockwork
NW	Interstitial Network
SE	Stringers/Veinlets
VH	Vein Halo
YS	Splashy

APEX Geoscience Australia
Logging Codes

Structures	
F	Fault
H	Shear
J	Joint
Lf	Fold Axis
O	Foliation
V	Vein
CT	Contact
BD	Bedding

Shape	
P	planar
S	stepped
U	undulated

Hole Type	
AC	Aircore
AUG	Auger
BH	Blast Hole
DD	Diamond
PC	Percussion
RAB	Rotary Air Blast
RC	Reverse Circulation
UK	Unknown
WB	Water Borehole

Contamination	
H	High contamination (>25%)
L	Low contamination (<5%)
M	Moderate contamination (5-20%)
N	No contamination (0%)

Recovery	
M	moderate
G	good
P	poor

Sample Condition	
D	Dry
M	Moist
W	Wet

Roughness	
Ro	Rough
Sl	Slickenside
Sm	Smooth

Sample Type	
CHIP-CONE	Drill Chips : Cone split samples
CHIP-GRB	Drill Chips : Grab Sample
CHIP-SPL	Drill Chips: Riffle Split 25/75 ratio riffle splitter
CHIP-SPR	Drill Chips : Scoop/spear sample
NS-LOSS	Not Sampled : Sample loss
NS-SEL	Not Sampled : Not selected for geochem analysis
Standard	Known Standard
CORE-100	Whole Core
CORE-25	Quarter Core
CORE-50	Half Core

Sample Group	
ALPHA	First sample for interval
DUP	Duplicate sample for interval
STANDARD	Known Standard
NS	Not Sampled

Drill Diameter	
BQ	BQ Standard - 36.5mm
BQ3	BQ3 Triple Tube - 33.5mm
HQ	HQ Standard - 63.5mm
HQ3	HQ Triple Tube - 61.1mm
NQ	NQ Standard - 47.6mm
NQ2	NQ Double Tube - 50.5mm
NQ3	NQ Triple Tube - 45.0 mm
PQ	PQ Standard - 85.0mm
PQ3	PQ3 Triple Tube - 83.0mm

Hardness	
0	Clay: disaggregated
1	Very Weak: scratched by thumb nail
2	Weak: cut with knife
3	Moderately Weak: scratched deeply by knife
4	Strong: scribe will cause rock to flake
5	Very Strong: scribe will leave a mark
6	Extremely Strong: scribe mark almost invisible

JointClass	
	Coatings only
A	Tightly healed, hard, non softening, impermeable filling e.g. quartz, carbonate
B	Unaltered / fresh joint walls or surface staining only
C	Slightly altered joint walls (one grade higher than intact rock). Non softening mineral coatings, sandy, clay free disintegrated rock
D	Silty-clay or sandy-clay coatings, small clay fraction, non softening
E	Altered joint walls (two grades higher than intact rock). Softening or low friction clay mineral coatings, i.e. kaolinite, chlorite, talc
	Filled Joint
F1	<5mm. Friction materials. Sandy particles, clay-free, disintegrated rock
F2	>5mm. Friction materials. Sandy particles, clay-free, disintegrated rock
G1	<5mm. Hard cohesive materials. Strongly over-consolidated, non-softening clay
G2	>5mm. Hard cohesive materials. Strongly over-consolidated, non-softening clay
H1	<5mm. Soft cohesive materials. Medium to low over-consolidated, softening clay
H2	>5mm. Soft cohesive materials. Medium to low over-consolidated, softening clay
J1	<5mm. Swelling clays, e.g. montmorillonite
J2	>5mm. Swelling clays, e.g. montmorillonite