



SIPA RESOURCES LIMITED

ABN 26 009 448 980

SIPA CODING SYSTEM

- ◆ **Coding Conventions**
 - **Drilling Data**
 - **Surface Sample Data**

- ◆ **Geological Reference**

DRILLING DATA

COLLAR DATA (*COL*.txt)

HOLE	drill hole no.
SOURCE	source of data, eg: <i>Sipa</i> <i>Open file data I10515 A54750 - 1997 Annual Report</i> <i>Golden Cross email</i> <i>Newcrest CD</i> <i>AGSO</i>
COMPNY/GEO	if SOURCE = <i>Sipa</i> , then name of geologist who logged the drill hole if SOURCE ≠ <i>Sipa</i> , then name of exploration company who collected the data
PROSPECT	prospect name
TENEMENT	if SOURCE = <i>Sipa</i> , then the current tenement number at the time of sampling is recorded if SOURCE ≠ <i>Sipa</i> , then the current tenement number at the time of entry into the database is recorded
MAP250NAME	name of 250K map sheet
MAP250NO	number of 250K map sheet
MAP100NAME	name of 100K map sheet
MAP100NO	number of 100K map sheet
LAT_GDA	Latitude in GDA94/WGS84
LONG_GDA	Longitude in GDA94/WGS84
ZONE	UTM projection zone
MGAE	Easting recorded in metres in GDA94/WGS84
MGAN	Northing recorded in metres in GDA94/WGS84
AMGE	Easting recorded in metres in AGD66 or AGD84
AMGN	Northing recorded in metres in AGD66 or AGD84
LOCAL_E	Easting recorded in metres in local grid coordinates (if applicable)
LOCAL_N	Northing recorded in metres in local grid coordinates (if applicable)
RL	relative level of drill collar
ORIG_COORD	coordinate system in which the original data has been recorded: MGA(+Zone) eg <i>MGA51</i> AMG(+Zone) eg <i>AMG51</i> LGRD Local grid GEOG Geographic grid (Lat/Long)
LOC_METHOD	location method of collar coordinates and accuracy of method used: AP Assumed position, real position unknown; see also COMMENTS DG Differential GPS DP Digitized from hard copy plans ES Estimated; estimation method not specified GS Surveyed grid IP Interpolated between known points NG Navigational GPS OP Orthophoto PS Surveyed planned position RG Real time kinematic GPS SM Estimated from standard issue map SV Surveyed; details unknown TC Tape and compass TD Theodolite XG Unspecified GPS XX Unknown
RL_METHOD	method and accuracy used, same codes as for LOC_METHOD

DRILL_TYPE	drilling method, as follows: DD Diamond RC Reverse circulation OP Open hole percussion XP Percussion (details not specified) RAB Rotary air blast OH Open hole (non-percussion) AC Aircore WB Water bore AUG Auger with more than one sampled interval (if only one sample, it is treated as a surface sample) CO Costean/trench TRAV Rock chip traverse VAC Vacuum XX Unspecified with two drilling methods separated by a '_', eg <i>RC_DD</i> indicates an RC precollared diamond hole
TOTAL_DTH	total depth of drill hole in metres
BCI	depth of <u>C</u> over- <u>B</u> edrock <u>I</u> nterface in metres
BASE_TL_OX	depth of base of total oxidation in metres, generally coincides with upper saprolite-lower saprolite interface
BASE_PL_OX	depth of base of partial oxidation in metres, generally coincides with saprock-bedrock interface
WATER_TBL	depth of water table in metres
DATE_COMP	date drilling ended (dd/mm/yyyy)
AZIM_UTM	UTM drill hole azimuth at collar
DIP	drill hole dip at collar in degrees (eg <i>-90</i> for vertical holes)

DRILLING DATA (*DRI*.txt)

HOLE	drill hole no.
FROM	start depth of drilling type in metres
TO	end depth of drilling type in metres
DRILL_TYPE	drilling method, same codes as for DRILL_TYPE in COLLAR DATA file
BIT_TYPE	drill bit type, eg: BL Blade CH Conventional hammer FH Face hammer RL Roller XX Unknown
BIT SIZE	for core: <i>NQ, NQ2, HQ3, NQ_HQ</i> , etc for non-core: in <i>inches</i> or <i>mm</i>
DIAM_UNITS	bit diameter units
NON_CR_DTH	total depth of non-core drilling in metres
CASING	casing depth ± type, eg <i>6m PVC</i>
DATE_FROM	date drilling type started (dd/mm/yyyy)
DATE_TO	date drilling type ended (dd/mm/yyyy)
DRILL_COMPNY	name of drilling company (eg <i>Challenge Drilling</i>)
RIG	drill rig (eg <i>Longyear 44</i>)

SURVEY (DOWNHOLE) DATA (*SUR*.txt)

HOLE	drill hole no.
DEPTH	depth of survey in metres
DIP	drill hole dip in degrees (eg <i>-90</i> for vertical holes)
DIP_REL	dip reliability, eg: 0 not reliable 1 reliable as method used allows (this includes vertical holes) E estimated

S	assumed values of above reading; used for dip only downhole surveys	SAMPLE_QC	sample hierarchy: 0 Original sample 1 First repeat/duplicate sample 2 Second repeat/duplicate sample 3 Third repeat/duplicate sample B Check assay prior to using bulk sample as blank M Submitted for analysis by mistake R Resample over different interval S Selective sample U Unreliable sample/unreliable result
C	calculated from readings above and below; used for dip only downhole surveys		
AZIM	original drill hole azimuth; for vertical holes use 0		
AZIM_TYPE	original azimuth type, eg: MAG magnetic azimuth LOC local grid azimuth UTM UTM grid azimuth VER vertical hole azimuth (=0)		
AZIM_REL	azimuth reliability, same codes as for DIP_REL	SUBSAMPLE	records if original sample interval has been subsampled: N sample has not been subsampled, relates to Y X Only part of sample interval has been subsampled (preference given to original sample interval), relates to Z Y Whole sample has been subsampled, relates to N Z Subsample of X which has not been further subsampled
UTM_ADJUST	angle to add to original azimuth to obtain the UTM azimuth, eg 0 for vertical holes and blank, if UTM azimuth recorded originally		
SURVEY_METH	method of downhole survey: CG Conventional gyroscope CO Compass and/or clinometer ES Estimated MB Maxi bore MC Multi shot camera NG North seeking gyroscope RS Nominal survey (rig setup commonly based on surface grid) SC Single shot camera SS Single shot electronic camera XG Gyroscope (details unknown) XX Unknown/not specified	SDAN	<u>S</u> ample <u>D</u> espatch <u>A</u> dvice <u>N</u> o.
		SAMPLE_TAG	same as SAMPLE except for lab repeats, when the sample no. will be suffixed 'rpt'
		FRACTION	fraction of the sample if appropriate
		QC_TYPE	analysis hierarchy: ROUTINE original analysis CHECK lab check SPLIT analysis of sample split REJECT analysis of reject portion of sample STANDARD analysis of standard
ROD_TYPE	type of drill rods used during downhole survey: CR Conventional (magnetic) rods DD Conventional diamond drilling OH Open hole SR Stainless steel rods XX Unknown/not specified Note: Left blank for unsurveyed holes		

ASSAY DATA (*ASS*.txt)

HOLE	drill hole no.
SAMPLE	sample number
FROM	start of sample interval
TO	end of sample interval
SMP_METHOD	sampling method, eg: CC Chip core CP Laboratory composite during sample prep CS Cone splitter CU Laboratory composite of pulps DS Dry splitter FC Fillet core GB Grab HC Half core QC Quarter core SP Spear SR see COMMENTS TW Trowel, scoop WC Whole core WS Wet splitter XS Splitter (details unknown) XX Unknown

SMP_STATUS	sample status, records intervals which have not been sampled: DIP Destroyed in preparation IS Insufficient sample NA Not analysed NS No sample (no recovery) PS Polished section PTS Polished thin section SNR Sample not received TS Thin section UR Unreliable result; not resampled XX Unknown; no result reported/available
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LITHOLOGICAL DATA (*GEO*.txt)

(refer to the Geological Reference for appropriate geological codes)

HOLE	drill hole no.
FROM	start of lithological unit
TO	end of lithological unit
COLOUR1	primary colour } up to 3 colours can be used
COLOUR2	secondary colour } for each
WEATH	weathering: sw strongly weathered mw moderately weathered ww weakly weathered fr fresh
LITH1	main lithology } up to 4 character codes (5 for
LITH2	secondary lithology } all saprolite/saprock codes) in } upper case letters, '#' can be } used to indicate uncertainty
Q1, Q2, Q3, Q4	fabric, textural, mineral and structural qualifiers (atypical or distinctive) relating to the main lithology
Q5, Q6	qualifiers relating to the secondary lithology
RELN	relationship between the main lithology and the secondary lithology: + and, or hosted by / over, or after, or derived from, or interpreted as - transitional = or c clast lithology

ALTERATION DATA (*ALT*.txt)

HOLE	drill hole no.
FROM	start of altered interval
TO	end of altered interval
INTENSITY	overall alteration intensity: w weakly altered m moderately altered s strongly altered

	u	uncertain
STYLE	overall style of alteration:	
	pv	pervasive
	pj	patchy/blotchy
	vn	vein
	vs	selvage
	ws	wispy
	ds	disseminated
MIN1, MIN2	mineral qualifiers – refer to the Geological Reference for codes; common alteration minerals are:	
	cb	carbonate/calcareous
	ch	chlorite
	ep	epidote
	he	hematite
	py	pyrite
	qz	quartz
	se	sericite
	si	silicified/siliceous

SULPHIDE DATA (*SUL*.txt)

HOLE	drill hole no.
FROM	start of sulphidic interval
TO	end of sulphidic interval
TOT_SULPC	total % of all sulphides*; if sulphide content <1%, 0.1 for rare or 0.5 for trace can be used Note: * means sulphides or any other economic or mineralisation-indicative mineral, eg ex-pyrite (xp), limonite (lm), ex-sulphide (xs)

STYLE	overall style of mineralisation – refer to Qualifiers in the Geological Reference; up to two qualifiers can be used, eg <i>dsvn</i> ; some common mineralisation styles are:	
	at	aggregates
	bb	blebs & aggregated blebs
	bn	banded
	bx	breccia
	ci	clastic
	ds	disseminated
	fw	fracture fill
	gz	gossanous
	mv	massive
	mx	matrix sulphides
	rm	remobilised
	rp	replacive
	st	stringer
	sg	supergene
	vn	veining
	vs	vein selvage
	vc	veining, concordant
	vx	veining, crosscutting

PYPC	% of pyrite within sample interval; if pyrite content <1%, 0.1 for rare or 0.5 for trace can be used
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MIN1, MIN2, MIN3	sulphide* mineral – refer to Mineral Codes in the Geological Reference
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MIN1PC, MIN2PC, MIN3PC	% of individual sulphides*; if mineral content <1%, 0.1 for rare or 0.5 for trace can be used
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VEIN DATA (*VEI*.txt)

HOLE	drill hole no.
FROM	start of interval with similar veining
TO	end of interval with similar veining
V1_TYPE,	primary and secondary veining material – see Mineral
V2_TYPE	Codes in the Geological Reference; up to two minerals can be used, eg qzcb
V1_ABUND,	abundance of veining:
V2_ABUND	r rare (<1%)
	t trace (1-2%)
	m minor (3-10%)
	c common (11-50%)

a	abundant (>50%)
V1_STYLE,	The style of veining - see Qualifiers in the Geological Reference; common veining styles are:
V2_STYLE	bc bucky
	dy drusy
	ee en echelon
	ir irregular
	la laminated
	pa planar
	pt pygmatic
	sv stepped
	so stockwork
	st stringer
	vc concordant
	vx crosscutting
	ws wispy

MAGNETIC SUSCEPTIBILITY DATA (*MAG*.txt)

HOLE	drill hole no.
FROM	start of measured interval
TO	end of measured interval
MAG_SUS	magnetic susceptibility reading
INSTRUMENT	name of instrument
SI_UNITS	measurement unit (eg 10p-5 as 10 to the power of -5)

RECOVERY/RQD/FRACTURE DATA (*GEOT*.txt)

HOLE	drill hole no.
FROM	start of measured interval
TO	end of measured interval
PROPERTY	property of core being measured
VALUE	measured value of the property
RCV	recovery; metres of core recovered within the core run
HDS	hardness: 1 very weak - can be broken by hand 2 weak - cuts easily with knife 3 moderately weak - difficult to cut with knife, pick indents easily 4 moderately strong - cannot be cut with knife, pick can indent 5 strong - requires one hammer blow to break 6 very strong - requires several hammer blows to break 7 cannot be broken by hammer Note: can have two hardnesses if applicable, separated by '/', eg ¼
GT10CM	total length of core more or equal than 10cm within the core run (in metres)
LT10CM	total length of core less than 10cm within the core run (in metres)
FRC	fractured core; if core run contains one or more zones of strongly broken core, then indicated by 'X', otherwise left blank
NFR	no. of fractures; if an interval is very broken, it is counted as one (1) fracture and FRC is marked 'X'
WTH	weathering: sw strongly weathered - core can be broken by hand, strong discolouring, sulphides totally oxidised mw moderately weathered - core cannot be broken by hand, moderate discolouring, sulphides totally oxidised

ww weakly weathered - slight discolouring, sulphides partially oxidised
 fr fresh - no signs of colour change, sulphides unoxidised

LOC_COMMENTS comments about how the sample was located
 SMPLE_DATE date sample collected (dd/mm/yyyy)
 SITE_TYPE Rock, Stream, Soil, Auger, Lag, Vegetation, XX (for Unknown)
 COMP_TYPE composite sample type:
 Point single point sample
 Line line sample
 Star star sample
 Comp'no of sample - 'sample interval'm
 (eg *Comp2-25m* describes a composite of 2 samples taken over 25m) Note: the coordinates for a composite sample are the midpoint of the sample interval
 ROCK_TYPE eg OCG:
 1^s character: Outcrop, Float, Mullock, Drillhole
 2nd character: Chip, Grab, Sieved, Trench/Channel, RAB chips, Percussion/RC chips
Diamond core, Air core
 3rd character Rock, Alteration, Gossan, Pseudo-gossan, Ironstone, Laterite, Vein, Zmineralisation
 REGOLITH soil sample medium (not applicable for stream samples): eg *RU*
 first character - R Residual
 T Transported
 U Unknown
 second character - A A horizon
 B B horizon
 C C horizon
 L Lag
 P Pisolites
 U Unknown
 vegetation sample medium: eg *bark, litter, leaf, seed, twig*
 PREP soil or stream sample preparation:
 NS Not sieved
 DS Dry sieved
 WS Wet sieved
 DP Dry panned concentrates
 WP Wet panned concentrates
 MF Magnetic fraction
 Note: can have two types of sample preparation, eg *WSWP*
 SMPLE_SIZE sample size in mm, micron or mesh (specified as mm, u or #) or 'BULK' if whole sample sent for analysis (eg *-2mm* for fine fraction material sieved with a 2mm sieve size or *+2mm* for coarse fraction material sieved with a 2mm sieve size)
 WEIGHT soil or stream sample weight in grams
 DEPTH soil sample depth in metres

STRUCTURAL DATA (*STR*.txt)

HOLE drill hole no.
 FROM depth of top of discontinuity (in metres)
 TO depth of bottom of zone of discontinuity, therefore only necessary where discontinuity covers a zone, eg a zone of fracturing (in metres)
 TYPE discontinuity type – refer to *Qualifiers in the Geological Reference*, eg:
 be bedding
 bn banding
 bx brecciation
 fc cleavage
 cz contact
 of fault
 fo foliation
 fa fracture (includes joints)
 ss shear
 vn vein
 TYPE_SEQ sequential number for multiple observations of the same feature
 ALPHA angle of discontinuity with core axis
 BETA second angle of discontinuity with core axis (if orientated core)
 BETA_LOC beta angle location; whether the measurement of the B angle is from the bottom or the top of the core:
 T Top
 B Bottom
 SHAPE shape of discontinuity:
 A Planar
 B Stepped
 C Wavy
 D Irregular
 ROUGHNESS roughness of discontinuity:
 R Rough
 S Smooth
 P Polished
 K Slickensided
 LENGTH length (not width) of discontinuity where applicable (in metres)
 MIN1, MIN2, MIN3, MIN4 infilling minerals within discontinuity in order of abundance - see *Mineral Codes in the Geological Reference*
 MIN1%, MIN2% percentage of MIN1 and MIN2 within discontinuity

SURFACE SAMPLE DATA

SEE DRILL HOLE COLLAR DATA FOR: SOURCE, COMPNY/GEO, PROSPECT, TENEMENT, MAP250NAME, MAP250NO, MAP100NAME, MAP100NO, LAT_GDA, LONG_GDA, ZONE, MGAE, MGAN, AMGE, AMGN, LOCAL_E, LOCAL_N, ORIG_COORD, LOC_METHOD

SAMPLE sample number

SEE DRILL HOLE LITHOLOGY DATA FOR: COLOUR1, COLOUR2, WEATH, LITH1, Q1, Q2, Q3, Q4 RELN, LITH2, Q5, Q6

SEE DRILL HOLE ASSAY DATA FOR: SMP_STATUS, SAMPLE_QC, SUBSAMPLE, SDAN, SAMPLE_TAG, FRACTION, QC_TYPE

GEOLOGICAL REFERENCE

AGE AND AGE QUALIFIERS

Lower case qualifier, upper case age (only applicable to plans and sections)

e early
m middle
l late

CZ Cainozoic
MZ Mesozoic
PZ Palaeozoic
PC Precambrian
Q Quaternary
T Tertiary
K Cretaceous
J Jurassic
TR Triassic
P Permian
C Carboniferous
D Devonian
S Silurian
O Ordovician
CM Cambrian
PR Proterozoic
A Archaean

LITHCODES

Up to four upper case letters (up to five for regoliths), followed by an optional '#' (in digital database) or '?' (on plans and sections) to indicate uncertainty

Regolith

RR residual regime
RD depositional (transported) regime
RE erosional regime
RU unknown regime

RL laterite
RS saprolite, unclassified
RSU saprolite, upper
RSL saprolite, lower
RP saprock
RG surficial gravel (lag)
RK lacustrine
RN eolian

RAS soil/loam
RAL alluvium
RAE eluvium
RCL colluvium/scree
RCC calcrete
RCS silcrete
RCF ferricrete
RCM magnesite
RCU silica cap over cumulate ultramafics

Suffixes for regolith types

_G gravelly
_S sandy
_L silty (RSL can no longer be used for "silty saprolite")
_C clayey
_N nodular
_P pisolitic
_B bleached/pallid
_M mottled
_V vermiform
_F ferruginous
_K calcareous
_Q siliceous/quartzitic
_H hardpan
_I indurated
_W sheetwash
_A dune, eolian
_R residual
_D depositional (transported)
_E erosional
_XF after felsic
_XI after intermediate
_XM after mafic
_XU after ultramafic

Note: more than one suffix can be used to make a total of four characters (five characters for all saprolite/saprock codes).

Chert

C chert, amorphous silica rock
CJ Jaspilite/Jasperoid
CS secondary chert

CV vein chert

Sedimentary rocks

S sedimentary rock, unclassified
SR rudite, unclassified
SRB breccia
SRC conglomerate
SA arenite (sandstone)
SAA arkose
SAW wacke
SAQ quartz arenite (quartzitic)
SL lutite (argillite, mudstone)
SLT siltstone
SLH shale
SLB black shale

Suffixes for above sedimentary rocks

_E epiclastic
_V volcanogenic
_G granitoid provenance
_F felsic provenance
_I intermediate provenance
_M mafic provenance
_U ultramafic provenance

Note: up to two suffixes can be used to make a total of four characters

SCI chemical sediments (exhalite)
SCE evaporitic chemical sediments
SCB sedimentary carbonates
SCD dolomite
SCL limestone
SCM marl (incl. silty carbonates and carbonate-rich siltstones)
SIF banded iron formation
SOC coal/lignite/etc
SGT glacial sediment

Igneous rocks

G granitoid, unclassified
GD granodiorite
GG granite
GN syenite
GM monzonite
GT tonalite
GAP aplite
GPG pegmatite

F felsic rock, unclassified
FR rhyolite-rhyodacite
FD dacite

I intermediate rock, unclassified
IA andesite
ID diorite
IMD microdiorite

M mafic rock, unclassified
MB basalt
MBK komatiitic basalt
MD dolerite
MDL layered doleritic sill
MG gabbroid
MGX pyroxenitic gabbro
MGA anorthosite

U ultramafic rock, unclassified
UKO komatiitic rock
UKB basaltic komatiite
UKP peridotitic komatiite
UD dunite
UPD peridotite
UPX pyroxenite
US serpentinite
UC talc-carbonate ultramafic
UA talc-amphibole (actinolite/anthophyllite) ultramafic
UR tremolite-chlorite ultramafic
UT talc-chlorite ultramafic
UOA accumulate
UOM mesocumulate
UOO orthocumulate

Suffixes for igneous rocks

_V volcanic
_E extrusive
_I intrusive
_P porphyry
_Y dyke

_S sill (cannot be used for "U")
_BX breccia (sedimentary texture)
_AG agglomerate
_LT lapilli tuff
_AT ash tuff
_XT crystal tuff
_HC hyaloclastite
_PP peperite
_M magnesian
_T tholeiitic } cannot be used
_C calc-alkaline } for IA

Note: above suffixes cannot be used for granitic rocks except for _P and _Y

Metamorphic rocks

X metamorphic rock, unclassified
XP phyllite
XL slate
XS schist
XA amphibolite
XH hornfels
XQZ meta-quartzite
XQF quartzo-feldspathic rock/schist
XGF granulite
XGM migmatite
XGN gneiss
XCS calc-silicate rock (incl. skarns)
XMB marble/meta-carbonates
XIF meta-iron formation

Suffixes for metamorphic rocks

_F felsic (or of light minerals)
_I intermediate
_M mafic (or of dark minerals)
_U ultramafic
_SO metasedimentary
_SR after conglomeratic sediments
_SA after sandy sediments (psammites)
_SL after muddy sediments (pelites)
_V volcanogenic

Mineralisation

Z mineralisation, ore
ZZ massive sulphide (>50%)
ZS semimassive sulphide (20-50%)
ZST stringer mineralisation
ZD disseminated mineralisation
ZSE segregation/patchy mineralisation
ZL lode
ZGOS gossan
ZFE ironstone (after mineralisation)

Others

V vein, unclassified
O rock, unclassified
OA totally altered rock, unclassified
OI intrusive rock, unclassified
OV volcanic rock, unclassified
OBX breccia, unclassified
OZP possible gossan/pseudogossan
OFE ironstone/ferruginous rock (not necessarily mineralised)
OF fault (zone)
OC cavity
OR rubble (pad fill, tailings, etc)
ONL not logged
ONS no sample/core loss
Note: V, O and OA can have a mineral qualifier, eg VQZ, OACB

LITHOLOGICAL RELATIONSHIPS

+ and/or hosted by
/ over or after or derived from or interpreted as
- transitional
= or
c clast lithology (in digital database)
() clast lithology (on plans and sections), eg SRB(C), or minor lithologies, eg SA+(SL), or local variations, eg (pw)

QUALIFIERS

Two lower case characters each

Colour

bk	black
bu	blue
br	brown
bf	buff
cm	cream
gr	green
gy	grey
kh	khaki
or	ochre (<i>yellow-brown</i>)
ov	olive
og	orange
pk	pink
pz	purple
rd	red
ta	tan
wh	white
ye	yellow
lt	light
dk	dark

Note: up to three colour qualifiers can be used, eg *ltgrgy*

Weathering

sw	strongly weathered
mw	moderately weathered
ww	weakly weathered
fr	fresh

General grain size

fg	fine grained
mg	medium grained
cg	coarse grained
	<i>Arenites Ore Igneous</i>
fg	<1/4mm <1/2mm <1mm
mg	1/4-1/2mm 1/2-2mm 1-5mm
cg	1/2-2mm >2mm >5mm

Sedimentary

md	muddy
cy	clayey
sl	silty
sn	sandy
gv	gravelly (>2mm)
gl	granular (2-4mm)
pe	pebbly (4-64mm)
co	cobbly (64-256mm)
bd	bouldery (>256mm)
ms	matrix supported/loose packed
cs	clast supported/close packed
ru	rip up clasts
mm	monomictic
pm	polymictic
om	oligomictic
im	immature
me	mature
ag	angular
rn	rounded
la	laminated
xl	cross laminated }
pl	plane laminated } <10mm
wl	wavy laminated }
be	bedded
tn	thin bedded (10-100mm)
mb	medium bedded (100-300mm)
tk	thick bedded (>300mm)
ib	interbedded
xb	cross bedded
gb	graded bedded
rb	ripple bedded

General

Note: qualifier denoted * to immediately precede qualifier it relates to, eg wy py, syam

ay*	accessory/trace
wy*	weakly
my*	moderately
sy*	strongly
al	accretionary lapilli
ar*	acicular

bb*	aggregated blebs & blebs
at*	aggregates
aa	altered
am	amygdaloidal
ap	aphanitic
fx	asbestos-form or fibrous
au	augen
ax	autobrecciated
ac	autoclastic
bn	banded
ub	beef spinifex
bi	bladed
bl	bleached
bb*	blebs & aggregated blebs
by	blocky
pj*	blotchy/patchy
bv	botryoidal
bw	boxwork
bx	brecciated/breccia
cq	chill margin
ci*	clastic
cf	colloform banding
xt	crystal
uc	cummulate
ds*	disseminated
eg	equigranular
eu*	euhedral
fk	felted
fi	fiamme
fx	fibrous or asbestos-form
fz	fissile
ft	float
fb	flow banded
ux	flow top breccia
os	fossiliferous
fw*	fracture fill
gs	glass shards
vt	glassy/vitric
gm	glomeroporphyritic
gi	gneissic
gz	gossanous
gk	granoblastic
gc	graphic/micrographic
hf	hornfels
hc	hyaloclastic
pv*	impregnation/pervasive
in	indurated
ix	ironstone matrix
ir*	irregular
ka	karstic
kn	knobbly
la	laminated
le	lenticular
lu	leucocratic
lc	lithic
lp	lithophysae
to	lobate/tongue shaped
mc	magnetic
mv	massive (<i>not to be used for structural fabrics - see uf</i>)
mx	matrix sulphides
mq	melanocratic
mr	mesocratic
gc	micrographic/graphic
mp	micropoikilitic
ml	mottled
mk	myrmikitic
nd	nodular
nm	non-magnetic
oc	ocelli-bearing/variolitic
oh	ophitic
pj*	patchy/blotchy
pp	peperitic
pc	perlitic
pv*	pervasive/impregnation
pw	pillowed
pi	pisolitic
bp	poikiloblastic
ps	porous
pr	porphyritic
ph	porphyroblastic
pd	porphyroclastic
pg	puggy
pu	pumiceous

rt*	radiating
uo	random olivine spinifex
re	reducing conditions
rm*	remobilised
rp*	replacive
ro	ropey
sq	saccharoidal/sugary
sc	scoriaceous
us	sheaf spinifex
sk	skeletal
sh	spheroidal, spherulitic
sx	spinifex-textured
so	stockwork
st	stringer
sm	stromatolitic
sq	sugary/saccharoidal
sg	supergene
to	tongue shaped/lobate
tu	tubular
tf	tuffaceous
oc	variolitic/ocelli-bearing
ve	vesicular
vt	vitric/glassy
vu	vuggy
wk	webwork
wd	welded
ws*	wispy
xo	xenoliths/blasts/clasts

Veining

bc	bucky
vc	concordant
vx	crosscutting
dy	drusy
la	laminated
ee	en echelon
ir	irregular
pa	planar
pt	ptygmatic
sv	stepped
so	stockwork
st	stringer
qs	quartz stringers
qv	quartz veining
vn	veining
cv	comb veining
vs	vein selvage
ws	wispy

Structural

uf	unfoliated (<i>do not use mv</i>)
fo	foliated
wf	weakly foliated
mf	moderately foliated
sf	strongly foliated
ss	sheared
fc	cleaved
fs	schistose
fl	linear fabric
fv	crenulated fabric
df	folded/contorted/deformed
fa	fractured/broken
of	faulted/fault
cz	contact
fm	mylonitic fabric
fp	fault pug/gouge/cataclasite
ff	brittle fault (<i>with slickenlines</i>)
fj	jointed
wj	weakly jointed
mj	moderately jointed
sj	strongly jointed
cj	columnar jointed
bx	brecciated/breccia
xj	jig saw breccias
xf	fault breccias

Mineral

Note: mineral codes also relate to adjectives, eg py can be pyrite or pyritic

Silicates

ae	actinolite
ab	albite
af	alkali feldspar

ad	andalusite
ah	anthophyllite
qb	blue quartz
bt	biotite
ch	chlorite
cx	clinopyroxene
cd	cordierite
ep	epidote
fd	feldspar
fu	fuchsite
gt	garnet
gu	grunerite/cummingtonite
hb	hornblende, dark amphibole
js	jasper
ky	kyanite
lz	lizardite
mi	mica
mu	muscovite
ol	olivine
op	orthopyroxene
pf	plagioclase feldspar
kf	potassium feldspar
pq	pyrophyllite
px	pyroxene
qz	quartz
se	sericite
sr	serpentine
sa	silica, amorphous
sz	sillimanite
tc	talc
tm	tourmaline
tr	tremolite
wo	wollastonite
xg	ex-garnet
zo	zoisite

Oxides

cr	chromite
gh	gahnite
go	goethite
he	hematite
il	ilmenite
lx	leucoxene
lm	limonite
nh	maghemite
mt	magnetite

Carbonates

ak	ankerite
ca	calcite
cb	carbonate/calcareous
do	dolomite
ma	magnesite
nc	nickel carbonates, unclassified
sd	siderite
xc	ex-carbonate

Sulphates

ai	alunite
an	anhydrite
ba	barite
gp	gypsum
ja	jarosite

Sulphides

as	arsenopyrite
bo	bornite
bs	bismuthinite
cc	chalcocite-covellite
cp	chalcopyrite
hg	cinnabar/mercury minerals
xp	ex-pyrite
xs	ex-sulphide
gn	galena
mo	molybdenite
ns	nickel sulphides, unclassified
pn	pentlandite
py	pyrite
po	pyrrhotite
sp	sphalerite
sb	stibnite
su	sulphides, unclassified
tt	tennantite-tetrahedrite
vi	violiarite

<i>Others</i>		
ao	arsenic minerals, secondary	
cu	copper minerals, secondary	
ni	nickel minerals, secondary	
pb	lead minerals, secondary	
zn	zinc minerals, secondary	
ck	calcrete	
cn	carbonaceous	
ct	chert	
cl	clay	
fe	ferruginous	
au	gold	
ga	glaucinite	
gf	graphite	
mn	manganiferous	
si	siliceous/silicified	