Data Entry Guide

Geology

HoleID – Format as per collar sheet.

From – To – depth down hole from collar in metres. Delete any lines that are repeated, i.e. duplicates, blanks or standards.

Colour1 **and** ***Colour2*** – to describe the colours of the sample. Colour1 should be used for the major colour and Colour2 should be the less dominant colour. Format for codes will be xxyyzz, where xx (optional) is the tone (lt = light, dk = dark), yy is the qualifier (optional) and zz is the primary colour.

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

Weath – Weathering of the lithology.

Code	Description
sw	Strongly weathered – core can be broken by hand, strong discolour, sulphides totally oxidised.
mw	Moderately weathered – core cannot be broken by hand, moderate discolour, sulphides totally oxidised.
ww	Weakly weathered – slight discolour, sulphides partially oxidised.
fr	Fresh – no signs of colour change, sulphides unoxidised.

Lith1 – Major lithology of the interval. Use one uppercase Lithcode with up to 2 qualifiers, e.g. XGN_F_SA (see table at end of document). Lithcode and qualifies must be separated by underscore character to allow parsing of the codes. Lithology to describe current rock mineralogy not precursor metamorphic or alteration mineralogy. If the rock type is uncertain use the _# qualifier.

Lith1Mins – up to 10 two-code qualifiers for minerals in the Lith1, in order of decreasing abundance (see table at end of document). There is no need for separators because all the qualifier codes are 2-characters in length. If the mineral is uncertain, use the ## qualifier adjacent to the uncertain mineral.

Lith1Text – Texture of the main "Lith1" lithology. Limit of 10 two-letter qualifiers in order of decreasing dominance.

Code	Texture	Code	Texture	Code	Texture	Code	Texture
Ab	Autobrecciated	fk	Felted	pc	Perlitic	sq	Sugary
ac	Autoclastic	fz	Fissile	pd	Porphyroclastic	sx	Spinifex-textured
al	Accretionary lapilli	gc	Graphic /	ph	Porphyroblastic	to	Lobate
am	Amygdaloidal	gs	Glass shards	pi	Pisolitic	tp	Tube pumaceous
ap	Apahnitic	gz	Gossanous	pn	Phaneritic	tu	Tubular

Code	Texture	Code	Texture	Code	Texture	Code	Texture
ar	Acicular	hc	Hyaloclastic	pp	Peperitic	tf	Tuff
at	Aggregates	ir	Irregular	pr	Porphyritic	ty	Platey spinifex
ax	Acicular spinifex	ka	Karst / Karstic	ps	Porous	ub	Beef spinifex
bb	Blebs	kn	Knobbly	pu	Pumice	uc	Cumulate
bn	Banded	la	Layered	pw	Pillowed	um	Ultramylonitic
bo	Botryoidal	lc	Lithic	rm	Remobilised	uo	Random oliv
bw	Boxwork	le	Lenticular	ro	Ropey	us	Sheaf spinifex
by	Blocky	lp	Lithophysae	rp	Replacive	ux	Flow top breccia
cf	Colloform banding	mk	Myrmikititc	rt	Radiating	ve	Vesicular
ds	Disseminated	mp	Micropoikilitic	ru	Rip up clasts	vt	Glassy / vitric
eg	Equigranular	mv	Massive	sc	Scoriaceous	wd	Welded
eu	Euhedral	nd	Nodular	sh	Spheroidal /	ws	Wispy
fb	Flow banded	oc	Ocelli / variolitic	sk	Skeletal	xt	Crystal
fi	Fiamme	oh	Ophitic	sm	Stromalotitic		

Lith1Grain – Grain Size, maximum of 3 codes.

Size	Code	Arenites	Ore	Igneous/Metamorphic
Fine grained	fg	< 0.25 mm	< 0.5 mm	< 1 mm
Medium grained	mg	0.25 – 0.5 mm	0.5 – 2 mm	1 – 5 mm
Coarse grained	cg	0.5 - 2 mm	> 2 mm	> 5 mm

Lith1Struct – Features produced by the displacement or deformation of the rock and codes are as per the "Structural" list. Limit of 4 two-letter qualifiers in order of decreasing dominance.

Code	Structure	Code	Structure	Code	Structure
uf	unfoliated	fv	crenulated fabric	wj	weakly jointed
fo	foliated	df	folded / contorted / deformed	mj	moderately jointed
wf	weakly foliated	fa	fractured / broken	sj	strongly jointed
mf	moderately foliated	of	faulted / fault	cj	columnar jointed
sf	strongly foliated	cz	contact	bx	brecciated / breccia
ss	sheared	fm	mylonitic fabric	xc	chalcedonic matrix breccia
fc	cleaved	fp	fault pug / gouge / cataclastite	xj	jig saw breccia
fs	schistose	ff	brittle fault (with slickensides)	xf	fault breccias
fl	linear fabric	fj	jointed		

Lith2 – Secondary lithology of the interval. Use one Lith code with up to 2 qualifiers, e.g. XGN_F_SA. Lithology to describe current rock mineralogy not precursor metamorphic or alteration mineralogy.

Lith2Mins – up to 10 two-code qualifiers for minerals in the Lith2, in order of decreasing abundance.

Lith2Text – Texture of the secondary "Lith2" lithology. Limit of 10 two-letter qualifiers in order of decreasing dominance.

Lith2Grain – Grain Size

Lith2Struct – Features produced by the displacement or deformation of the rock and codes are as per the "Structural" list.

Reln – Relationship between the lithology of "Lith1" and "Lith2". Acceptable terms are "and" – and or hosted by; "after" – after or over; "trans" – transitional; "or" – or; and "clast" – lithology in clasts, e.g. clasts in a conglomerate.

AltMins – up to 10 two-character qualifiers for ALTERATION minerals, in order of decreasing abundance (see table at end of document).

Code	Abundance Qualifier
R	Rare (<1 %)
T	Trace (1 – 2%)
M	Minor (3 – 10%)
C	Common (11 – 50%)
A	Abundant – (>50%)

AltStyle – describes the alteration style, up to 4 styles can be used in decreasing dominance

Code	Alteration Style	Code	Alteration Style
Pv	pervasive	vs	selvage
pj	patchy / blotchy	ws	wispy
vn	vein	ds	disseminated
bs	segregated		

AltInt – alteration intensity (weakly altered – w, moderately altered – m, strongly altered – s, and uncertain – u).

SminTotal – total percentage of sulphide minerals in interval.

SminStyle – style of sulphide mineralisation using up to 4 two letter codes.

Sulphide Style	Code	Sulphide Style	Code	Sulphide Style	Code
Aggregates	at	Gossanous	gz	Supergene	sg
Blebs and aggregated blebs	bb	Massive	mv	Veining	vn
Banded	bn	Matrix sulphides	mx	Vein selvage	vs
Breccia	bx	Clevage blebs	bc	Veining, concordant	vc
Clastic	ci	Replacive	rp	Veining, crosscutting	vx
Disseminated	ds	Segregated	bs	Cubic habit	cb
Fracture fill	fw	Stringer	st	Prismatic habit	pr

PyPct – percentage pyrite in the interval.

PoPct – percentage pyrrhotite in the interval.

Smin1 – Major other sulphide mineral (other than Py or Po).

Sulphide species	Code	Sulphide species	Code	Sulphide Species	Code
Arsenopyrite	as	Ex-sulphide	xs	Sphalerite	sp
Chalcocite – covellite	cc	Galena	gn	Stibnite	sb
Chalcopyrite	cp	Molybdenite	mo	Sulphides, unclassified	su
Cinnabar /Hg mins	hg	Nickel sulphides (unclassified)	ns	Tennantite – tetrhedrite	tt
Ex-pyrite	xp	Pentlandite	pn		

Smin1Pct – percentage of SM1 sulphide.

Smin2 – Next significant sulphide mineral (after Smin1).

Smin2Pct – percentage of SM2 sulphide.

Smin3 – Next significant sulphide mineral (after Smin2).

Smin3Pct – percentage of SM3 sulphide.

Vein1Type – Infilling materials for the major vein type. Up to 4 two character codes from mineral list in order of decreasing abundance.

Vein1Abund – Mandatory when Vein1Type used. Abundance of the major vein type.

Code	Vein Abundance
R	Rare (<1 %)
T	Trace (1 – 2%)
M	Minor (3 – 10%)
C	Common (11 – 50%)
A	Abundant – (>50%)

Vein1Style – Mandatory when Vein1Type used. Style of veining. One two-letter code allowed.

Vein Style	Code	Vein Style	Code	Vein Style	Code
En-echelon	ee	Stepped	sv	Concordant	vc
Irregular	ir	Boundinaged	bg	Crosscutting	vx
Planar	pa	Stockwork	so	Wispy	ws
Ptygmatic	pt	Stringer	st		

Vein2Type – Infilling materials for the major vein type. Up to 4 two character codes from mineral list.

Vein2Abund – abundance of the next major vein type (R – rare (<1%), T – trace (1-2%), M – minor (3-10%), C – common (11-50%), and A – abundant (>50%)).

Vein3Style – Style of veining.

Vein2Type – Infilling materials for the major vein type. Up to 4 two character codes from mineral list.

Vein3Abund – abundance of the next major vein type (R – rare (<1%), T – trace (1-2%), M – minor (3-10%), C – common (11-50%), and A – abundant (>50%)).

Vein3Style – Style of veining.

Description – Text description to cover features not identified in the coding.

Comments – any other comments.

LogBy – Mandatory. Initials of logging geologist.

LogDate – mandatory. Date of logging.

SG
(Diamond Drill Holes Only)

HoleID – Format as per collar sheet.

From & *To* – depth down hole from collar in metres

Length – MEASURED length of sample in centimetres.

Diameter – diameter of the core in centimetres.

Weight – weight of the sample in grams.

Pi – constant "pi" = 3.142

Radius – calculated field (half diameter)

Volume – calculated field in cubic centimetres

Density1 – calculated field in g/cm3 from volume and weight.

Displacement – amount of water in cubic centimetres displaced by the sample.

Density2 – calculated field from water displacement.

Lithology – lith code of major rock type.

CoreSize – NQ, PQ, etc.

SGBy – geologist or technician who determined the SG.

SGDate – date of SG determination.

Comments – any comments relevant to determination of the SG.

RQD
(Diamond Drill Holes Only)

HoleID – Format as per collar sheet.

From & **To** – depth down hole from collar in metres

HoleDiameter – Core size, NQ, BQ, etc.

Rec_m – metres of core recovered within a core run.

Rec_Pct – calculated, % of core recovered within a core run

NoFr – number of fractures within the core run. If an interval is very broken it is counted as one (1) fracture and **FRCore** is marked.

FRCore – If core run contains one or more zones of strongly broken core, indicated by 'X', otherwise left blank.

Fr_m – calculated, number of fractures per metre.

LT10 – total length of core less than 10 cm within the core run (in metres).

GT10 – total length of core more or equal to 10 cm within the core run (in metres).

RQD – Rock Quality Data, calculated % of core recovered that is > or = 10 cm in length within the core run.

Hardness – engineering scale.
1 – very weak – can be broken by hand.
2 – weak – cuts easily by knife.
3 – Moderately weak – difficult to cut with a knife, pick indents easily.
4 – Moderately strong – cannot be cut with a 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.

Weath – weathering codes

Code	Weathering Description
sw	Strongly weathered – core can be broken by hand, strong discolour, sulphides totally oxidised.
mw	Moderately weathered – core cannot be broken by hand, moderate discolour, sulphides totally oxidised.
ww	Weakly weathered – slight discolour, sulphides partially oxidised.
fr	Fresh – no signs of colour change, sulphides unoxidised.

RQDBy – geologist or technician measuring the RQD.

RQDDate – date the RQD recorded.

Comments – any information relevant to the RQD data.

Structure
(Diamond Core Holes Only)

HoleID – Format as per collar sheet.

Depth – depth of top of discontinuity.

StrTo – Depth of bottom of zone of discontinuity, therefore only necessary where discontinuity covers a zone, eg a zone of fracturing.

A – Angle in degrees of discontinuity with core axis.

B – Angle, in degrees measured in a clockwise direction looking down the core, from the orientation line to the top of the discontinuity (oriented core). Awaiting further detail from the field.

BMeas – Whether the measurement of the B angle is from the bottom or top of the core, eg. B = bottom, T = top.

StrType – type of discontinuity

Code	Structure	Code	Structure
be	bedding	of	fault
bn	banding	fo	foliation
bx	brecciation	fa	fracture (includes joints)
fc	cleavage	ss	shear
cz	contact	vn	vein

StrShape – shape of the discontinuity

A – planar
B – stepped
C – wavey
D – Irregular

StrRough – roughness of the discontinuity

R – rough
S – smooth
P – polished
K - slickensided

StrMin1, StrMin 2, StrMin 3, StrMin 4 – infilling minerals within discontinuity in order of abundance.

MIN1pct, MIN2pct - not compulsory, % of MIN1 and MIN2 within discontinuity.

StrLength – length (not width) of discontinuity, where applicable (in mm).

StrWidth - width of discontinuity in mm.

Mag Sus

HoleID – Format as per collar sheet.

Depth & *To* – depth down hole from collar in metres.

CoreSize – core désignation, i.e. HQ, NQ, etc.

Reading1, Reading2, Reading3 – individual readings from the mag sus meter in SI x 10^{-5} units.

MagSus – average of readings in SI units of 10^{-5}.

MagSusBy – Staff member who recorded the mags us data.

MagSusDate – Date the mags us data was recorded.

Comments – any comments relating to the mags us data.