

# Newmont Exploration Lithology Codes    Sept 2009

## Lithology

Code System Code Description			Code Description	
YANDAL	aa	Amphibolite undifferentiated	mn	mn
YANDAL	ab	Biotite Schist(Amphibolite Facies)	mt	mt
YANDAL	af	Quartz-grunerite rock	mu	Marble
YANDAL	ag	Gneiss	oa	Anorthosite
YANDAL	an	Banded amphibolite	ob	Gabbro
YANDAL	ao	Ortho-amphibolite	od	Dolerite
YANDAL	ap	Para-amphibolite	og	Gabbro
YANDAL	aq	Quartzo-feldspathic schist(+/-biotite)	om	Magnetite
YANDAL	as	Schist (Amphibolitic facies)	on	Norite
YANDAL	bi	Biotite Schist	ot	Troctolite
YANDAL	bm	High-mag basalt	ou	Undifferentiated mafic intrusive
YANDAL	bp	Picritic basalt	pb	Base metal massive sulphide
YANDAL	bs	Spilitic basalt	pp	Pyritic massive sulphide
YANDAL	bt	Tholeiitic basalt	pu	Massive sulphide undifferentiated
YANDAL	bv	Basalt undifferentiated	ra	Mafic schist
YANDAL	bv?	bv?	rb	Biotite Schist(Greenschist Facies)
YANDAL	bx	bx	rc	Chlorite schist
YANDAL	ce	Evaporites	rf	Felsic Schist
YANDAL	cf	undifferentiated Iron Formation	ri	Intermediate Schist
YANDAL	ch	Chert	rl	Slate
YANDAL	ci	BIF	rm	White mica (+/-qt Schist)
YANDAL	cj	Jasper	rp	Phyllite
YANDAL	cl	cl	rq	Quartzo-feldspathic schist
YANDAL	cu	Undifferentiated chemical sediments	rs	Schist (Greenschist facies)
YANDAL	cz	Phosphorites	rt	Talc schist
YANDAL	eu	Migmatite	rw	White mica (+/-qt Schist)
YANDAL	fc	Dacite	sa	sa
YANDAL	fo	Rhyodacite	sb	Sedimentary Breccia
YANDAL	fp	Felsic porphyry (Acid Extrusive)	sc	Conglomerate
YANDAL	fr	Rhyolite	sd	Dolomite
YANDAL	fu	Acid volcanics undifferentiated	sg	Greywacke
YANDAL	ga	Alkali feldspar granite	sh	Shale
YANDAL	gc	Dacitic Porphyry	sk	Coal
YANDAL	gd	Granodiorite	sl	Limestone
YANDAL	gg	Granite	sm	Mudstone
YANDAL	gl	Aplite	sp	Sandstone
YANDAL	gm	Monzogranite	sr	Arkose
YANDAL	gp	Acid porphyry	st	Siltstone
YANDAL	gs	Syenogranite	su	Sediment undifferentiated
YANDAL	gt	Tonalite	sw	sw
YANDAL	gu	Undifferentiated granitoid	tu	Granulite undifferentiated
YANDAL	gz	Pegmatite	ub	Basaltic Komatiite
YANDAL	hu	Hornfels	ud	Dunite
YANDAL	id	Diorite	uh	Hornblendite
		Undifferentiated intermediate	uk	Komatiite
YANDAL	ii	intrusive	up	Peridotite
YANDAL	il	il	uu	Ultramafic undifferentiated
YANDAL	im	Monzonite	ux	Pyroxenite
YANDAL	ip	Intermediate porphyry		Vein material where > 90% of
YANDAL	is	Syenite	vn	interval

YANDAL	it	Trachyte	wb	Backfill
		Undifferentiated intermediate	wc	Cavity
YANDAL	iu	extrusive	wl	Lost Core
YANDAL	iv	Andesite	wn	wn
YANDAL	iy	Trachy-andesite	wp	Stockpile
YANDAL	ku	Charnokite	wr	wr
YANDAL	lc	Carbonatite	ws	Stope
YANDAL	lk	Kimberlite	wt	Tailings
YANDAL	ll	Lamproite	ww	Mullock/Waste
YANDAL	lp	Phyric lamprophyre	xm	Magnetite-rich Skarn
YANDAL	lu	Lamprophyre Undifferentiated	xs	Skarn
YANDAL	me	Metasomatite	xu	Calc-silicate undifferentiated
			yu	Mylonite

### **Lithology Age**

Code System	Code	Description	Code	Description
YANDAL	A	Archean (2500-4600Ma)	L	Oligocene (24-36Ma)
YANDAL	B	Pliocene (2-5Ma)	M	Miocene (5-24Ma)
YANDAL	C	Cambrian (505-590Ma)	O	Ordovician (439-510Ma)
YANDAL	Cz	Cainozoic	P	Proterozoic (570-2500Ma)
YANDAL	D	Devonian (360-410ma)	Q	Quaternary (0-2Ma)
YANDAL	E	Eocene (36-65Ma)	S	Silurian (409-439Ma)
YANDAL	F	Pleistocene (0-1Ma)	T	Triassic (208-245Ma)
		Carboniferous (290-		
YANDAL	H	363Ma)	W	Palaeozoic (245-570Ma)
YANDAL	I	Permian (245-290Ma)	X	Mesozoic (65-245Ma)
YANDAL	J	Jurassic (146-208Ma)	Y	Tertiary (2-65Ma)
YANDAL	K	Cretaceous (65-146Ma)	Z	Unknown (0-4600Ma)

### **Alteration Intensity**

Code System	Code	Description
Yandal	I	Intense (Alt mineral has totally replaced primary mineral)
Yandal	M	Moderate (Alt min in equal proportions to original primary mineral)
Yandal	S	Strong (Alt mineral dominant, minor primary mineral remaining)
Yandal	W	Weak (Alt mineral partially replacing primary mineral)

### **Alteration Mode**

Code System	Code	Description
Yandal	BB	Blebbly
Yandal	BD	Bedded
Yandal	CR	Clast Replacement
Yandal	DS	DS
Yandal	FC	Fracture Controlled
Yandal	FO	Foliation controlled
Yandal	FW	Foot wall(VMS etc.)
Yandal	HW	Hanging wall(VMS etc.)
Yandal	LA	Layered
Yandal	PT	Patchy
Yandal	PV	Pervasive
	SR	Selective Replacement
	SV	Vein Selvedge
	VF	Vug Filled
	VH	Vein halo
	VS	VS

## Alteration Type

CodeSystem	Code	Description
Yandal	AB	Albitisation
Yandal	AM	Amphibole
Yandal	AR	Argillic (clay alteration)
Yandal	BC	Biotite-carbonate
Yandal	BI	Biotite
Yandal	BL	BL
Yandal	CB	Carbonate
Yandal	CC	Chlorite-carbonate (chl - carb +/- epidote)
Yandal	CF	Carbonate-fuchsite
Yandal	CL	Chlorite +/- saussurite
Yandal	CM	Chlorite-muscovite-carbonate (chl - mus - carb +/- leu)
Yandal	EC	Epidote-Carbonate
Yandal	EP	Epidotisation
Yandal	FS	FS
Yandal	FU	Fuchsite
Yandal	GM	Green mica-sil-chl-carb (green mica - sil - chl - carb +/- leu)
Yandal	GO	GO
Yandal	HC	Haematite-Carbonate
Yandal	HM	Haematite (non-weathering)
Yandal	KA	Kaolinitic
Yandal	KS	Potassic (K-spar, Biotite)
Yandal	LI	LI
Yandal	LX	Leucoxene
Yandal	MC	Mus-sil-chl-carb (mus - sil - chl - carb +/- leu)
Yandal	MN	MN
Yandal	MT	MT
Yandal	NA	Not altered
Yandal	OA	Other
Yandal	OS	OS
Yandal	PG	PG
Yandal	PH	Phyllitic (wm-si-py)
Yandal	PR	Propylitic (cl-ep-cb)
Yandal	PT	Serpentinisation
Yandal	PX	Pyroxene +/- olivine, garnet
Yandal	PY	Pyrite
Yandal	QC	Quartz-Carbonate
Yandal	SF	Sea floor spilitisation(cl/ab)
Yandal	SI	Silicification
Yandal	SK	Skarn
Yandal	ST	ST
Yandal	TB	Talc-carbonate
Yandal	TC	NULL
Yandal	TT	Talc-Chlorite
Yandal	UR	Uralisation
Yandal	US	Saussuritisation
Yandal	WC	White mica-carbonate
Yandal	WM	White mica
Yandal	WQ	White mica-quartz

## Colour

CodeSystem	Code	Description	Code	Description
YANDAL	bg	Blue-green	ol	NULL
YANDAL	bgd	Dark blue-green	or	Orange
YANDAL	bgl	Light blue-green	ord	Dark orange
YANDAL	bk	Black	orl	Light orange
YANDAL	bl	Blue	pbr	NULL
YANDAL	bld	Dark blue	pgr	NULL
YANDAL	bll	Light blue	pk	Pink
YANDAL	br	Brown	pkd	Dark pink
YANDAL	brd	Dark brown	pkl	Light pink
YANDAL	brl	Light brown	pp	NULL
YANDAL	cw	Cream	ppl	NULL
YANDAL	cwd	Dark cream	pr	Pink red
YANDAL	cwl	Light cream	pu	Purple
Yandal	dgr	NULL	pud	Dark purple
YANDAL	gb	Greyish brown	pul	Light purple
YANDAL	gbd	Dark greyish brown	py	NULL
YANDAL	gbl	Light greyish brown	rb	Red-brown
YANDAL	gg	Green-grey	rbd	Dark red-brown
YANDAL	ggd	Dark green-grey	rbl	Light red-brown
YANDAL	ggl	Light green-grey	rbr	NULL
YANDAL	gr	Green	rd	Red
YANDAL	grd	Dark green	rdb	NULL
YANDAL	grl	Light green	rdd	Dark red
YANDAL	gy	Grey	rdl	Light red
YANDAL	gyd	Dark grey	RE	NULL
YANDAL	gyl	Light grey	rel	NULL
YANDAL	kh	Khaki	rg	Red grey
YANDAL	khd	Khaki dark	rgd	Dark red grey
YANDAL	khl	Khaki Light	rgl	Light red grey
Yandal	lbr	NULL	rw	NULL
Yandal	LGR	NULL	sw	NULL
Yandal	lgy	NULL	ta	Tan
Yandal	lry	NULL	tad	Dark tan
YANDAL	md	Mottled	tal	Light tan
YANDAL	mo	Moroon	tb	NULL
YANDAL	mod	Moroon Dark	w	NULL
YANDAL	mol	Moroon Light	wh	White
Yandal	ob	NULL	whl	Light wh
YANDAL	og	Olive-green	wt	NULL
YANDAL	ogd	Dark olive-green	yb	Yellow-brown
YANDAL	ogl	Light olive-green	ybd	Dark yellow-brown
YANDAL	ok	Ochre	ybl	Light yellow-brown
YANDAL	okd	Dark ochre	ye	Yellow
YANDAL	okl	Light ochre	yed	Dark yellow
			yel	Light yellow
			yg	Yellow-green
			ygd	Dark yellow-green
			ygl	Light yellow-green
			yo	NULL
			yr	Yellow red
			yw	Yellow white

## **Deformation Intensity**

CodeSystem	Code	Description
		Unfoliated
Yandal	0	(Massive)
Yandal	1	Weakly Foliated
		Moderately
Yandal	2	Foliated
Yandal	3	Strongly Foliated

## **Deformation Texture**

CodeSystem	Code	Description
Yandal	2	NULL
Yandal	bi	NULL
Yandal	bx	BRECCIATED
Yandal	ce	CLEAVED
Yandal	cf	CATACLASITE
Yandal	cn	CRENULATED
Yandal	fc	FRACTURED
Yandal	fl	FOLDED
Yandal	fm	FOLIATED - MODERATE
Yandal	fo	NULL
Yandal	fs	FOLIATED - STRONG
Yandal	ft	FAULT
Yandal	fw	FOLIATED - WEAK
Yandal	hy	HYDRAULIC BRECCIA
Yandal	jt	JOINTED
Yandal	ln	LINEATED
Yandal	m	NULL
Yandal	ms	NULL
Yandal	mt	NULL
Yandal	mw	NULL
Yandal	my	MYLONITE
Yandal	pm	NULL
		SHEAR -
Yandal	sh	HETEROGENEOUS
Yandal	sk	SLICKENSIDES
Yandal	sz	SCHISTOSE
Yandal	wf	NULL

## **Grainsize**

CodeSystem	Code	Description
YANDAL	bc	Coarse porphyroblasts(>10mm)
YANDAL	bf	Fine porphyroblasts(<3mm)
YANDAL	bm	Medium porphyroblasts(3mm to 10mm)
YANDAL	bu	Boulder Rock (>256mm)
YANDAL	cb	cobble (>64mm to <256mm)
YANDAL	cg	Coarse Sand (0.5mm to 2mm)
YANDAL	cx	Cryptocrystalline
YANDAL	fg	Fine Sand (0.125mm - 0.25mm)
YANDAL	md	Mud (<0.004mm)

YANDAL	mg	Medium Sand (0.25mm - 0.5mm)
YANDAL	pa	pa
YANDAL	pb	pebble (>4mm to <64mm)
YANDAL	pc	Coarse phenocrysts(>10mm)
YANDAL	pf	NULL
YANDAL	pm	Medium phenocrysts(3mm to 10mm)
YANDAL	rt	Rudite (4mm - 256mm)
YANDAL	vf	Very Fine Sand (0.125mm - 0.06mm)
YANDAL	VFG	very fine grained - igneous and metamorphic rock.
YANDAL	vg	Very Coarse sand (2mm - 4mm)
YANDAL	zs	Silt (0.004mm - 0.06mm)

## **Large Grainsize**

CodeSystem	Code	Description
YANDAL	bc	Coarse porphyroblasts(>10mm)
YANDAL	bf	Fine porphyroblasts(<3mm)
YANDAL	bm	Medium porphyroblasts(3mm to 10mm)
YANDAL	bu	boulder (>256mm)
YANDAL	cb	cobble (>64mm to <256mm)
YANDAL	cg	Coarse Sand (0.5mm to 2mm)
YANDAL	fg	Fine Sand (0.125mm - 0.25mm)
YANDAL	md	Mud (<0.004mm)
YANDAL	mg	Medium Sand (0.25mm - 0.5mm)
YANDAL	pa	Pegmatitic patches (>30mm)
YANDAL	pb	pebble (>4mm to <64mm)
YANDAL	pc	Coarse phenocrysts(>10mm)
YANDAL	pf	Fine phenocryst(<3mm)
YANDAL	pm	Medium phenocrysts(3mm to 10mm)
YANDAL	rt	Rudite (4mm - 256mm)
YANDAL	vf	Very Fine Sand (0.125mm - 0.06mm)
YANDAL	vg	Very Coarse sand (2mm - 4mm)
YANDAL	zs	Silt (0.004mm - 0.06mm)

## **Hardness**

CodeSystem	Code	Description
YANDAL	0	Very soft material (eg clays, <0.45Mpa)
YANDAL	1	Very Weak; scratched by thumbnail
YANDAL	2	Weak; cut with knife
YANDAL	3	Moderately Weak; scratched deeply by knife
YANDAL	4	A scribe scratch mark will cause the rock to flake (eg. Talc-rich rocks)
YANDAL	5	A scribe will leave a scratch in the rock
YANDAL	6	A scribe scratch mark almost invisible

## **Mineralisation Mode**

CodeSystem	Code	Description	Code	Description
Yandal	BB	Blebs	NW	Interstitial Networks
Yandal	BD	Bedded	PT	NULL
Yandal	BH	Breccia hosted Clast	pv	NULL
Yandal	CR	Replacement	SE	Stringers/Veinlets
Yandal	DS	Disseminated	sv	NULL
Yandal	FC	NULL	VF	Vug Filled
Yandal	fe	NULL	VH	Vein halo
Yandal	LA	Layered	VO	Vein hosted
Yandal	mn	NULL	VS	VS
Yandal	MS	Massive	YS	Splashy
Yandal	MW	Stockwork		

## **Mineralisation Type**

CodeSystem	Code	Description	Code	Description
Yandal	ag	Silver	ml	Malachite
Yandal	ao	Asbestos	mn	Manganese
Yandal	as	Arsenopyrite	mo	Molybdenite
Yandal	au	Native gold	mt	Magnetite Oxidised sulphide
Yandal	az	Azurite	os	
Yandal	bn	Bornite	pn	Pentlandite
Yandal	cc	Chalcocite	po	Pyrrhotite
Yandal	cp	Chalcopyrite	py	Pyrite
Yandal	ct	Cuprite	qc	NULL
Yandal	cu	Native copper	sb	Stibnite
Yandal	cv	Covelite	sc	Scheelite
Yandal	en	Enargite	sn	Cassiterite
Yandal	gl	Galena	sp	Sphalerite
Yandal	go	Goethite	st	Sericite
Yandal	hm	Haematite	su	Sulphide
Yandal	li	NULL	sv	Sulphur
Yandal	lm	Limonite	te	Tellurides
Yandal	mf	Mn-Co-Fe	wf	Wolframite

## **Regolith Age**

CodeSystem	Code	Description
Yandal	Cz	Cainozoic
Yandal	Q	Quaternary
Yandal	Y	Tertiary (2- 65Ma)
Yandal	Z	Unknown Age

## **Regolith Group**

CodeSystem	Code	Description	Code	Description
Yandal	al	Alluvium	lg	Lag
Yandal	ct	Calcrete	lp	Phyric lamprophyre
Yandal	cv	Colluvium	ls	Saprock

Yandal	cy	Clay Zone	lt	Lateritic Residuum
Yandal	do	Dolocrete	mu	mu
Yandal	eo	Aeolian	mz	Mottled Zone
Yandal	fk	Ferricrete	pa	Pallid Zone
Yandal	gs	Gossan	pc	plastic clay
Yandal	gv	gv	sa	Saprolite
Yandal	hp	Hardpan	sc	Silcrete
Yandal	la	Lacustrine	sd	Residual sand
Yandal	le	Lacustrine Evaporites	sl	Soil
Yandal	lf	Ferruginous saprolite (sa and fe combined)	uo	Undifferentiated Overburden
			ur	Uncertain Regolith Zone

## **Regolith Variant**

CodeSystem	Code	Description	Code	Description
Yandal	bx	Breccia	me	Magnesite
Yandal	ca	calcareous	mf	Mn-Co-Fe
Yandal	ch	Chert	mo	mo
Yandal	cl	Chlorite	mu	Mottled
Yandal	cs	Carbonaceous	nd	Nodules
Yandal	cy	Clay	no	Nontronitic
Yandal	dc	Dolocrete	oo	Ooliths
Yandal	du	Duricrust	pa	Pallid (Added Feb 2003)
Yandal	fe	Ferruginous	pc	pc
Yandal	gm	Gypsum	pg	Puggy (Added Feb 2003)
Yandal	go	go	pl	pl
Yandal	gs	gs	ps	Pisoliths
Yandal	gv	Gravel	qt	Quartz
Yandal	ha	Halides	sc	silcrete
Yandal	hm	Hematite	sd	Sand
Yandal	hp	Hardpan	si	Siliceous
Yandal	ir	Ironstone	sm	Smectite
Yandal	is	Iron Segregation	su	Sulphides
Yandal	kn	kn	tb	tb
Yandal	li	Limonitic	tc	Talcy
Yandal	lk	Lithic Fragments	wm	wm
Yandal	lo	Loess	ys	Clay Sand
Yandal	lt	Lateritic	zs	Silt
Yandal	mb	Mega-Mottled		
Yandal	md	Mud		

## **Texture**

CodeSystem	Code	Description	Code	Description
YANDAL	af	Acicular	ma	Massive
YANDAL	ah	Aphanitic	mc	Mesocumulate
YANDAL	an	Augen	mh	Microporphyritic
YANDAL	ar	Aphyric	mk	Matrix-supported
YANDAL	at	Adcumulate	mp	Migmatitic
YANDAL	ay	Amygdaloidal	mq	Mosaic
YANDAL	bd	Banded/layered	my	Mylonite
YANDAL	be	Bedded	nb	Nematoblastic
YANDAL	bf	Flow banded	nh	Anhedral



YANDAL	bh	Subhedral	ob	Sub-oophitic
YANDAL	bo	Botryoidal	oc	Orthocumulate
YANDAL	bw	Box Worked	oh	Ophitic
YANDAL	bx	Breccia	oi	Ocelli
YANDAL	cf	Cataclasite	pb	Porphyroblastic
YANDAL	ck	Concretionary	pc	Porphyroclastic
YANDAL	cm	Cumulus	pi	Panidiomorphic
YANDAL	cz	Chill margin	pp	Porphyritic
YANDAL	dk	Melanocratic	pq	Poikilictic
YANDAL	dv	Devitrified	pr	Crowded(Phenocryst-rich)
YANDAL	dx	Detextured	pv	Poikiloblastic
YANDAL	eq	Equigranular	pw	Pillowed
YANDAL	ex	Eutaxitic	pz	Pseudomorph
YANDAL	fb	Fibrous	ra	Radial
YANDAL	ff	Felted	rm	Ripple marked
YANDAL	fr	Fragmental	ro	Rounded
YANDAL	fx	Flow top breccia	sa	Sub Angular
YANDAL	gb	Graded	sr	Sub-Rounded
YANDAL	gc	Graphic	sw	Spherulitic
YANDAL	ge	Granular	sx	Spinifex
YANDAL	gl	Glomeroporphyritic	sz	sz
YANDAL	gn	Gneissic	ty	Trachytic
YANDAL	gp	Granophyric	uh	Euhedral
YANDAL	gr	gr	us	unsorted
YANDAL	gt	Granitic	va	Very Angular
YANDAL	gx	Glassy	vb	Volcanic Breccia
YANDAL	hx	Hyaloclastic	vn	Vein(ed)
YANDAL	hy	Hydraulic breccia	vr	Crack seal
YANDAL	ib	Idioblastic	vs	Vesicular
YANDAL	ig	Intergranular	xb	Cross bedded
YANDAL	in	Interbedded	xm	Moderately sorted
YANDAL	iq	Seriate/inequigranular	xn	Xenolithic
YANDAL	kp	Clast-supported	xp	Poorly sorted
YANDAL	kr	Crustiform	xw	Well sorted
YANDAL	lb	Lepidoblastic	yd	Diamictite (eg tillite)
YANDAL	le	Leucocratic	ym	Monomictic
YANDAL	lm	Laminated	yo	Oligomictic
YANDAL	ly	layered	yp	Polymictic

## **Lithology Variant**

CodeSystem	Code	Description	Code	Description
YANDAL	ab	Albite	lt	Lithic tuff
YANDAL	ac	Actinolite	lu	Leucite
YANDAL	ad	Andalusite	lx	Leucoxene
YANDAL	ag	Silver	ma	Massive
YANDAL	ah	Aphanitic	mc	Mesocumulate
YANDAL	ai	Anhydrite	me	Magnesite
YANDAL	ak	Ankerite	mf	Mn-Co-Fe
YANDAL	al	Agglomerate	mg	Medium-grained
YANDAL	am	Amphibole	mi	Mica
YANDAL	an	Augen	ml	Malachite
YANDAL	ao	Asbestos	mm	Metamorphic
YANDAL	ap	Apatite	mn	Manganese
YANDAL	ar	Aphyric	mo	Molybdenite
YANDAL	as	Arsenopyrite	mp	Migmatitic
YANDAL	at	Adcumulate	mr	Montmorillonite
YANDAL	au	Native gold	ms	Muscovite

YANDAL	ay	Amygdaloidal	mt	Magnetite
YANDAL	az	Azurite	mu	Mottled
YANDAL	ba	Barite	mx	Matrix-supported
YANDAL	bd	Banded/layered	my	Mylonite
YANDAL	be	Bedded	mz	Monazite
YANDAL	bf	Flow banded	nb	Nematoblastic
YANDAL	bi	Biotite (phyric)	no	Nontronite
YANDAL	bn	Bornite	np	Nepheline
YANDAL	bo	Botryoidal	ob	Sub Ophitic
YANDAL	bt	Bismuth	oc	Orthocumulate
YANDAL	bx	Brecciated	oh	Ophitic
YANDAL	ca	Calcite	oi	Ocelli
YANDAL	cb	Carbonate	ol	Olivine (phyric)
YANDAL	cc	Chalcocite	oo	Oolitic
YANDAL	cd	Chloritoid	op	Opalised
YANDAL	ce	Cleaved	os	Oxidised sulphide
YANDAL	cf	Cataclasite	ot	ophitic
YANDAL	cg	Coarse-grained	ox	Orthopyroxene
YANDAL	ch	Chert(y)	pb	Porphyroblastic
YANDAL	ci	Chlorite-carbonate	pc	Porphyroclastic
YANDAL	ck	Concretionary	pe	Peperite
YANDAL	cl	Chlorite	pg	Phlogopite
YANDAL	cm	Cumulus	ph	Phosphate(ic)
YANDAL	cn	Crenulated	pi	Panidiomorphic
YANDAL	co	Cordierite	pj	Pyroclastic
YANDAL	cp	Chalcopyrite	pl	Plagioclase (phyric)
YANDAL	cr	Chromite	pn	Pentlandite
YANDAL	cs	Carbonaceous	po	pyrrhotite
YANDAL	ct	Cuprite	pp	Porphyritic
YANDAL	cu	Native copper	pr	Phenocryst-rich(Crowded)
YANDAL	cv	Covelite	ps	Pisoliths
YANDAL	cx	Clinopyroxene	pw	Pillowed
YANDAL	cy	Clay	px	Pyroxene (phyric)
YANDAL	cz	Chill margin	py	Pyrite
YANDAL	dk	Melanocratic	qc	NULL
YANDAL	do	Dolomite(ic)	qf	Quartz + Feldspar
YANDAL	dp	Diopside	qt	Quartz
YANDAL	du	Duricrust	qz	Quartzite
YANDAL	dv	Devitrified	ru	Rutile
YANDAL	dx	Detextured	sa	Saprolite
YANDAL	eg	eg	sb	Stibnite
YANDAL	en	Enargite	sc	Scheelite
YANDAL	ep	Epidote	sd	Sand(y)
YANDAL	eq	Equigranular	se	Sanidine
YANDAL	ex	Eutaxitic	sf	Sphene
YANDAL	fb	Fibrous	sg	Silt(y)
YANDAL	fc	Fractured	sh	Shear(ed)
YANDAL	fd	Feldspar	si	Silicified
YANDAL	ff	Felted	sj	Siderite
YANDAL	fg	Fine-grained	sk	Slickensides
YANDAL	fl	Folded	sl	Sillimanite
YANDAL	fo	Foliated	sm	Smectite
YANDAL	fq	Feldspar-quartz	sn	Cassiterite
YANDAL	fr	Fragmental	so	Staurolite
YANDAL	ft	Fluorite	sp	Sphalerite
YANDAL	fu	Fuchsite	sq	subophitic
YANDAL	fx	Flow top breccia	sr	Serpentine
YANDAL	ga	Garnet	ss	Saussurite
YANDAL	gb	Graded	st	Stromatolitic

YANDAL	gf	Graphite	su	Sulphide
YANDAL	gl	Galena	sv	Sulphur
YANDAL	gm	Gypsum	sw	Spherulitic
YANDAL	gn	Gneissic	sx	Spinifex
YANDAL	go	go	sy	Sylvite
YANDAL	gp	Granophyric	sz	Schistose
YANDAL	gt	Granitic	tb	Talc-carbonate
YANDAL	gu	Grunerite	tc	Talc
YANDAL	gx	Glassy	te	Tellurides
YANDAL	ha	Halite	tf	Tuff
YANDAL	hb	Hornblende (phyric)	tl	Lapilli Tuff
YANDAL	hm	Haematite	tm	Tremolite
YANDAL	hx	Hyaloclastic	to	Tourmaline
YANDAL	hy	Hydraulic breccia	tt	Talc-chlorite
YANDAL	ib	Idioblastic	tw	Welded Tuff
YANDAL	ig	Intergranular	tx	Crystal Tuff
YANDAL	im	Ilmenite	ty	Trachytic
YANDAL	in	Interbedded	uh	Euhedral
YANDAL	ir	Ironstone	vb	Volcanic Breccia
YANDAL	js	Jasper	vc	Volcaniclastic
YANDAL	jt	Jointed	vn	Vein(ed)
YANDAL	kd	Kinked	vr	Crack seal
YANDAL	kn	Kaolinite	vs	Vesicular
YANDAL	ko	Coal	vu	vu
YANDAL	kr	Crustiform	wf	Wolframite
YANDAL	ks	K-feldspar	wm	White Mica
YANDAL	kx	Clast Supported	xb	Cross bedded
YANDAL	ky	Kyanite	xm	Moderately sorted
YANDAL	lb	Lepidoblastic	xn	Xenolithic
YANDAL	le	Leuocratic	xp	Poorly sorted
YANDAL	li	Limonite	xw	Well sorted
YANDAL	lk	Lithic	zr	Zircon
YANDAL	lm	Laminated	zt	Zeolite
YANDAL	ln	Lineated		

## Vein Gangue

CodeSystem	Code	Description	Code	Description
Yandal	ak	Ankerite	lx	Leucoxene
Yandal	am	Amphibole	mn	Manganese
Yandal	ao	Asbestos	mo	Molybdenite
Yandal	as	Arsenopyrite	mt	Magnetite
Yandal	au	Gold	no	Nontronite
Yandal	ba	Barite	os	Oxidised
Yandal	bi	Biotite	pn	Pentlandite
Yandal	ca	Calcite	po	Pyrrhotite
Yandal	cb	Carbonate	py	Pyrite
Yandal	cf	Cataclasite	qa	Quartz-albite
Yandal	ci	Chlorite-carbonate	qc	Quartz-carbonate
Yandal	cl	Chlorite	qf	Quartz+feldspar
Yandal	cp	Chalcopyrite	qk	Quartz-kspar
Yandal	do	Dolomite	qs	Quartz-sulphide
Yandal	ep	Epidote	qt	Quartz
Yandal	fd	Feldspar	sb	Stibnite
Yandal	fq	Feldspar-quartz	sc	Scheelite
Yandal	ft	Fluorite	se	Sericite
Yandal	fu	Fuchite	sj	Siderite
Yandal	fy	Fault pug/gouge	sp	Sphalerite
Yandal	gl	Galena	su	Sulphide

Yandal	gm	Gypsum	tb	Talc-Carbonate
Yandal	go	Goethite	tc	Talc
Yandal	hm	Hematite	te	Tellurides
Yandal	kn	Kaolinite	to	Tourmaline
Yandal	ks	K-feldspar	wf	Wolframite
Yandal	li	Limonite	wm	White mica
			zt	Zeolite

## **Vein Mode**

CodeSystem	Code	Description	Code	Description
Yandal	MA	MA	VI	Sigmoidal
Yandal	MS	Massive	VK	Crack-Seal
Yandal	MW	Stockwork	VL	VL
Yandal	VB	VB	VN	VN
Yandal	VD	Boudinage	VO	Anastomosing
Yandal	VE	Echelon	VP	Ptygmatic
Yandal	VG	Vuggy	VS	VS
			VT	Crustiform

## **Vein Texture**

CodeSystem	Code	Description	Code	Description
Yandal	VA	Fibrous antitaxial	VL	Laminated
Yandal	VB	Buck	VM	Comb-Cockade
Yandal	VC	Colloform	VR	Replacement
Yandal	VF	Fibrous	VS	Saccaroidal
Yandal	VG	Vuggy	VT	Crustiform
Yandal	VJ	VJ	VX	Breccia
Yandal	VK	Crack-Seal	VY	Fibrous syntaxial

## **Vein Type**

CodeSystem	Code	Description	Code	Description
Yandal	AM	AM	PO	NULL
Yandal	AO	Asbestos	PX	Pyroxene
Yandal	CB	Carbonate	PY	Pyrite
Yandal	CCL	Carbonate chlorite	QA	Quartz-albite
Yandal	CL	Chlorite	QC	Quartz-carbonate
Yandal	CP	Chalcopyrite	QCL	Quartz chlorite
Yandal	CQ	Carb Quartz	QE	Quartz Epidote
Yandal	CS	CS	QK	Quartz-Kspar
Yandal	EP	Epidote	QL	QL
Yandal	GM	Gypsum Veining	QM	QM
Yandal	GO	Goethitic	QS	Quartz-Sulphide
Yandal	HC	HC	QT	Quartz
Yandal	HM	HM	SQ	Smokey grey quartz
Yandal	MN	Manganese	SU	Undiff sulphides
Yandal	NV	Absent	VQ	VQ
Yandal	OV	Other	WC	WC

## **Weathering**

<b>CodeSystem</b>	<b>Code</b>	<b>Description</b>
Yandal	CW	Completely Weathered; no discernable fabric
Yandal	FR	Fresh Rock; No oxidation or weathering of primary mineralogy
Yandal	MW	Moderately Weathered; Oxidation or weathering throughout the whole of the rock substance
Yandal	PW	Partially Weathered; Fresh kernels of rock, oxidised/weathered fractures/veins
Yandal	SW	Strongly Weathered; Fabric Preserved, rock minerals oxidised or broken down into weathered component