

C	Cm	Cu	CT	Cg	Cgv	CK	Cp	Cq	Cl	Cc	Cst	Csu		
IF	IF	IFg	IFq	A	Au	A	Aj	AK	AD	Ld	La	Lu	S	Sj

**Colluvial units**

C Colluvium derived from different rock types; includes gravel, sand, and silt

Cm Mafic talus

Cu Ultramafic talus

CT Ferruginous gravel and reworked ferruginous duricrust

Cg Quartzfeldspathic gravel, sand, and silt; commonly derived from granitic rock and associated weathering products

Cgv Quartzfeldspathic gravel, sand, and silt; derived from felsic volcanoclastic rock

CK Colluvium dominated by calcareite; includes loose nodules and irregular fragments

Cm Colluvium derived from ferromagnesian rock

Cq Quartz-vein debris

Cl Lithic-rich colluvium

Cc Colluvium dominated by silcrete debris

Cst Colluvium dominated by ferruginous silcrete debris

Csu Colluvium derived from silica caprock above ultramafic rocks

**Sheetwash units**

IF Clay, silt, and sand in extensive fans, local ferruginous gravel

IF Clay, silt, and sand with abundant ferruginous grit

IFg Clay, silt, and sand; commonly derived from granitic rock

IFq Clay, silt, and sand with abundant quartz-vein grit

**Alluvial units**

A Clay, silt, sand, and gravel in channels and on floodplains

Au Clay, silt, and sand in braided swales on floodplains

A Clay, silt, and sand on floodplains

Aj Clay and silt in claypans

AK Calcrete and carbonate-cemented alluvium in fluvial channels

AD Moderately to strongly indurated sand, with locally abundant pebbles, and minor silt and clay; restricted to old valley systems

**Lacustrine units**

Ld Sand, silt, and gypsum in dunes adjacent to, and within playa lakes

La Mixed dune, evaporite, and alluvial deposits; typically adjacent to playa lakes

Lu Clay and silt in swamps

**Sandplain units**

S Residual and eolian sand with minor silt and clay; low, vegetated dunes locally common

Sj Sand and playa terrain; dunes dominant

Rf	Rfu	Rc	Rci	Rcp	Rcu	Rgn	Rgv	Rj	Rjp	Rd	Rk	Rw
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**Residual and relict units**

Rf Ferruginous duricrust, massive to rubby; includes iron-cemented reworked products

Rfu Ferruginous duricrust, massive to rubby; over dunite or metamorphic derivatives thereof

Rc Silcrete

Rci Ferruginous silcrete

Rcp Siliceous duricrust over granite

Rcu Silica caprock over ultramafic rock; local chalcodony and chrysoprase

Rgn Quartzfeldspathic sand and minor silcrete over granite; sparse granite outcrop; includes mottled and leached zones of weathering profile

Rgv Quartzfeldspathic sand derived from volcanoclastic rock; sparse volcanoclastic outcrop and siliceous duricrust

Rj Yellow sand with minor plastic luster, ferruginized silcrete, silt, and clay; common on low plateaus associated with weathered granitic rock

Rjp Koolinitized granite

Rd Undivided residual or relict material; mainly ferruginous and siliceous duricrust; minor calcareite and koolinitized rock

Rk Calcrete of residual origin; includes reworked carbonate products

Rw Deeply weathered rock; protolith undetermined

**PATERSON FORMATION: conglomerate (including domitite), sandstone and siltstone; largely glaciogenic**

**Ebd** Dolerite dyke, sill, and plug; fine- to medium-grained dolerite and gabbro; includes cumulate and granophyric differentiates

**zq** Quartz vein or pod; massive, crystalline, or brecciated

**zqk** Quartz-carbonate vein

**FIG WELL FORMATION**

Apw-scp Polymictic conglomerate, metamorphosed

Apw-sgp Polymictic conglomerate and sandstone, metamorphosed

Apw-sw Lithic wacke, metamorphosed

**AgmpY** Porphyritic monzogranite

**AgnpY** Porphyritic granitic rock, undivided; includes dykes and sills

**AgpY** Pegmatite

**MONUMENT GRANITE**

Amm-g Granitic rock, undivided; includes deeply weathered rock

Amm-ggah Equigranular hornblende granodiorite

Amm-gmb Monzogranite; biotite bearing; local hornblende; common K-feldspar megacrysts

Amm-gne Equigranular monzogranite, locally porphyritic

Amm-gng Megacrystic monzogranite

Amm-gmp Porphyritic monzogranite

**AmgncY** Chlorite-bearing metamonzogranite

**AmgnY** Granitic gneiss

**AgY** Granitic rock, undivided; includes deeply weathered rock

**AgmY** Monzogranite; biotite bearing; local hornblende; common K-feldspar megacrysts

**AgmaeY** Fine-grained equigranular monzogranite

**AgmpY** Fine-grained porphyritic monzogranite

**AgmeY** Equigranular monzogranite, locally porphyritic

**AgmY** Megacrystic monzogranite

**AgmY** Medium-grained monzogranite

AmscYMN	AmscmYMN	
AmscYMN	Chlorite schist	
AmscmYMN	Chlorite-muscovite schist	
AmlemYMN	AmpYMN	AccYMN
AmlemYMN	Pelite, muscovite bearing; foliated	
AmpYMN	Phyllite	
AccYMN	Chert and banded chert; metamorphosed	
AfYMN	AfcmYMN	AfdYMN
AfYMN	Felsic volcanic rock, metamorphosed; commonly deeply weathered	
AfcmYMN	Andesite; metamorphosed	
AfdYMN	Dacitic volcanoclastic sandstone; metamorphosed	
AmscYMN	Metamorphic chlorite phyllite	
AodYMN	AogYMN	AogYMN
AodYMN	Dolerite; minor basalt or gabbro components; metamorphosed	
AogYMN	Gabbro; metamorphosed	
AogYMN	Leucogabbro; locally magnetite rich; metamorphosed	
AbYMN	AbbYMN	AbbyYMN
AbYMN	Fine to very fine grained mafic rock; undivided; metamorphosed; commonly deeply weathered	
AbbYMN	Basalt; locally porphyritic; includes dolerite-textured zones and feldspar-hornblende or chlorite schist; metamorphosed	
AbbyYMN	Coarsely crystalline basalt; metamorphosed	
AuuYMN	Dunite; massive serpentinite with preserved olivine-cumulate microstructures; metamorphosed	

AmscYMI	AmscmYMI	AmskYMI		
AmscYMI	Chlorite schist			
AmscmYMI	Muscovite schist, possibly derived from sedimentary rock			
AmskYMI	Skarn; carbonized ultramafic rock			
AmlemYMI	AmpYMI	AsYMI	AshYMI	
AmlemYMI	Pelite, muscovite bearing; foliated			
AmpYMI	Phyllite			
AsYMI	Sedimentary rock, undivided; metamorphosed; commonly deeply weathered			
AshYMI	Shale; metamorphosed			
AsYMI	Interlayered siltstone and sandstone; metamorphosed			
AshYMI	Felsic epidiolite sandstone, bedded to massive; metamorphosed			
AccYMI	Chert and banded chert; locally jaspillic and/or brecciated; metamorphosed			
AfYMI	AfcmYMI	AfdYMI	AfYMI	
AfYMI	Felsic volcanic rock; metamorphosed; commonly deeply weathered			
AfcmYMI	Andesite; metamorphosed			
AfdYMI	Dacitic volcanoclastic sandstone; metamorphosed			
AfYMI	Rhyolite; metamorphosed			
AyYMI	AmscYMI	AmswYMI		
AyYMI	Lamprophyre			
AmscYMI	Metamorphic chlorite phyllite			
AmswYMI	Foliated metamorphic rock			
AmodYMI	AodYMI	AodpYMI	AogYMI	AogYMI
AmodYMI	Amphibolite; medium to coarse grained, derived from gabbro			
AodYMI	Dolerite; minor basalt or gabbro components; metamorphosed			
AodpYMI	Porphyritic dolerite, with feldspar phenocrysts; metamorphosed			
AogYMI	Gabbro; metamorphosed			
AogYMI	Leucogabbro; metamorphosed			
AogYMI	Porphyritic gabbro with plagioclase phenocrysts; metamorphosed			
AogYMI	Pyroxenitic gabbro with minor pyroxene; metamorphosed			
AoyYMI	Olivine-orthopyroxene gabbro; metamorphosed			
AooYMI	Olivine gabbro; metamorphosed			
AmscYMI	AbYMI	AbbYMI		
AmscYMI	Epidiolite metabasalt			
AbYMI	Fine to very fine grained mafic rock; undivided; metamorphosed; commonly deeply weathered			
AbbYMI	Basalt; locally porphyritic; includes dolerite-textured zones and feldspar-hornblende or chlorite schist; metamorphosed			
AmdYMI	Serpentine			

AmscYLA	AmaYLA	AmustYLA		
AmscYLA	Chlorite schist			
AmaYLA	Actinolite-tremolite-bearing schist			
AmustYLA	Talc-bearing schist			
AmlemYLA	AmpYLA	AshYLA	AshYLA	
AmlemYLA	Pelite, muscovite-bearing; foliated			
AmpYLA	Phyllite			
AshYLA	Shale; may include some chert or siltstone; metamorphosed			
AshYLA	Siltstone; metamorphosed			
AshYLA	Felsic epidiolite sandstone, bedded to massive; metamorphosed			
AccYLA	Chert and banded chert; locally jaspillic and/or brecciated; metamorphosed			
AccYLA	Mixed chert and iron formation; metamorphosed			
AmdYLA	AmfmYLA	AldYLA	AldYLA	AfYLA
AmdYLA	Meta-andesite			
AmfmYLA	Metarhyolite, muscovite bearing			
AldYLA	Andesite; metamorphosed			
AldYLA	Dacite; metamorphosed			
AfYLA	Rhyolite; metamorphosed			
AmwYLA	AmwoYLA	AmwyYLA	AmswYLA	AmswYLA
AmwYLA	Metamorphic igneous rock; generally deeply weathered			
AmwoYLA	Amphibolite			
AmwyYLA	Gneissose mafic igneous rock			
AmswYLA	Foliated, tremolite-actinolite bearing mafic igneous rock			
AmswYLA	Foliated metamorphic rock			
AmodYLA	AodYLA	AogYLA		
AmodYLA	Amphibolite; medium to coarse grained, derived from gabbro			
AodYLA	Dolerite; minor basalt or gabbro components; metamorphosed			
AogYLA	Gabbro; metamorphosed			
AmdbYLA	AbbYLA	AbbyYLA		
AmdbYLA	Metabasalt			
AbbYLA	Basalt; locally porphyritic; metamorphosed; includes dolerite-textured zones			
AbbyYLA	Pillow basalt; metamorphosed			
AmuYLA	AuuYLA			
AmuYLA	Serpentine, commonly massive; derived from ultramafic volcanic rock			
AuuYLA	Dunite; massive serpentinite with preserved olivine-cumulate microstructures; metamorphosed			

AMNm-mut	AMNm-bby	AMNm-bs	AMNm-fdv	AMNm-stf
AMNm-mut	Serpentinite			
AMNm-bby	Coarsely crystalline basalt with local pyroxene spinifex texture; metamorphosed			
AMNm-bs	Pyroxene spinifex-textured basalt; locally variolitic and/or pillowed; metamorphosed			
AMNm-fdv	Dacite with accretionary lapilli and pumiceous fragments; graded beds and scours; metamorphosed			
AMNm-stf	Felsic epidiolite sandstone, bedded to massive; metamorphosed			
AMNm-ukw	Olivine mesocumulates, komatiitic; metamorphosed			
AMNm-ukpn	Olivine orthocumulates, komatiitic; metamorphosed			
AMNm-ukw	Olivine adcumulate komatiitic; metamorphosed			
AMNm-ukxn	Pyroxenitic to gabbroic orthocumulates, komatiitic; metamorphosed			
AMNi-ba	AMNi-bba	AMNi-bbg	AMNi-bbp	AMNi-bbp
AMNi-ba	Basalt; metamorphosed			
AMNi-bba	Aphanitic basalt; metamorphosed			
AMNi-bbg	Amygdaloidal basalt; metamorphosed			
AMNi-bbo	Pillow basalt; metamorphosed			
AMNi-bbp	Porphyritic basalt; metamorphosed			
AMNi-bbq	Finely to coarsely crystalline basalt; metamorphosed			
AMNi-bbx	Basaltic fragmental rock, agglomerate or hyaloclastite breccia; metamorphosed			
AMNi-bby	Basalt with volcanoclastic texture; metamorphosed			
AMNi-bba	Pillow basaltic andesite; metamorphosed			
AMNi-bs	Pyroxene spinifex-textured basalt; metamorphosed			
AMNi-fd	Dacite; metamorphosed			
AMNi-fd	Dacitic siltstone; metamorphosed			
AMNi-stf	Felsic epidiolite sandstone; metamorphosed			
AMNi-cc	Chert and banded chert; locally jaspillic and/or brecciated; metamorphosed			
AMNw-bb	AMNw-cc	AMNw-cj	AMNw-f	AMNw-fa
AMNw-bb	Basalt; metamorphosed			
AMNw-cc	Chert and banded chert; locally jaspillic and/or brecciated; metamorphosed			
AMNw-cj	Jaspilite; metamorphosed			
AMNw-f	Felsic volcanic and volcanoclastic rocks; highly weathered; metamorphosed			
AMNw-fa	Massive andesite; metamorphosed			
AMNw-fax	Brecciated andesite; metamorphosed			
AMNw-fd	Rhyolite to dacitic siltstone; metamorphosed			
AMNw-fd	Dacite; commonly tuffaceous; metamorphosed			
AMNw-fr	Rhyolite lava flows, quartz phytic, locally tuffaceous; metamorphosed			
AMNw-scf	Conglomerate, dominantly andesitic clasts; metamorphosed			
AMNw-sgf	Conglomerate, sandstone, and tuff with dominantly andesitic clasts; epidiolite; metamorphosed			
AMNw-sh	Shale; metamorphosed			
AMNw-stf	Felsic volcanoclastic sandstone, bedded to massive; metamorphosed			

**MURRIN MURRIN FORMATION**

AMNm-mut Serpentinite

AMNm-bby Coarsely crystalline basalt with local pyroxene spinifex texture; metamorphosed

AMNm-bs Pyroxene spinifex-textured basalt; locally variolitic and/or pillowed; metamorphosed

AMNm-fdv Dacite with accretionary lapilli and pumiceous fragments; graded beds and scours; metamorphosed

AMNm-stf Felsic epidiolite sandstone, bedded to massive; metamorphosed

AMNm-ukw Olivine mesocumulates, komatiitic; metamorphosed

AMNm-ukpn Olivine orthocumulates, komatiitic; metamorphosed

AMNm-ukw Olivine adcumulate komatiitic; metamorphosed

AMNm-ukxn Pyroxenitic to gabbroic orthocumulates, komatiitic; metamorphosed

**MINERIE FORMATION**

AMNi-bb Basalt; metamorphosed

AMNi-bba Aphanitic basalt; metamorphosed

AMNi-bbg Amygdaloidal basalt; metamorphosed

AMNi-bbo Pillow basalt; metamorphosed

AMNi-bbp Porphyritic basalt; metamorphosed

AMNi-bbq Finely to coarsely crystalline basalt; metamorphosed

AMNi-bbx Basaltic fragmental rock, agglomerate or hyaloclastite breccia; metamorphosed

AMNi-bby Basalt with volcanoclastic texture; metamorphosed

AMNi-bba Pillow basaltic andesite; metamorphosed

AMNi-bs Pyroxene spinifex-textured basalt; metamorphosed

AMNi-fd Dacite; metamorphosed

AMNi-fd Dacitic siltstone; metamorphosed

AMNi-stf Felsic epidiolite sandstone; metamorphosed

AMNi-cc Chert and banded chert; locally jaspillic and/or brecciated; metamorphosed

**WELCOME WELL FORMATION**

AMNw-bb Basalt; metamorphosed

AMNw-cc Chert and banded chert; locally jaspillic and/or brecciated; metamorphosed

AMNw-cj Jaspilite; metamorphosed

AMNw-f Felsic volcanic and volcanoclastic rocks; highly weathered; metamorphosed

AMNw-fa Massive andesite; metamorphosed

AMNw-fax Brecciated andesite; metamorphosed

AMNw-fd Rhyolite to dacitic siltstone; metamorphosed

AMNw-fd Dacite; commonly tuffaceous; metamorphosed

AMNw-fr Rhyolite lava flows, quartz phytic, locally tuffaceous; metamorphosed

AMNw-scf Conglomerate, dominantly andesitic clasts; metamorphosed

AMNw-sgf Conglomerate, sandstone, and tuff with dominantly andesitic clasts; epidiolite; metamorphosed

AMNw-sh Shale; metamorphosed

AMNw-stf Felsic volcanoclastic sandstone, bedded to massive; metamorphosed