



FINAL RELINQUISHMENT REPORT FOR EL5751 (PARACHILNA)
FLINDERS RANGES

Final Surrender Report

for

EL5751 “Parachilna”

Flinders Ranges Project, South Australia

DETAILS OF LICENSES

Licence No's:	EL5751 (formerly EL4538, EL3276, EL2661)
Location:	Flinders Ranges
Licence Holder:	Perilya Limited (100%)
Operator/Manager:	Perilya Limited
Reporting Period:	14 October 1999 – 18 August 2017

Author: Dean Rogers
Date: 08 October 2017

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Appendices

EL5751 2017 Final Relinquishment_Report_01.pdf
 EL5751 2017 Final Relinquishment_XRFsoils_02.txt
 EL5751 2017 Final Relinquishment_RockChip_03.txt
 EL5751 2017 Final Relinquishment_FileList_04.txt

1. INTRODUCTION

This report is the final technical report the remaining portions of EL5751 recently surrendered as partial fulfilment of the terms of the 2015-2016 Flinders Amalgamated Expenditure Agreement renewal period. The partial surrender was actioned by not seeking renewal of the tenement upon its renewal date of 18 August 2017. The report also covers a small portion of the tenement surrendered in early 2017 through Form 14 documentation. The licence area is located approximately 400km north of Adelaide near the town of Leigh Creek in the North Flinders Ranges, South Australia (Fig. 1). The tenement is part of a much larger tenement package currently being explored by Perilya primarily for zinc silicate mineralization similar to the Beltana Deposit although the area is also prospective for lead-zinc sulphide and copper mineralization.

2. TENURE

The area of current tenement EL5751 was originally covered by EL2661, granted on 14 October 1999. This tenement was replaced by EL3276 on 02 November 2004 followed by EL4538 on 19 August 2010 and finally by EL5751 on 11 April 2016. The tenement was 100% owned and operated by Perilya Limited at the time of surrender. The EL 5751 licence area at the time of surrender (18 August 2017) covered an area of approximately 11.8km² in two small blocks and is located just north of the Flinders Ranges National Park.

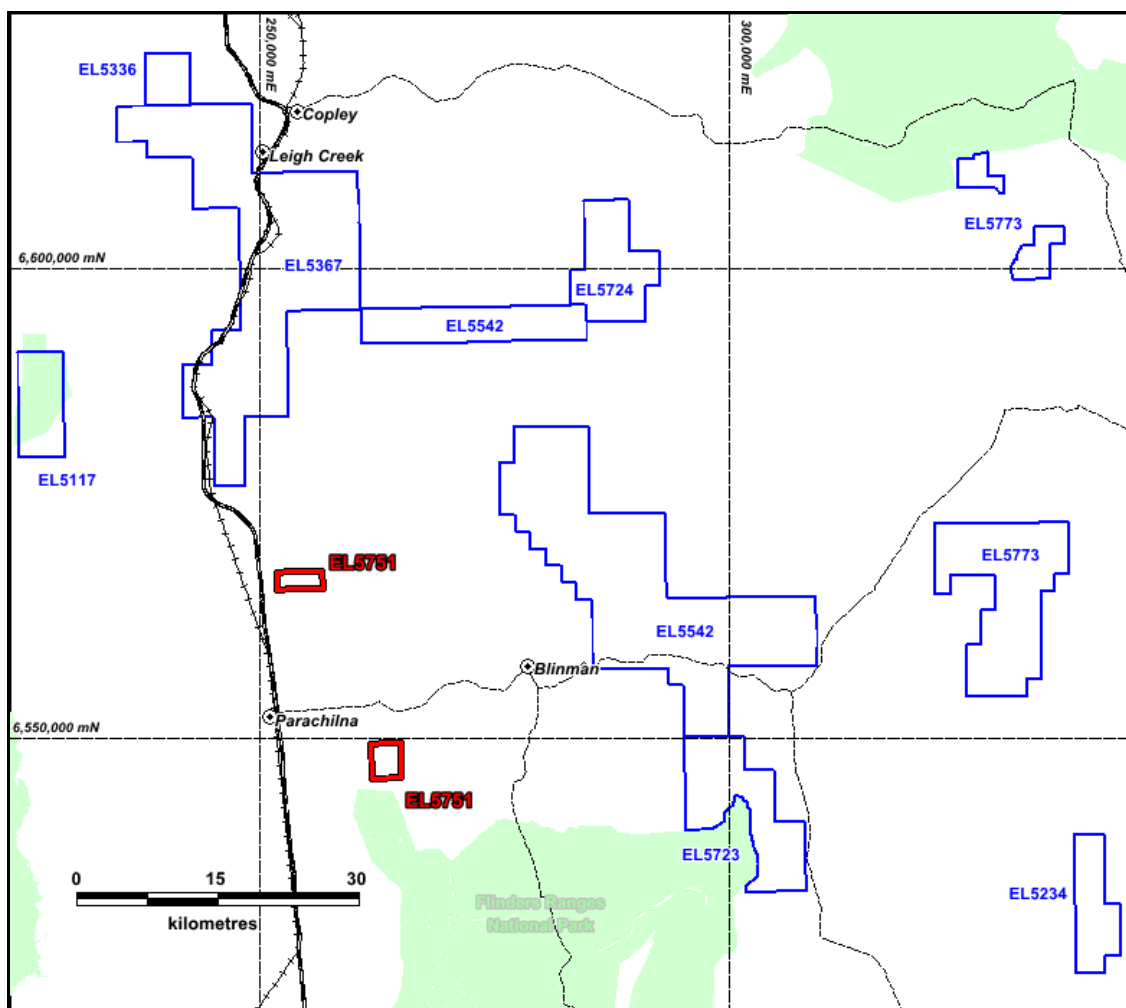


Fig. 1: Perilya Flinders Tenement Package & EL5751 Location (MGA94)

3. GEOLOGY AND MINERALISATION

The tenement package is located within the Arrowie Basin, Flinders Ranges. The Arrowie Basin consists of an Early to Middle Cambrian succession overlying Neoproterozoic rocks of the northern Adelaide Geosyncline. The sequence of the Adelaide Geosyncline is exposed in the Adelaide Fold Thrust Belt, is bound to the west by the Torrens Hinge Zone, and extending north-south for 600 km to the Fleurieu Peninsula south of Adelaide.

The Arrowie Basin margins are defined by regional northwest and northeast basement structures. These structures were present at the onset of Neoproterozoic sedimentation and controlled the sedimentation thickness distribution within the basin. During the Delamerian Orogeny (~500 ma) these northwest and northeast structures were reactivated as thrust faults during regional north-south shortening. The shortening caused zones of extension along existing north-south structures close to the basin margin providing a locus for mineralisation.

Significant zinc mineralisation exists within the carbonate sequences of the Early Cambrian Hawker Group, most notably the fossil-rich Wilkawillina Limestone. Mineralisation is most pronounced on the margins of the basin where the stratigraphy thins near major regional structures (i.e. the Norwest Fault). The Beltana-Aroona trend is located in such a setting and is characterised by complexly deformed carbonate sequences hosting zinc silicate mineralisation.

The majority of EL5751 is underlain by Cambrian carbonate rocks, flanked by Proterozoic aged clastics to the east. Western portions of the areas are blanketed by Quaternary alluvial and colluvial sediments. The general area is host to several minor Cu +/- barite vein occurrences although no significant prospects occur within the surrendered areas.

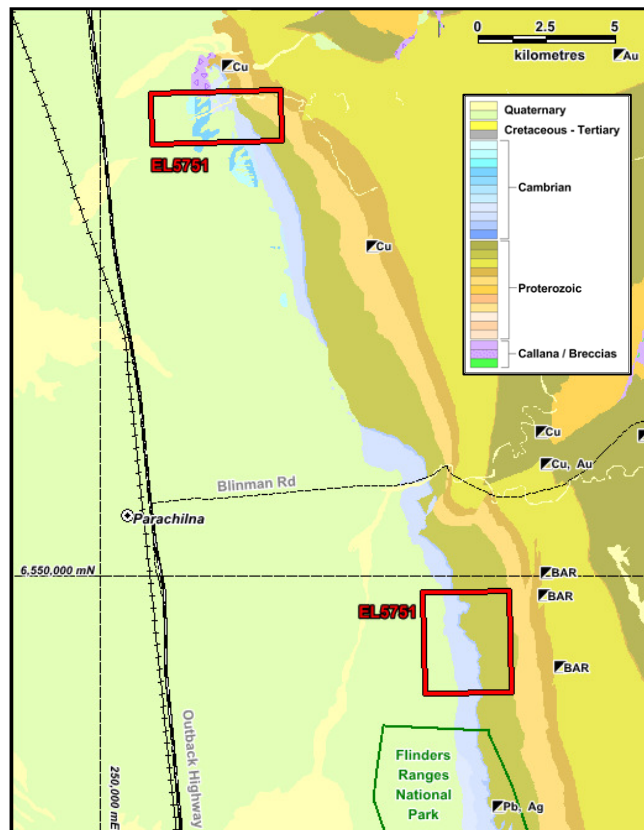


Fig. 2: EL5751 Geology and Mineral Occurrences

4. WORK COMPLETED

Field work completed by Perilya on the remaining portions of EL5751 consisted of pXRF soil surveying and rock chip sampling completed over several periods between 2014 and 2017. The work saw a total of 614 pXRF soil readings taken and 13 rock chip samples collected and analysed for major and trace element content. Targets evaluated were primarily developed based on Aster multispectral data over the Flinders region purchased by Perilya in 2011 (Figs. 3 & 4). Aster quartz ratio index images were used to determine the extent of carbonate stratigraphy in the area while Fe-ratio images were used to identify potential hematite alteration. Although Fe-ratio data from both the PAR-1 and PAR-5 targets was ambiguous, both targets did display potential structural offsets for accumulation of zinc silicate mineralization. Furthermore, the PAR-1 target was also associated with an interpreted body of Callana breccia.

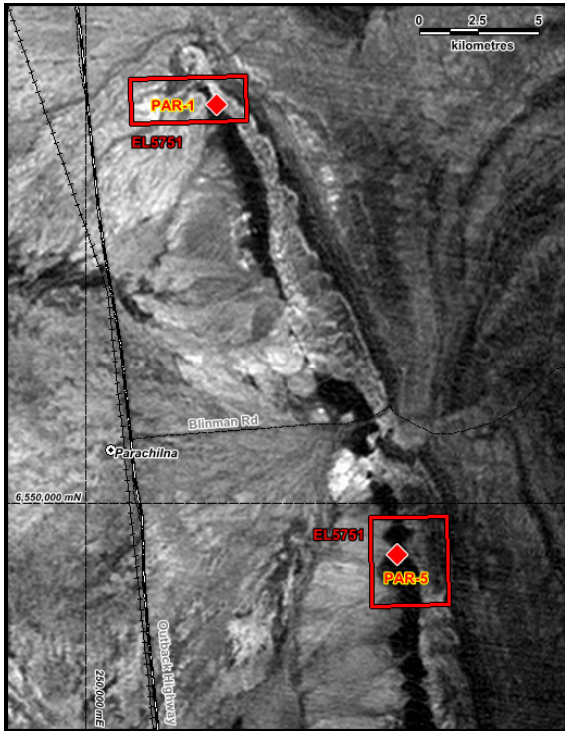


Fig. 3: EL5751 Targets w/ Aster Quartz Index

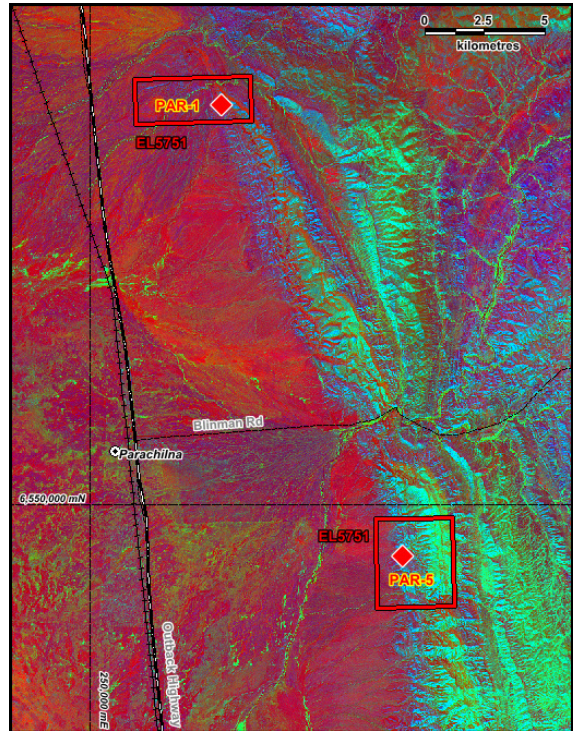


Fig. 4: EL5751 Targets w/ Aster Iron Ratios

Results of the pXRF soil surveying and rock chip sampling over both the PAR-1 and PAR-5 targets are illustrated in Figs. 4 & 5 below with a summary of results following. Geological legends for both Figs 5 & 6 are as in Fig. 2 above. Digital data for the XRF and rock chip samples collected is provided as appendices to this report.

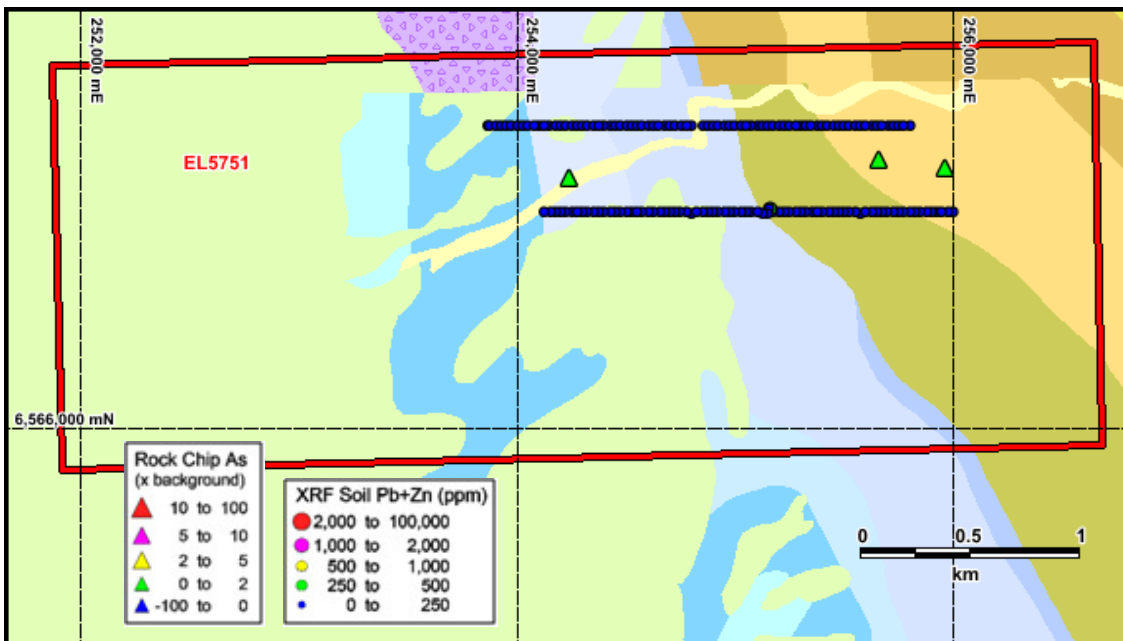


Fig. 5: EL5751 PAR-1 Target Area w/ pXRF soils (Pb+Zn) and Rock Chip Sampling (As)

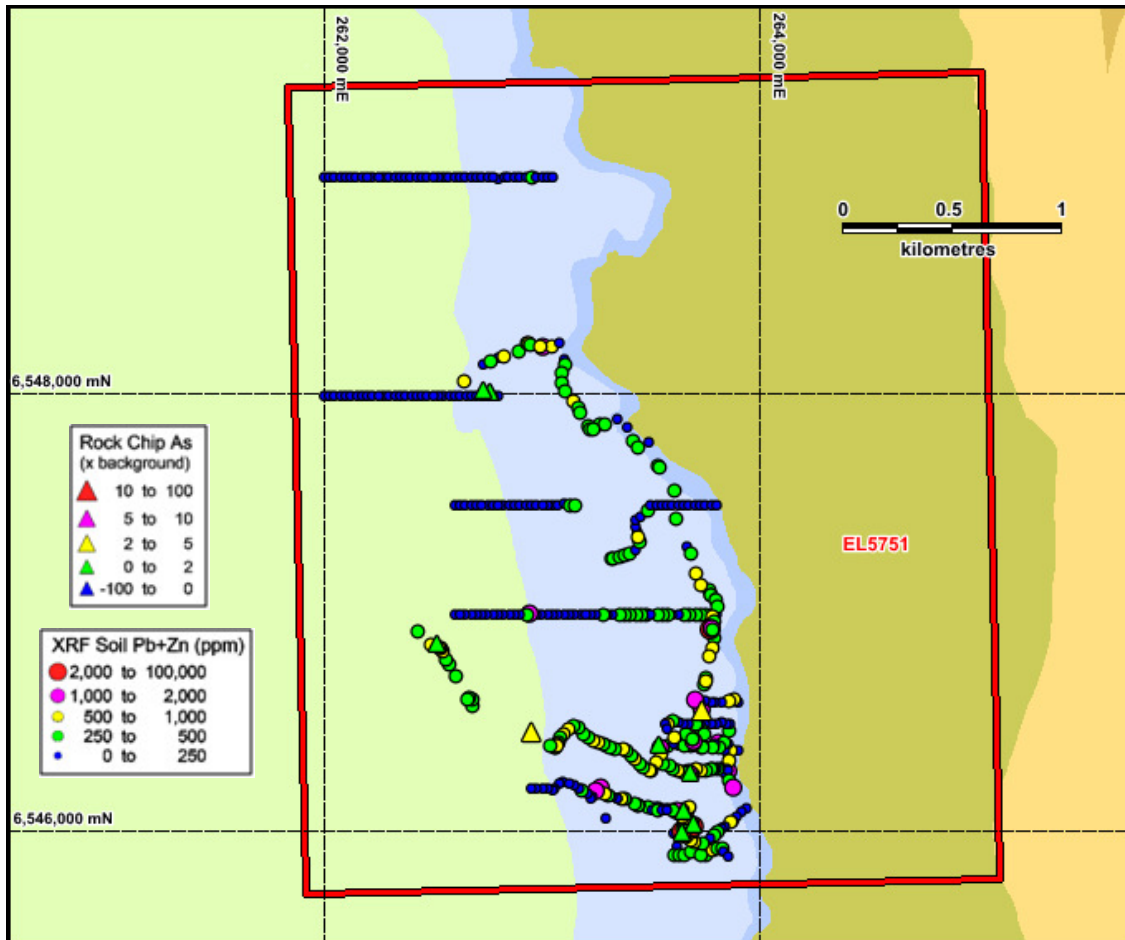


Fig. 6: EL5751 PAR-5 Target Area w/ pXRF soils (Pb+Zn) and Rock Chip Sampling (As)

PAR-1 Target Area (Fig. 5)

Four 400m spaced lines of reconnaissance XRF were completed over the PAR-1 target, only two of which however were looked on the EL5751 tenement. A total of 156 readings were collected on EL5751 however maximum base metal results returned were only 294ppm Zn, 39ppm Pb and 211ppm Cu. Similarly, no significant pathfinder element anomalism was apparent from analysis of rock chip samples taken from the area. Base metal values from the samples were also low, returning less than 100ppm Zn & Pb. No further work is recommended on the target.

PAR-5 Target Area (Fig. 6)

Extreme topography in the area of the PAR-5 target in the southern portion of EL5751 prevented systematic coverage over the target. Although reconnaissance lines were completed over the western portion of the mapped Cambrian stratigraphy, surveying over the Proterozoic contact on the eastern margin was limited to surveying along the base of the Flinders Ranges and along creek beds and ravines. A total of 458 pXRF readings were taken and although numerous moderately anomalous zinc results were returned (up to 1,139ppm Zn, 1,378ppm Pb), these points were isolated and scattered throughout the target area and no zone of consistent anomalism could be defined. Rock chip sampling was concentrated in the areas of these sporadic XRF results however no anomalous pathfinder or significant base-metal results were returned from any of the 10 samples collected.

5. CONCLUSIONS AND RECOMMENDATIONS

Reconnaissance XRF surveying and rock chip sampling on the Aster targets on the remaining portions of EL5751 failed to identify any significant anomalism suggestive of a significant zinc silicate or other base metal deposit. Weak to moderate anomalism identified was of limited extent and not considered to be sourced by bedrock mineralization. No significant targets for follow-up remain on tenement.

Only low-impact XRF and rock chip sampling were completed on the portions of EL5751 and therefore no environmental liabilities are known to exist as a result of Perilya's operations. It is therefore recommended that the remaining portions of the tenement be relinquished.

Virtual Field:	LITH_1
LookUp	Description
BEH	Exogenous-Phreatic- Hydrothermal eruption breccia
BG	Garnet-Biotite-Rock
BHE	Exogenous Magmatic-Phreatic- Hydrothermal eruption breccia
BHM	Endogenous Magmatic-Phreatic- Hydrothermal vent breccia
BMH	Carapace Breccia- Magmatic- Hydrothermal
BMI	Intrusion breccia- Magmatic-Intrusive
BMT	Intrusion breccia- Magmatic-Tectonic
BNE	Endogenous Volcanic - Eruptive volcanic Breccia : tuff, ignimbrite
BNH	Endogenous-Phreatic- Hydrothermal vent breccia
BNV	Endogenous Volcanic - Vent Breccia
BPH	Endogenous Phreatomagmatic- Diatreme Breccia
BPN	Endogenous Phreatomagmatic- Eruptive volcanic breccia
BVV	Exogenous Volcanic- Vent Breccia
BX	Tectonic Breccia
BXM	Mylonite
BPX	Fault Clays
CAV	Cavity
CAX	Cataclasite
CC	Massive Coronadite
CLS	Core Loss, No Recovery
CLY	Undifferentiated clay
CONTAM	Contamination
COR	Massive Coronadite
CPE	Composite Pelite
CPM	Composite Psammopelite
CPS	Composite Psammite
CRETE	Shortcrete cored
D	Mafic intrusive (undifferentiated)
DOL	Dolerite
F	Felsic volcanics (undifferentiated)
FAT	Trachite
FDC	Dacite
FILL	Fill - Sand, Mullock, Tailings
FOAM	Foam
FRY	Rhyolite
FTC	Tuff - Crystal Quartz Rich
FTO	Tuff - Lapilli / Agglomerate (Quartzose)
GAD	Adamellite
GAP	Aplite
GDI	Diorite
GG	Granite Gneiss
GGB	Gabbro
GMZ	Monzonite
GNA	Anorthosite
GO	F.G. Silica-Sericite Rock
GOS	Gossan
GPG	Pegmatite
GPO	Porphyry
GQ	Garnet Quartzite
GQM	Quartz monzonite
GRD	Granodiorite
GRN	Granite
GSY	Syenite
GT	Granitoid (Undifferentiated)
GTN	Tonalite

Virtual Field:	LITH_1
LookUp	Description
H	Prefix For Any Metamorphic Rocktype
HAM	Amphibolite
HCS	Calc silicate
HGN	Gneiss
HHF	Hornfels
HME	Massive Hematite
HMG	Migmatite
HML	Marble
HMS	Massive specularite/hematite
HPE	Pelite
HPH	Phyllite
HPL	Plagioclastic Rock
HPM	Psammopelite
HPS	Psammite
HS	Undifferentiated metasediment
HSC	Schist
HSK	Skarn
HSL	Slate
I	Intermediate volcanics (undifferentiated)
IA	Andesite
IT	Tuff intermediate (feldspathic)
ITC	Tuff intermediate crystal (feldspathic)
ITO	Tuff - Lapilli To Agglomerate (no quartz)
JAS	Jasperoid
KCB	Karst collapse breccia
KCL	Karstic clay
KM	Karstic mud
KPS	Karstic pebbly sand
KPSM	Karstic pebbly sand/mud
KS	Karstic sand
KSM	Karstic sandy mud
KZC	Karstic silty clay
L	Lode, Blue Quartz Lode
M	Mafic Volcanics
MBS	basalt (tholeiitic)
MIN	Mineralization
MKO	Komatiite
MMB	High Mag Basalt
MN	Massive managanese
MS	Massive Sulphide
MTC	Tuff - Mafic Composition
NAVI	Navi Drilling Loss core
NC	No Core - reason unspecified
NDE	Not Data Entered
NOCORE	Not Cored- Precollar: PCD, RC
NOLOG	Not Logged
PA	Potobolite
PE	Spotted Pelite
PG	Potosi Gneiss
PGR	Resembles Potosi Gneiss
PM	Spotted Psammopelite
PS	Spotted Psammite
PY	Massive pyrite
QM	Quartz-Magnetite
QT	Quartz

Virtual Field:	LITH_1
LookUp	Description
R	Regolith (Undifferentiated)
RCZ	Clay Zone
RGY	Gypsum
RIC	Clay Indurated (Silica/Carbonate or Iron Oxide)
RLC	Calcrete
RLE	Laterite Earth (Humid Climates)
RLN	Nodular Duricrust (In-Situ)
RLP	Pisolithic Duricrust (In-Situ)
RLS	Lower Saprolite
RMC	Mottled Clay (Duricrust)
RNC	Transported Clay
RNG	Transported Gravel
RNL	Transported Lateritic Duricrust
RNS	Transported Sand
RRF	Ironstone
RRO	Residual Soil
RSI	Silcrete
RSR	Saprock
RTL	Lacustrine (Lake)
RUS	Upper Saprolite
S	Sediments (Undifferentiated)
SBX	Sedimentary Breccia
SCG	Conglomerate
SCH	Chert
SCY	Clay
SD	Dolomite
SF	Iron Stone
SG	Greywacke
SGT	Grit
SH	Shale
SHG	Shale - graphitic
SHR	Shear - Undifferentiated
SIF	Banded Iron Formation
SLB	Boundstone
SLC	Grey Shale
SLG	Grainstone
SLM	Calcareous Mudstone
SLP	Packstone
SLT	Limestone
SLUDGE	Sludge
SLW	Wackstone
SM	Mudstone
SMIT	Massive Smithsonite
SQ	Quartzite
SS	Sandstone
SSD	Sandy Dolomite
SSN	Garnet Sandstone
SSZ	Sandy Siltstone
SZ	Siltstone
SZC	Grey Siltstone
SZD	Dolomitic Siltstone
U	Ultramafics (Undifferentiated)
UD	Dunite/Peridotite
UP	Pyroxenite
US	Serpentinite

Virtual Field:	LITH_1
LookUp	Description
VOID	Old Void, Stope
WIL	Massive Willemite

Virtual Field:	STRATIGRAPHY
LookUp	Description
Efb	Balcoracana Formation
Efg	Grindstone Range Sandstone
Efgd	Dawson Hill Member
Efm	Moodlatana Formation
Efp	Pantapinna Sandstone
Eh	Unknown Cambrian Carbonate
Eh?	Unknown Cambrian Carbonate
Ehb	Bunkers Sandstone
Ehd	Midwerta Shale
Ehi	Wirrapowie Limestone
Ehm	Moorowie Formation
Ehn	Narina Greywacke
Eho	Oraparinna Shale
Ehp	Parachilna Formation
Ehp1	Parachilna Chert
Ehq	Woodendinna Dolomite
Ehqt	Woodendinna Dolomite Transition
Ehr	Mernmerna Formation
Eht	Bendieut A Formation
Ehw	Wilkawillina Limestone Undifferentiated
Ehw1	Wilkawillina Limestone Lower
Ehwu	Wilkawillina Limestone Upper
Eob	Billy Creek Formation
Eobc	Coads Hill Member
Eobd	Edeowie Limestone
Eobe	Eregunda Sandstone
Eobn	Nildottie Siltstone
Eobw	Warragee Siltstone
Eow	Wirrealpa Limestone/Aroona Creek
Eu	Uratanna Formation
FUC	Flinders Unconformity
Nbc	Copley Quartzite
Nbr3	Callana Diapiric Breccia
Nbs1	Callana Unnamed Volcanics
Ndl1	Callana Basic Intrusive
Nk1	Callana Siltstone
Nk2	Callana Dolomite
Nk3	Callana Shale
Nk4	Callana Sandstone
Nkgr1	Callana Undifferentiated Granitoids
Nkw	Callana
Nms1	Callana Undifferentiated Metasediments
Npb	Bonney Sandstone
Npbc	Puttapa Conglomerate
Npbp	Patsy Hill Member
Npr	Rawnsley Quartzite (white quartzite)
Nprc	Chace Quartzite
Npre	Ediacara Member
Nsa	Abc Range Quartzite

Virtual Field:	STRATIGRAPHY
LookUp	Description
Nsb	Brachina Formation
Nsbb	Bayley Range Siltstone
Nsbl	Moolooloo Siltstone
Nsbr	Moorillah Siltstone
Nsn	Nuccaleena Formation
Nwb	Bunyeroo Formation
Nwb1	Bunyeroo Dolomite
Nwbc	Wilcolo Sandstone
Nww	Wonoka Formation
Nww2	Wonoka Formation
Nww3	Wonoka Formation
Nww4	Wonoka Formation
Qa	Quaternary Alluvium
Qc	Quaternary
Ter	Tertiary
Tr	Traissic/Jurassic Karst/SS

Virtual Field:	COLOUR1
LookUp	Description
bf	Buff
bg	Burgandy
bk	Black
bl	Blue
br	Brown
cl	Clear
cm	Cream
ff	
gn	Green
gy	Grey
kk	Khaki
ls	Lusterous
md	
mr	Maroon
mt	Metalic
mv	Mauve
nw	
or	Orange
pc	Polychrome
pk	Pink
pu	Purple
rb	Red Brown
rd	Red
ta	Tan
wh	White
ye	Yellow

Virtual Field:	COLOUR1_INTENSITY
LookUp	Description
D	dark
L	light
M	moderate

Virtual Field: LookUp	ROCK_TEXTURE Description
#	Skeletal Hash
@	Archaeocyathid
agg	Agglomeratic
amg	Amygdaloidal
ang	Angular
aph	Aphanitic
bal	Algal Matted
ban	Banded
bec	Coarse Bedded >10cm to 1 M
bed	Bedded, Undifferentiated, Generally >10mm
beg	Graded Bedded
bei	Intermediate Bedding 10-100mm
bet	Thin Bedding 2-10mm
bex	Cross Bedded
bib	Interbedded
bio	Bioclastic
bla	Layered
ble	Lenticular
bln	Lineated
bot	Botryoidal
box	Boxworks
bpp	Parallel Planar
bps	Linear Pinch And Swell, Wavy
bra	Brachiopods
bsm	Biostromal- Limestone
btf	Trough-Flaser Bedding
bwd	Wavy Discontinuous
bxp	Non Parrallel Planar
cgl	Conglomeratic
cgr	Coarse Grained: >2mm
clb	Colloform Banding
clc	Clastic
cly	Clayey
crl	Coralline
csu	Clast Supported
cve	Cavernous
dis	Disrupted, chaotic
dst	Dropstone
eva	Evaporitic
fgr	Fine Grained: <1mm
fib	Fibrous
fis	Fissile
fla	Flaggy
fos	Fossiliferous
frg	Fragmental
gbc	Granoblastic
gls	Glassy
hyo	Hyalolithids
ind	Indurated/Cemented
karst	Karstified
lam	Laminated <2mm
lcf	Load Cast And Flame
lee	Leached
lus	Lustrous
lyc	Lithic

Virtual Field:	ROCK_TEXTURE
LookUp	Description
mas	Massive
mgr	Medium Grained:1-2mm
mic	Micritic
mon	Monomict
mot	Mottled
msu	Matrix Supported
nod	Nodular
ool	Oolitic
peg	Pegmatitic
pel	Peloidal
pha	Phaneritic
pil	Pillowed
pob	Porphyroblastic
pol	Polymict
por	Porphyritic
pos	Pouros
pty	Ptygmatic
pug	Puggy
pyc	Pyroclastic
rec	Recrystallised
ref	Reefal- limestone
rip	Rippled
rnd	Rounded
san	Sandy
slm	Slump Structure
sly	Slaty
sor	Sorted
spi	Spicules
spo	Spotted
sra	Stratiform/Stratabound
str	Stromatolitic
sty	Stylolitic
sxc	Sedimentary Breccia - Clast Supported
sxm	Sedimentary Breccia - Matrix Supported
trf	Bioturbation, Trace Fossil
tur	Turbiditic
ucs	Unconsolidated
uns	Unsorted
var	Variolitic
vug	Vuggy

Virtual Field:	WEATHERING
LookUp	Description
0	Fresh
0.5	
1	Weak
1.5	
2	Moderate
2.5	
3	Strong (minor primary minerals)
3.5	
4	Intense
4.5	
5	Complete

Virtual Field:	MIN1
LookUp	Description
ab	Albite
ac	Actinolite
ad	Andalusite
Ag	Silver
ah	Anhydrite
am	Amphibole
an	Ankerite
ap	Apatite
ar	Argillic
as	Arsenopyrite
Au	Gold
az	Azurite
ba	Barite
bi	Biotite
bn	Bornite
bu	Bustamite
ca	Calcite
cb	Carbonate
cc	Chalcocite
ch	Chlorite
ci	Cordierite
cl	Clay
cm	Cummingtonite
co	Coronadite
cp	Chalcopyrite
cs	Calc-Silicate
ct	Cuprite
Cu	Copper
cv	Covellite
cz	Clinozoisite
dd	Feldspar (Grey)
di	Diopside
do	Dolomite
ep	Epidote
fe	Fe-Ox, Iron Weathering (Oxides)
fl	Fluorite
fs	Feldspar
fu	Fuchsite
gc	glauconite
gl	Galena
gn	Garnet
go	Goethite
gr	Graphite
gt	Gahnite
gy	Gypsum
hdy	Hedyphane
he	Hedenbergite
hm	Haematite
hz	Hydrozincite
il	Illite
im	Ilmenite
ja	Jarosite
jc	Jacobsite

Virtual Field:	MIN1
LookUp	Description
ka	Kaolin
kr	Knebelite/Ropeite
li	Limonite
ln	Linnaeite
lx	Leucoxene
mh	Maghemite
mi	Mica(Group), Undiff
ml	Malachite
mm	Mimetite
mn	Manganese
mo	Molybdenite
ms	Magnesite
mt	Magnetite
mu	Muscovite
nd	Amazonite, Feldspar (Green)
nn	Nontronite
oc	Ochre
ol	Olivine
Pb	Lead, Mineral Unspecified
ph	Phosphate
pl	Plagioclase
po	Pyrrhotite
pr	Propylitic
px	Pyroxene
py	Pyrite
qt	Quartz
rd	Rhodonite
sa	Saussuritisation
sc	Smectite
se	Sericite, Sericitisation
sh	Sphene
si	Silica
smi	Smithsonite
sp	Sphalerite
sr	Serpentine
st	Sturtite
su	Sulphide, Undifferentiated
sx	Sillimanite
sy	Staurolite
szo	Scholzite
tc	Talc
to	Tourmaline
tr	Tremolite
tt	Tetrahedrite
vw	Vesuvianite
wi	Willemite
wl	Wollastonite
ze	Zeolite
Zn	Zinc. Mineral Unspecified

Virtual Field:	MIN_TEXTURE
LookUp	Description
amo	amorphous
aug	Augen
ban	Banded, layered
blb	Blebbly
bld	Bladed
boy	Botryoidal (bunch of grapes)
clt	Clots
col	colloform
dss	Disseminated
egg	Equigranular
fib	Fibrous
frg	Fragments, pebble breccia
ibd	In bedding
ibx	In Breccia
ifr	In fractures, joint planes
mit	Interstitial, Matrix Infill
msu	Massive sulphide
pob	Porphyroblast
pod	Pods, elongate, lenticular form
rap	Ragged Porphyroblasts
rec	Recrystallised
rim	Rims
shr	Shear zone hosted
spc	Specular
sra	Stratiform, Stratabound, laminated
stg	Stringer
vin	Vein Infill
vnw	Network Vein
vsg	Vein selvage
vug	Vuggy
vui	Vug infill
wis	Wisps

Virtual Field:	ALTERATION_TYPE
LookUp	Description
ab	Albite
ac	Actinolite
ad	Andalusite
Ag	Silver
ah	Anhydrite
am	Amphibole
an	Ankerite
ap	Apatite
ar	Argillic
as	Arsenopyrite
Au	Gold
az	Azurite
ba	Barite
bi	Biotite
bn	Bornite
bu	Bustamite
ca	Calcite
cb	Carbonate
cc	Chalcocite

Virtual Field: LookUp	ALTERATION_TYPE Description
ch	Chlorite
ci	Cordierite
cl	Clay
cm	Cummingtonite
co	Coronadite
cp	Chalcopyrite
cs	Calc-Silicate
ct	Cuprite
Cu	Copper
cv	Covellite
cz	Clinozoisite
dd	Feldspar (Grey)
di	Diopside
do	Dolomite
ep	Epidote
fe	Fe-Ox, Iron Weathering (Oxides)
fl	Fluorite
fs	Feldspar
fu	Fuchsite
gc	glauconite
gl	Galena
gn	Garnet
go	Goethite
gr	Graphite
gt	Gahnite
gy	Gypsum
hdy	Hedyphane
he	Hedenbergite
hm	Haematite
hz	Hydrozincite
il	Illite
im	Ilmenite
ja	Jarosite
jc	Jacobsite
ka	Kaolin
kr	Knebelite/Ropeite
li	Limonite
ln	Linnaeite
lx	Leucoxene
mh	Maghemite
mi	Mica(Group), Undiff
ml	Malachite
mm	Mimetite
mn	Manganese
mo	Molybdenite
ms	Magnesite
mt	Magnetite
mu	Muscovite
nd	Amazonite, Feldspar (Green)
nn	Nontronite
oc	Ochre
ol	Olivine
Pb	Lead, Mineral Unspecified
ph	Phosphate
pl	Plagioclase

Virtual Field:	ALTERATION_TYPE
LookUp	Description
po	Pyrrhotite
pr	Propylitic
px	Pyroxene
py	Pyrite
qt	Quartz
rd	Rhodonite
sa	Saussuritisation
sc	Smectite
se	Sericite, Sericitisation
sh	Sphene
si	Silica
smi	Smithsonite
sp	Sphalerite
sr	Serpentine
st	Sturtite
su	Sulphide, Undifferentiated
sx	Sillimanite
sy	Staurolite
szo	Scholzite
tc	Talc
to	Tourmaline
tr	Tremolite
tt	Tetrahedrite
vw	Vesuvianite
wi	Willemite
wl	Wollastonite
ze	Zeolite
Zn	Zinc. Mineral Unspecified

Virtual Field:	ALTERATION_INTENSITY
LookUp	Description
1	Unaltered
2	Weak
3	Moderate
4	Strong
5	Intense

Virtual Field:	ALT1_STYLE
LookUp	Description
ble	Bleached
ddh	Decreasing downhole
frc	Fracture controlled
idh	Increasing downhole
lam	Laminated
loc	Localised to unspecified feature
ltm	Localised to Matrix
mas	Massive
mot	Mottled
ojp	On Joint Planes
pev	Pervasive
spo	Spots/spotted
stc	Structure controlled
stf	Stratiform
var	Variable

Virtual Field:	VEIN_MINERAL
LookUp	Description
ab	Albite
ac	Actinolite
ad	Andalusite
Ag	Silver
ah	Anhydrite
am	Amphibole
an	Ankerite
ap	Apatite
ar	Argillic
as	Arsenopyrite
Au	Gold
az	Azurite
ba	Barite
bi	Biotite
bn	Bornite
bu	Bustamite
ca	Calcite
cb	Carbonate
cc	Chalcocite
ch	Chlorite
ci	Cordierite
cl	Clay
cm	Cummingtonite
co	Coronadite
cp	Chalcopyrite
cs	Calc-Silicate
ct	Cuprite
Cu	Copper
cv	Covellite
cz	Clinozoisite
dd	Feldspar (Grey)
di	Diopside
do	Dolomite
ep	Epidote
fe	Fe-Ox, Iron Weathering (Oxides)
fl	Fluorite
fs	Feldspar
fu	Fuchsite
gc	glauconite
gl	Galena
gn	Garnet
go	Goethite
gr	Graphite
gt	Gahnite
gy	Gypsum
hdy	Hedyphane
he	Hedenbergite
hm	Haematite
hz	Hydrozincite
il	Illite
im	Ilmenite
ja	Jarosite
jc	Jacobsite

Virtual Field:	VEIN_MINERAL
LookUp	Description
ka	Kaolin
kr	Knebelite/Ropeite
li	Limonite
ln	Linnaeite
lx	Leucoxene
mh	Maghemite
mi	Mica(Group), Undiff
ml	Malachite
mm	Mimetite
mn	Manganese
mo	Molybdenite
ms	Magnesite
mt	Magnetite
mu	Muscovite
nd	Amazonite, Feldspar (Green)
nn	Nontronite
oc	Ochre
ol	Olivine
Pb	Lead, Mineral Unspecified
ph	Phosphate
pl	Plagioclase
po	Pyrrhotite
pr	Propylitic
px	Pyroxene
py	Pyrite
qt	Quartz
rd	Rhodonite
sa	Saussuritisation
sc	Smectite
se	Sericite, Sericitisation
sh	Sphene
si	Silica
smi	Smithsonite
sp	Sphalerite
sr	Serpentine
st	Sturtite
su	Sulphide, Undifferentiated
sx	Sillimanite
sy	Staurolite
szo	Scholzite
tc	Talc
to	Tourmaline
tr	Tremolite
tt	Tetrahedrite
vw	Vesuvianite
wi	Willemite
wl	Wollastonite
ze	Zeolite
Zn	Zinc. Mineral Unspecified

Virtual Field: VEIN_MINERAL_TEXTURE**LookUp Description**

amo	amorphous
ban	banded
bou	Boudinaged
buc	bucky, clean
bxl	brecciated
chd	chalcedonic
col	colloform
con	conjugate
crn	crenulated
dif	Diffuse
fib	Fibrous
frc	Fractured
lam	Laminated
mph	Multiphase
pty	Ptygmatic
rib	Ribbon
shd	Sheared
she	Sheeted
sng	Single
str	Stringers(<2mm wide)
stw	Stockwork
vnl	Veinlets (2-10mm wide
vnn	vein(>10mm), undifferentiated
vnw	Network Vein
vug	vuggy

Virtual Field: YOUNGING_DIRECTION**LookUp Description**

d	down hole (original bedding younging down hole)
u	up hole (original bedding younging up hole)

Virtual Field: YOUNGING_RELIABILITY**LookUp Description**

g	confident of younging
m	probable younging but a little unsure
p	possible younging but not convinced

Virtual Field: YOUNGING_TEXTURE**LookUp Description**

OB	Overtured beds
YD	Younging downward

Virtual Field: METAM_GRADE_FACIES**LookUp Description**

Am	Amphibolite
An	Andalusite
Bg	Blueshcist-Glaucophene
Gr	Granulite
Gs	Greenschist
Hb	Hornblend
Hf	Hornfels
Pp	Prehnite/pumpellite
Py	Pyroxene
Sn	Sanidinite
Ze	Zeolite

Virtual Field: METAM_TYPE**LookUp Description**

C	Contact
D	Dynamic, cataclasis
G	Regional
I	Impact
M	Metasomatism
P	Prograde
R	Retrograde

Virtual Field: Fe DOLOMITE STAINED**LookUp Description**

bf	Buff
bg	Burgandy
bk	Black
bl	Blue
br	Brown
cl	Clear
cm	Cream
ff	
gn	Green
gy	Grey
kk	Khaki
ls	Lusterous
md	
mr	Maroon
mt	Metalic
mv	Mauve
nw	
or	Orange
pc	Polychrome
pk	Pink
pu	Purple
rb	Red Brown
rd	Red
ta	Tan
wh	White
ye	Yellow

Virtual Field: ZINCZAP
LookUp **Description**

1
2
3
4
5

Virtual Field: STRUCTURE_TYPE
LookUp **Description**

Bc	Cataclasite
Be	Bedding Plane
Bv	Vein Breccia
Bx	Tectonic Breccia, Undifferentiated
Cn	Crenulation
Co	Distinct Contact
Cx	Shatter, Crackle Breccia
Fa	Fold Axis
Fo	Foliation
Ft	Fault Plane
Fz	Fault Zone
Hb	Hydraulic Breccia
Jf	Fracture/Joint
Li	Lineation
Mb	Matrix Breccia
Mx	Milled Breccia
Rb	Rubble, Pebble Breccia
Sc	Schistosity
Sh	Shear, Undefined
Sl	Lamination/ Banding
Sp	Prograde Foliation
Sr	Retrograde Foliation
Sx	Foliation - Undefined
Sy	Stylolites
Te	Tempestite/Olistrosstrom Storm Derived
TXC	Clast supported breccia
TXM	Matrix supported breccia
Vn	Vein

Virtual Field: STRUCTURE_RELIABILITY
LookUp **Description**

g	confident
m	probable but a little unsure
p	possible but not convinced

Virtual Field: STRUCTURE_STRNTH
LookUp **Description**

1	Very weak
2	Weak
3	Moderate
4	Strong
5	Very strong

Virtual Field:	BRECCIA_CLASTSHAPE
LookUp	Description
A	Angular
R	Rounded
SA	Sub Angular
SR	Sub Rounded

Virtual Field:	STRUCTURE_SHAPE
LookUp	Description
A	Smooth
B	Bedding/cleavage/joint intersections (0.6-5.0mm)
C	Bedding/cleavage/joint intersections (6.0-10.0mm)
D	Undulating (L 4.0-30.0mm, a 0.5-2mm)
E	Very Rough, striations etc (L 2.0-4.0mm, a 0.5-1.5mm)
F	Nodules/cleavage Intersections etc ((L 6.0-18.0mm, a 1.5-2.0mm)
G	Undulating/curved/Conchoidal (L 16.0-60.0mm, a 2.0-5.0mm)
H	Undulating/irregular (L 16.0-60.0mm, a 5.0-8.0mm)
P	Planar
S	Stepped
U	Undulating

Virtual Field:	STRUCTURE_ROUGHNESS
LookUp	Description
K	Slickensided
O	Healed
P	Shiny/glossy lustre
PP	Polished
R	Fine glass paper texture
RR	Rough
S	Dull lustre
SS	Smooth

Virtual Field:	QUALITY_RC
LookUp	Description
G	Good
M	Moderate
P	Poor

Virtual Field:	WET_DRY_RC
LookUp	Description
D	Dry
M	Moist
W	Wet

Virtual Field: STRNTH
LookUp Description

H1	Very weak rock - May be broken in hand with difficulty
H2	Weak rock - Cuts easily with a knife
H3	Moderately weak rock - Difficult to cut with knife – pick indents deeply
H4	Moderately strong rock - Cannot be cut with knife – pick indents to 5mm
H5	Strong rock - Requires one hammer blow to break
H6	Very strong rock - Requires several hammer blows to break
H7	Extremely strong rock - Cannot be broken with hammer
M	Moderate
S	Strong
W	Weak
X1	very soft soil - Easily penetrated several cm by fist
X2	soft soil - Easily penetrated several cm by thumb
X3	firm soil - Can be penetrated several cm with moderate effort
X4	Stiff soil - Readily indented by thumb but penetrated only with great effort
X5	Very stiff soil - Readily indented by thumb nail

Virtual Field: STR_OV
LookUp Description

BRK	Broken
BX	Brecciated
FLT	Fault
R	Retrograde
SHR	Shear

Virtual Field: OVERPRINT_INTENSITY
LookUp Description

0	Massive
1	Moderate
2	Strong
3	Intense
4	Mylonitic
5	Weak

Virtual Field: DISCING
LookUp Description

Y	Yes
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Virtual Field: MAG_SUS_INSTRUMENT
LookUp Description

GMS-2	
KT-9	Range of 1x10 ⁻⁵ to 999x10 ⁻³
SM-20	
SM-30	
Unknown	

Virtual Field: SG_POROUS
LookUp Description

Y	Porous Sample
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Virtual Field:	SG_QUALITY
LookUp	Description
Excellent	High quality SG result
Good	Acceptable SG result
Moderate	Moderate quality SG result, check acceptability
Poor	Sample incompetent or bubbled when immersed

Virtual Field:	SG_COATED
LookUp	Description
No	No
Yes	Yes

Virtual Field:	SG_TECHNIQUE
LookUp	Description
AirPyc	Air Pycnometer
AirPycV960	Air pycnometer method V960
Unknown	
Wet/Dry1	Wt in air/wt in water method

Virtual Field:	SG_DRIEDSAMPLE
LookUp	Description
Not Dried	
Oven Dried	
Sun Dried	