

APPENDIX 1 : GEORGETOWN METALLOGENIC CAMP SUMMARIES
(Rock & mineralisation ages, quartz textures, mineralisation style, geochemical signature)

SUMMARY OF CODES

<i>CAMP QUARTZ TEXTURE CODES</i>	
A	Saccharoidal quartz
Bf	Fine euhedral buck +/- recrystallisation
Bm	Medium euhedral buck +/- recrystallisation
Bc	Coarse euhedral buck +/- recrystallisation
C	Coarse comb, cockade
D	Deformation of early phase quartz by shearing tectonic brecciation, producing saccharoidal and anhedral recrystallised grains stylolites, spider veins & stockworks
F	Fine comb, cockade
K	Stockwork comb and saccharoidal quartz
Lf	late fine comb quartz overprint or infill
Lm	late medium comb quartz overprint or infill
Lc	late coarse comb quartz overprint or infill
M	Medium comb, cockade
O	Chalcedony +/- colloform, crustiform silica
P	Very fine crystalline to saccharoidal quartz-pyrite
S	Stylolites and/or Spider veinlets
X	Hydrothermal Breccia
Z	Zoned crystals

<i>Depth Zone</i>	
PLE	plutonic epizonal
PLM	plutonic mesozonal
PLH	plutonic hypozonal
EPB	epithermal boiling
IE	intrusion related epizonal
IE-M	intrusion related epi-mesozonal
IM	intrusion related mesozonal
IH	intrusion-related hypozonal

<i>DESCRIPTIVE TEXTURE CODES</i>	
AB	Anhedral Buck
EB	Euhedral Buck
FB	Fine Buck
MB	Med buck
CB	Coarse buck
CEB	Coarse euhedral buck
FEB	Fine euhedral buck
MEB	Med euhedral buck
CE	Coarse euhedral buck >1.5cm, 2:3
ME	Medium euhedral 0.5-1.5cm, 1:2 - 1:3
FE	Fine euhedral, <0.5cm, 1:4
MCM	Medium comb
FCM	Fine comb
CM	Comb
Z	Zoned
SP	Spider
REC	Recrystallised
SAC	Saccaroidal
CR	Crustiform
CH	Chalcedonic
CO	Colloform
REP	Replacement
K	stockwork
STY	Stylolites
CREP	carbonate replacement
BX	Breccia cement
1	first generation quartz
2	2nd generation quartz
3	third generation quartz

<i>GEOCHEM CLASS</i>	
AM	Au>Ag basemetals low Te Bi
GST	Ag>Au, As-Sb, Te>Bi
SAT	As-Sb, Au, Te
TB	Te-Bi dominant

<i>GEOCHEM ZONE</i>	
N	Sb Antimony
S	As Arsenic
P	Pb Lead
Z	Zn Zinc
C	Cu Copper
M	Mo +/- W

<i>GEOCHEM TYPE</i>	
three codes for the three dominant metal ratios/elements	
CODE	ZONE/LETTER
A	Au> Ag
B	Bi>Te or Bi only
C	Cu
G	Ag>Au
L	basemetals Pb Zn Cu
N	Sb>As
O	Mo >W
P	Pb
S	As>Sb
T	Te>Bi or Te only
W	W>Mo
Z	Zn

<i>GEOCHEMICAL ENRICHMENT SIGNATURE</i>	
Elements listed in order of enrichment (average assay/background)	
	>1000 enrichment
normal	1000-100 enrichment
<i>italic</i>	100-10 enrichment

CLASS ALL Minz Class + Related intrusion type + Main minz texture code + depth zone + geochem zone

e.g. PNLMP (Big Reef) = Plutonic + None + Lode + mesozonal + Pb

e.g. IRWES (Electric Light) Intrusive related + rhyolite + stockwork + epizonal + As

e.g. ERVEN (Woolgar Epithermal) = Epithermal + Rhyolite + Vein + Epizonal + Sb

CAMP	Agate Creek
CLASS ALL	ERWES
EPOCH	EPERM
Related Intrusion	rhyolite
Mineralisation Style	VN,SW,DS
QUARTZ ZONE	EPB
METAL ZONE	As
Size class (endowment)	15924.00
Mining Method	Open cut
Production: Metal	61.29
Production Grade	11.2 g/t
Periods of Production	1994
Reserves	15985kg Au: 514koz from 17mt @ 0.94g/t, Au using 0.3g/t Au cut-off.
Reserves Grade	
commodities mined	Au, Ag
Current status	Resource in advanced prospect
Tenement Holder	Laneway Resources hold MDL and EPM26351
Deposit Names	Sherwood, Sherwood west, Nottingham
CHEM CLASS	SAT
METAL ZONE	As
Element Core	?
GEOCHEMICAL ENRICHMENT SIGNATURE	Au As Sb Ag Te
Host 1	Forsayth granite
Host Description	
Host 1 Age	Silurian
Host 2	Robertson River Metamorphics meta-siltstone, sandstone
Regional Structure	in Robertson River Fault Zone at intersection with Delaney Fault Zone
Mineralisation Age	~285Ma
Pb model age	
Deposit form	blanket localised by rhyolitic dikes
Deposit Orientation	shallow SE dip overall
related structure	Robin Hood thrust contact granite/metaseds? Invaded by rhyolite sills & dikes in Robertson Faul:
ore minerals	electrum, pyrite +/-chalcopyrite, sphalerite, galena, argentian tetrahedrite, polybasite
ore texture	vein and breccia fillings ~1% sulfides
gangue minerals	chalcedony, quartz , carbonate
TYPICAL VEIN CHARACTERISTICS	fine comb, chalcedony
BUCK & INFILL C to F	FO
QUARTZ ZONE	EPB
gold fineness	548-587; no variation in weathered zone, hosted in py, qz; <1-150um
alteration minerals	
alteration facies	il-sm-cb, silica, il-kaolinite maybe weathering especially given its location
Related Intrusion Name	rhyolite sills & dikes
Intrusive Age	~285Ma based on dating similar rocks at Bald Mountain
Genetic Theories	
COMMENTS	Typical bulk tonnage low sulfidation epithermal, but with clear link to rhyolite sills & dikes
Exploration	
100K sheet	7680, Forsayth
AMG North	7898000N
AMG East	768500E
Latitude	-19.00
Longitude	143.55
Last update	G Morrison 21 07 14
REFERENCES	Laneway Resources, 2013 Presentation at Digging Deeper; Brooker et al 2010 Alteration & Veins Global Ore Discovery report; Davis, B., 2011; Structure Review, Olinda Gold report; Ashley, P., 2005; Petrology report on diamond core from Sherwood , unpubl. Report.

CAMP	Bald Mountain
CLASS ALL	IRWES
EPOCH	EPERM
Related Intrusion	rhyolite
Mineralisation Style	SW,BX
QUARTZ ZONE	IE
METAL ZONE	As
Size class (endowment)	0.00
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	
Current status	
Tenement Holder	EPM17739 held by Laneway Resources Ltd
Deposit Names	Bald Mountain, Solo
CHEM CLASS	GST
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	<i>Ag Te As Bi Se Au Pb</i>
Host 1	BALD MT CX
Host Description	Rhyolite porphyry
Host 1 Age	PERM
Host 2	ETHERIDGE GP
Regional Structure	Adjacent to the Robertson Fault
Mineralisation Age	U-Pb zircon dating by laser ablation 286Ma +/- 2Ma for phase one porphyry. 283Ma +/- 2Ma for Phase 3 ring dyke (Nethery,
Pb model age	
Deposit form	Porphyry/stockwork/breccia; hydrothermal breccias related to rhyolite porphyry intrusives
Deposit Orientation	General northeast trend
related structure	Fault bounded subsidence basin filled with tuff. Interpreted as a maar volcano.
ore minerals	gold, silver, minor basemetals, molybdenum in quartz stockwork cutting phase 2 rhyolite porphyry.
ore texture	veinlets, breccia
gangue minerals	quartz, pyrite, pyrrhotite, arsenopyrite
TYPICAL VEIN CHARACTERISTICS	Fine comb veins and breccia cement
BUCK & INFILL C to F	FX
QUARTZ ZONE	IE
gold fineness	
alteration minerals	Sericite, quartz, chlorite, epidote, carbonate
alteration facies	phyllitic, propylitic
Related Intrusion Name	BIG SURPRISE TUFF. Abundant Permo-Carb. Intrusive porphyries and rhyolite dykes throughout camp.
Intrusive Age	PERM
Genetic Theories	Endo-stockwork associated with Permo-Carboniferous rhyolite plug
COMMENTS	ASSOCIATED WITH RHYOLITE PLUG.
Exploration	Minor alluvial gold was reported in the 1920's from a creek draining easterly from the Bald Mt volcanic complex (Withnall, 1979). Several shallow prospecting pits were sunk to 0.5m at that time on narrow, discontinuous, gossanous gold-bearing quartz veins. Late Palaeozoic volcanic rocks were first recognized in the area during regional mapping of the Georgetown 1:250,000 sheet (White et al., 1963) and further defined as rhyolite plugs, dykes, epiclastic and volcanoclastic rocks during mapping of the Forsyth (Bain et al, 1976) and North Head 1:100,000 sheets (Withnall et al, 1979). The association of gold mineralisation with hydrothermally altered brecciated volcanic, sub-volcanic and metamorphic rocks was recognized during reconnaissance exploration on AP 2251M for AOG Minerals Limited in mid-1981 (Nethery 1981, CR9803). Initial drilling was carried out in JV with Getty Oil Development Corporation. Getty withdrew from the JV following that programme. Subsequent detailed geological mapping by K. B. Cook resulted in the interpretation of a series of overlapping hydrothermal eruption diatremes (Cook and Nethery, GSA Abstracts, No. 12, 7th Aust. Convention 1984). Exploration in joint venture with Billiton Australia Pty. Ltd., during 1984/1985, further refined this interpretation, especially in relation to the central and southwestern part of the system (Truelove, 1985, CR14841). Most of the definitive data on alteration facies, which has lead to a refinement of the model, were obtained by K. S. Camuti in a comparative study of Kidston and Bald Mountain (Camuti, 1986, JCU MSc Thesis). Broad spaced RC percussion drilling of this system failed to intercept gold mineralisation of sufficient grade and tonnage to warrant deep core drilling (CR14841). Further exploration of the Bald Mountain system was carried out through the 1980s and 1990s by CRA and then Kidston Gold Mines, including geophysics, geochemical sampling and RC drilling. In the late 1980's at the Malcolm Creek system 2 km NW from Bald Mountain, CRA defined strong gold (to 3.4 g/t Au) and minor arsenic in soil anomalies on a long ridge composed of carbonaceous slate. Sixteen shallow RC holes up to 60m depth were drilled under the soil anomaly. Best drill hole intercept was 2 metres @ 9.8 g/t Au (Newmont, 2010, EPM14231, CR14841). In 2010, Newmont drilled four deep (+300m) holes under Bald Mt. All holes intercepted breccia without significant gold or basemetal mineralisation.
100K sheet	Forsyth 7660
AMG North	7913000.00
AMG East	765000.00
Latitude	-18.86
Longitude	143.51
Last update	10/06/17
REFERENCES	Exploration over Bald Mt described in open file company reports CR9803, 10944, 11650, 13784, 14841, 16631, 20871, 24439, 25481. Camuti, K.S., 1986, MSc thesis, James Cook University.

CAMP	Beverley
CLASS ALL	IRXEN
EPOCH	ECARB?
Related Intrusion	rhyolite
Mineralisation Style	BX, SW
QUARTZ ZONE	IE
METAL ZONE	Sb
Size class (endowment)	460
Mining Method	Endeavour Mining excavated 2 small open cuts (30m long x 5m wide x 10m deep) in 1986-87. Mine closed in 1988.
Production: Metal	Au, Ag
Production Grade	
Periods of Production	28/7/1986 - 20/7/1988, ore extracted from 2 narrow and shallow (<20m deep) pits. See reference in CR24919 & CR26544
Reserves	CR24919. Gold resources calc. by Kidston goldmines 1992. 14,429 ounces. CR32834 Saracen Minerals 1991 (170,903 t @ 5.2 g/t Au or 28,668 Ozs).
Reserves Grade	Resources grade 6.14 g/t
commodities mined	Au Ag
Current status	Mine closed 1988
Tenement Holder	Endeavour Mining (ML30155, 30077 & 30078). EPM25816 Kronos Gold
Deposit Names	Beverley, Endeavour, C622, Discovery, Porphyry Hill, St10
CHEM CLASS	TB
METAL ZONE	Sb
Element Core	Au, Ag
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Au Bi Ag Sb As W
Host 1	Einasleigh Metamorphics
Host Description	Schist
Host 1 Age	Proterozoic
Host 2	Rhyolite ignimbrite (Carboniferous age Newcastle Range Volcanics)
Regional Structure	Southern caldera collapse ring structure of the Newcastle Range volcanics
Mineralisation Age	CARB
Pb model age	
Deposit form	Linear stockwork and breccia
Deposit Orientation	Breccia zones in phyllite & gneiss (Einasleigh Metamorphics) south of contact with Newcastle Range volcanics (Beverley Mine) strike NNE. Zone of mineralisation in volcanics (Endeavour) at contact with Einasleigh metamorphics also strikes North-Northeast. Mineralisation hosted in breccias is localised along the schist-volcanics contact (Discovery-ST10 structure).
related structure	Localised along and adjacent to southern contact (ring fault) of cauldrea collapse between Bousey Rhyolite (Newcastle Range) and Einasleigh Metamorphics.
ore minerals	native gold
ore texture	breccia, stockwork and narrow veins
gangue minerals	quartz , adularia, pyrite
TYPICAL VEIN CHARACTERISTICS	fine comb, chalcedony
BUCK & INFILL C to F	FO
QUARTZ ZONE	IE
gold fineness	
alteration minerals	silica, sericite
alteration facies	phyllitic
Related Intrusion Name	BOUSEY AVR
Intrusive Age	CARB?
Genetic Theories	
COMMENTS	Bulk of drilling of resource/minz area is within the Beverley mining lease conducted by Saracen. Info is not open file. Mineralisation is clearly epithermal in nature and cuts the contact between Einasleigh Metamorphics and the Newcastle Range volcanics. E-W striking rhyolite dykes cutting schist mapped nearby main pit. The bulk of the minz. at Beverley is hosted in a northerly trending zone of brecciated schist, phyllite and rhyolite volcanics up to 10m wide and 200m long . The breccia zone cuts across the NW trending contact between Einasleigh metamorphics and Newcastle Range volcanics. The mineralised breccia zone consists of multiple phases of hydrothermal breccia. The last phase of clast support breccia is cemented by fine comb and banded chalcedonic quartz and adularia (epithermal). Some clasts are composed of an earlier phase of polymictic, milled, rock flour matrix support breccia. Red, brown and green clasts of chalcedony replacing fine grained (rhyolite?) clasts are also present.
Exploration	1993 EPM 4759, KGM summary of historical work CR24919. 1995 EPM9689 MIM summary of historical work (Saracen drilled 144 holes, mostly RC and mostly within the Mining Leases so drill hole data not available on open file) CR26544. 2001 Allied Mining & Processing Ltd, soil and rock chip sampling, EPM11129. Two small pits were excavated at Beverley in 1987 by a private group. Drilling by Saracen Minerals in late 1980's defined a resource of ~28k Ozs Au. Presently no work being conducted in the mining leases.
100K sheet	Forsayth 7660
AMG North	7924000N
AMG East	805600E
Latitude	-18.76
Longitude	143.90
Last update	29/03/17
REFERENCES	Kidston Goldmines summary of historical exploration work completed on EPM 4759 surrounding the Beverley mine, 1987 to 1993 (CR24919); MIM evaluation of all previous work 1994, CR26544 (EPM9689); MIM final report 1995, CR27475 (EPM9689); Allied Mining CR32834 (EPM11129)

CAMP	Big Reef
CLASS ALL	PNLMP
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	VN
QUARTZ ZONE	PLM
METAL ZONE	Pb
Size class (endowment)	820
Mining Method	
Production: Metal	655.8kg
Production Grade	32.8g/t
Periods of Production	Oxide ore from Big Reef mined from narrow pit by Union Mining in 1976. Ore was trucked to the mill 7kms southwest of Georgetown.
Reserves	
Reserves Grade	
commodities mined	Gold, Silver
Current status	Mining ceased
Tenement Holder	MLs 3280, 3279, 3278, 30251 Big Reef & EPM15547 JKO Mining. EPM17643 SC Resources P/L.
Deposit Names	Big Reef, Two Micks, Tunnel, Guardian, Republic, Federation, Balmoral
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Te Ag Bi Cu W
Host 1	Lane Creek Metamorphics
Host Description	Gneiss, schist and quartzite
Host 1 Age	Proterozoic
Host 2	Goldsmiths Granite. Grey porphyritic musc-biotite granite.
Regional Structure	Camp localised along the major WNW trending Big Reef - Goldsmiths structural corridor 3kms east of the major regional scale N-S striking Delaney Fault.
Mineralisation Age	
Pb model age	
Deposit form	Fault controlled anastomosing veins & stringers
Deposit Orientation	110 degrees dip steeply north
related structure	Lodes occupy parallel faults striking 110 dip sub-vertical. The Big Reef line extends for 12 km and the Mt. Jack line for 4 km
ore minerals	Pyrite, galena + chalcopyrite
ore texture	Sulphides concentrated along quartz crystal boundaries and along shear trains through quartz.
gangue minerals	Quartz, calcite
TYPICAL VEIN CHARACTERISTICS	Medium euhedral buck, recrystallised, stylonites, late fine comb
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Sericite, chlorite, epidote, pyrite
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Silver production 69.6kg. Most of the smaller mines only recorded gold as smelter returns (ie no bullion figures) suggesting that much sulphide may have been present near surface. The lack of Pb or Cu production indicates that basemetal sulphides were not recovered. The Big Reef shear zone contains multiple events of anastomosing quartz veins parallel to the foliation and shearing. Individual veins and zones of brecciation reach up to 10cm thick. Veins are composed of white, granular and euhedral buck quartz that has been recrystallised by shearing. Late stage, clear coloured, fine comb textured quartz veins are also present. Fine disseminated pyrite can be found in some quartz veins. The mineralised structure has been long lived with numerous veining and shearing events. Quartz - sericite alteration is commonly found in the shears and adjacent to quartz veins.
Exploration	In 1986 two diamond holes drilled across Big Reef by Petrogram Pty Ltd ATP4093M, CR16685. Best intercept 122.3-122.5m, 0.37m @ 1.97 g/t Au. 1984, Midapa Pty Ltd conducted diamond drilling, rock chip, alluvial and dump pile sampling CR 13817. 1996 Union Mining maps CR27781. 2013-2015 Southern Crown explored, including drilling, around mining leases of the Long Gully line of workings EPM 17643 CR93527.
100K sheet	Forsayth 7660
AMG North	7938000.00
AMG East	7760000.00
Latitude	-18.63
Longitude	143.62
Last update	29-3-2017
REFERENCES	(1) 1900; GSQ Publ 151 Very brief description of Big Reef, Balmoral + underground plans (2) 1976; GSQ Rept 91 Good summary of available info, plans of workings for major lodes CR55604.(3) 1965; BMR Bull 71 Etheridge gold field regional geol + production figures for major lodes (4) 1962; ATP 197 Good discussion of the Georgetown gold mines in general. (5) ATP/EPM, 197, 295, 479, 649, 1491, 1573, 1954, 1763, 1572, 1709, 2404, 2316, 3406, 3733, 4093, 4434, 8751, 15547, 17643. (6) 1993-97, Union Mining completed extensive mapping and sampling of Georgetown & Forsayth district historical mines CR24579, CR24758, CR25609, CR27781.

CAMP	Big Wonder
CLASS ALL	PNLMC
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	VN
QUARTZ ZONE	PLM
METAL ZONE	Cu
Size class (endowment)	1030
Mining Method	shafts and pits
Production: Metal	925.2kg
Production Grade	
Periods of Production	Historical bullion production; Comstock 1885-1891 (10.25kg); Bagmans Hope 1934-1938 (158.1kg); Big Wonder 1891-1893 (15.3kg); Black Blow 1938,1940 (4.99kg); Golden Bar (42kg). In 1996-1997, Union Mining excavated shallow pits at Comstock, Big Ben & Big Wonder focussing on oxide ore.
Reserves	
Reserves Grade	
commodities mined	gold, silver, lead, (copper)
Current status	
Tenement Holder	ML3409, ML3540, ML3591 & EPM 15146 Central Goldmines, EPM17570 JKO Mining P/L, EPM26143 NQ EX P/L, EPM18775 Ismins P/L.
Deposit Names	Big Wonder, Comstock, Big Ben, Black Blow, Bagmans Hope, Golden Bar, Sandy Georgetown, Kraznov, Kraznov West, Golden Try, Sandy Creek, Sally Darling, Right Said Ed
CHEM CLASS	TB
METAL ZONE	Cu
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Bi Au Ag Pb Cu As Zn Sb
Host 1	Forsayth Granite
Host Description	Foliated, coarse porphyritic biotite granite
Host 1 Age	Mid Proterozoic (1465 +_ 20 my)
Host 2	Delaney granite. Pale-dark grey, locally foliated, medium grained, porphyritic muscovite - biotite granite, with 1-2cm tabular k-feldspar phenocrysts.
Regional Structure	Camp lies immediately west of the regional scale N-S Delaney fault and most historical mines lie along the major E-W striking Big Wonder and Golden Bar faults.
Mineralisation Age	
Pb model age	
Deposit form	Irregular, lenticular, shear/fault hosted breccia veins
Deposit Orientation	generally localised along E-W to NE striking structures.
related structure	East - west trending faults e.g. Comstock, Big Ben, Big Wonder, Black Blow, Golden Bar
ore minerals	gold, silver, pyrite, galena, chalcopyrite (galena is commonly dominant), cerussite, pyromorphite
ore texture	Disseminated sulphides infill of vughs and intercrystalline spaces and as breccia cement.
gangue minerals	Quartz, pyrite
TYPICAL VEIN CHARACTERISTICS	Med. comb crystals. Fractured and recrystallised by later shearing.
BUCK & INFILL C to F	BmD
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Quartz, sericite, chlorite
alteration facies	phyllitic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	
Exploration	1962 B. Svirskis: lit review, field recon (CR1092). 1984 Watters & Assoc. Conducted gold panning & metal detection. CR 13357. 1982 Serem conducted mapping, sampling & drilling of old workings at Golden Bar (4 holes), Big Wonder (6 holes) and Comstock (2 holes), CR10642 & CR10876. Best intercept at Golden Bar 16-19m, 3m @ 10.7 g/t silver & 26-29m, 3m @ 4.13 g/t Au at Comstock, & 28-31m, 3m @ 6.18 g/t Au at Big Wonder. 1984, Midapa Pty Ltd evaluated many of the historical workings in the Forsayth & Georgetown district. Selected mines were mapped & sampled ATP3406M CR 13817. 1987, Petrogram completed stream sediment sampling, grid soil sampling over the Comstock & Golden Bar workings and drilled 54 holes (1656m) along the Big Wonder, Black Blow and Golden Bar Faults. Best drilling result at Comstock was in PDH16, 12-20m, 8m @ 6.98 g/t Au. Best drill result at Black Blow was in PDH21, 9-13m, 4m @ 5.35 g/t Au. Best intercept at Golden Bar was in PDH01, 10-12m, 2m @ 6.01 g/t Au (CR17486). 1998 Union Mining drilled 9 RC holes testing depth extensions to mineralisation at Comstock, Big Ben & Black Blow EPM8271 CR32443. Best intercept was 62-72m, 10m @ 1.38 g/t Au. Union Mining 1993-97 extensive mapping and sampling of Georgetown & Forsayth district historical mines CR24579, CR24758, CR25609, CR27781.
100K sheet	Georgetown 7661 & Forrest Home 7561
AMG North	7971000.00
AMG East	761000.00
Latitude	-18.34
Longitude	143.47
Last update	27-5-2017
REFERENCES	(1) 1978; GSQ Report Series #100, I. Withnall, Mines description, geology, production CR55605. (2) 1939; QGMJ 40. pp363, 402-407 Mining proposals, minor geology, production, brief description. (3) 1965; BMR Bull 71 Regional geology, production. (4) 1933; QGMJ 34. pp33-34, mine description, production, mineralogy (5) 1965; BMR Bull 71 Regional geology, production (6) 1900; GSQ Publ 151 Description of workings, gold values. (7) ATP 197, 479, 649, 813, 1111, 1596, 2316, 2159, 3406, 3603, 3837, 4093, 4420, 4346 EPM 8271, 8788, 9204, (8) Bain, J.H.C., 1987; BMR newsletter #6 p14 Sericite dating. (9) Union Mining 1993-97 extensive mapping and sampling of Georgetown & Forsayth district historical mines CR24579, CR24758, CR25609, CR27781.

CAMP	Black Knob
CLASS ALL	PRLHS
EPOCH	EDEV?
Related Intrusion	rhyolite
Mineralisation Style	VN, BX
QUARTZ ZONE	PLH
METAL ZONE	As
Size class (endowment)	
Mining Method	Alluvial and minor pits
Production: Metal	
Production Grade	
Periods of Production	1890's
Reserves	
Reserves Grade	
commodities mined	
Current status	EPM
Tenement Holder	EPM18623 ActivEX Ltd, EPM25713 (John Rappolt)
Deposit Names	Oratava, Caledonia, Macedonia, Iron Clad, Ti Tree breccia, Eight Mile Creek alluvials, Second Chance, Red Flat, Welcome Home, Hand of Friendship, Lucky Hit, Hunts Hill, Black Knob
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te As Cu Ag Sb Au In Bi Se Hg Mo
Host 1	Bernecker Creek Formation
Host Description	Metasandstone, metasiltstone, dolerite
Host 1 Age	Early Proterozoic
Host 2	Daniel Creek Fm metasediments
Regional Structure	Deposits localised along and adjacent to east-west striking fault that marks boundary between Dev-Carboniferous Gilberton Fm and Proterozoic rocks. Deposits lie immediately east (1-2km) of the major regional scale N-S striking Delaney fault.
Mineralisation Age	PERM-CARB
Pb model age	
Deposit form	Narrow (.10m) linear breccia zones localised along shears e.g. Caledonia, macedonia, Oratava. Breccia surrounding rhyolite dyke/plug (Black Knob) and two isolated linear breccia zones (Ti Tree breccia).
Deposit Orientation	E-W at Caledonia & Macedonia, NW at Oratava, NNE at Black Knob, ~E-W at western breccia & Ti Tree breccia zone.
related structure	E-W fault marking southern edge of Gilberton Fm
ore minerals	Chalcopyrite, pyrite.
ore texture	Disseminated and vein/vugh infill by sulphides in shear hosted deposits. "Ti Tree " Breccia bodies consist of subangular breccia in rockflour, hematite matrix
gangue minerals	Quartz, iron carbonate. Hematite in Ti Tree breccia body matrix. Magnetite recorded in holes drilled across Oratava and Ti Tree breccia body by Seltrust (CR12372).
TYPICAL VEIN CHARACTERISTICS	Coarse euhedral buck quartz, brecciated with fine - medium comb infill +/- recrystallised, spider, chalcedony veinlets
BUCK & INFILL C to F	BcLf-m
QUARTZ ZONE	PLH
gold fineness	
alteration minerals	Quartz, sericite, chlorite, magnetite, iron carbonate
alteration facies	Phyllic, propylitic
Related Intrusion Name	Rhyolite dykes intrude along structures parallel to and 150m south of the mineralised structures at Caledonia and Macedonia. Rhyolite intrusive plug central to breccia at Black Knob.
Intrusive Age	PERM-CARB
Genetic Theories	Hydrothermal and fault breccias probably related to Permo-Carboniferous intrusive rhyolites.
COMMENTS	Spatial relationship with dykes, quartz textures and geochemistry suggest minz. probably intrusive related. Drilling across the Ti Tree breccia by Seltrust in 1983 intersected post breccia qtz-pyr-mag-veins anomalous in gold (CR12372).
Exploration	1974 Endeavour Oil Co. N.L. collected rock chip samples (0.5 to .24ppm Au). 1983 rock chip sampling by Seltrust returned gold values up to 42 g/t from Oratava and 1.9 g/t gold and up to 11.3% copper from Macedonia (ATP 3377M, CR12372). Drilling at Oratava returned a best result in hole GLB-15 of 72-74m, 2m @ 0.23 g/t Au, 4.28% copper & 17.5 g/t silver. Best intercept at Macedonia was in GLB-16, 50-72m, 22m @ 1.08% copper, 6.3 g/t Ag & 0.84 g/t gold
100K sheet	Gilberton 7659
AMG North	7871200.00
AMG East	779400.00
Latitude	-19.23
Longitude	143.66
Last update	04/05/17
REFERENCES	(1) 1981; QGS Publ 370 Minor description and map of Gilberton area (2) 1975; ATP 1411M, CR 6080 Minor description and assays. (3) 1983, Seltrust collected rock chip samples from Oratava and Macedonia prospects (ATP 3377M, CR12372); (4) 1986, Central Murchison conducted stream sediment and rock chip sampling over the 8 mile area (ATP 4441, CR16705).

CAMP	Carbon Copy
CLASS ALL	IRLEP
EPOCH	EPERM?/EDEV?
Related Intrusion	rhyolite
Mineralisation Style	LD
QUARTZ ZONE	IE
METAL ZONE	Pb
Size class (endowment)	250
Mining Method	Pits & shallow shafts, no significant historical production. Lead ore transported to Charters Towers for processing?
Production: Metal	226.9kg
Production Grade	24.7g/t
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	Pb Ag
Current status	being explored
Tenement Holder	EPM15440 JKO Mining; EPM 18615 Activex
Deposit Names	Carbon Copy
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Bi Ag Pb Cu Se Au Sb Zn W Mo As Cd Hg
Host 1	Robin Hood granodiorite called Sgr but our age on biotite 322Ma Carboniferous
Host Description	biotite hornblende granodiorite
Host 1 Age	Silurian or Carboniferous
Host 2	Permian rhyolite dike swarm NW trending
Regional Structure	
Mineralisation Age	
Pb model age	
Deposit form	Two parallel shears spaced 200m apart. Steep shears strike E-W with sericite alteration up to 2km long.
Deposit Orientation	Carbon Copy strikes 80° with steep north dip.
related structure	Shear hosted cataclasite rock flour matrix buck quartz clasts cl-hm-qz-sr-py
ore minerals	gold, pyrite, galena
ore texture	veinlets & patches of sulfide in rock flour matrix
gangue minerals	quartz
TYPICAL VEIN CHARACTERISTICS	Early fine euhedral buck, brecciated, late fine comb quartz infill
BUCK & INFILL C to F	BfLf
QUARTZ ZONE	IE
gold fineness	
alteration minerals	cl-sr- hm-qz specular hematite
alteration facies	Propylitic, intense chlorite replacement of breccia matrix in places.
Related Intrusion Name	NW trending Permian rhyolite & andesite dike swarm passes through Carbon Copy area. Rhyolite clasts included in shear breccia along Carbon Copy structure.
Intrusive Age	Permo-Carb
Genetic Theories	
COMMENTS	
Exploration	1991, Kidston Goldmine geologists conducted mapping, rock chip sampling along the Carbon Copy structures. Gold results were considered too low and sporadic to warrant follow-up work. EPM 8354, CR23772. EPM18615 currently being explored by Activex. Rock chip sampling and Niton soil grid survey (2016-2017).
100K sheet	Gilberton 7659
AMG North	7890700.00
AMG East	789500.00
Latitude	-19.06
Longitude	143.75
Last update	27/04/17
REFERENCES	

CAMP	Christmas Hill
CLASS ALL	IRLMS
EPOCH	ECARB
Related Intrusion	rhyolite, monzonite
Mineralisation Style	LD, BX
QUARTZ ZONE	IM
METAL ZONE	As
Size class (endowment)	30
Mining Method	Shafts, minor alluvial, pits
Production: Metal	27.4kg
Production Grade	136.4g/t
Periods of Production	Gold was first discovered at Christmas Hill in 1880's. The wardens report for 1884 stated that 200 tonnes of ore grading 25-30 Oz's /tonne had been mined from a thin vein along the Susan Lode. Sporadic mining continued until 1915 with more shafts being excavated at the Dawson workings. All workings were reported to have stopped at the water table. Chinese reportedly mined alluvials from gullies draining Christmas Hill.
Reserves	
Reserves Grade	
commodities mined	Au
Current status	active prospect
Tenement Holder	EPM26232 Activex Ltd
Deposit Names	Christmas Hill, Christmas Hill South, Dawson, Susan Lode
CHEM CLASS	TB
METAL ZONE	As
Element Core	MO W?
GEOCHEMICAL ENRICHMENT SIGNATURE	Te As Au Bi Ag Se Sb
Host 1	Einasleigh Metamorphics
Host Description	Gneiss, schist and pegmatite.
Host 1 Age	Proterozoic
Host 2	Early Carboniferous monzonite porphyry.
Regional Structure	Christmas Hill lies on a N-trending fault that separates Proterozoic granite and metamorphics and is intruded by Carboniferous granite and monzonite porphyry plugs. That are likely sourced from the Bagstowe Ring Complex.
Mineralisation Age	Christmas Hill sericite K/Ar date 336.6Ma +/- 7.7 (Early Carboniferous age c.f. Kidston)
Pb model age	
Deposit form	Susan Lode 8-15cm thick cutting the gneiss and adjacent to the breccia which seems to be a thin skin on the monzonite porphyry intrusion.
Deposit Orientation	Susan Lode NW dip steep NE, 250m long.
related structure	Foliation in metamorphics strikes NW parallel to the Susan Lode. Irregular breccias envelope the porphyry intrusives.
ore minerals	pyrite, arsenopyrite, minor basemetals
ore texture	disseminated sulfide in altered shear lode
gangue minerals	Quartz, sericite
TYPICAL VEIN CHARACTERISTICS	Medium comb quartz breccia fill barren; mineralised clay shears minor fine comb quartz
BUCK & INFILL C to F	MX
QUARTZ ZONE	IM
gold fineness	
alteration minerals	Kaolin and sericite after plagioclase, chlorite & epidote after mafics, pyrite as scattered irregular aggregates.
alteration facies	phyllitic core, propylitic distal, argillic/weathering localised along late shears
Related Intrusion Name	Permo-Carb. Intrusives related to Bagstowe Ring Complex. Abundant dykes and irregular intrusive bodies of rhyolite and monzonite mapped at Christmas Hill and intersected in drilling. Disseminated style minz. appears related to stocks of monzonite porphyry intrusives.
Intrusive Age	Permo-Carb
Genetic Theories	Typical porphyry style mineralisation related to intrusion of monzonite porphyry stocks into gneiss and schist. Quartz - sericite altered cores with marginal propylitic style alteration. Margins of porphyries have developed breccias of varying intensity. Breccia is composed of gneiss and minor porphyry clasts with a milled, rock flour matrix and/or comb quartz cement. Late stage NW trending argillic altered shears and veins host higher grade gold mineralisation (Gallo 1985, CR17022).
COMMENTS	Broad areas of alteration and brecciation related to the monzodiorite porphyries have been mapped at surface. However, rock chip sampling and drilling shows that better grades of gold are focussed along narrow, more intensely altered (argillic) late stage shears. Altered breccias appear to be thin "skins" enveloping the monzodiorite porphyry intrusives. Mapping by Corbett showed flow banded rhyolite porphyry dykes cross-cutting the monzodiorite intrusives (Place, 1984 CR17022).
Exploration	Keelawee Exploration Ltd held ML's 3376, 3377 & 3277 over the old workings from 1974 to 1991 (3277) and 1988 to 1991 (3376 & 3377). In 1981 Houston Oil and Minerals Inc. completed an extensive stream sediment sampling programme over the Bagstowe Ring Complex and Christmas Hill district. Minus 80 mesh and pan concentrate samples were analysed. The results showed Christmas Hill was anomalous in gold however no further work was conducted on ATP2532M (CR11537). 1983-85 Placer Pacific -ATP 3548M conducted a detailed investigation, stream sediment sampling for Au, Ag, Cu, Pb, Zn, As, Mo, Sb, W, mapping, drilling and photo interp (CR13758, 17022). In 1984 Placer completed a 13 RC hole (1038m) and 3 diamond hole (358.6m) drill programme. Best intercepts were DDH01, drilled across Susan Lode, 56.7 - 60.4m, 3.7m @ 1.28 g/t Au, PDH04 60-63m, 3m @ 4.52 g/t Au and PDH10, 24-36m, 12m @ 1.32 g/t Au. in 1995, geologists from Newcrest Mining Ltd compiled all historical work completed over Christmas Hill, conducted a site inspection and examined drill core. A decision was made not to pursue the project any further based on the absence of large scale hydrothermal alteration or brecciation and evidence supporting the higher gold assays were confined to narrow shear zones. Between 2004 and 2008 Fusion Resources Ltd conducted desk top studies of the site including a review of historical exploration completed over Christmas Hill. Fusion also reprocessed geophysical data over the region and conducted two field trips to the area (EPM11880). The EPM was dropped following the takeover of Fusion Resources by Paladin Energy in 2009 (CR58798). ActivEX Ltd currently hold the exploration permit over Christmas Hill (EPM26232).
100K sheet	Gilberton 7659
AMG North	7883500.00
AMG East	810500.00
Latitude	-19.12
Longitude	143.95
Last update	29/03/17
REFERENCES	(1) 1981; GSQ Publ 370 Geology, production, mines description (2) Placer Pacific, 1983-85; ATP 3548M, CR's 12835, 13663, 13758, 14195, 17022. Newcrest Mining EPM 10300, CR26180 Summary of previous exploration. MPI Gold 1996, EPM 10518, CR27601 & 28624, summary of previous work & new drilling.

CAMP	Cumberland Camp
CLASS ALL	PNLMS
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD, VN
QUARTZ ZONE	PLE
METAL ZONE	As
Size class (endowment)	
Mining Method	Shafts, pits
Production: Metal	Jubilee (92kg), Monkland (72kg), Harp of Erin (5kg).
Production Grade	
Periods of Production	Estimated approx. ~30,000 t of dumps processed by Union Mining (out of total 65,000 @ 2.75 g/t Au) were sourced from the Cumberland camp. Jubilee (92kg), Monkland (72kg), Harp of Erin (5kg).
Reserves	
Reserves Grade	
commodities mined	Au, Ag, Ta?
Current status	
Tenement Holder	EPM17989 Central Gold Mines, EPM18775 Ismins P/L, EPM18168 JKO Mining P/L
Deposit Names	Cumberland, Jubilee, Monkland, Peter O'Neil, Harp of Erin, Green Flag, Warrior, John Mitchell, Sir William Wallace, Victory, Smoke, Leichardt, Bruces (Brilliant?), Brandy Hot, Three Jacks
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	As Ag Au Te Cu Sb Pb
Host 1	Forsayth Granite
Host Description	Medium to coarse, porphyritic, biotite granite (10-15mm K-spar phenocrysts). Minor pegmatite.
Host 1 Age	Mid Proterozoic
Host 2	
Regional Structure	camp occurs within fault block bounded by Delaney, Somerset, Drummer Hill and Big Wonder Faults.
Mineralisation Age	
Pb model age	
Deposit form	Discrete, tabular, steep dipping veins.
Deposit Orientation	Strike NE, variable dip SW
related structure	All historical mines located on NE trending structures.
ore minerals	Au, pyrite, galena, arsenopyrite, (sphalerite),(chalcopyrite)
ore texture	Irregular veins
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	very fine crystalline quartz-pyrite infill and late fine comb quartz veins, zoned crystals
BUCK & INFILL C to F	FZ
QUARTZ ZONE	IM
gold fineness	
alteration minerals	Quartz, sericite, chlorite
alteration facies	Phyllic
Related Intrusion Name	Numerous northerly trending rhyolite dykes trending through the region. None observed to be directly linked to mineralisation in old workings except Cumberland Mine.
Intrusive Age	EDEV
Genetic Theories	
COMMENTS	
Exploration	1972, Bridge Minerals conducted regional stream sediment sampling, reconnaissance rock chip sampling, mapping and sampling of old workings at Cumberland, Victory and Jessie Bell (ATP813M, CR4296). 1984, Midapa Pty Ltd evaluated many of the historical workings in the Forsayth & Georgetown district. Selected mines were mapped & sampled ATP3406M CR 13817. 1985 Austamax Res. Ltd. Diamond Drilling of three holes at Cumberland, CR14944
100K sheet	Forrest Home 7561
AMG North	7975700.00
AMG East	748700.00
Latitude	-18.30
Longitude	143.35
Last update	30-3-2017
REFERENCES	(1) 1932; QGMJ 33:330 Brief report on minor mines (2) 1965; BMR Bull 71 Regional geology, production (3) ATP/EPM 479, 649, 813, 1111, 1596, 2316, 2779, 3406, 3589, 3908, 4093, 3098, 4008, 4047, 4346 (4) CR14944 Austamax Resources Ltd, Report on Exploration in 1985. Cumberland Goldmine. Etheridge Field , Nth Qld. 29-1-86. (5) Union Mining 1995 extensive mapping and sampling of Georgetown & Forsayth district historical mines CR27781.

CAMP	Dairy Maid
CLASS ALL	PNVHN
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	VN
QUARTZ ZONE	IH
METAL ZONE	Sb
Size class (endowment)	21
Mining Method	Shafts and drives
Production: Metal	Historical production, Dairy Maid 21.2kg & Communist 17 kg.
Production Grade	125.5g/t. Grade figure is for early production and probably not representative.
Periods of Production	Dairy Maid 1898-1915 , 1928-1933 (4.57kg). Unrecorded alluvials. 1996, Union Mining excavated a small amount of ore (~6,000 tonnes) from a long, narrow pit (100m x 20m) and trucked to the mill at Georgetown.
Reserves	
Reserves Grade	
commodities mined	Au Ag Pb
Current status	Held under ML and EPM, no mining current.
Tenement Holder	ML's 3290, 30240, 30241 & EPM25732, Stuart & Anna Smith.
Deposit Names	Dairy Maid, Milk Maid, Rawhide, Tip Top, Round Waterhole Gully, Communist
CHEM CLASS	SAT
METAL ZONE	Sb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Ag Sb Te As Pb Zn Au Bi Cu
Host 1	Cobbold Metadolerite
Host Description	Dark green amphibolite
Host 1 Age	Lower Proterozoic
Host 2	Phyllite (Lane Creek Fm)
Regional Structure	Adjacent to Delaney Fault
Mineralisation Age	
Pb model age	
Deposit form	At Dairy Maid narrow veins parallel to sheared contact between dolerite HW and phyllite FW. Schistosity in phyllite is also parallel to the shear.
Deposit Orientation	Dairy Maid, host shear, strikes 340° dips shallowly (30°) west. Communist host shear strikes 340° and dips steeply west.
related structure	Subparallel to Delaney Fault located 2.5kms east
ore minerals	Galena, sphalerite, pyrite, (chalcopyrite)
ore texture	Irregular veins up to 20cm thick
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	Coarse comb quartz, zoned crystals infill sulfide maybe pods in deformed buck but this is minor
BUCK & INFILL C to F	CZ
QUARTZ ZONE	IH
gold fineness	
alteration minerals	Chlorite?
alteration facies	
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Much of the mineralisation at Dairy Maid is hosted in metadolerite. Lode hosting the mineralisation at Communist marks contact between Forsayth Granite and schist of the Lane Creek Fm.
Exploration	1993, Union Mining conducted sampling and mapping of the Dairy Maid workings (CR25207). 1995, Union Mining conducted trenching, channel sampling and drilling of the Communist workings (CR27781).
100K sheet	Georgetown 7661
AMG North	7958000.00
AMG East	766000.00
Latitude	-18.45
Longitude	143.51
Last update	10-6-2017
REFERENCES	(1) Withnall, I.W., 1978; Mines and mineral deposits of the Georgetown 1:100,000 sheet Qld. GSQ Rept 100. (2) ATP 197, 479, 649, 2316, 2404, 3406, 3733, 4093 (3) CR27781

CAMP	Double Z
CLASS ALL	IRLEC
EPOCH	EPERM?/EDEV?
Related Intrusion	rhyolite
Mineralisation Style	LD,BX
QUARTZ ZONE	IE
METAL ZONE	Cu
Size class (endowment)	
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	never mined
Current status	active prospect Monax Mining(08 16) recent IP survey and drilling
Tenement Holder	Allyn Zabel ML30216 within EPM Percyville
Deposit Names	located 1km east of 4G's
CHEM CLASS	SAT
METAL ZONE	Cu
Element Core	Cu Mo
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Au Ag Cu Mo Pb As Se Bi Sb
Host 1	Digger Creek granite?
Host Description	pink medium grained biotite - muscovite granite
Host 1 Age	mid-Proterozoic
Host 2	
Regional Structure	NE Devonian? NNE-trending faults may localise dike and mineralisation
Mineralisation Age	EPERM?
Pb model age	
Deposit form	200m long lode breccia/vein, minor rhyolite clasts in vein breccia
Deposit Orientation	zone of veining and silicification strikes NE (50°)
related structure	Devonian shear zone NNE trend
ore minerals	quartz, pyrite
ore texture	breccia, veining, stockwork
gangue minerals	quartz
TYPICAL VEIN CHARACTERISTICS	very fine crystalline quartz-pyrite spider veins, stylonites and late fine comb quartz. Minor medium buck euhedral quartz,
BUCK & INFILL C to F	FP
QUARTZ ZONE	IE
gold fineness	
alteration minerals	
alteration facies	
Related Intrusion Name	rhyolite clasts in breccia vein
Intrusive Age	Carboniferous
Genetic Theories	
COMMENTS	1km east of 4G's
Exploration	Monax Mining ASX report 20-12-2016 report on maiden drilling programme (best drill intercept 9m @ 9.4 g/t).
100K sheet	Gilberton 7659
AMG North	7887050.00
AMG East	796920.00
Latitude	-19.09
Longitude	143.82
Last update	new occurrence not sure if camp justified until context established 05/17
REFERENCES	Gary Ferris, Monax Mining pers.comm. 8-9-16. Monax Mining ASX report 20-12-2016 report on maiden drilling programme (best drill intercept 9m @ 9.4 g/t).

CAMP	Drummer Hill
CLASS ALL	PDLMS
EPOCH	EDEV
Related Intrusion	rhyodacite?
Mineralisation Style	LD
QUARTZ ZONE	PLM
METAL ZONE	As
Size class (endowment)	190
Mining Method	Historical Small pits and costeans. 1996 oxide ore mined from 3 long (100m) narrow (<20m) pits at Drummer Hill by Union Mining and trucked to a mill located 7kms southwest of Georgetown.
Production: Metal	14.2kg
Production Grade	
Periods of Production	Rocky Reward oxide ore mined by open cut to 10m depth in 1996-97 by Union Mining. Pit approximately 200m long, 10m wide and 10m deep excavated for 9575t @ 2.91g/tAu for 27.86kg Au. In 1996, Union Mining excavated oxide ore from three long (100m), shallow (~10m) open cuts at Drummer Hill. 36982t @ 3.43g/tAu for 126.9kg and 148kg total with historic production . Morning Light Au 21.219 kg bullion, Drummer Hill Ag
Reserves	
Reserves Grade	
commodities mined	
Current status	Held under EPM
Tenement Holder	EPM25774 Stewart Parker, EPM19321 NQ Exploration Pty Ltd
Deposit Names	Rocky Reward, Drummer Hill,
CHEM CLASS	TB
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	As Te Au Bi Sb Ag Pb U Zn
Host 1	Brandy Hot Granite? & Lane Creek Fm
Host Description	Med-coarse grained sparsely porphyritic muscovite-biotite granite. Schist & quartzite
Host 1 Age	Mid Proterozoic Granitoids. Lower Proterozoic Metasediments
Host 2	Proterozoic Cobbold Dolerite,
Regional Structure	Drummer Hill Fault 15km long at least
Mineralisation Age	Rocky Reward sericite K/Ar date 372.1 +/- 8.6Ma (partly reset Early Devonian)
Pb model age	
Deposit form	Shear-hosted lode with poddy to tabular quartz veins and stockwork
Deposit Orientation	~E-W strike at Rocky Reward, 070° at Drummer Hill
related structure	Deposits hosted by shear zone in Drummer Hill Fault
ore minerals	tennantite-tetrahedrite? Galena, sphalerite, chalcocopyrite, arsenopyrite
ore texture	Veins, stockwork & breccia
gangue minerals	quartz, carbonate
TYPICAL VEIN CHARACTERISTICS	Medium buck, euhedral quartz, cut by late fine comb qtz +/- stockwork, bx, chalcedony, spider veins
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	quartz, sericite , carbonate, chlorite
alteration facies	Phyllic qz-sr-py with chlorite in dolerite
Related Intrusion Name	MOUNT DARCY MGD
Intrusive Age	CARB
Genetic Theories	The Drummer Hill Fault is considered part of the family of E-W faults that host the Devonian orogenic gold deposits in the Georgetown region. Tight comb-buck quartz veins form pods in the fault that host basemetal-gold mineralisation inferred as Devonian. In several of the deposits there is also a stockwork of fine silica-sulfide that has a Au-As Cu+/-Pb-Zn signature and seems to be a separate overprint often in the adjoining shear. Dikes reported in drilling by Esso correspond with rhyolite and micro-granodiorite in the district but are not seen in RR or Drummer Hill pits to cut or be cut by Au mineralisation.
COMMENTS	There are 4 main occurrences of U mineralisation along the Drummer fault. The mineralisation is in the form of coffinite associated with apatite in fault gouge adjacent to dolerite , in apatite rich albite-sericite altered granite host and as pitchblende in fractures. Drilling conducted by Esso Minerals in 1977 identified 3 types of porphyry rhyolite intrusives in diamond holes drilled across the mineralisation at Rocky Reward. A quartz feldspar porphyritic rhyolite with 30% phenocrysts, a hornblende-feldspar porphyry & a finer grained, poorly porphyritic, flow banded rhyolite (CR6509).
Exploration	In 1977 Esso conducted exploration for uranium in the Mt Turner and Lineament areas (ATP1596M, CR6509). Exploration involved mapping, costeaning and drilling of the Rocky Reward prospect area. 28 percussion holes & 6 diamond holes were drilled and 14 costeans and 22 trenches were excavated. Only the costean samples were assayed for gold. In 1986 CRA mapped and sampled area north and west of Drummer Hill (ATP 4013, CR17411). 1986 Petrogram collected rock chip and trench samples across the Drummer Hill structure. Best result was 17.26 g/t Au over 3.05m. ATP4093, CR16685. 1986 - 1988 CRA conducted mapping, soil sampling, rock chip sampling, costeaning, magnetic and IP surveys and drilling south of the Drummer Hill Fault, ATP4103M, CR16263, CR18788. In 1988 CRA applied for two mining leases over the Rocky Reward prospect. At this time CRA also conducted stream sediment sampling over EPM4416M and drilled 4 RC holes at Rocky Reward (CR24842). 1994 - 1996 Union Mining conducted mapping and rock chip sampling over the Rocky Reward region EPM 9966, CR29243. 1995, Kidston Goldmines conducted mapping, rock chip sampling and drilling at Balaclava Hill and the Drummer Hill area EPM9204 (CR28415).
100K sheet	Forrest Home 7561
AMG North	7982800.00
AMG East	751200.00
Latitude	-18.23
Longitude	143.38
Last update	26 05 17
REFERENCES	Union Mining 1995 extensive mapping and sampling of Georgetown & Forsayth district historical mines CR27781.

CAMP	Dry Hash
CLASS ALL	PNLMP
EPOCH	EDEV
Related Intrusion	none
Mineralisation Style	LD, VN
QUARTZ ZONE	PLM
METAL ZONE	Pb
Size class (endowment)	142
Mining Method	Underground
Production: Metal	127.8kg
Production Grade	18.15g/t
Periods of Production	Dry Hash 1900-1940. In 1996 oxide ore from Dry Hash was mined from a long (100m) narrow <20m , shallow <10m) pit by Union Mining and trucked to the companies mill located 7kms southwest of Georgetown.
Reserves	
Reserves Grade	
commodities mined	Gold, silver, lead, copper
Current status	no activity
Tenement Holder	EPM25732 Stuart Smith, EPM18359 Aussie NQ Resources, EPM17687 Atherton Minerals Exploration,
Deposit Names	Dry Hash, Master, Golden Hill, Dogs Life, Glenn, Desert Rose, Desert Song, Thorn, Hidden Treasure, Revealed Treasure, Coolibah
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Pb Au Ag Bi Te Cu Sb As Zn
Host 1	Forsayth Granite
Host Description	Medium to fine grained leucocratic porphyritic biotite granite
Host 1 Age	Mid Proterozoic
Host 2	
Regional Structure	1 km east of Delaney Fault
Mineralisation Age	
Pb model age	
Deposit form	shear related, en echelon sheeted veins
Deposit Orientation	E-W strike, 75° dip north
related structure	Northern edge of NW trending Forsayth Fault Group
ore minerals	Galena, pyrite +/-cpy, sphalerite, cerussite, malachite
ore texture	Fine to medium comb. Growth zoned qtz.
gangue minerals	Quartz, (siderite)
TYPICAL VEIN CHARACTERISTICS	Med. euhedral buck, cut by late fine comb quartz and spider veinlets
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Sericite (green). Chlorite (after mafics). Some K-spar stable alteration similar to Mt Hogan (Gilberton).
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Au ore smelted due to high sulphide content. Sulphides 10-30% by volume. Silver 334kg, Lead 379t, Copper 14t.
Exploration	1982 Serem Pty Ltd: PDH, costeans CR 10878. 1995 Union Mining published historical maps of Dry Hash CR27781.
100K sheet	Forsayth 7660
AMG North	7947500.00
AMG East	775600.00
Latitude	-18.55
Longitude	143.61
Last update	28-5-2017
REFERENCES	(1) 1932; QGMJ 33 Very brief discussion of mine and features p 294,95 (2) 1976; GSQ Rept 91 Good summary of information, underground plan (3) ATP 197, 479, 649, 1491, 1709, 2404, 3733 (4) Bain J.H.C, 1987; BMR Newsletter 6, p 14 Sericite dating.

CAMP	Durham
CLASS ALL	PNLMS
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD, VN
QUARTZ ZONE	PLM
METAL ZONE	As
Size class (endowment)	2200
Mining Method	Shafts and pits
Production: Metal	1863.7kg
Production Grade	45.26g/t
Periods of Production	Historical bullion production; Durham (708kg), Lord Byron 1877-1895 (152.31kg), Rescue 1897-1901 (17.07kg)
Reserves	
Reserves Grade	
commodities mined	Au, Ag
Current status	
Tenement Holder	EPM19227 Australian Zhaoyuan Mining, EPM17589 JKO Mining
Deposit Names	Durham, Hearts Content, Hibernia, Golden Crown, Scotia, New Zealand, Black Streak, Royal Standard, IOU, Hawkins Hill, Alma, Lord Byron
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	As Au Te Ag Pb Sb Zn
Host 1	Forsyth Granite
Host Description	Medium-grained, generally strongly porphyritic biotite granite, locally foliated. Large tabular k-feldspar phenocrysts ~ 5cm.
Host 1 Age	Mid Proterozoic (1465 +/-20my)
Host 2	Mt Turner Granite, Lane Creek Formation schist
Regional Structure	Camp occurs within fault block bounded by Delaney, Somerset, Drummer Hill and Big Wonder Faults.
Mineralisation Age	EDEV?
Pb model age	
Deposit form	Lenticular , irregular veins, en-echelon vein sets
Deposit Orientation	Strike 40-50°, dip vertical to NW dip
related structure	Lodes and veins localised along and adjacent to NE striking faults.
ore minerals	Gold, pyrite, arsenopyrite, sphalerite, (chalcopyrite, galena)
ore texture	multiphase, en echelon quartz veins
gangue minerals	Quartz, calcite, (ankerite)
TYPICAL VEIN CHARACTERISTICS	Med. Euhedral buck cut by later fine-med. Comb +/- BX, SP, STY
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	Fineness 750-850
alteration minerals	Sericite, quartz, chlorite.
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Small leader adjacent to main vein carried best grade. Sphalerite unusually common in this system. Galena relatively minor. Hearts Content pit individual en echelon veins strike 10° while vein zone strikes 40°.
Exploration	1982 sampling, mapping & drilling of Lord Byron (5 holes) & Hawkins Hill (3 holes) workings by Serem CR10642. Best intercept in hole#3 at Hawkins Hill, 52-55m 3m @ 3.32 g/t Au. 1984, Midapa Pty Ltd evaluated many of the historical workings in the Forsyth & Georgetown district. Selected mines were mapped & sampled ATP3406M CR 13817. 1986 rock chip sampling by Petrogram of Hawkins Hill, ATP4093M, CR16685, CR17486. 1995 mapping and sampling of workings at Lord Byron, New Zealander & Durham by Union Mining CR27781. 1990 Herald Resources conducted mapping and sampling over the Big Wonder, Hawkins Hill and NNE trending Diggings structure, ATP5680, CR20986. Numerous high grade gold samples were collected from narrow quartz vein outcrops along the NNE striking structures.
100K sheet	Forrest Home 7561
AMG North	7974500.00
AMG East	758200.00
Latitude	-18.31
Longitude	143.44
Last update	27-5-2017
REFERENCES	(1) 1910; QGMJ 11:604 Mine description, production, geology (2) 1909; GSQ Publ 219 Mines description, production, geology (3) 1900; GSQ Publ 151 Mines description, geology, production (4) 1887; GSQ Publ 135 Mines description, geology, production (5) 1965; BMR Bull Regional geology, production (6) ATP 479, 649, 1111, 1596, 2316, 3406, 4093, 4346

CAMP	Electric Light
CLASS ALL	IRWES
EPOCH	EPERM
Related Intrusion	rhyolite
Mineralisation Style	SW, BX
QUARTZ ZONE	IE
METAL ZONE	As
Size class (endowment)	1500
Mining Method	Pits and shafts
Production: Metal	Historical production 10 kgs; Deutsche Rohstoff, 2011 - 2014 production 250.9 kg
Production Grade	
Periods of Production	The Electric Light Gold deposit was discovered in 1899 and mined for gold and silver up until 1901. The prospect returned 480 oz of gold from 271 tonnes of ore. Early production is reported to have graded 55 g/t gold and later 9 g/t gold. production periods: 1899-1901, 1933. In 2011 Deutsche Rohstoff mined a long and narrow (150m x 20m) pit down to 10m depth focussed on just extracting the oxide ore at Electric Light.
Reserves	1996, Sedimentary Holdings outlined an 86,000 oz resource. 2004, Georgetown Mining defined a 51,000 oz resource.
Reserves Grade	9g/t
commodities mined	active mine on stand-by recent production not known yet
Current status	
Tenement Holder	ML3548 & 30228 & EPM 8545 Central Gold Mines, EPM26143 NQ exploration Ltd
Deposit Names	Electric Light, Delaney
CHEM CLASS	SAT
METAL ZONE	As
Element Core	Cu Au
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Au As Pb Ag Sb Bi Cu Zn
Host 1	Delaney Granite on west side of Delaney Fault displaced against leucocratic granite (name?) on east side of fault. Minor schist (Einisleigh metamorphics)
Host Description	Fine to very coarse grained leucocratic granite, K feldspar porphyritic musc-biotite granite.
Host 1 Age	Proterozoic
Host 2	Early Permian Rhyolite, quartz diorite
Regional Structure	Occurs within jog on Delaney Fault at intersection with E-W cross structure (Electric Light Fault)
Mineralisation Age	Electric Light sericite K/Ar date 346.5 +/- 8.0 (? Mineralisation post rhyolite dyke intrusion , expected to be younger ~ Early Permian)
Pb model age	
Deposit form	Linear zone of steep dipping stockwork & breccia localised along Delaney fault
Deposit Orientation	General north trend, dip 80°-50° east. Gold ore shoots have shallow south plunge.
related structure	Cross cutting E-W striking fault (Electric Light Fault), displaces the N-S striking Delaney Fault in a dextral sense. Rhyolite intruded tensional gap at fault jog/intersection along Delaney fault.
ore minerals	Gold, pyrite, galena, chalcopyrite, sphalerite, arsenopyrite, scorodite
ore texture	Stockworked, brecciated, altered rhyolite & granodiorite
gangue minerals	Quartz, sericite, ankerite, k-feldspar, calcite
TYPICAL VEIN CHARACTERISTICS	fine quartz-pyrite in rock breccia. Cut later by fine white comb quartz veins and quartz stockwork and spider veins
BUCK & INFILL C to F	DFD
QUARTZ ZONE	IE
gold fineness	
alteration minerals	Quartz, sericite, chlorite, hematite, carbonate, rutile, ilmenite
alteration facies	Silicification, Phyllic, Propylitic. Locally silica rich in rhyolite, sericite-chlorite-carbonate in qtz diorite.
Related Intrusion Name	rhyolite porphyry dyke main host
Intrusive Age	EPERM
Genetic Theories	Rhyolite dyke caught up in movement of Delaney Fault acted as favourable (brittle) host to mineralising fluids.
COMMENTS	Endo + Exo stockwork/breccia in Late Carboniferous? Rhyolite porphyry, and micro-quartz diorite dike (from petro) mapped as Prot. Dolerite previously with hornfels & secondary biotite could be related to Yataga granodiorite Early Permian(290-268Ma preferred age 284 bt) but seems to be older than rhyolite dike on mine maps. Description of the mineralisation based on drilling by Sedimentary Holdings in 1993 states that the main breccia host is developed in a shallow, south dipping rhyolite dyke where the dyke intersects the Delaney Fault (CR25861).
Exploration	In 1985, local prospectors transferred ATP3908 to Castlegold Pty Ltd. Sedimentary Holdings acquired the Electric Light Gold deposit from Castlegold in 1990. During this period Castle Gold and Sedimentary drilled A total of 103 holes for ~ 3200m. In 1995, Goldfields Exploration Pty Limited farmed into the project but withdrew after further drilling and appraisal. In 1996 Australian Mining Consultants Pty Ltd (AMC) conducted a preliminary mining and economic study of the Electric Light Project on behalf of Sedimentary and defined 1,259,000 tonnes @ 2.1 g/t for 86,000 Ozs gold (using a cut-off grade of 0.50g/t gold and a top cut of 39g/t gold) CR64265. 2008 Plentex P/L acquired all the EPMs and ML's over Electric Light from Sedimentary Holdings. 2009 all tenements were transferred to Deutsche Rohstoff.
100K sheet	Georgetown 7661
AMG North	7988800.00
AMG East	772200.00
Latitude	-18.17
Longitude	143.57
Last update	30/03/17
REFERENCES	(1) Withnall, I.W., 1978; Mines & mineral deposits of the Georgetown 1:100,000 sheet area GSQ Rept 100 . (2) Withnall, I.W. & Bain J.H, 1985; Mineral deposits of the Georgetown Region. Production figs and biblio BMR Rec 1985/10. (3) 1985 Castlegold drilling CR21333. (4) 1990, EPM 8545, 9896, ML3548 Sedimentary Holdings drilling CR25050. (5) 2008, Plentex conducted exploration of EPM9896, CR64265. (6) 2010 exploration over EPM18181 north of Electric Light on the Delaney Fault by Callabonna Resources Ltd. Drilling intersected 12m @ 10.1 g/t Au in DCV03. Callabonna AGM presentation 2010.

CAMP	Evening Star
CLASS ALL	IPVHP
EPOCH	MPROT?
Related Intrusion	pegmatite
Mineralisation Style	VN
QUARTZ ZONE	IH
METAL ZONE	Pb
Size class (endowment)	
Mining Method	Pits and shafts
Production: Metal	0.8674 tons scheelite concentrate @ ~65-70% WO ₃ ; 0.4285 tons bismuth concentrate. 1918-1937 hard rock and alluvial
Production Grade	
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	W, Bi
Current status	partly within EPM & leases being explored for Au
Tenement Holder	EPM18615 Activex, ML30221, ML30222 (Mark Reddicliffe)
Deposit Names	W & Bi west lode-Busy Bee- Darby Riordan-Riley & Floyds; W&Bi east lode: Kinchingtons Shaft-Star-Evening Star
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	MO W
GEOCHEMICAL ENRICHMENT SIGNATURE	Bi Te W Au Ag Pb Se Sb Cd Mo As Cu Hg
Host 1	Einasteigh Metamorphics
Host Description	biotite gneiss & schist with garnet sillimanite & calc-silicate gneiss & mt quartzite
Host 1 Age	Meso- Proterozoic
Host 2	pegmatite and aplite of meso-Proterozoic age
Regional Structure	
Mineralisation Age	Interp Meso-Proterozoic and related to pegmatite dikes
Pb model age	
Deposit form	irregular shoots on quartz veins parallel to and associated with pegmatite dikes
Deposit Orientation	mainly E-trending quartz veins parallel to pegmatites and a steep pipe at Kinchingtons
related structure	mainly lie in metamorphic foliation
ore minerals	scheelite and bismuthinite
ore texture	discrete veins in feldspar quartz veins
gangue minerals	Quartz & feldspar
TYPICAL VEIN CHARACTERISTICS	buck and coarse comb quartz in pegmatite
BUCK & INFILL C to F	BcC
QUARTZ ZONE	IH
gold fineness	
alteration minerals	
alteration facies	
Related Intrusion Name	Meso- Proterozoic pegmatite dikes
Intrusive Age	Meso-Proterozoic?
Genetic Theories	
COMMENTS	W-Bi separate source from Four Gees Au and is probably related to Meso-Proterozoic pegmatites and related buck quartz-feldspar veins.
Exploration	
100K sheet	Gilberton 7659
AMG North	7887400.00
AMG East	795700.00
Latitude	-19.09
Longitude	143.81
Last update	20/05/17
REFERENCES	(1) Withnall I.W., 1981; GSQ report 370 (2) CC Morton 1945; QGMJ 46, pp142-143 Scheelite, Percyville District (3) ATP/EPM's 3457, 7304, CR's 12890, 12891, 14783, 22850, 26689

CAMP	Four Gees
CLASS ALL	PNLHP
EPOCH	EDEV?
Related Intrusion	none?
Mineralisation Style	VN, LD
QUARTZ ZONE	PLH
METAL ZONE	Pb
Size class (endowment)	285
Mining Method	
Production: Metal	16.8kg
Production Grade	53.7g/t
Periods of Production	1933-39 4 G's. 1933-41 Golden Casket. 1933-38 Freddie. 1994? Josephine pit excavated by Eltin Mining ~1994 and produced 266.5 kg Au.
Reserves	8700t
Reserves Grade	5.3g/t
commodities mined	gold, silver, lead, copper
Current status	
Tenement Holder	Activex EPM18615, MLs 30139, 30216, 30221, 30222 (Allyn Zabel, Mark Reddicliffe)
Deposit Names	Au - Josephine, Eight Mile Dam, Four Georges West reef, Macgregors Show, Jack Ryans, Lead Show, Nunns Lead Show, Four Gees, Freddie, Rocco's Shaft, Golden Casket.
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	MO W
GEOCHEMICAL ENRICHMENT SIGNATURE	Bi Te Au Ag Pb W Cu Sb Se Cd As Hg Mo
Host 1	Daniel Creek Formation
Host Description	Pale green metasediments (siltstone/sandstone)
Host 1 Age	Lower Proterozoic
Host 2	
Regional Structure	On southeastern margin of major granitoid pluton (Robin Hood Granodiorite).
Mineralisation Age	Interp Early Permian by comparison with other camps
Pb model age	
Deposit form	Irregular, lenticular, quartz veins up to 1.2 m thick
Deposit Orientation	East to southeast strike and shallow southerly dips 15-30 degrees
related structure	
ore minerals	gold, pyrite, galena, chalcopyrite, malachite
ore texture	'dog tooth' qtz with sulphide vughs
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	Coarse euhedral buck quartz, zoned, brecciated, recrystallised, spider veinlets
BUCK & INFILL C to F	BcD
QUARTZ ZONE	PLH
gold fineness	
alteration minerals	minor chlorite selvages to veins
alteration facies	Propylitic
Related Intrusion Name	No direct evidence and no dikes in mineralised structures in the camp, but the geochem is c.f. Percyville and elsewhere where there are dikes with mineralisation
Intrusive Age	Early Permian dikes
Genetic Theories	
COMMENTS	Last work abandoned when miners hit pod of massive galena. Double Z is a separate occurrence with different character to Four Gees. Double Z currently being explored in ML30216 (IP geophysics & drilling) by Monax Mining, 2017.
Exploration	Intensive exploration and evaluation by Northumberland Development Co. ATP 3457 from 1984. Work included gridding, costeaning, rock chip sampling & several percussion drill holes. An indicated resource of 8,700 tonnes @ 5.3 g/t Au was identified. 1990 - 1991, mapping & sampling was conducted by Kidston Goldmines. In 1991 the company drilled one RC hole under the Four Gees workings and intersected 53-55m, 2m @ 3.5 g/t Au. Indicating the mineralised structure was near vertical and too narrow to contain tonnages of interest to KGM (EPM7304, 8354) CR22850 & CR23772). Stevenson Enterprises (1987-88) carried out mapping, soil sampling & geophysics, as well as drilling several holes into the old workings. Josephine mine explored and drilled by Eltin Mining for Kidston Gold Mines 1994. CR26689 EPM9598. Eltin mined Josephine pit ~1994. Extracted 65,000 tonnes @ 4.1 g/t and processed through mill/plant at Mt Hogan (Reference Newmont 2006, CR44501).
100K sheet	Gilberton 7659
AMG North	7886400.00
AMG East	794800.00
Latitude	-19.09
Longitude	143.80
Last update	31/03/17
REFERENCES	(1) Withnall I.W., 1981; GSQ report 370 (2) 1945; QGMJ 46, pp142-143 Scheelite, Percyville District (3) ATP/EPM's 3457, 7304, CR's 12890, 12891, 14783, 22850,

CAMP	Georgetown
CLASS ALL	PNLMP
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD, VN
QUARTZ ZONE	PLM
METAL ZONE	Pb
Size class (endowment)	465
Mining Method	Shafts
Production: Metal	Wexford (69kg), Melbourne Exhibition (13kg), Ancient Briton (11kg), City of Dunedin (5kg).
Production Grade	
Periods of Production	Historical bullion production: Ancient Briton, 1880-1902, (16.96kg); Better Luck, 1877-1913, (93.56kg); Chance 1885-1891 (4.07kg); City of Sydney, 1879-1899, (26.14kg); Gladstone, 1889-1906, (1.18kg); Glencoe 1889-1891, (1.18 kg), Harp of Erin, 1881-1904, (7.62kg); Melbourne Exhibition 1880-1891, (19.84kg); North Star, 1879-1895, (287.8kg); Overland Telegraph, 1880-1913, (24.03kg); Owens, 1894-1899, 93.09kg); Coolgardie 1879-1899 (73.2kg); St. George 1877-1915 (154.84kg); Papa, 1894-1896, (94.69kg); Paxo, 1883-1894, (2.35kg); Golden Horseshoe (22kg); Spero Meliora 1878-1903, (106.55kg); Victoria, 1878-1913, (95.64kg), Lady Maria, 1895-1906, (39.01kg); Wexford, 1896-1907 & 1938-1939, (17.7kg). Small tonnage of oxide ore (<50,000 tonnes?) mined at Wexford by Union Mining (1996).
Reserves	
Reserves Grade	
commodities mined	Copper, lead, silver
Current status	
Tenement Holder	EPM15146 Central Goldmines, EPM17589 JKO Mining P/L, EPM18699 Alice Queen Ltd
Deposit Names	Glencoe, Melbourne Exhibition, Diamond Jubilee, Coolgardie, Ancient Briton, Blind, Papa, Overland Telegraph, Wexford, St George, Golden Horseshoe, Lighthouse, Chance, Lady Mary Gully, Rob Lowe, Gladstone, Delaney River, Spring Creek, Better Luck, Owens Reef, Spero Meliora, Lady Maria, Harp of Erin, Paxo, Tierney & Ashton, Victoria, City of Sydney, North Star
CHEM CLASS	SAT
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Au Pb Ag As Zn Sb Bi Cu
Host 1	Forsyth Granite & Lighthouse Granite
Host Description	Grey, foliated coarse porphyritic, biotite rich granite & muscovite, biotite, leucogranite.
Host 1 Age	Mid Proterozoic (1465 +/-20my)
Host 2	
Regional Structure	Camp overlaps regional scale N-S Delaney Fault.
Mineralisation Age	
Pb model age	
Deposit form	Quartz veins hosted in shear zones
Deposit Orientation	Generally north to north-easterly strikes, subvertical or moderate and rarely shallow westerly dips e.g. St George
related structure	
ore minerals	Pyrite, sphalerite, galena, chalcopyrite
ore texture	Mainly occurs as sulphides interstitial to euhedral buck quartz crystals. To a lesser extent sulphides can occur as part of a late stage breccia cement. Veins generally <10cm thick.
gangue minerals	Quartz, calcite
TYPICAL VEIN CHARACTERISTICS	Medium euhedral buck quartz, cut by later shearing +/- late fine comb veins and spider veins
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	900 at Spero Meliora
alteration minerals	Silica, light green sericite, chlorite. Potassic alteration noted in Wexford pit.
alteration facies	Phyllic (K-spar stable)
Related Intrusion Name	No rhyolite (Permo-carb) dykes observed nearby
Intrusive Age	
Genetic Theories	
COMMENTS	At the Papa mine, vein occupies fault contact between Forsyth Granite & Metasediment. Veins often fractured and recrystallised by later shearing. Gold fineness unusually high for this style of camp. Sphalerite relatively common in fresh ore. Gold fineness unusually high for this style of camp (Reported 900 fine at Spero Meliora mine). Separated from Titania camp because of high sulphide content and different vein strikes. No real reason based on quartz textures or geochem to separate the western and eastern parts of the camp. This has been done mainly on vein orientations.
Exploration	1982 Ravenshoe Tin Dredging Ltd: alluvial sampling, drilling (auger) CR 13819. 1984, Midapa Pty Ltd evaluated many of the historical workings in the Forsyth & Georgetown district. Selected mines were mapped & sampled ATP3406M CR 13817. 1985, Castlegold exploration & drilling EPM3908, CR21453. 1990, Castlegold conducted drilling at Wexford & St George, ATP8787, CR21333. 1992-1997, Union Mining NL mapping, costeaning and drilling at numerous historical mines around Georgetown, CR24579, CR24758, CR25609, CR27781.
100K sheet	Georgetown 7661 & Forrest Home 7561
AMG North	7975000.00
AMG East	770000.00
Latitude	-18.30
Longitude	143.56
Last update	27-5-2017
REFERENCES	(1) 1978; GSQ Report Series #100, I. Withnall, Mines description, geology, production CR55605. (2) 1939; QGMJ 40:363,402-407 Mining proposal, minor production (3) 1935; QGMJ 36:276-278 (4) 1932; QGMJ 33:331(a) St. George, brief report on mining. (5) 1900; GSQ Publ 151 Mines description, production, geology (6) 1887; GSQ Publ 135 Same as GSQ Publ 151 (7) 1965; BMR Bull 71 Regional geology, production (8) Bain, J.H.C., 1987; BMR newsletter #6, p14 sericite dating. (9) ATP/EPM 479, 649, 1111, 2159, 3908, 4093, 4346, 8787. (10) 1993-97 extensive mapping and sampling of Georgetown & Forsyth district historical mines CR24579, CR24758, CR25609, CR27781.

CAMP	Gilberton
CLASS ALL	PNLMN
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD,VN,SW, BX
QUARTZ ZONE	PLM
METAL ZONE	Sb
Size class (endowment)	925
Mining Method	Alluvial, shafts
Production: Metal	Historical production 4675kg; Eltin produced 156.8 kg from the Comstock pit in 1994?
Production Grade	Historical grade 46.7g/t
Periods of Production	Alluvial gold totalled 4000 kg.
Reserves	
Reserves Grade	
commodities mined	
Current status	EPM18623 (ActivEx Ltd), ML30223 over Comstock (Mark Reddicliffe)
Tenement Holder	ActivEX Ltd
Deposit Names	<i>North Lodes</i> : Lord Roberts, Lord Kitchener, Caledonian, Engelhelm, Golden Bar, Millers, Majuba Hill, Joseph Morris, Cosmopolitan, Day Dawn; <i>Central Lodes</i> : Comstock, Sunday, Granite Junction; <i>Southern Lodes</i> : Commissioners Hill, Artemus Ward
CHEM CLASS	TB
METAL ZONE	Sb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Au Bi Se Ag Sb As Pb Hg Cd
Host 1	Daniel Creek Formation
Host Description	Most mines are hosted in grey, slightly carbonaceous metasediments and lesser schist, phyllite & calc-silicate rocks. Occurrences of metadolerite and metabasalt (Dead Horse Metabasalt Member) in some mines e.g. Comstock.
Host 1 Age	Early Proterozoic
Host 2	Cobbold Met-Dolerite
Regional Structure	Gilberton Fault (5 km to east) with north-east trend. Other north-west, north-east and east trending faults.
Mineralisation Age	Permian Inferred
Pb model age	560
Deposit form	Veins, stockwork, breccia, replacement
Deposit Orientation	South Lodes strike North, Central Lodes strike NW and North Lodes strike E-W
related structure	
ore minerals	Gold, silver, pyrite, galena +/- tetrahedrite, Au tellurides
ore texture	Fine to medium comb, large crystals growth zoned. Sulphides often disseminated and interstitial to quartz crystals. Disseminated replacement style minz. at present at Comstock.
gangue minerals	Quartz +/-carbonate
TYPICAL VEIN CHARACTERISTICS	Med euhedral buck quartz, brecciated, recrystallised +/- fine comb qtz
BUCK & INFILL C to F	BmLf-m
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Quartz, sericite, iron carbonate (Comstock), magnetite (Comstock).
alteration facies	Phyllic , propylitic, k-feldspar (Comstock)
Related Intrusion Name	No dykes related to mineralisation but geochem suggests magmatic intermediate intrusion source.
Intrusive Age	
Genetic Theories	
COMMENTS	Camp occurs near intersection of Robertson River Fault Zone and Gilberton Fault. Overall geochemistry of mineralisation at Comstock, Commissioners Hill & Lord Kitchener are similar. However mineralisation textures are variable between the mine sites. Mineralisation at Comstock consists of a broad linear (NE striking, steep NW dipping) zone of breccia cemented and replaced by quartz, iron carbonate, magnetite and pyrite. Whereas mineralisation at Commissioners Hill and Lord Kitchener are composed of narrow (<2m wide) zones of steep dipping shears hosting quartz veins and silicified breccia with minor disseminated pyrite in the quartz. Quartz in veins is generally white buck that has been brecciated and recrystallised with finer quartz and sulphide filling /replacing the more fractured portions of the early vein material. Coarse, medium, euhedral quartz crystals were observed at Lord Kitchener only. Deposits hosted in Cobbold Metadolerite often possess iron carbonate (siderite?) as infill and alteration products e.g. Comstock & Caledonia (8 mile camp).
Exploration	1983 Seltrust conducted drilling at Lord Kitchener, Oratava, Macedonia and Comstock. Best drilling results were; Lord Kitchener drill hole GLB-19, 36-38m, 2m @ 7.4 g/t gold; Oratava drill hole GLB-15, 72-74m, 2m @ 4.28% Cu, 17.5 g/t Ag, 0.23 g/t Au; Macedonia drill hole GLB-16, 66-70m, 4m @ 1.08% Cu, 6.3 g/t Ag, 0.84 g/t Au; Comstock drill hole GLB-01, 32-42m, 10m @ 2.24 g/t Au, 0.98 g/t Ag, (ATP3377M, CR12372). In 1994, Eltin Minerals mined an open cut at Comstock processing 98,000 tonnes @ 1.6 g/t Au through their Mt Hogan mill. Good summary of historical exploration of the Gilberton area in Newcrest 2006 report CR44501, CR60108. 2006, Newcrest drilled one RC hole at Lord Kitchener, one RC hole at Majuba Hill & 2 holes at Comstock (CR44501). ActivEX Ltd collected numerous rock chips and extensive grid based Niton soil sampling (EPM18623, 2016-2017).
100K sheet	7659.00
AMG North	7867400.00
AMG East	780600.00
Latitude	-19.27
Longitude	143.67
Last update	29 04 17 GM HM JV
REFERENCES	Activex ASX reports 2016 EPM18623; CR44501, CR44501, CR60108 Newcrest; CR12372 Seltrust

CAMP	Glenrowan
CLASS ALL	PNLHS
EPOCH	EDEV?
Related Intrusion	rhyolite?
Mineralisation Style	LD
QUARTZ ZONE	PLH
METAL ZONE	As
Size class (endowment)	26
Mining Method	
Production: Metal	22.9kg
Production Grade	
Periods of Production	Glenrowan, Grand Junction, Big Anne, Blow, Thompson, Elizabeth, Potosi
Reserves	
Reserves Grade	
commodities mined	Silver, lead, copper
Current status	
Tenement Holder	EPM25542 Strategic Metals Aust P/L, EPM13694 SMA Mining, EPM17394 Stuart Smith.
Deposit Names	Glenrowan, Elizabeth, Big Annie, Blow, Table Top, Grand Junction, Nelson, Anaconda
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	As Au Cu Te Ag Pb Bi Zn
Host 1	Lane Creek Formation
Host Description	White-grey quartz-mica schist (+/- andalusite, cordierite), phyllite, metasediment, quartzite
Host 1 Age	Proterozoic
Host 2	Ropewalk Granite
Regional Structure	Northwest trending pegmatite and rhyolite dykes through the camp. Permo-Carb intrusive body at centre of camp.
Mineralisation Age	Glenrowan sericite K/Ar date 444.6Ma +/- 10.2 (suspect Early Devonian)
Pb model age	
Deposit form	Irregular quartz - sulphide veining, stockwork & breccia hosted in narrow (<2m wide) shears.
Deposit Orientation	Variable, generally striking NW. Glenrowan dips 45° towards 235°, Elizabeth 80° towards 20°, Big Annie 80° towards 60°
related structure	Cleavage/schistosity in the host metamorphics trend northwest similar to the general orientation of the shears hosting the veins/mineralisation.
ore minerals	Gold, galena, chalcopyrite, pyrite, cerussite, copper carbonates, embolite?
ore texture	Sulphides lining vein margins and as trails within quartz veins and filling vughs. Sulphides replacing fg sandstone/phyllite at Elizabeth.
gangue minerals	Quartz, calcite, siderite
TYPICAL VEIN CHARACTERISTICS	Coarse euhedral buck, recrystallised & cut by stylolites, fine-med. Comb quartz +/- spider veins & bx
BUCK & INFILL C to F	BcLf-m
QUARTZ ZONE	PLH
gold fineness	
alteration minerals	Sericite
alteration facies	Phyllic
Related Intrusion Name	Abundant Permo-Carb rhyolite dykes trending through the camp along structures that parallel the host mineralised shears. Long (35km) linear zone of rhyolite dykes that extends from Monte Christo through Glenrowan to Western Creek Camps.
Intrusive Age	Host Proterozoic, minz. related intrusive ? Permo-Carboniferous
Genetic Theories	
COMMENTS	Elizabeth is a copper lode with significant Au production. Presence of siderite in most veins indicates relationship to silver lead veins.
Exploration	1982 Serum (Aust Pty Ltd): Percussion drill holes & costeans, CR 10878. 1987 drilling conducted at Glenrowan, Elizabeth & Breccia Pipe prospects by Central Murchison, ATP4475 , CR17499. 1996-1997 mapping, soil sampling , trenching & drilling conducted at Glenrowan by Kidston Goldmines EPM 9804. 1988 rock chip sampling by Gold Copper Exploration over the Glenrowan Camp, ATP4475M, CR18972.
100K sheet	North Head 7560
AMG North	7944200.00
AMG East	758700.00
Latitude	-18.58
Longitude	143.45
Last update	10-4-2017
REFERENCES	(1) 1915; GSQ Publ 245 Very little information, initial production in 1912 (2) ATP/EPM 479, 295, 649, 1491, 1631, 1613, 2404, 3733, 3612, 4434, 4475, 9804, 10295, 14988. CR's 10878, 17499, 18972.

CAMP	Goldsmiths
CLASS ALL	PNLHN
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD, VN
QUARTZ ZONE	PLH
METAL ZONE	Sb
Size class (endowment)	420
Mining Method	shafts, pits, open cut
Production: Metal	379.9kg
Production Grade	21.97g/t
Periods of Production	Caledonian (227kg), Canadian (66kg), Just in Time (33kg), Lady Franklin (18kg), some alluvial. Small gold production from Ropewalk by Altius Mining in 2015.
Reserves	AUML (Altius) quote resources of ?????
Reserves Grade	
commodities mined	Au Ag
Current status	Mining ceased, Altius processing plant still on site at Ropewalk
Tenement Holder	EPM14498 & ML's 3326, 3327, 3417, 3418 Australia United Mining Ltd; EPM25581, Kronos Gold.
Deposit Names	Palisade, North Crunch, Milky Way, Canadian, Canadian West, Eureka, Black Jack, Canadian East, Caledonia, Lawrence, All Nations, North Arm, New Gossan, Ropewalk, Lady Franklin, Electron, Big Gossan, Flying Cow, Ladybird, Black Orchid, Standing Roo, Just-In-Time,
CHEM CLASS	SAT
METAL ZONE	Sb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Sb As Au Mo Bi Ag Pb
Host 1	Lane Creek Formation
Host Description	Quartz-feldspar-biotite gneiss & schist.
Host 1 Age	Mid-Proterozoic
Host 2	Ropewalk Granite.
Regional Structure	Major WNW trending Big Reef - Goldsmiths structural corridor.
Mineralisation Age	
Pb model age	
Deposit form	Fissure vein, stringers
Deposit Orientation	Generally WNW trend parallel to major shear direction
related structure	At Canadian, the host shear strikes 70-75° & dips 70-80° N. In Ropewalk pit mineralised structure strikes 100° and dips steeply (80°) south.
ore minerals	Gold +/- pyrite, chalcopyrite, (galena)
ore texture	Irregular & lenticular veins up to 1m thick, with stockworking and breccia developed along shears.
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	Coarse euhedral buck, fine comb, recrystallised +/- breccia
BUCK & INFILL C to F	BcLf
QUARTZ ZONE	PLH
gold fineness	
alteration minerals	Sericite, quartz, chlorite
alteration facies	Phyllic & propylitic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Withnall (GSQ Rep 91) states that the reefs have been introduced along foliation planes, possibly replacing fine-grained schist layers and forming stringers in the more competent siliceous rocks. One piece of sericitised, veined rhyolite found on mullock.
Exploration	1962 B. Svirskis: lit review, field recon (CR1092). 1984 Midapa Pty Ltd: DDH, rock chip, whole rock, alluvial & dump site sampling CR 13817. 1985 Petrogram drilled four holes into Caledonian Reef (Goldsmiths) ATP4093, CR16685. Best intercept was in DDHS01 , 32.73 - 33.48m, 0.75m @ 7.11 g/t Au. 1993-97, Union Mining completed extensive mapping and sampling of Georgetown & Forsayth district historical mines CR24579, CR24758, CR25609, CR27781.
100K sheet	Forsayth 7660
AMG North	7934000.00
AMG East	783900.00
Latitude	-18.67
Longitude	143.69
Last update	13-05-2017 GM HM
REFERENCES	(1) 1976; GSQ Rept 91 Mines description, geology, production, plans, section. (2) 1900; GSQ Publ 151 Mine description, production, geology (3) 1887; GSQ Publ 35 Mine description, production, geology. (4) 1965; BMR Bull 71 Regional geology Etheridge Goldfield & production data (5) 1962; ATP 197M Good discussion of Georgetown mines as a whole, with data on some mines. CR1094 (6) ATP/EPM 479, 753, 1394, 1398, 1573, 1954, 2475, 2316, 3169, 3406, 4008, 4093, 9604.

CAMP	Greenhills
CLASS ALL	IRXEP
EPOCH	EPERM?
Related Intrusion	rhyolite
Mineralisation Style	BX, VN
QUARTZ ZONE	IE
METAL ZONE	Pb
Size class (endowment)	
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	
Current status	
Tenement Holder	EPM 25267, Rummager P/L
Deposit Names	Silver Hill, Minocc #345644
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Au Bi Pb U Ag As Sb Cu
Host 1	Lane Creek Formation
Host Description	Grey, commonly carbonaceous, locally calcareous, metasiltstone, quartzite and fine sandstone.
Host 1 Age	Proterozoic
Host 2	Townley Formation , metasiltstone & sandstone. Forsayth Granite. Permo-carb. Rhyolite dykes
Regional Structure	Camp lies 5kms west of the Cumberland Range volcanic complex. Camp also incorporates the curvilinear Prestwood Microgranite intrusive that might represent a ring dyke marking the outer caldera margin of the Cumberland Range volcanic complex.
Mineralisation Age	permo-carb?
Pb model age	
Deposit form	linear breccia
Deposit Orientation	trends E-W (100°)
related structure	WNW striking structures
ore minerals	
ore texture	comb quartz, breccia
gangue minerals	quartz
TYPICAL VEIN CHARACTERISTICS	fine comb
BUCK & INFILL C to F	F
QUARTZ ZONE	IE
gold fineness	
alteration minerals	silica
alteration facies	
Related Intrusion Name	Permo-carb rhyolite dykes, Prestwood Microgranite?
Intrusive Age	Permo/Carb
Genetic Theories	Linear zones of breccia cemented by comb quartz are probably related to the Permian rhyolite dykes that swarm the area.
COMMENTS	Mapping and sampling has shown that two styles of mineralisation are present within the camp. The main style is epizonal, characterised by linear zones of breccia cemented by fine comb quartz sometimes developed along margins of Permian ? rhyolite dykes. The second less common variety are shears hosted in the Proterozoic rocks hosting irregular veins of medium comb quartz, siderite and sulphides similar to those found in the Georgetown region.
Exploration	In 1970, Bridge Minerals conducted regional stream sediment and rock chip sampling over the Green Hills region (ATP813M, CR3533). 1973, Newmont collected rock chip samples from the Prestwood Microgranodiorite in the Green Hills area (ATP1276M, CR4720). In 1988 - 1989, Keela-Wee Exploration Ltd in JV with BP Minerals conducted regional exploration over the Green Hills area involving (BLEG) stream sediment sampling, reconnaissance rock chip sampling and soil sampling (ATP5253M, CR18840, CR20555). In 1989, battle Mountain conducted reconnaissance rock chip sampling over the Green Hills area (ATP5065M, CR20574). In 1992, MIM conducted regional exploration for Century style stratabound Pb-Zn mineralisation in the Proterozoic metamorphic rocks on Greenhills Station. Rock chip samples were collected over the Greenhills area. Samples anomalous in gold and silver were collected from near the southern end of the Prestwood Microgranite ring dyke. sample #95691, 15.8 g/t Au, 34 g/t Ag, (EPM7632, CR23591).
100K sheet	Forrest Home 7561
AMG North	7962000
AMG East	733700
Latitude	-18.419
Longitude	143.21
Last update	18/06/17
REFERENCES	CR3533, CR4720, CR18840, CR20555, CR20574, CR23591,

CAMP	Havelock
CLASS ALL	PNLMC
EPOCH	EDEV
Related Intrusion	none
Mineralisation Style	LD
QUARTZ ZONE	PLM
METAL ZONE	Cu
Size class (endowment)	645
Mining Method	Shafts, pits
Production: Metal	579.4kg
Production Grade	44.3g/t
Periods of Production	1878-1950: Havelock, Victory, Settler, Forget-Me-Not, Valentine, Last Hope
Reserves	
Reserves Grade	
commodities mined	Gold, silver, copper
Current status	
Tenement Holder	ML3328 Richard Terry, ML7045 Salvatore Terranova, EPM14498 Australian United Mining Ltd, EPM15547 JKO Mining Pty Ltd, EPM17643 SC Resources.
Deposit Names	Havelock, Two Micks, Mount Aurum, Victory, Ironbark, Last Hope, Settler, Forget-me-Not, Valentine
CHEM CLASS	TB
METAL ZONE	Cu
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Bi Au Te Ag Cu Pb Sb W
Host 1	Goldsmiths Granite & Delaney Granite
Host Description	Med grained k-feldspar porphyritic musc-biotite granite
Host 1 Age	Mid Proterozoic
Host 2	
Regional Structure	Camp lies 5km's east of the regional scale Delaney Fault and within the major Big Reef-Goldsmiths NW trending structural corridor.
Mineralisation Age	Havelock sericite alteration dated at 404.7Ma +/- 9.3 (Early Devonian)
Pb model age	
Deposit form	Lenticular, irregular veins hosted along shear
Deposit Orientation	Strike 110° dip 70° north
related structure	Localised at western end of major (8km long) WNW striking Fault that parallels the Goldsmiths Fault 2kms south. Situated near the junction of 2 faults striking 115° and 150° respectively. The reef cuts out to the east against a fault that dips 30°NE.
ore minerals	Gold, silver, pyrite, chalcocopyrite +/-galena, arsenopyrite, sphalerite
ore texture	Euhedral buck quartz with interstitial sulphides.
gangue minerals	Quartz, calcite
TYPICAL VEIN CHARACTERISTICS	Medium euhedral buck, recrystallised, late fine comb +/- chalcedony
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Clay, sericite, chlorite
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Late fine comb quartz usually lining vughs with calcite. More copper sulphides than generally found elsewhere in the Forsayth district.
Exploration	1984 Midapa Pty Ltd: DDH, whole rock, rock chip, alluvial and dump site assays. CR 13817
100K sheet	Forsayth 7660
AMG North	7940600.00
AMG East	774500.00
Latitude	-18.61
Longitude	143.60
Last update	31-3-2017
REFERENCES	(1) 1978; QGMJ 79 p 365-367 Mine description, plans, production (2) 1976; GSQ Rep 91 Mine description, plans, production, geology (3) 1909; GSQ Publ 219 Mine description, production (4) 1900; GSQ Publ 151 Mine description, production, minor geology. 5) 1962; ATP 197M, CR1094 Production, geology, mine description (6) 1965; BMR Bull 71 Regional geology (7) ATP 479, 649, 1491, 1954, 2402, 2316, 3406, 3612, 4093. (8) Union Mining 1993-1997 extensive mapping and sampling of Georgetown & Forsayth district historical mines CR24579, CR24758, CR25609, CR27781.

CAMP	Huonfels
CLASS ALL	IDLMS
EPOCH	EPERM?
Related Intrusion	granodiorite
Mineralisation Style	LD, VN,BX
QUARTZ ZONE	IM
METAL ZONE	As
Size class (endowment)	
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	
Current status	Exploration
Tenement Holder	Bushman Resources EPM25857, Red Robin Resources EPM25524
Deposit Names	Huonfels
CHEM CLASS	GST
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Ag Te As Au Sb Pb Cu Bi
Host 1	Lane Creek Formation
Host Description	Phyllite, carbonaceous shale, metasandstone, metasilstone, calc-silicate rocks
Host 1 Age	Proterozoic
Host 2	Mt Darcy Microgranodiorite, rhyolite-dacite flows, dykes and breccias (Dismal Ck Volcanics)
Regional Structure	Huonfels located in the north of the circular, caldera? structure that hosts the Carboniferous age Dismal Creek Dacite.
Mineralisation Age	
Pb model age	
Deposit form	Multiple subparallel narrow linear and anastomosing shear zones hosting quartz veins and breccia.
Deposit Orientation	North trending
related structure	Series of northerly trending shears cutting Lane Creek Fm.
ore minerals	Au, Ag, Pb
ore texture	Fine disseminated sulphides in silicified host rock and late stage sulphide infill of vughs.
gangue minerals	quartz, carbonate
TYPICAL VEIN CHARACTERISTICS	Fine comb, zoned crystals
BUCK & INFILL C to F	FZ
QUARTZ ZONE	IM
gold fineness	
alteration minerals	quartz, sericite, ankerite
alteration facies	phyllitic
Related Intrusion Name	Mt Darcy Microgranodiorite, rhyolite-dacite flows, dykes and breccias (Dismal Ck Volcanics)
Intrusive Age	
Genetic Theories	Mineralisation mostly hosted in broad zone of linear anastomosing shears. Numerous rhyolite dykes and intrusive porphyry bodies crop out within the shear zone, some of which are brecciated , altered and mineralised. The close spatial relationship between the mineralisation and intrusives, quartz textures and geochemical signature suggests a genetic link to the volcanics.
COMMENTS	
Exploration	1986 - 1989, CRA conducted mapping , soil & stream sediment sampling, rock chip sampling, drilling, ground & airborne magnetic and radiometric surveys over Huonfels area. Best drilling intercept was RC85KA4, 6m @ 2.56 g/t Au & 527 g/t Ag. ATP4074, CR's 16020, 16021, 18432, 22123.
100K sheet	Forrest Home 7561
AMG North	7992500.00
AMG East	740300.00
Latitude	-18.14
Longitude	143.27
Last update	17-5-2017
REFERENCES	

CAMP	International
CLASS ALL	PNLHS
EPOCH	EDEV
Related Intrusion	none
Mineralisation Style	LD
QUARTZ ZONE	PLH
METAL ZONE	As
Size class (endowment)	1150
Mining Method	shafts and pits
Production: Metal	925.2kg, Aurora (104kg), Old Man (99kg).
Production Grade	
Periods of Production	Historical bullion production; International (593kg), Black Diamond 1880-1891, (11.73kg); Blackwall (152.9kg); Brandy Smash, 1880-1899 (33.6kg); City of Glasgow 1879-1899 (73.33kg); Comet 1880-1891 (23.39kg); Dreadnought 1894-1899 (18.95kg); Eclipse 1880 (4.09kg); Kerry Lass 91890-1891 (8.54kg); Lallah Rookh 1880-1893 (22.51 kg); Larrikin 1881-1891 (3.16kg); Lord Nelson 1888-1896 (78.27kg); Marchioness 1880-1891 (6.48kg); Overland Route 1878-1891 (4.13kg); Parmell 1881-1891 (2.31kg); Poverty 1903-1909 (20.45kg); Tivoli 1885-1891 (3.31kg). In 1996-1997, Union Mining excavated long +100m , narrow (<20m), shallow (<20m) pits at the International, Stonewall Jackson, Bon Successor and Victory mines.
Reserves	
Reserves Grade	
commodities mined	gold, silver, lead, (copper)
Current status	
Tenement Holder	ML 3358 & EPM17989 Central Gold Mines, ML30231, ML30232 & EPM17687 Atherton Minerals. EPM17570 JKO Mining P/L, EPM26267 Nimble Resources Ltd, EPM25930 McDermott Creek Mining P/L, EPM25480 Owen Wellington.
Deposit Names	Victory, International, Stonewall Jackson, Anne Day East, Anne Day, Try-No-More, Why Butterfly, Bon Success, Eagle 3, Kerry Lass, Sullivans cap, Blackwall, Parnell, Marchioness, Brandy Smash, City of Glasgow, Overland Route, Poverty, Eclipse, North Star, Comet, Black Diamond, Larrikin, Lord Nelson, Lallah Rookh, Dreadnought, Tivoli, Aurora, Redan, Old Man
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Ag As Te Bi Pb Zn Sb Cu
Host 1	Forsyth Granite
Host Description	Foliated, coarse porphyritic biotite granite
Host 1 Age	Mid Proterozoic (1465 + 20 my)
Host 2	Mistletoe Granite. Medium grained musc-biotite granite (Black Diamond, Comet, Lallah Rookh). Einasleigh Metamorphics gneiss (Tivoli, Dreadnought, Lord Nelson, North Star). Daniel Ck Fm phyllite and quartzite (Brandy Smash, City of Glasgow). Schist & phyllite of the Lane Creek Formation (Redan, Aurora).
Regional Structure	Camp straddles the major N-S striking Delaney Fault and region is cut by numerous major east trending fault/shear zones.
Mineralisation Age	426Ma Bain date for Stonewall Jackson. K/Ar sericite date (GSQ) 389Ma Black Diamond alteration
Pb model age	
Deposit form	Irregular, lenticular, shear/fault hosted breccia veins
Deposit Orientation	generally localised along E-W to ENE striking structures.
related structure	East trending faults e.g. International, Stonewall Jackson, Victory, Anne Day, Brandy Smash, Poverty, City of Glasgow. Redan & Aurora localised along sheared contact between Forsyth Granite and schist of the Lane Creek Fm.
ore minerals	gold, silver, pyrite, galena, chalcopyrite (galena is commonly dominant), cerussite, pyromorphite
ore texture	Disseminated sulphides infill of vughs and intercrystalline spaces, as breccia cement and lining late stage fractures and stylolites.
gangue minerals	Quartz, pyrite
TYPICAL VEIN CHARACTERISTICS	Coarse euhedral buck , recrystallised and cut by med-fine comb, breccia, stylolites and spider veins
BUCK & INFILL C to F	BcLf
QUARTZ ZONE	PLH
gold fineness	
alteration minerals	Silicification. Green sericite after Na-feldspar, chlorite after mafic minerals. Minor early carbonate.
alteration facies	
Related Intrusion Name	
Intrusive Age	
Genetic Theories	Quartz textures indicate a deep mesozonal origin for the camp lodes. Trace element geochemistry (high Bi, Te) indicate a magmatic source to the mineralising fluids. K/Ar dating of sericite alteration selvage to mineralisation indicate a Devonian age.
COMMENTS	In 1982, mapping at Redan and Aurora by Serem revealed two parallel shears ~ 25m apart striking NW close to the contact of the Forsyth Granite and Lane Creek metamorphics. Drilling showed the shear hosted veining to be shallow dipping (30°) to the northeast. Redan & Aurora have similar quartz textures and geochemistry to the lodes further west but have a different strike orientation and dip.
Exploration	1962 B. Svirskis: lit review, field recon (CR1092). 1984 Watters & Assoc. Conducted gold panning & metal detection, CR 13357. In 1983 five diamond holes drilled across the International mine by Petrogram Pty Ltd ATP4093M, CR16685. Best intercept was in DDHS1, 108.2-108.86m, 0.66m @ 14.10 g/t Au. 1984, Midapa Pty Ltd evaluated many of the historical workings in the Forsyth & Georgetown district. Selected mines were mapped & sampled ATP3406M CR 13817. 1993-97, Union Mining completed extensive mapping and sampling of Georgetown & Forsyth district historical mines CR24579, CR24758, CR25609, CR27781. 1972, Bridge Minerals mapped and sampled the old workings at Redan and Aurora as part of exploration over a much larger area extending from Cumberland to South of Forsyth (ATP813M, CR4296). 1982 Serem conducted mapping, sampling & drilling of old workings at Old Man (8 holes), Aurora (4 holes) CR10642 & CR10876. Drilling failed to intersect significant gold values at Aurora and Old Man. Silver intercepts included 13-16m, 3m @ 6.95 g/t at Aurora and 16-19m, 3m @ 5.50 g/t at Old Man (CR10642).
100K sheet	Georgetown 7661 & Forrest Home 7561
AMG North	7965000.00
AMG East	770000.00
Latitude	-18.39
Longitude	143.56
Last update	27-5-2017
REFERENCES	(1) 1900; GSQ Publ 151 Description of workings, gold values (2) 1939; QGMJ 40, pp363, 402-407 Mining proposals, minor geology, production, brief description. (3) 1933; QGMJ 34, pp33-34, mine description, production, mineralogy. (4) 1965; BMR Bull 71 Regional geology, production. (5) 1965; BMR Bull 71 Regional geology, production (6) 1978; GSQ Report Series #100, l. Withnall, Mines description, geology, production CR55605. (7) Bain, J.H.C., 1987; BMR newsletter #6 p14 Sericite dating. (8) Union Mining 1993-1997 extensive mapping and sampling of Georgetown & Forsyth district historical mines CR24579, CR24758, CR25609, CR27781. (9) ATP 197, 479, 649, 813, 1111, 2316, 2159, 3406, 3603, 3837, 4093, 4420, 4346 EPM 8271, 8788, 9064.

CAMP	Ironhurst
CLASS ALL	IRXES
EPOCH	EPERM
Related Intrusion	rhyolite
Mineralisation Style	BX, VN, SW
QUARTZ ZONE	IE
METAL ZONE	As
Size class (endowment)	44
Mining Method	Prospect only
Production: Metal	National , 4311.66 tonnes @ 23-34 g/t Au, 105.069 kg. Calliope, 524.79 tonnes @ 81.36 g/t Au, 42.698 kg. Jenolan , 3874.2 tonnes @ 15.25 g/t , 59.096 kg. (from Cameron 1900, CR55307).
Production Grade	>15 g/t
Periods of Production	Jenolan ~1900
Reserves	
Reserves Grade	
commodities mined	Zinc, silver
Current status	exploration
Tenement Holder	EPM25817 Bushman Resources Pty Ltd
Deposit Names	Ironhurst
CHEM CLASS	GST
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	As Ag Te Pb Sb Bi Au Cu Zn
Host 1	Lane Creek Formation
Host Description	Ironhurst Breccia consists of polymictic matrix support breccia composed of clasts of schist, metadolerite and variably textured rhyolite volcanics. The NE striking lode style deposits (Jenolan, Calliope) are hosted in schist, gneiss, dolerite, phyllite (Lane Creek Fm).
Host 1 Age	Proterozoic
Host 2	Maureen Volcanics in Ironhurst Breccia pipe
Regional Structure	Maureen Volcanic subsidence cauldron 6 km NW. NE striking regional foliation in metamorphics. WNW striking faults.
Mineralisation Age	Ironhurst sericite K/Ar date 278.4 Ma +/- 6.4. Early Permian event.
Pb model age	
Deposit form	Ironhurst breccia consists of a near vertical, 1000 x 700m oblong shaped pipe with marginal veins and internal stockwork/replacement. Ironhurst lodes consist of narrow (<3m wide) steep dipping shears hosted in metamorphics rocks.
Deposit Orientation	Ironhurst breccia is vertical. Lode deposits strike NE parallel to regional schistosity and layering in Lane Creek metamorphics.
related structure	ESE trending faults
ore minerals	sphalerite, galena, pyrite, arsenopyrite & tetrahedrite, cerussite, pyromorphite
ore texture	Breccia and late stage veins in Ironhurst breccia pipe. In lode style deposits, late stage sulphide fill of vughs in quartz veins. Late stage pyrite fracture fill and breccia matrix cutting earlier quartz phases.
gangue minerals	Quartz, minor calcite
TYPICAL VEIN CHARACTERISTICS	fine comb quartz veins and breccia infill, zoned crystals
BUCK & INFILL C to F	FZ
QUARTZ ZONE	IE
gold fineness	
alteration minerals	Clay, sericite-pyrite near northern margin of pipe. Silicification & chloritisation in the metadolerite, carbonate? Silicification adjacent to lode deposits.
alteration facies	Phyllic/argillic, propylitic
Related Intrusion Name	Small plug of flow banded rhyolite at core of ironhurst breccia pipe.
Intrusive Age	CARB-PERM
Genetic Theories	Ironhurst breccia pipe represents a Carboniferous felsic volcanic vent
COMMENTS	At the Ironhurst Breccia Zn, Au, Ag, veins/gossans apparently occur on the margin of the pipe where that margin cuts contacts between schist & metadolerite. Gold values were minimal. Zn & Ag are dominant. At the Jenolan mine, a fine comb stockwork which is probably related to the Maureen volcanics?
Exploration	From 1982 to 1984, Seltrust explored for disseminated gold and silver mineralisation associated with a volcanic breccia pipe ("Ironhurst Breccia Pipe") ATP3545. From January 1984, BP Minerals Australia managed and operated exploration on behalf of Seltrust. Work carried out included geological mapping, rock chip and stream sediment sampling, ground magnetics, an EM survey and two programs of drilling. Results from rock chip and stream sediment sampling highlighted zinc, lead, arsenic, silver and gold anomalies in the northern part of the breccia. At the contact of the breccia with the Proterozoic basement rock anomalous base metal values were also reported. Ground geophysical surveys, including EM and magnetics, were carried out over the area of the pipe and surrounds with no significant results being reported. The magnetic survey covered a 2km x 1.5km area with stations read at 25m intervals on lines 50m apart. A flat magnetic response from the felsic volcanics and a higher response from the metadolerites was noted. The responses from the Sirotem survey using 100m loops on lines 200m apart over a 6km x 1.5km area were also noted as being disappointing. A program of 22 reverse circulation percussion drill holes for 2618m of drilling was completed. Holes were drilled down to 150m vertical depth to test the breccia and the surrounding basement rock. Drilling encountered weak gold mineralisation, returning up to 0.3 g/t locally. Significant intervals of zinc and silver mineralisation were intersected in several holes with the best reported interval of 20m @ 10.7% zinc and 13 g/t silver in IHP10 from 84m to 104m. Anomalous silver intersections included 4m @ 162 g/t silver and 3.7% zinc in IHP12 from 32m to 36m. Significant intersections are summarised in Table 2. Seltrust concluded that the breccia was deeply eroded and that any gold mineralisation that had occurred within the body would have been removed from the upper levels. The presence of the anomalous base metals encountered within the shallower portions of the body during the drilling was considered evidence in support of this interpretation. In 1986, Diatreme Resources recognised that classic metal zoning models may not apply to all breccia deposits in North Queensland, and experience from the Mt Wright Deposit suggested that gold mineralisation has the potential to lie beneath zinc mineralisation. Diatreme drilled four RC holes, IHP-23, 23A, 24 and 25. The drill holes intersected low grade gold associated with broad intersections of low grade zinc mineralization. In 2008 Xtreme Resources conducted rock chip sampling, grid soil sampling, drilling and an IP geophysics survey over the Ironhurst breccia pipe. Best result from drilling was in hole IHP-28, 68-70m, 2m @ 0.94 g/t Au, 28.9 g/t Ag, 0.50% Pb and 0.4% Zn. EPM12976, CR55925. Chalcophile Res. inherited the EPM12976 from Xtreme Resources in 2009. After failing to find a JV partner dropped the EPM in 2013 (CR81608). EPM21587 over the Ironhurst breccia pipe was granted to Bushman Resources in 2015.
100K sheet	Forrest Home 7561
AMG North	Ironhurst Breccia 7996800
AMG East	Ironhurst Breccia 758700
Latitude	Ironhurst Breccia -18.103
Longitude	Ironhurst Breccia 143.445
Last update	10/04/17
REFERENCES	(1) ATP 1619, 2996, 3455 (2) Cameron, W.E., 1900; GSQ Publ 151, The Etheridge & Gilberton Goldfields CR55307 (3) 1909, GSQ publication 219 second report on the Etheridge Goldfield , Cameron, W.E. Production figures for Calliope, Jenolan & National. CR 55375 (4) 1984 - 1986, Seltrust conducted exploration including drilling of the Ironhurst breccia pipe EPM3545. (5) Xtreme Resources , mapping, sampling, IP geophysics, RC and diamond drilling 2004-2010 EPM12976 CR55925 (6) Chalcophile Resources historical data re-evaluation 2013, EPM12976, CR81608.

CAMP	Jubilee Plunger
CLASS ALL	PNLMS
EPOCH	EDEV
Related Intrusion	none
Mineralisation Style	LD
QUARTZ ZONE	PLM
METAL ZONE	As
Size class (endowment)	63
Mining Method	pits and shafts
Production: Metal	23.2kg
Production Grade	6.8g/t
Periods of Production	Historical production listed in Bain (1985), 1894-1897 - Jubilee Plunger (10.1kg @ 10.73 g/t), Lady Mary (10.5kg @ 15.7g/t), Better Luck (13.8kg @ 18.7g/t), Black Blow (5.92kg). Jubilee Plunger/Lady Mary open cut excavated in 2011 by Deutsche Rostoff with ore trucked to the mill at Georgetown.
Reserves	
Reserves Grade	
commodities mined	Gold, lead
Current status	
Tenement Holder	ML3374 over Jubilee Plunger and Lady Mary currently held by Central Gold Mines Pty Ltd. EPM's 17788, 17949, 17629 Laneway Resources. EPM 25816 Kronos Gold.
Deposit Names	Jubilee Plunger, Lady Mary, Healy's Better Luck, Black Blow, Cattle Creek, Cobsgo, Bridle Track
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Ag As Sb Pb Bi Te Cu
Host 1	Robin Hood Granodiorite
Host Description	Pink to grey hornblende - biotite granodiorite with quartz phenocrysts
Host 1 Age	Silurian
Host 2	Digger Ck Granite & Daniel Ck Fm schist (Proterozoic)
Regional Structure	Interpreted 20km long structure extending from Cattle Creek prospect in the NW to Oaky Creek Prospect and Jemma vein in the SE shear zone with quartz shoots at intersection with N trending mag anomalies.
Mineralisation Age	K/Ar sericite age dating of samples from Lady Mary/Jubilee Plunger 397.5Ma +/- 9.2 (early Devonian age). Existing age 400Ma on alteration at Jubilee Plunger (Bain et al 1988).
Pb model age	
Deposit form	Moderately east dipping altered shear zone with irregular, anastomosing, fractured quartz veins . Possible extension to south for 12km overall and parallel structure at Cobsgo 3.5km to NE.
Deposit Orientation	Strike 140-160, dip 45-55 E
related structure	Quartz pods and mineralisation hosted in shears which trend 135°-160° and dip 30-60° east.
ore minerals	Gold, silver, pyrite, arsenopyrite, sphalerite, galena +/- chalcopyrite, marcasite, covellite (primary). Minor malachite, azurite, cerussite, smithsonite
ore texture	Late stage sulphide interstitial to quartz crystals
gangue minerals	Quartz, siderite, calcite
TYPICAL VEIN CHARACTERISTICS	Med. euhedral buck, recrystallised, cut by later fine comb and bx
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Sericite, kaolinite, chlorite, epidote, siderite. Alteration occurs over a width > 30m
alteration facies	Argillic, phyllic, propylitic
Related Intrusion Name	On the southern end of the Jubilee Plunger reef is a small rhyolite breccia
Intrusive Age	Permo - Carboniferous
Genetic Theories	
COMMENTS	The main Jubilee plunger lode system is well defined extending to Black Blow and probably Cattle Creek ~6km NNW. There is a possible extension to the south that may extend to Oaky Creek ~10km and Jemma ~12km based on the work by Orion CR17490A and Kidston. The Jemma vein is a NNW dipping lode with tectonic and hydrothermal breccias with weak silica-sulfide mineralisation. Cobsgo is parallel structure 3.5km to the NE of JP that extends 4km and is up to 300m wide as a shallow dipping shear with sericitic alteration and an echelon quartz pods up to 100m long and local high gold grades and a Au-Ag-Pb-Zn-Cu-Bi-Te geochem signature.
Exploration	In 1970 Gulf Minerals Pty Ltd mapped the workings, bulldozed 13 shallow costeans, and analysed about 20 composite rock chip samples from mullock heaps and outcrops. The poor gold values (average 0.9 g/t, maximum 4.4 g/t) discouraged further work. In 1973 and 1974 the BMR conducted soil & stream sediment geochemical sampling over the Jubilee area. In 1975 the BMR conducted various geophysical surveys over Jubilee Plunger i.e. IP resistivity , VLF and magnetics. In 1975 two diamond drill holes were cored to depths of 100m and 56 m. The shallower hole intersected several zones rich in sulphides. Intersecting 7 g/t Au, 86 g/t Ag, 1.1% Pb, 2.6% Zn and 0.35% Cu over 7.6m. 1982, Howard-Smith Exploration: geological mapping, drilling & resource definition at Jubilee Plunger including 227 open hole percussion drill holes (CR9390). This drilling led to the definition of a gold resource of 173,640 tonnes @ 3.2 g/t. Orion 1987, drilled 30 RC holes at Jubilee Plunger down dip of shallow airtrac holes previously drilled by Howard Smith. Queensland Metals 1983 mapping, soil geochem 5 diamond holes for 222.3m at Black Blow Best intersections 1m@4.3ppm Au and 1m@6.7ppmAu. Orion drilled 9 percussion holes in a 12m wide alteration zone with scattered quartz over a 2km extension to the SE of Jubilee Plunger. Also conducted a program of RC drilling aimed at resource definition. Results defined 78,158 tonnes @ 4.39 g/t Au to 45m depth.
100K sheet	Forsayth 7660
AMG North	7913800.00
AMG East	784200.00
Latitude	-18.82
Longitude	143.70
Last update	21-05-2017
REFERENCES	(1) 1979; Bain, 1979, MSc Thesis, JCUNQ Detailed description of the mine, regional aspects, maps etc (2) 1976; GSO Rep 91 Mines description, production, plans, minor geology (3) ATP 479, 753, 1394, 1573, 2645, 3169, 3559. (4) Detailed exploration including drilling of 227 RC holes at Jubilee Plunger by Howard Smith Exploration 1981 (CR9390), defined a resource of 173,640 tonnes @ 3.2 g/t Au, 31 g/t Ag, 0.63% Pb, 0.41% Zn & 0.08% Cu. CR23234 Kidston Gold Mines, 1991.

CAMP	Kidston
CLASS ALL	IYXMP
EPOCH	ECARB
Related Intrusion	rhyodacite
Mineralisation Style	BX,VN
QUARTZ ZONE	IM
METAL ZONE	Pb
Size class (endowment)	150000
Mining Method	Underground, shafts, open cut
Production: Metal	1310kg
Production Grade	6.5g/t
Periods of Production	3 main areas:- Wise's Hill, North Knob, Mack's Knob
Reserves	56800000t
Reserves Grade	1.8g/t
commodities mined	Au Ag
Current status	Rehabilitated mine now in development for solar & pumped hydroelectric power generation. Echo Resources currently hold EPM17077 surrounding old mining leases.
Tenement Holder	Energex
Deposit Names	Wises Hill, North Knob, Eldridge
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	MO W BI
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Bi Te Ag Pb Zn Cu As Mo W F
Host 1	KIDSTON CX
Host Description	hydrothermal breccia and related multi-phase rhyolite intrusions
Host 1 Age	335
Host 2	Einasteigh Metamorphics
Regional Structure	Close to regional contact of Proterozoic granitoids/metamorphics which in part is a major fault (Gilberton Fault) trending 060. On NNW striking dike swarm emanating from Lochaber Complex and also a N-trending fault that terminates in the Lochaber Complex.
Mineralisation Age	332Ma zircon U-Pb on syn-mineralisation dike; 340Ma Re-Os molybdenite; 332, 336 sericite Ar-Ar & K-Ar
Pb model age	550
Deposit form	Sheeted veins, cavity fill in breccia.
Deposit Orientation	Sheeted veins dip steeply subparallel to pipe margins. Cavities best developed in rhyolite breccia.
related structure	Pipe straddles a 300~ trending contact of granodiorite/metamorphics in an embayment of regional contact. Dykes trend northwest, some are restricted to the pipe.
ore minerals	Sheeted veins:- pyrite, sphalerite, galena, arsenopyrite, chalcopyrite, tetrahedrite. Cavities:- pyrite, sphalerite, chalcopyrite, galena, magnetite, arsenopyrite, molybdenite. Intimate to gold: pyrite, sphalerite, arsenopyrite, chalcopyrite, galena, minor pyrrotite with native bismuth, bismuth telluride, bismuthinite, hedleyite, tennantite, freibergite, arsenopyrite, lead-bismuth and lead-bismuth-antimony sulphosalts and molybdenite.
ore texture	Comb quartz veins with carbonate sulphide central
gangue minerals	Sheeted veins & cavities:- quartz, calcite, ankerite, siderite, fluorite
TYPICAL VEIN CHARACTERISTICS	Fine - med. comb quartz cementing breccia and in late stage sheeted vein ore. Minor early saccaroidal quartz (Mo) stockwork
BUCK & INFILL C to F	F-M(A)
QUARTZ ZONE	IM
gold fineness	880, 906-911
alteration minerals	Sericite >> carbonate, quartz ,pyrite . Patch & vein: carbonate-epidote-chlorite-Kfeldspar locally pre-breccia.
alteration facies	Phyllic, propylitic, +/-potassic
Related Intrusion Name	KIDSTON BX CX
Intrusive Age	335 Ma
Genetic Theories	Fluid inclusions: Early quartz veins (450~C; 45% NaCl; boiling; halite, sylvite + others). Quartz-tourmaline (420~C,lower values; 45% NaCl; boiling less obvious; halite, sylvite less common). Cavities (370~C,200~C depth control?; 6% NaCl; minor boiling).
COMMENTS	
Exploration	
100K sheet	Einasteigh 7760
AMG North	7910500.00
AMG East	201500.00
Latitude	-18.88
Longitude	144.17
Last update	11 06 17 GM
REFERENCES	Furnell, R., 1998, Exploration history, internal document; Morrison (2007) field guide EGRU JCU; Morrison, G., Seed, M., Bobis, R., and Tullemans, F., 1996, The Kidston gold deposit, Queensland: a piston-cylinder model for gold mineralisation in a porphyry Mo system. Abs presented in the Australian Geological Convention, 19-23 February, 1996, Canberra; Bobis, Rowe & Tullemans 1996, manuscript and internal report; Rowe, E, 1996, M.Sc. JCU, Konopa, S, 1989, M.Sc.JCU; Baker, E.M. 1987 Ph.D thesis JCU(1) 1983; Mustard 1983 BSc Hon Thesis Detailed geology, maps, plans. (2) 1981; Graylin 1981 MSc Thesis Detailed geology, maps, production. (3) 1980; Bain & Withnall NQ Vol.1980 Geology, maps, brief. (4) 1980; AUSIMM Ann.Conf.1980:53-66 Regional overview, notes on geology and origin of the Etheridge Goldfield (5) 1979; BMR Ann.Rep.1979 Minor geology, mainly reserve calculations (6) 1966; BMR Bull 71 Regional geology. (7) 1935; Anglo-Qld.Min.P.L. Report , minor geology, mainly reserve calculations + others. (8) 1934; GMA Rep.1934 Coldham Geology, production. (9) 1932; QGMJ 33:287-288 Mines description and yields only. (10) 1920; QGMJ 21:186-192 Production, minor geology, claim map. (11) 1915; QGMJ 16:415-417 Wolfram and moly in Kidston ore. (12) 1912; QGMJ 13:544-548 Plans, mines description. (13) 1911; QGMJ 12:9-18 Detailed geology, production, mines description.

CAMP	Lane Creek
CLASS ALL	PNLMP
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD, VN
QUARTZ ZONE	PLM
METAL ZONE	Pb
Size class (endowment)	143
Mining Method	Shafts
Production: Metal	128.2kg
Production Grade	30.55g/t
Periods of Production	National (105kg), Cosmopolitan/Calliope (43kg), Jenolan (59kg), Sir William Alfred, Caledonia, Brilliant.
Reserves	
Reserves Grade	
commodities mined	Au
Current status	
Tenement Holder	EPM17879 JKO Mining P/L; EPM25817 Bushman Resources P/L
Deposit Names	Cosmopolitan, Calliope, Caledonia, National, Brilliant, Sir William Alfred, Jenolan
CHEM CLASS	SAT
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Te Ag Pb Sb Bi As Cu
Host 1	Lane Creek Formation
Host Description	White to dark grey quartz-mica-schist, phyllite and gneiss. Schist is coarse grained with muscovite porphyroblasts that cut foliation.
Host 1 Age	Proterozoic
Host 2	Cobbold Metadolerite
Regional Structure	Maureen volcanic subsidence cauldron ~5km to the NW. Regional scale N-S Delaney Fault situated 12kms east. Early Permian Yataga Granodiorite located 11kms to NE.
Mineralisation Age	Devonian?
Pb model age	
Deposit form	Irregular quartz veins and breccia hosted in shears
Deposit Orientation	Northeast strikes with steep northwesterly dips.
related structure	Lodes and host shears strike NE, parallel to the regional foliation in the host metamorphic rocks (schist).
ore minerals	free gold, pyrite, galena
ore texture	Sulphide filling crystal interstices, late fractures and minor breccia matrix.
gangue minerals	Quartz, calcite, (siderite).
TYPICAL VEIN CHARACTERISTICS	Medium euhedral buck, brecciated and cemented by fine comb quartz and silica-pyrite
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Quartz, Sericite
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	The Brilliant, Sir William Albert and Jenolan mines all lie on the one structure. The steeply NW dipping host shear can be traced continuously through lines of old pits and workings for 700 metres along strike (40°). Irregular quartz veins hosted in the shear are composed of tightly packed euhedral buck quartz with sulphides filling quartz crystal interstices. At Cosmopolitan the early buck quartz has been brecciated and cemented by a fine silica sulphide cement.
Exploration	1984 GRT Syndicate, conducted a regional pan concentrate survey CR 13828. In 1989, CRA collected rock chip samples of vein material and wall rock alteration from the old workings at Sir William Alfred workings. 1989, CRA also completed three lines of magnetic and radiometric surveys across the lines of workings. One vein sample from dumps assayed 4.4 g/t Au. No significant gold assays were returned from the vein wall rock sampling and no geophysical anomalies of significance were noted. ATP4316M, CR 20437. In 1989, during regional reconnaissance work CRA noted that historical workings and narrow gold bearing quartz vein occurrences were much more common than recorded previously ATP4519M, CR201713. 1998, sampling of old workings and dumps was conducted by PJ O'Rourke, ATP8452, CR30565.
100K sheet	Forrest Home 7561
AMG North	7999700.00
AMG East	759400.00
Latitude	-18.08
Longitude	143.45
Last update	29-5-2017
REFERENCES	(1) 1900 & 1909; W.E. Cameron, GSQ Publ 151 & 219, Very brief discussion of mines in general and production figures (2) 1965; BMR Bull 71 Production data, Etheridge field summary (3) ATP 1142, 1619, 2996, 3455, 3479, 3507, 4316, 4519 EPM8452.

CAMP	Log Creek
CLASS ALL	IGLES
EPOCH	LCARB
Related Intrusion	granite
Mineralisation Style	LD
QUARTZ ZONE	IE
METAL ZONE	As
Size class (endowment)	
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	
Current status	
Tenement Holder	EPM18775 Ismins P/L
Deposit Names	Log Creek, Victory South, Jessie Bell
CHEM CLASS	GST
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Ag Au As Sb Bi Te Pb
Host 1	Prestwood Microgranite
Host Description	Pink crowded porphyritic biotite granite
Host 1 Age	Carboniferous
Host 2	
Regional Structure	lies 3kms north of the Cumberland Range volcanic complex
Mineralisation Age	Sericite alteration K/Ar age date 292Ma
Pb model age	
Deposit form	disseminated sulphides, minor shears and fracture zones, minor veining
Deposit Orientation	
related structure	
ore minerals	pyrite, sphalerite, galena, chalcopyrite, molybdenite
ore texture	disseminated sulphides, veinlet and fracture infill.
gangue minerals	quartz, pyrite
TYPICAL VEIN CHARACTERISTICS	fine comb
BUCK & INFILL C to F	F
QUARTZ ZONE	IE
gold fineness	
alteration minerals	sericite, quartz, pyrite
alteration facies	phyllitic
Related Intrusion Name	Prestwood Microgranite
Intrusive Age	Carboniferous
Genetic Theories	
COMMENTS	Five RC holes with diamond tails totalling 720m were drilled at Log Creek by KGM, EPM9824, CR29891 & CR30680. Results showed broad zones of anomalous basemetals, but low gold values. Narrow quartz-sphalerite-galena-chalcopyrite veinlets were intersected in most drill holes. LCRD4 intersected molybdenum mineralised rhyolite intruding the microgranite (CCR29891). KGM identified a broad zone of fracturing and sericite alteration with minor fine comb quartz veinlets 2.5 kms long and up to 300m wide striking SSE, extending from Log Creek to the Victory South workings within the microgranite (CR29891). The alteration zone strikes towards the Jessie Bell workings 3kms south. Mineralisation at Jessie Bell may represent a higher level expression of the mineralisation found at Log Creek and Victory South (Ismins Pty Ltd, CR92595).
Exploration	1971 Bridge Minerals mapped and collected rock chip samples from outcrops the Cumberland Mine, Jessie Bell mine and Log Creek area. Work was focussed on exploration for tin, base metals and molybdenum mineralisation, EPM813 CR3533. 1984 Coal Country #10 collected and tested bulk stream sediment samples to test creek alluvium for gold shedding from the Cumberland area ATP3589, CR13426. Results were disappointing and the ATP dropped. 1988 Surtec Geosurveys P/L established a grid and conducted mapping, soil (1081, Au, Pb, As only) & rock chip (123) sampling and ground magnetic surveys over the Log Ck area. Rock chip samples were assayed for Au, Ag, Cu, Pb, Zn, As & Fe. Seventeen samples were also submitted for petrographic studies. Although numerous anomalous rock chip samples were collected no follow-up work was conducted. 1996 - 1998 Kidston Goldmines conducted soil sampling, mapping, drilling, ground magnetics and IP surveys at Log Creek & Victory south. KGM recognised the potential for porphyry style mineralisation but dropped the EPM, CR31544. In 2005 - 2009 Mega Georgetown P/L held EPM14827 over the Log Creek Area. Mega was primarily interested in exploring for uranium and in 2006 entered into a JV with Georgetown Mining (Plentex) allowing them to explore for gold and basemetals within the EPM. In 2009 the Plentex rights were sold to Deutsche Rohstoff and the EPM14827 subblocks held over Log Creek were relinquished (CR54098). The Log Creek area is currently being explored for intrusive related gold deposits and basemetal vein, stockwork and breccia systems by Ismins P/L, CR92595, EPM18775.
100K sheet	Forrest Home 7561
AMG North	7973000.00
AMG East	744500.00
Latitude	-18.32
Longitude	143.31
Last update	01/06/17
REFERENCES	

CAMP	Long Gully
CLASS ALL	PNLMS
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD
QUARTZ ZONE	PLM
METAL ZONE	As
Size class (endowment)	730
Mining Method	
Production: Metal	5.88
Production Grade	
Periods of Production	Oxide ore from City of Grafton & Big Jack mined from 2 narrow & shallow (<20m) pits by Union Mining in 1976. Ore was trucked to the mill 7kms southwest of Georgetown.
Reserves	
Reserves Grade	
commodities mined	Gold, Silver
Current status	Mining ceased
Tenement Holder	EPM14498, Australia United Mining; ML's 6781 Mt Jack West, Australia Gold Mining P/L. EPM17643 SC Resources P/L. EPM15547 JKO Mining. P/L
Deposit Names	Long Gully, Atlas, Aunty Jack, Valentine, Casket, Donald Morrow, Mount James, Happy Jack, Black Jack, Roseberry, Lady Annie, Ashra, City of Grafton
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	As Sb Te Ag Au Bi Cu W
Host 1	Lane Creek Metamorphics
Host Description	Gneiss, schist and quartzite
Host 1 Age	Proterozoic
Host 2	Goldsmiths Granite. Grey porphyritic musc-biotite granite.
Regional Structure	Camp straddles the intersection of the regional scale Delaney Fault and the major WNW trending Mt Jack structure.
Mineralisation Age	
Pb model age	
Deposit form	Fault controlled anastomosing veins & stringers
Deposit Orientation	110 degrees dip steeply north
related structure	Lodes occupy parallel faults striking 110 dip sub-vertical. The Big Reef line extends for 12 km and the Mt. Jack line for 4 km
ore minerals	Pyrite, galena + chalcopyrite
ore texture	Trails of fine disseminated sulphides along quartz crystals boundaries and disseminated in fine crystalline quartz as late stage breccia fill.
gangue minerals	Quartz, calcite
TYPICAL VEIN CHARACTERISTICS	Early medium euhedral buck, sheared, recrystallised, brecciated, with late fine comb and silica-pyrite infill
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Sericite, chlorite, epidote, pyrite
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Silver production 69.6kg. Most of the smaller mines only recorded gold as smelter returns (ie no bullion figures) suggesting that much sulphide may have been present near surface. The lack of Pb or Cu production indicates that basemetal sulphides were not recovered. Main mineralised structure at Mt Jack strikes 70° and marks the boundary between gneiss of the Lane Creek Fm (Nth) and Ropewalk Granite (Sth). A 20m wide zone of vertical shearing is exposed in old mine pits. The shear zone contains multiple events of anastomosing quartz veins parallel to the foliation and shearing. Individual veins and zones of brecciation reach up to 10cm thick. Veins are composed of white, granular and euhedral buck quartz that has been recrystallised by shearing. Late stage, clear coloured, fine comb textured quartz veins are also present. Fine disseminated pyrite can be found in some quartz veins. The mineralised structure has been long lived with numerous veining and shearing events. Quartz -sericite alteration is commonly found in the shears and adjacent to quartz veins.
Exploration	1981 ATP 2404M Serem drilled 7 percussion holes across the Mt Jack line of workings , best intercept was 9m @ 4.66 g/t. See CR10642, CR10876, CR10877, CR10878. 1984, Midapa Pty Ltd conducted diamond drilling, rock chip, alluvial and dump pile sampling CR 13817. 1996 Union Mining mapped and sampled entire line of workings CR27781. 2013-2015 Southern Crown explored , including drilling, around mining leases of the Long Gully line of workings EPM 17643 CR93527.
100K sheet	Forsayth 7660
AMG North	7938500.00
AMG East	771000.00
Latitude	-18.63
Longitude	143.57
Last update	17-5-2017
REFERENCES	(1) 1976; GSQ Rept 91 Good summary of available info, plans of workings for major lodes CR55604.(2) 1965; BMR Bull 71 Etheridge gold field regional geol + production figures for major lodes (3) 1962; ATP 197 Good discussion of the Georgetown gold mines in general. (4) ATP/EPM, 197, 295, 479, 649, 1491, 1573, 1954, 1763, 1572, 1709, 2404, 2316, 3406, 3733, 4093, 4434, 8751, 15547, 17643. (5) Union Mining 1993-1995 extensive mapping and sampling of Georgetown & Forsayth district historical mines CR24579, CR24758, CR25609, CR27781.

CAMP	Long Lode
CLASS ALL	PNLMP
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD
QUARTZ ZONE	PLM
METAL ZONE	Pb
Size class (endowment)	
Mining Method	shallow pits and shafts
Production: Metal	
Production Grade	
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	Au
Current status	active prospect
Tenement Holder	EPM 18615 Activex, EPM 15440 JKO Mining P/L, ML 30220 Mark Reddicliffe
Deposit Names	Long Lode, Percy Queen South, Bark Humpy Creek, MH319 (Activex sample site), King Billy, Unnamed 936922, Vickers Gully
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Au Bi Pb Ag Cu Se Sb As Cd
Host 1	Sgr (Cgr)
Host Description	fine-medium grained bt hn granodiorite
Host 1 Age	mapped as Silurian but we have biotite age 322.13+/-7.4Ma K-Ar
Host 2	rhyolite dikes Permian but not mineralised
Regional Structure	shear zone in granodiorite
Mineralisation Age	? Permian
Pb model age	
Deposit form	quartz veins
Deposit Orientation	NE for Long Lode shallow SE dip 20-25 deg
related structure	shear zone in granodiorite
ore minerals	
ore texture	breccia matrix and cavities in comb quartz
gangue minerals	Manganese oxide ex carbonate medium comb comb qz with sulfide infill and breccia matrix
TYPICAL VEIN CHARACTERISTICS	Medium comb quartz, brecciated, recrystallised with spider veins, stylolites and late fine comb quartz
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	sericite
alteration facies	
Related Intrusion Name	Permian dikes present but not mineralised
Intrusive Age	Permian
Genetic Theories	
COMMENTS	deep porphyry level magmatic system possibly same age as Mountain Maid porphyry system and Percy Queen epizonal IRGS
Exploration	In 1995, Eltin Minerals P/L collected rock samples along the rhyolite dyke between Percy Queen and Percy Queen West and Long Lode areas (EPM9598; CR26870). The sampling was conducted with the aim of identifying more ore for the mill at Mount Hogan. In 1987, Stevenson Enterprises conducted detailed mapping and sampling over the Boomerang, Fiik, Percy Queen and Long Lode workings (ATP4578M, CR17828 & CR21288).
100K sheet	GILBERTON
AMG North	7893000.00
AMG East	794400.00
Latitude	-19.04
Longitude	143.80
Last update	29/04/17
REFERENCES	(1) Activex website for recent sampling CR22850 KGM mapping. (2) CR17828, CR21288, CR26870

CAMP	Marquis
CLASS ALL	PNLHS
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD,VN, BX
QUARTZ ZONE	PLH
METAL ZONE	As
Size class (endowment)	120
Mining Method	Shafts, pits and open casts
Production: Metal	88.9kg
Production Grade	12.67g/t
Periods of Production	To 1903, 70.3 kg @ 8.5 g/t Au. 1930's, 8.1 kg @ 32.8 g/t Au.
Reserves	
Reserves Grade	
commodities mined	Gold, Silver
Current status	Held under EPM25732
Tenement Holder	Stuart Smith EPM25732
Deposit Names	Marquis Hill, Enigma,
CHEM CLASS	TB
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Te Ag Bi As Pb Cu
Host 1	Forsayth Granite
Host Description	Grey to pink, med-coarse grained, porphyritic biotite granite with conspicuous K-feldspar phenocrysts typically 4cm in length. Commonly foliated.
Host 1 Age	Mid Proterozoic
Host 2	Lane Creek Formation gneiss & phyllite (Marquis Hill) , Delaney Granite (Enigma).
Regional Structure	North striking Delaney Fault ~1km to west. Zone of major SE trending structures located 3kms south (Long Gully - Goldsmiths trend)
Mineralisation Age	
Pb model age	
Deposit form	Shear hosted, irregular, shallow dipping veins and zones of breccia. Steep shear hosted, tabular veins
Deposit Orientation	Marquis veins dip 20° towards 50°, Enigma veins dip 45° towards 150°.
related structure	Shallow to moderate dipping shears
ore minerals	Gold, silver, pyrite +/-galena
ore texture	Fine pyrite disseminated along late fractures and within clear, finer grained quartz as breccia matrix to early quartz vein material.
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	Coarse euhedral buck, recrystallised & late fine comb quartz
BUCK & INFILL C to F	BcLf
QUARTZ ZONE	PLH
gold fineness	
alteration minerals	Quartz, sericite, chlorite
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Early production from vein mining 48g/t bullion. Later large amounts of float rock treated at 70g/t bullion. Marquis Hill hosted in sheared Lane Creek Formation gneiss & phyllite close to contact with delaney Granite. Some deposits hosted in Delaney Granite.
Exploration	1962 B Svirskis: lit review, field reconnaissance CR1094. 1969 ATP 649M New Star Manufacturing and Investment Company report on historical production for Etheridge goldfield mines CR2959. 1975, Endeavour Oil mapped and sampled the old workings at Marquis & Enigma (ATP1491M, CR5492). 1986 rock chip sampling conducted by Petrogram Pty Ltd at Marquis in ATP4093M, CR16685. 1994-1995, Union Mining mapped and sampled Enigma and Marquis Hill workings, CR26771, CR 27781 & CR29243.
100K sheet	Forsayth 7660
AMG North	7945200.00
AMG East	767000.00
Latitude	-18.57
Longitude	143.53
Last update	31-05-2017
REFERENCES	(1) 1976; GSQ Rep 91 Mine description, geology, production (2) 1962; ATP 197M Good summary of available information, field notes (3) 1900; GSQ Publ 251 Mine description, production, geology . (4) 1887; GSQ Publ 135 Mine description, production, geology (5) 1965; BMR Bull 71 Regional geology (6) ATP 479, 649, 1491, 1763, 2404, 3733 , 4093, EPM4792

CAMP	Monte Cristo
CLASS ALL	PNLMS
EPOCH	EDEV?
Related Intrusion	rhyolite?
Mineralisation Style	LD
QUARTZ ZONE	PLM
METAL ZONE	As
Size class (endowment)	77
Mining Method	Underground
Production: Metal	69.4kg
Production Grade	22.07g/t
Periods of Production	Monte Christo (30kg), Tweedside (21kg), Eugene (15kg), Clydesdale, Flemmings, Sunburst
Reserves	
Reserves Grade	
commodities mined	gold, silver
Current status	exploration
Tenement Holder	SC Resources EPM17643
Deposit Names	Monte-Christo, Blue By You, Lucky Hit, Leo, Crows Nest, Pigs Eye, City of Carlisle, Tartan
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Te As Ag Pb Sb Bi Cu
Host 1	Lane Creek Formation
Host Description	Mica schist/phyllite
Host 1 Age	Proterozoic
Host 2	Medium grained biotite granite (Ropewalk Granite)
Regional Structure	Camp lies 5kms east of regional scale Delaney Fault within the major NE striking Goldsmiths - Big Reef structural corridor.
Mineralisation Age	Pigs Eye sericite K/Ar date 378.7 Ma +/- 8.7 (Regional 380Ma event or reset Early Devonian?)
Pb model age	
Deposit form	Steep dipping, shear hosted, irregular quartz-sulphide veins
Deposit Orientation	Generally NW strikes with steep northerly dips (Pigs Eye, Monte Cristo)
related structure	Numerous well defined NW trending faults/shear zones hosting veins
ore minerals	Galena, pyrite, gold, anglesite
ore texture	Fine sulphides lining vughs, interstitial to quartz crystals and along late stage fractures cutting quartz.
gangue minerals	Quartz, pyrite
TYPICAL VEIN CHARACTERISTICS	Med. euhedral buck, med-fine comb quartz +/- REC, STY
BUCK & INFILL C to F	BmLf-m
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	quartz, sericite, pyrite
alteration facies	Phyllic
Related Intrusion Name	Abundant permo-carb rhyolite dykes trending through the camp along structures that parallel the host mineralised shears. Long (35km) linear zone of rhyolite dykes that extends from Monte Christo through Glenrowan to Western Creek Camps.
Intrusive Age	
Genetic Theories	
COMMENTS	Shear hosting mineralisation at Monte Christo marks boundary between the Ropewalk Granite (NE hanging wall) and Lane Creek Fm (SW footwall).
Exploration	1987 Central Murchison Gold conducted rock chip sampling and mapping over Monte Christo workings CR17499, ATP4475M. Geologists noted similarities in geology to the Dells workings. In 1994-1995, Union Mining mapped and sampled old workings at Pigs Eye & Crows Nest CR27781. 2001, Union Capital /KGM drilled 28 RAB holes (420m) to test a soil anomaly at Carlisle.
100K sheet	Forsayth 7660
AMG North	7937800.00
AMG East	765200.00
Latitude	-18.64
Longitude	143.52
Last update	18-04-2017
REFERENCES	(1) ATP 197, 479, 295, 649, 1491, 1572, 1709, 1763, 2404, 3733, 4434, 4475

CAMP	Mountain Maid
CLASS ALL	PNVHS
EPOCH	EPERM/EDEV
Related Intrusion	rhyolite?
Mineralisation Style	VN
QUARTZ ZONE	IH
METAL ZONE	As
Size class (endowment)	46
Mining Method	Pits, shafts, minor open cut
Production: Metal	41.2kg
Production Grade	110g/t
Periods of Production	1890-1903, 1909, Homeward Bound, Mountain Maid
Reserves	
Reserves Grade	
commodities mined	Gold, silver, copper, lead
Current status	being actively explored
Tenement Holder	EPM18615 Activex Ltd, ML30103 Allyn Zabel, EPM15440 JKO Mining P/L
Deposit Names	Homeward Bound, Mountain Maid, Llama, Dividend, Camp Workings, Sandy Grant, Dividend Gully, Carbon Copy
CHEM CLASS	TB
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Bi Au Ag Cu As Pb Sb Cd Se Mo Zn
Host 1	Daniel Creek Formation
Host Description	Mica schist, phyllite, gneiss & quartzite main hosts. Area represents a large roof pendant in Robin Hood Granodiorite.
Host 1 Age	Lower Proterozoic
Host 2	Digger Creek Granite (med grained, coarse grained to pegmatitic muscovite granite).
Regional Structure	Camp is located 3kms NE of the southern end of the regional scale Robertson Fault zone.
Mineralisation Age	K/Ar dates on sericite from Homeward Bound 388.1Ma +/- 8.9, Oratava altered rhyolite 268.5Ma +/- 6.2 (matches early Permian intrusive event), Mountain Maid altered granite host 391.4Ma +/- 9.0 (early Devonian age ? Expecting early Permian, perhaps contamination of mica from granite host).
Pb model age	
Deposit form	Flat lying veins, zones of veining and breccia. Mostly hosted in shears (Homeward Bound, Llama).
Deposit Orientation	Variable orientations. Homeward Bound & Mt Maid strike NW with shallow SW dip. Llama minz. zone strikes NE dip? Carbon Copy strikes E-W with steep north dip.
related structure	Local shears hosting minz. at Homeward Bound, Llama & carbon Copy. Rhyolite dykes spatially related to minz. at most sites.
ore minerals	gold, galena, pyrite, chalcocopyrite, malachite very hi Bi & Te suggest Bi S & Bi Tellurides
ore texture	Fine sulphide crystals interstitial to quartz crystals and filling vughs.
gangue minerals	quartz
TYPICAL VEIN CHARACTERISTICS	fine comb
BUCK & INFILL C to F	F
QUARTZ ZONE	IH
gold fineness	Homeward Bound ~800
alteration minerals	Quartz, sericite, chlorite
alteration facies	Phyllic
Related Intrusion Name	Abundant Permo-Carb. rhyolite dykes throught out Mountain Maid camp. Dykes cut early quartz-sulphide veins in Proterozoic granite at Mountain Maid. Dykes at Mountain Maid are themselves mineralised (fine comb quartz stockwork). Different style to granite hosted veins. Flow banded rhyolite dyke cros out along structure hosting vein at Homeward Bound.
Intrusive Age	CARB
Genetic Theories	
COMMENTS	Much silver and some base metals, particularly at the Homeward Bound Mine. Gold fineness ~800. Grades up to 2170 g/t Ag. Significant Ag, Cu, Pb production. Flat-lying lenticular, tensional veins present at Mountain Maid.
Exploration	Extensive regional exploration conducted by Kidston Gold Mines in 1990 including stream sediment and rock chip sampling and mapping of the Percyvale region. EPM5883 CR23777. 2009 rock chip & soil sampling by Pepinnini minerals EPM15440, CR's 33990, 35793, 40016, 44501, 49501, 60870.
100K sheet	Gilberton 7659
AMG North	7892600.00
AMG East	785600.00
Latitude	-19.04
Longitude	143.72
Last update	19/04/17
REFERENCES	(1) Withnall, I.W., 1981; GSQ Publ 370 (2) Ball, L.C., 1914; QGMJ 15: 174-184 (3) Whitney, W., 1982; ATP 2396 (4) ATP 5883, 8354, 7304 CR's 9627, 23777, 22850, 33990 (5) Brief descriptions of geology at Mountain Maid, Black Knob, Percy Queen, Long Tunnel, Boomerang, etc in CR9627.

CAMP	Mt Borium
CLASS ALL	IYXES
EPOCH	ECARB
Related Intrusion	rhyodacite
Mineralisation Style	BX
QUARTZ ZONE	IE
METAL ZONE	As
Size class (endowment)	
Mining Method	Shallow pits
Production: Metal	
Production Grade	
Periods of Production	Borans Knob (Mt Borium) was discovered in 1909 when small quantities of gole were mined. The area was deserted until 1917 when the area was worked again for a short time. Three mining leases were pegged in 1934. Most hard rock production came from Boriums Whisper (13 tons for 24 Ozs gold) with lesser amounts from Lucky Trail (4.5 tons for 13 Ozs gold).
Reserves	
Reserves Grade	
commodities mined	Gold, silver
Current status	exploration
Tenement Holder	EPM19015 Cannindah Resources
Deposit Names	Boriums Whisper, Iron Gossan, Arthurs Gully, Lucky Trail
CHEM CLASS	TB
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	<i>Te Au Ag Bi As Pb Mo Sb</i>
Host 1	Oak River Granodiorite
Host Description	Grey, porphyritic, locally foliated, biotite granodiorite & adamellite
Host 1 Age	Silurian
Host 2	Permo-Carb. Rhyolite & rhyodacite dykes & plutons
Regional Structure	5kms east of the Newcastle Range Volcanic complex
Mineralisation Age	K-Ar Dating Sample GS43 from Boriums Whisper; sericite alteration around quartz veins in Silurian granite; 325.3+/- 7.5Ma; This is early Carboniferous age similar to Kidston Gold Mine ~332Ma and to the nearby Newcastle Range Volcanics.
Pb model age	540
Deposit form	Disseminated and veinlet style often adjacent to dyke margins
Deposit Orientation	Boriums Whisper strikes N-S along dyke margin
related structure	Numerous N-S trending rhyolite and andesite dykes.
ore minerals	pyrite
ore texture	disseminated sulphides, fracture zones and quartz veinlets
gangue minerals	quartz, pyrite
TYPICAL VEIN CHARACTERISTICS	Med euhedral buck quartz, recrystallised, late fine - medium comb quartz
BUCK & INFILL C to F	BmLf-m
QUARTZ ZONE	IE
gold fineness	
alteration minerals	sericite, quartz, albite, chlorite
alteration facies	phyllitic
Related Intrusion Name	BOUSEY AVR
Intrusive Age	Carboniferous
Genetic Theories	
COMMENTS	The current interpretation is that Mt Borium breccia prospect and the adjoining prospects are part of one or more Intrusion Related Gold Systems that are in the same geological setting, of the same age and with the same geochemical signature and metal zoning pattern as the nearby 5Moz Kidston breccia-hosted gold deposit. Five deeper RC holes drilled by Hunter in 1989 up to 115m depth were only assayed for gold. MBRC-2 assayed 0.36 g/t over the entire 102m. Drilling showed broad zones of low grade gold mineralisation. Better gold values related to more intense silicification adjacent to dyke contacts (CR20888).
Exploration	1984, exploration by Placer Austex (later Kidston Goldmines) ATP2950M, soil sampling, stream sediment sampling, rock chip sampling of old workings (CR11814). 1986, Hunter Resources established a grid over the old workings at Mt Borium (ATP3893M). Mapping and sampling was conducted over the gridded area (CR15068). 1988, Hunter Resources drilled 18 shallow (<30m) RAB holes at Mt Borium. Best intercept was in MBAT-1, 10-16m, 6m @ 4.17 g/t Au (CR19841). In 1989, Hunter Resources drilled 5 RC holes at Mt Borium. Best result was in MBRC-2, 27-36m, 9m @ 1.45 g/t Au (ATP5271M, CR20888). From 1990-1993, detailed mapping around Mt Borium was conducted by Kidston Gold Mines (EPM8362, CR26868). Ground magnetic and IP geophysics surveys were also completed over Mt Borium (CR22850). 1995, KGM conducted shallow open hole RAB drilling around Boriums Whisper & Arthurs Gully workings (CR28415).
100K sheet	Einasleyh 7760
AMG North	7930850.00
AMG East	819080.00
Latitude	-18.61
Longitude	144.03
Last update	11/06/17
REFERENCES	CR's 11814, 15068, 19841, 20888, 28415.

CAMP	Mt Clark
CLASS ALL	IRXES
EPOCH	EPERM?
Related Intrusion	rhyolite
Mineralisation Style	BX, LD
QUARTZ ZONE	IE
METAL ZONE	As
Size class (endowment)	
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	
Current status	Not currently held under exploration permit
Tenement Holder	
Deposit Names	Mt Clarke
CHEM CLASS	GST
METAL ZONE	As
Element Core	CU
GEOCHEMICAL ENRICHMENT SIGNATURE	As Bi Ag Au Sb Pb Cu
Host 1	LANE CREEK FM
Host Description	Metasiltstone, grey shale, locally calcareous and carbonaceous, minor sandstone, hornfels.
Host 1 Age	Proterozoic.
Host 2	Rhyolite dykes
Regional Structure	1km east of the regional scale NNW striking Roberson River Fault. 1km north of the Gongora Granodiorite (Carboniferous).
Mineralisation Age	PERM-CARB
Pb model age	
Deposit form	Disseminated and breccia style mineralisation along shallow dipping bedding plane parallel structures & dyke contacts. Interpreted by CRA as two distinct events.
Deposit Orientation	NNW
related structure	NNW striking rhyolite dykes (trend parallel to the Robertson River Fault)
ore minerals	pyrite, galena, sphalerite, chalcopyrite ?
ore texture	veins and breccia
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	Coarse comb qtz, zoned crystals infill sulfide, minor barren fine comb in rhyolite
BUCK & INFILL C to F	CZ
QUARTZ ZONE	IE
gold fineness	
alteration minerals	quartz, sericite
alteration facies	phyllitic
Related Intrusion Name	NNW trending Permo-carb. rhyolite dykes, same suite as found at Mt McDonald, Log Creek and Huonfels. Emplacement of small central porphyry, that is post mineralisation and has hornfelsed sediment is believed to be related to the Gongora Granodiorite dated at 255Ma by GSQ (CR20854).
Intrusive Age	EPERM/CARB
Genetic Theories	
COMMENTS	Mapping showed two types of breccias. Fault breccia developed in the meta-sediment along shallow dipping thrusts sub-parallel to bedding (20° to 135°) & NNW trending altered rhyolite dykes with local areas of brecciation and mineralisation developed along the dyke margins (CR16904, CR20854).
Exploration	1971, Bridge Minerals conducted mapping and rock chip sampling over the Mt Clarke area (ATP813M (CR3533). 1986-1989, CRA carried out detailed exploration of the Mt Clarke area for sediment hosted disseminated and breccia pipe style gold mineralisation. Work included stream sediment sampling, soil and rock chip sampling, mapping, ground magnetics and drilling. In 1989, twelve RC holes totalling 861.5m were drilled to test for mineralisation in the metasediments adjacent to dykes and structures. Best intercepts were PD88SC1, 44-64m, 20m @ 0.65 g/t Au & PD89SC10, 52 - 58m, 6m @ 1.06 g/t Au (ATP4315M, CR20854). In 1997-2000, Kidston Gold Mines established a new soil grid over Mt Clarke (EPM10185, CR29891). Results showed coincident anomalous basemetal and gold values. KGM considered the soil geochemistry results to possibly represent distal basemetal anomalism peripheral to a porphyry gold zone. This was supported by the presence of hornfelsed sediment at the base of some of CRA's drill holes. An IP geophysics programme was completed in 1999. Chargeability anomalies were determined to be stratigraphic and not related to any significant gold - sulphide system present and the EPM10815 was dropped (CR29891, CR32249).
100K sheet	North Head 7560
AMG North	7941740
AMG East	739240
Latitude	-18.6036
Longitude	143.267
Last update	13/06/17
REFERENCES	CR3533, CR16904, CR20854, CR29891, CR32249

CAMP	Mt Hogan
CLASS ALL	PNVMP
EPOCH	EDEV
Related Intrusion	Andesite, diorite?
Mineralisation Style	VN
QUARTZ ZONE	PLM
METAL ZONE	Pb
Size class (endowment)	2700
Mining Method	Historical by shafts. Modern times through open cut.
Production: Metal	78,700 Ozs, 2530 kgs Au
Production Grade	Historical 44.9g/t, Eltin Mining grade 5.2 g/t Au
Periods of Production	1992-1994 Eltin:405kt @ 5.2g/tAu Mt Hogan open cut (67,700oz); 11,000oz historic production 7017t @ 48.6g/tAu made up of 1876-1877 2256t for 106.9kg; 1885-1910 7017t for 341.22kg at 48.6g/tAu
Reserves	137000t @ 5.51g/t Au total drill resource indicated & inferred (O'Rourke & Bennell,1977)
Reserves Grade	Metallurgical sample 6.5g/tAu 8.7 g/t Ag in oxide 7.5g/tAu & 14g/tAg in sulfide ore.
commodities mined	Au, Ag
Current status	exploration
Tenement Holder	EPM18615 ActivEX Ltd, ML's 30224 & 30225 held by Mark Reddicliffe
Deposit Names	Mt Hogan, Captain Townley, Independence, General Gordon, Tasmanian, Horseshoe Hill
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Au Bi Ag Pb Sb Se As Cu Cd
Host 1	Mt. Hogan Granite
Host Description	Coarse grained equigranular biotite granite. Grey when unaltered and pinkish when altered. Host rock as described by Richards (Eltin, 1995), " In the vicinity of the quartz/gold reefs the host is strongly fissile, breaking off in planes parallel to the reef. Hangingwall granite is pervasively sericitised for thicknesses up to 20 metres from the reef and is strongly chloritic in the immediate hangingwall. A green (sericite) to red (ferruginous?) footwall grading sharply to relatively fresh granite is also characteristic of the reef zones."
Host 1 Age	Late Proterozoic
Host 2	
Regional Structure	Gilberton Fault (4-5 km south) with north-east trend and a branch of the NW trending Robertson Fault is just to the North and localises the Permian Agate Creek Complex. Other north trending faults are probably related to the Early Carboniferous Newcastle Range Volcanic event. Major north-south striking structure bisects the Mt Hogan granite and hosts a Permo-Carb. age dolerite dyke. Numerous other NE trending andesite dykes mapped cutting the Mt Hogan Granite to within a few hundred metres of the main zone of mineralisation at Mt Hogan.
Mineralisation Age	General Gordon sericite K/Ar age date 397.7 Ma +/- 9.1 . 400Ma sericite K-Ar at Mt Hogan, Bain 1988
Pb model age	
Deposit form	A main zone ~70m thick with stacked shallow dipping alteration zones 6-15m thick with sheeted/en-echelon veins up to 60cm thick. Veins have been described by Richards (Eltin report , 1995; CR26870) as " developed as single en-echelon structures or as en-echelon vein arrays along shallow dipping thrust faults between parallel steep dipping (parent) faults. Some faults have reactivated to a minor extent post - gold mineralisation leading to structural complications".
Deposit Orientation	Veins at Mt Hogan generally strike at 300° and dip between 10° and 20° to the southwest. Vein/shear at General Gordon strikes 20° and dips 70° west.
related structure	Pre-syn-mineralisation mylonitic foliation localising quartz but also recrystallising it. Post-mineralisation faults.
ore minerals	free gold/electrum, pyrite, galena +/-chalcopyrite, sphalerite, pyrrhotite, tetrahedrite, uranium minerals, trace molybdenum. Interstitial to brecciated quartz
ore texture	locally mylonitic tight, medium- coarse comb-buck quartz with sugary recrystallised zones all brecciated and with cavity fill new medium-fine comb quartz and sulfide infill.
gangue minerals	Quartz, flourite, pyrite
TYPICAL VEIN CHARACTERISTICS	Medium buck quartz, recrystallised by shearing.
BUCK & INFILL C to F	F
QUARTZ ZONE	PLM
gold fineness	visible gold 0.01 to 0.03mm in quartz and in contact with sulfides. Oxidation to ~27m no supergene enrichment of gold. Ag: Au>1 but not by much therefore electrum dominant but some other Ag phase too maybe Ag in galena and possibly tetrahedrite.
alteration minerals	chlorite after mafics + Na-spar (dark green-grey). Sericite after K-spar (pale green). Epidote/allanite?.
alteration facies	phyllitic, propylitic
Related Intrusion Name	Undifferentiated acid intrusives rhyolite body (CPir) approx. 1km to the south with related Au mineralisation and E-trending rhyolite dike apparently cut by workings ~1500m N of granite contact. The Proterozoic Granite contact is steep with hornfels on south side so likely intrusive but alteration follows S & E contacts as envelopes on shallow ductile/brittle structures in the granite that give devonian alteration ages. Basalt dikes cut by flourite veins and flourite also noted with U & Pb-Zn-Cu mineralisation.
Intrusive Age	Permo-Carboniferous
Genetic Theories	Shallow veins related to Permo-Carboniferous intrusive rhyolite?
COMMENTS	mylonitic and brecciated medium comb to buck quartz with cavity fill sulfide, no evidence of related intrusions although mapped andesite nearby. Uranium minerals found at surface in early exploration within altered selvages to Au mineralised quartz veins.
Exploration	1968 Planet Gold Ltd. conducted uranium exploration over the Limkins area including some sampling for gold in the Mt Hogan area (ATP 501M, CR3094). 1970 Central Coast Exploration conducted mapping, soil sampling, aeromag & ground mag surveys over the Mt Hogan area mainly oriented towards uranium exploration. Work included sampling of the Mt Hogan workings for gold. In 1972 further detailed mapping, airborne and ground radiometric surveys, and soil geochemistry was conducted. In 1973 - 1974, 3426m of combined RC and diamond holes were drilled (O'Rourke & Bennell, 1977, CR48793). The drill campaign returned numerous encouraging results, e.g. diamond drill hole DMH1, 2.3m @ 18.6g/t Au from 76.6m (O'Rourke & Bennell, 1977, CR48793). Intensive drilling of the main workings at Mt Hogan was again carried out by Central Coast Exploration between 1988 and 1990 (Woodward, 1993). In 1991, Eltin Minerals purchased six mining leases at Mt Hogan from Central Coast Exploration (ML 3307, 3308, 3293, 3294, and 3295, Figure 15), and a 200,000 tpa CIP plant was built in 1992 (Woodward, 1993; CR24649). Open pit mining commenced in 1992, and gold production and underground mining began in early 1993 (Woodward, 1993; CR24649, CR25835). A total of 405,000t @ 5.2g/t Au were mined at Mt Hogan (Richards, 1995; CR26370). Existing reserves at Mt Hogan were exhausted in October 1994 (Richards, 1995; CR26870), and Eltin worked towards locating economic gold deposits near the Mt Hogan plant which would extend the life of the Mount Hogan gold mining operation (e.g., Josephine and Comstock).
100K sheet	Gilberton 7659
AMG North	7876700.00
AMG East	795000.00
Latitude	-19.18
Longitude	143.80
Last update	5-5-2017
REFERENCES	(1) 1981; GSQ Publ 370 Detailed geology, production, mine description (2) 1980; BMR Rec 1980/2 Geology, production (3) 1965; BMR Bull 71 Geology (4) 1990; GSQ Publ 72 Production (5) 1990; Llewellyn BSc. Hon Thesis, JCUNQ Minor geology. (6) 1977; QGMJ 78: no.911, p.424-433 Reserves, geology, production O'Rourke P. J. & Bennell M. R. 1977. The Mount Hogan gold, silver and uranium prospect, north Queensland. Queensland Government Mining Journal, September 1977, 424-432. 2009, CR60108 Newcrest. Exploration completed by Eltin in EPM6879 surrounding Mt Hogan mining leases in 1993 - 1995 summarised in CR's 24649, 26769 & 25835.

CAMP	Mt McDonald
CLASS ALL	EYXES
EPOCH	EPERM?/LCARB?
Related Intrusion	rhyodacite
Mineralisation Style	BX
QUARTZ ZONE	EPB
METAL ZONE	As
Size class (endowment)	
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	Alluvial gold. Lone Hand (108.77kg Au, 25.4t Pb)
Reserves	
Reserves Grade	
commodities mined	
Current status	
Tenement Holder	EPM18490 SMA Mining Pty Ltd; ML1000067 Thomas Henry
Deposit Names	Lone Hand, Lost Watch #2, #3, #4, Barnsley Reef, Buchanans Anomaly
CHEM CLASS	GST
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Sb Ag As Te Au Zn Bi Cu
Host 1	Heliman Formation & Cobbold Metadolerite
Host Description	Various phyllites & calcarious/dolomitic & graphitic variants
Host 1 Age	Lower Proterozoic
Host 2	Permo-Carb. Rhyolite & rhyodacite dykes & plutons
Regional Structure	At NW end of long (20km) NW striking linear zone of rhyolite dyke swarming.
Mineralisation Age	CARB
Pb model age	
Deposit form	Near vertical, planar breccia zones 2-3m wide
Deposit Orientation	SE
related structure	NW-SE striking faults
ore minerals	Pyrite, arsenopyrite
ore texture	Comb quartz and chalcedonic quartz veins, matrix supported breccia with chalcedonic cement
gangue minerals	Quartz, carbonate
TYPICAL VEIN CHARACTERISTICS	Chalcedony & fine comb quartz veins and breccia infill.
BUCK & INFILL C to F	FO
QUARTZ ZONE	EPB
gold fineness	
alteration minerals	Quartz, sericite, pyrite, carbonate
alteration facies	phyllitic
Related Intrusion Name	Mt Sircom Granodiorite. Abundant Permo-Carb rhyolite dykes trending through the camp along structures that parallel the host mineralised shears. Long (35km) linear zone of rhyolite dykes that extends from Monte Christo through Glenrowan to Western Creek Camps.
Intrusive Age	CARB
Genetic Theories	Near surface, fault controlled, hydrothermal breccia driven by Permo-Carboniferous rhyolite intrusions
COMMENTS	Breccia fragments include metasediment, metadolerite & rhyolite (angular, 2-10mm). Breccia fragments cemented by chalcedony. Multiple brecciation events evident. Some alteration pyrite has unusual bladed habit (marcasite?).
Exploration	1987 PNC Exploration conducted uranium exploration over the Mt McDonald region, ATP4050M, CR16058. 1989 Battle Mountain sampled old workings and mineralised outcrops in the Mt McDonald area. Numerous veins and breccia bodies cemented by chalcedony were sampled and returned significant gold values. In the absence of a major exposed vein and/or breccia zone the tenement was relinquished, ATP5065M, CR20574. 1997 Kidston Goldmines mapped the Mt McDonald area and conducted IP surveys, EPM9824, CR29891. 2009 Qld Gold & Minerals drilled 6 holes (362m) at the Lost Watch workings. Best intersection was BCDH01, 1m @ 0.50 g/t Au EPM13271, CR58749.
100K sheet	North Head 7560
AMG North	7950000.00
AMG East	7460000.00
Latitude	-18.53
Longitude	143.32
Last update	29/05/17
REFERENCES	(1) ATP 197, 950, 2509, 3357, 4050, 5065, EPM's 9824, 13271. (2) CR's 16058, 20574, 29891, 58749

CAMP	Mt Moran
CLASS ALL	PNVMZ
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	VN
QUARTZ ZONE	PLM
METAL ZONE	Zn
Size class (endowment)	23
Mining Method	pits, open cuts, shafts. Deepest shafts at Peg Leg 22m & Finger Print 27m.
Production: Metal	32.29 kg bullion
Production Grade	25.8 g/t
Periods of Production	Blue Spec, 1922 & 1925, 3.05 kg bullion from 50t ore. Bosker 1925, 1934-35, 2.22 kg bullion from 123 t ore. Brown Hill 1934, 0.55 kg bullion from 36.6 t ore. Dinkum 1922, 1.8 kg bullion from 30.5 t ore. Finger Print (1922, 1925-26, 1935-36) 14.06 kg bullion from 549.4 t ore. Finger Print & Lucky Hit 1934, 5.45 kg bullion from 224.5 t ore. Iona 1923, 0.16 kg bullion from 7.1 t ore. Peg Leg 1934-35, 5 kg bullion from 230.6 t ore (GSQ report 370, 1981).
Reserves	
Reserves Grade	
commodities mined	32.29 kg bullion
Current status	
Tenement Holder	ML3333, ML3434 & EPM25731 (Mt Moran Gold Pty Ltd)
Deposit Names	Iona Reef, Mona Reef, Blue Spec, Bosker Reef, Brown Hill, Dinkum, Finger Print, Lucky Hit, Peg-Leg
CHEM CLASS	AM
METAL ZONE	Zn
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Ag Zn Pb Cu
Host 1	Dead Horse Metabasalt Member +/- metasediment
Host Description	Metabasalt & phyllite.
Host 1 Age	Proterozoic
Host 2	Corbett Fm metasilstone
Regional Structure	Camp lies 11kms west of the regional scale N-S striking Delaney Fault
Mineralisation Age	
Pb model age	
Deposit form	Veins hosted in shears and cataclasite.
Deposit Orientation	E-W strike parallel to regional foliation with steep north dip
related structure	
ore minerals	Gold, sphalerite, galena, chalcopryrite, pyrrhotite, (free gold visible in some quartz mined, Withnall GSQ Pub. 370 1981)
ore texture	Sheared pods of sulphides in rebrecciated quartz
gangue minerals	quartz, calcite, pyrrhotite
TYPICAL VEIN CHARACTERISTICS	Medium euhedral Buck, recrystallised.
BUCK & INFILL C to F	BmD?
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	chlorite , calcite, epidote
alteration facies	propylitic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Abundant shearing and rebrecciation of early quartz - carbonate vein material. Three main reefs worked, the Mona, Iona and Bosker. The reefs are ~200m in length and generally 0.3-1.2m wide. The reefs are hosted in a ENE trending metadolerite dyke, however the reefs strike NE and dip steeply NW (60°). The reefs appear to be a set of "ladder veins" and only extend a short distance outside the metadolerite into the host metasediment.
Exploration	Paringa Mining explored and drilled the Ortona workings in the mid 1960's (CR1968, CR2262) best intercept was 22' @ 2.61% Cu & 4.2 ounces Ag. In 1992, MIM conducted regional scale -80# stream sediment sampling, airborne EM and magnetic survey, regional mapping and reconnaissance sampling over the Ortona area (EPM8255, CR24421). In 2009 Fusion Resources reinterpreted the airborne magnetic and radiometric data and conducted mineral interpretation of ASTER airborne data over the Ortona (Mt Moran) region. Some anomalies were identified but not followed up (EPM14275, CR58854).
100K sheet	Gilberton 7659
AMG North	7881700.00
AMG East	762800.00
Latitude	-19.14
Longitude	143.50
Last update	07/05/17
REFERENCES	CR58854, CR24421, CR2262, CR1968, BMR Bulletin 71, geology, production, mines description. 1981 GSQ publication 370. Mines and minerals of the Gilberton 100,000 scale geology sheet (CR55526).

CAMP	Mt Turner
CLASS ALL	IDLMS
EPOCH	EPERM/LCARB
Related Intrusion	granodiorite, rhyolite
Mineralisation Style	BX, LD, SW
QUARTZ ZONE	IM
METAL ZONE	As
Size class (endowment)	3
Mining Method	Pits and shallow shafts on lode structures.
Production: Metal	2.5kg
Production Grade	
Periods of Production	Mt Turner Cu(Mo), Aspasia Ag,Pb 1916-1929, 1936-37, 1947-52 From a total of 716 tonnes of ore recovered 1.168 kg gold, 457kg silver, 285.4 tonnes lead, & 0.8 tonnes copper. Cobar Ag,Pb 1911-29, 1937, 1947-50. Produced from 879 tonnes of ore 0.862 kg gold, 447.8 kg silver, 332 tonnes lead, 0.2 tonnes copper. Three Musketeers 1925. From 65 tonnes of ore produced 0.003 kg gold, 29.54 kg silver, 25.1 tonnes lead.
Reserves	
Reserves Grade	
commodities mined	935.15kg Ag, 645.9t Pb, 1.4t Cu
Current status	
Tenement Holder	EPM18699 Alice Queen Ltd, EPM19321 NQ EX P/L, EPM17989 Central Goldmines, EPM19227 Australia Zhaoyuan Gold Mining
Deposit Names	Mount Turner, Aspasia, Three Musketeers, Cobar, Hamilton, Argent Queen, Silver King, Mountain Creek, Four Grande, Balaclava
CHEM CLASS	TB
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te As Bi Au Ag Sb Pb Zn Cu
Host 1	Mount Turner Granite
Host Description	Medium-grained, porphyritic, biotite granite
Host 1 Age	Middle Proterozoic
Host 2	Mt Darcy Microgranodiorite,
Regional Structure	Most old workings localised along NNE trending shears that lie between the regional scale Drummer Hill Fault and Big Wonder Faults.
Mineralisation Age	289.4Ma +/- 1.3 on molybdenum, and 292.4Ma +/- 6.8 K/Ar sericite date from Claymore
Pb model age	
Deposit form	Central porphyry-stockwork-breccia system with 10km diameter alteration envelope. Narrow veins and stockwork hosted in narrow (<1m) wide shears peripheral and distal to intrusive centres.
Deposit Orientation	Lodes strike NNE
related structure	N-S trending faults and rhyolite dykes
ore minerals	Pyrite, chalcopyrite, sphalerite, bornite, galena, molybdenite
ore texture	Sulphides interstitial to quartz crystals and filling vein cores.
gangue minerals	Quartz+/- carbonate
TYPICAL VEIN CHARACTERISTICS	fine comb
BUCK & INFILL C to F	F
QUARTZ ZONE	IM
gold fineness	
alteration minerals	2 phases. 1st: central biotite zone - silicification - outer phyllic. 2nd: sericite-chlorite-kaolinite predominately fracture controlled, overprints 1st phase. Intense quartz, sericite replacement producing a "greisen like " texture along peripheral lode structures.
alteration facies	Phyllic and potassic
Related Intrusion Name	Mt. Darcy Microgranodiorite (Cpd). Microgranodiorite, associated collapse breccia + breccia pipes. Also rhyolite stocks and dykes with associated marginal and collapse breccia.
Intrusive Age	Permo-Carboniferous
Genetic Theories	Permo-Carboniferous rhyolite porphyry Cu, Mo system
COMMENTS	The 285Ma age and KGM drilling of diorite here means that the rhyolite breccia is not the critical part of the story. It is possible that the whole system is diorite-related and that Balaclava hill to N and Mountain creek Aspasia Four grande are all part of one diorite centred system. if this is the case then the geochem should be more like Phyllis may, iron hurst etc i.e. the permian mo deposits and Drummer Hill on the E trending structure is more like Rocky reward.
Exploration	1996 detailed soil, rock geochemistry & IP survey over Mt Turner, drilling at Balaclava Hill, Four Grande & Mt Creek by Kidston Gold Mines , EPM 9204 CR28415. 1997 one 300m diamond hole (MTRD02) drilled at Mt Turner by KGM intersected 256m of biotite altered diorite containing qtz - pyr +/- chalcopyrite and molybdenum veinlets from 157-300m depth CR29681. Aspasia - Three Musketeers area explored for uranium by Esso in 1979 under ATP1996, CR7485. 1994 Union Mining conducted rock chip sampling of the Aspasia , 3 Musketeers and Cobar workings (EPM 9204, CR25925). 1996-1997 detailed soil, rock geochemistry & IP survey over Mt Turner, drilling at Balaclava Hill, Four Grande & Mt Creek, and resampling of old costeans at 3 Musketeers by Kidston Gold Mines (EPM 9204, CR28415, CR29891).
100K sheet	Forrest Home 7561
AMG North	7980100.00
AMG East	759000.00
Latitude	-18.25
Longitude	143.45
Last update	23-4-2017
REFERENCES	(1) GSQ record 1978/9 details exploration completed by the BMR in Departmental area 71D). Drilled 11 vertical holes at Mt Turner. Drilling intersected porphyritic microgranodiorite (Mt Darcy Microgranodiorite) hosted in Mt Turner Granite. Abundant disseminated sulphides and veinlets of quartz-pyrite +/- chalcopyrite +/- molybdenum were intersected, CR41305. (2) 1981; GSQ Publ 370 Geology, production, description (3) 1982; GSQ Publ 379 Detailed geology CR55535. (4) ATP 479, 649, 1111, 1596, 1996, 2316, 2779, 2996, 3406, 3589, 3908, 4093, 4102, EPM 9204 CR55535.

CAMP	New Moon- Mosquito
CLASS ALL	PNLMS
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD
QUARTZ ZONE	PLM
METAL ZONE	As
Size class (endowment)	7
Mining Method	Pits and shafts
Production: Metal	5.5kg
Production Grade	90g/t
Periods of Production	Lucky Hit, New Moon Group, Orion, Commonwealth, Southern Cross, Leowalds et al.
Reserves	
Reserves Grade	
commodities mined	Ag, Pb, Zn
Current status	No activity
Tenement Holder	EPM25726 Strategic Metals Aust. Pty Ltd; EPM18490 SMA Mining Pty Ltd; EPM17643 SC Resources Pty Ltd.
Deposit Names	New Moon, New Moon West, Pleiades, Jupiter, Lodestone, Orion, Western King, Argent King, Argent King #1 & #2 east, Leowalds, Commonwealth, Argent Prince, Argent Queen, Southern Cross, Star, No Name, Little Mossie
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Ag As Pb Sb Te Cu Bi Zn
Host 1	Lane Creek Formation & Cobbold Metadolerite
Host Description	Phyllite, carbonaceous metasilstone, calc-silicate rocks
Host 1 Age	Proterozoic
Host 2	
Regional Structure	Located 8kms west of the regional scale N-S striking Delaney Fault. Northwest striking regional structural grain.
Mineralisation Age	
Pb model age	
Deposit form	Shear/fault hosted veins
Deposit Orientation	Northwest to WNW striking
related structure	Hosted in local shears
ore minerals	Galena, pyrite, chalcopryrite, anglesite, cerussite, limonite, hematite
ore texture	Sulphides disseminated in quartz, and as late stage vugh infill.
gangue minerals	Quartz, siderite
TYPICAL VEIN CHARACTERISTICS	Med. euhedral buck, recrystallised & cut by late fine-med. comb quartz
BUCK & INFILL C to F	BmLf-m
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	quartz, siderite, sericite
alteration facies	Phyllic, carbonate
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Mines on the eastern side of the camp were originally worked for gold and then swapped to Ag, Pb. Gold grade increased with depth in the Lucky Hit Mine, Ag grades fell. Metasediments probably shallowly underlain by the Ropewalk Granite. Carbonate (siderite) infill of veins common where shear is hosted in calcareous rocks e.g. Commonwealth, Leowalds, New Moon. Low proportion of quartz vein material within the shears compared to pther camps. Higher proportion of sulphides (pyrite, galena, chalcopryrite) replacing shear breccia and infill of veins.
Exploration	1909, Mitchell reported in the Annual Qld. Govt. Mines. Dept. report on mining and production at Lode Star, Crows Nest & Pigs Eye CR63005. 1913, Ball reported in the Ann. Rep. Min. Dept that ore shoots at the Mosquito Creek mines were small and at depth sphalerite appeared CR63009. at 1972, Bridge Minerals conducted stream sediment sampling, reconnaissance rock chip sampling and mapping of the Commonwealth workings. Bridge concluded the potential size of the Commonwealth deposit did not meet their target and no further work was conducted, ATP813M, CR3533 & CR4296. 1987, CRA mapped the area around New Moon & Lodestar in their search for the source of gold in alluvials. CRA concluded the gold source as a "regionally extensive swarm of NW trending quartz veins", which did not constitute a suitable target for CRA, ATP4434M, CR17328. 1992 MIM explored the west portion of the New Moon camp for stratabound zinc mineralisation. MIM conducted mapping and rock chip sampling of the region (EPM7783, CR23591 & CR 24525).
100K sheet	Northhead 7560
AMG North	7936480.00
AMG East	758220.00
Latitude	-18.65
Longitude	143.44
Last update	5-5-2017
REFERENCES	(1) Withnall, I.W., 1976; Mines & Minerals of the Forsayth 1:100,000 sheet are Qld. GSQ Rept 91 (2) Withnall, I.W. & Bain, J.H.C., 1985; Mineral deposits of the Georgetown region. Prod figures and biblio. BMR 1985/10 . 3) ATP 295, 479, 649, 813, 1491, 1572, 2404, 3733, 4434

CAMP	Percy Queen
CLASS ALL	ERWES
EPOCH	EPERM
Related Intrusion	rhyolite
Mineralisation Style	SW VN
QUARTZ ZONE	EPB
METAL ZONE	As
Size class (endowment)	36
Mining Method	Pits & shafts, colluvial
Production: Metal	16 kg, 13.74 kg from Black Eagle Alluvials and 2.26 kg bullion Percy Queen.
Production Grade	Percy Queen produced 2.26 kg bullion from 49 tonnes ore (1936-1940).
Periods of Production	1918, 1936-1940 Percy Queen, Black Eagle 1894-1901, 1934, 1986, 2016-2017.
Reserves	ML30182, resources estimated ~ 10,000 tonnes
Reserves Grade	estimated ~ 2g/t Au
commodities mined	Au, Ag
Current status	Currently being mined on small scale by John Barns at Black Eagle
Tenement Holder	John Barns ML 30182; EPM15440 JKO Mining; EPM 18615 Activex
Deposit Names	Black Eagle, Fiik, Percy Queen, Percy Queen West
CHEM CLASS	GST
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Ag Au Te Bi As Sb Pb Cu Se Mo
Host 1	Robin Hood Granodiorite
Host Description	Grey hornblende-biotite granodiorite
Host 1 Age	Late Silurian
Host 2	Rhyolite dykes (Permian 280+/- from Percy West sample)
Regional Structure	Close to contact (immediately east) of Silurian and Proterozoic age granites.
Mineralisation Age	280Ma Permian age on dikes from Percy Queen
Pb model age	
Deposit form	network veins, sheeted quartz veins
Deposit Orientation	WNW
related structure	generally localised along margins of rhyolite dykes
ore minerals	native gold
ore texture	Narrow (<1cm) sheeted quartz veins
gangue minerals	quartz, pyrite
TYPICAL VEIN CHARACTERISTICS	Fine comb qtz +/- CH, SP.
BUCK & INFILL C to F	FO
QUARTZ ZONE	EPB
gold fineness	
alteration minerals	quartz, sericite
alteration facies	phyllic
Related Intrusion Name	Mineralisation at Percy Queen & Percy Queen West hosted in and adjacent to Permo-Carb. rhyolite dyke margin.
Intrusive Age	Permo-Carb
Genetic Theories	
COMMENTS	Lies close to contact between Robin Hood Granodiorite, Daniel Creek Formation, Cobbold Dolerite and Digger Creek Granite. Mineralisation at Black Eagle consists of narrow (<1cm) sets of vertical, sheeted quartz veins up to 2m wide striking WNW. The veining is hosted in Robin Hood Granodiorite and possesses narrow quartz-sericite vein selvages. The veining does not appear extensive and the pitting and mining at surface is approximately one hectare (100m x 100m) in area. However systematic exploration of the area has not been conducted. Dikes but could easily drive sheeted veins so good to map extent and test to depth. Quartz textures and geochem similar to Percy Queen , Percy Queen west and Fiik. So included in epithermal camp. Distinguishing characteristic is the high arsenic compared to Percyvale, Mountain Maid and Long Lode camps.
Exploration	In 1995, Eltin Minerals P/L collected rock samples along the rhyolite dyke between Percy Queen and Percy Queen West (EPM9598; CR26870). The sampling was conducted with the aim of identifying more ore for the mill at Mount Hogan. In 1987, Stevenson Enterprises conducted detailed mapping and sampling over the Boomerang, Fiik, Percy Queen and Long Lode workings (ATP4578M, CR17828 & CR21288).
100K sheet	Gilberton 7659
AMG North	7894000.00
AMG East	790500.00
Latitude	-19.03
Longitude	143.76
Last update	29/04/2017 GM HM JV
REFERENCES	(1) 1914; QGMJ 15 174-184, 239-245 =GSQ Publ 245 (2) 1981; GSQ Publ 370 (3) CR17828, CR21288, CR26870

CAMP	Percyvale
CLASS ALL	PNLEC
EPOCH	EDEV
Related Intrusion	rhyolite?
Mineralisation Style	LD
QUARTZ ZONE	PLE
METAL ZONE	Cu
Size class (endowment)	500
Mining Method	Shafts, shallow pits
Production: Metal	446.5kg
Production Grade	31.1g/t
Periods of Production	Perseverance, Union, Walkers, Boomerang, etc
Reserves	
Reserves Grade	
commodities mined	gold, silver, copper, lead
Current status	no activity
Tenement Holder	ML's 3285 (Long Tunnel), 3368 (Boomerang), 30105 (The Andrew) held by John Barns ; ML3366 (Union) & EPM 15440 held by JKO Mining
Deposit Names	Long Tunnel, Saxonia, Cameron, Louis & Monica, Cranky Dicks, Walkers Union, Weals, Struggle & Warrior, Boomerang, St Patricks, Patrick East, Andrew Perseverance, Sensation Copper Queen, Eliza Jane, Belvedere
CHEM CLASS	TB
METAL ZONE	Cu
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Te Ag Bi Cu Sb Cd As Pb Se W
Host 1	Digger Creek Granite
Host Description	Most mines occur in coarse grained muscovite granite. Some also are hosted by Daniel Creek Fm metasediments.
Host 1 Age	Middle Proterozoic
Host 2	Roof pendants of Daniel Creek Fm schist
Regional Structure	East-west trending faults and lineaments
Mineralisation Age	Permian?
Pb model age	
Deposit form	Fault/shear hosted veins
Deposit Orientation	Generally E-W striking and shallow to moderate north dips.
related structure	
ore minerals	Gold, silver, pyrite, chalcopryrite, galena +/- sphalerite, cuprite, malachite, azurite, chalcocite
ore texture	Disseminated sulphides interstitial to quartz crystals and filling vughs in vein cores. Fine to medium comb quartz. Variable rebrecciation.
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	Multiple phases of med-fine comb qtz, medium-fine buck, often recrystallised +/- BX, SP, STY
BUCK & INFILL C to F	f-mBLf
QUARTZ ZONE	PLE
gold fineness	
alteration minerals	quartz, sericite, chlorite, epidote
alteration facies	Phyllic, propylitic
Related Intrusion Name	Undifferentiated rhyolite intrusives. Dyke swarms of rhyolite with at least 2 deposits occurring in them. Generally the dykes strike either NW or NE
Intrusive Age	Permian
Genetic Theories	
COMMENTS	The major producers in the Percyville area are in the Forsayth 1:100,000 sheet area. Production is a minimum. Many veins occupy same structures as dykes (rhyolite & dolerite) e.g. Saxonia, Cranky Dicks. Veins alongside dolerite dykes are often Cu-rich.
Exploration	In 1987, Stevenson Enterprises conducted detailed mapping and sampling over the Boomerang, Fiik, Percy Queen and Long Lode workings (ATP4578M, CR17828 & CR21288). In 2000, Kidston Gold Mines conducted trenching at Boomerang and Patricks East (EPM11451, CR32419). Best result at Boomerang was in trench BC02, 2m @ 2.30 g/t Au. Best result at Patricks East was in trench PEC02, 8m @ 0.18 g/t Au.
100K sheet	Gilberton 7659
AMG North	7897600.00
AMG East	791000.00
Latitude	-18.99
Longitude	143.76
Last update	4-05-17
REFERENCES	(1) 1981; GSQ Publ 370 Geology, production, mine description (2) 1976; GSQ Rep 91 Union and others, geology, production (3) Extensive exploration completed over the Percyvale area by Kidston Goldmines 1990-1992 (EPM 5883, CR22850; EPM11451, CR32419). (4) CR17828, CR21288, CR26870

CAMP	Phyllis May
CLASS ALL	IDWMC
EPOCH	EPERM
Related Intrusion	granodiorite
Mineralisation Style	SW
QUARTZ ZONE	IM
METAL ZONE	Cu
Size class (endowment)	
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	Minor Cu + . Phyllis May
Reserves	
Reserves Grade	
commodities mined	
Current status	
Tenement Holder	EPM25524 Red Robin Resources
Deposit Names	
CHEM CLASS	TB
METAL ZONE	Cu
Element Core	CU MO
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Bi Cu Sb As Ag Au Mo
Host 1	Forsyth Granite
Host Description	Medium - coarse porphyritic granite
Host 1 Age	Mid Proterozoic
Host 2	MT DARCY MGD
Regional Structure	Major E and N trending faults
Mineralisation Age	Mt Darcy breccia sericite K/Ar date 286.7Ma +/- 6.6 (Early Permian intrusive)
Pb model age	
Deposit form	Veins associated with porphyry Cu, Mo system
Deposit Orientation	N and NW
related structure	Adjacent to Carboniferous Dismal Creek volcanic subsidence cauldron
ore minerals	Chalcopyrite, molybdenite, malachite
ore texture	
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	fine comb
BUCK & INFILL C to F	F
QUARTZ ZONE	IM
gold fineness	
alteration minerals	
alteration facies	
Related Intrusion Name	MOUNT DARCY MGD
Intrusive Age	CARB
Genetic Theories	
COMMENTS	System very similar to Mt. Turner. Probably some Permo-Carboniferous rhyolite bodies at a shallow
Exploration	In 1972, the Phyllis Mae area was explored for uranium by Central Coast exploration. An airborne magnetic and radiometric survey was flown. Anomalies were followed-up on the ground. No uranium minerals were identified and anomalies attributed to variations in rock type (CR3912). In 1984, Chevron Exploration Corporation established a grid over the Phyllis Mae intrusive complex and conducted IP surveys and 2000m of RAB drilling. The RAB drilling identified a large area of copper - molybdenum mineralisation related to Permo-Carboniferous intrusives. The lack of a supergene zone prevented Chevron from continuing exploration (ATP3607M, CR13999)1986, CRA carried out extensive sampling and mapping over a large area around Phyllis Mae and Huonfels prospects. Work, including drilling was focussed on a few areas where anomalous soil and rock chip geochemistry had been collected e.g. Asgard, Brighton, Avalon, Kalevala Prospects. No drilling was conducted at Phyllis Mae during this time as the area was held under mining leases (ATP4047M, CR16020). In 1995, CRA conducted extensive exploration over the Phyllis-Mae area searching for porphyry style copper mineralisation. Exploration included mapping, stream sediment, soil and rock chip sampling, 8.3 kms of ground IP geophysics and magnetics, drilling of 3 diamond and 24 RC holes & downhole IP logging. Conclusions from this work were that "a complex, multi-stage, structure controlled, copper mineralised system is present in the Phyllis - Mae area but no focus for high grade mineralisation was found." (EPM8411, CR27697). From 2008 - 2010 Plentex (Operations) P/L explored the Phyllis - Mae area. MMI soil sampling was conducted over a large area. The copper - molybdenum anomalies were said to be of low tenor and ground follow-up failed to find any significant mineralisation at surface (EPM15294, CR62563).
100K sheet	Forrest Home 7561
AMG North	7980800.00
AMG East	740500.00
Latitude	-18.25
Longitude	143.27
Last update	
REFERENCES	(1) ATP 1137, 1799, 1624, 2158, 2779, 2718, 2582, 3589, 3607, 4047, 4093, 4103, 4354, 4416, 4912, 5252, 5822, 5893, 5914, 8411, 15294. (2) Open file company reports CR3912, 6007, 7319, 8426, 11891, 13999, 19448, 21533, 21677, 21977, 22123, 27697, 29243, 57216, 62563.

CAMP	Queenslander
CLASS ALL	PNLMP
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD
QUARTZ ZONE	PLM
METAL ZONE	Pb
Size class (endowment)	1420
Mining Method	pits and shafts
Production: Metal	1271.1kg
Production Grade	36g/t
Periods of Production	Queenslander (803kg), Little Queenslander (29kg), Nil Desperandum (438kg), Mountaineer (13kg), Struggle (53kg), Pinnacles, Cora Lynn (2kg), Loch (1kg).
Reserves	
Reserves Grade	
commodities mined	Gold, silver, lead, copper
Current status	no activity
Tenement Holder	ML 1036, 1310, 1311, 1309. EPM17687 Atherton Minerals; EPM18359 Aussie Nth Qld Resources; EPM14498 Australian United Mining; EPM18093 Snow Peak Mining; EPM19824 Peter Smith.
Deposit Names	Queenslander, Little Queenslander, Trafalgar, Try Again, Shamrock, North-south Reef, Black Russian South, Go Robo, Especially Clare's, Nil Desperandum, Boys shaft, Chance, Afghan Gully, Mountaineer, Melba, Edinburgh, Finnigans, Dish of gold, Pinnacles, Homeward Bound, Struggle, First Look, Lynn, Loch, Cardigan
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Te Ag Pb As Bi Cu Zn
Host 1	Forsayth Granite
Host Description	Med-coarse grained grey porphyritic biotite granite
Host 1 Age	Mid Proterozoic
Host 2	
Regional Structure	Camp located between Delaney Fault and western boundary fault of the Newcastle Range Volcanics. Numerous west and NW striking faults cut the area. Strong west and northwest trending fault/shear systems.
Mineralisation Age	
Pb model age	
Deposit form	Steeply dipping, irregular & discontinuous veins hosted in shears.
Deposit Orientation	Variable, generally east-west to northwest.
related structure	Veins hosted by east trending shear zones
ore minerals	galena, pyrite, cpy, sph
ore texture	Sulphides disseminated in early buck quartz, lining late vughs and interstitial to quartz crystals.
gangue minerals	Quartz, pyrite
TYPICAL VEIN CHARACTERISTICS	Medium euhedral buck & fine comb quartz, breccia, spider veins +/- sugary quartz and stylolites
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Chlorite, sericite
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Sulphide zone yielded good gold by amalgamation and even more by smelting. Queenslander was a particularly continuous reef. No copper was recovered from Nil Desperandum despite significant grades. During late 1930's and early 1940's revival, all ore was smelted as sulphide concentrate. Desert Rose had high copper content (4%). Copper carbonate observed in pits at Mountaineer, Queenslander & Nil Desperandum all located north of Forsayth.
Exploration	1982 mapping, sampling & drilling (6 shallow holes) of old workings at Trafalgar by Serem CR10642; 1984, Midapa Pty Ltd evaluated many of the historical workings in the Forsayth & Georgetown district. Selected mines were mapped & sampled ATP3406M CR 13817. 1993, Union Mining conducted mapping and rock chip and costean sampling of numerous historical workings in the Georgetown and Forsayth region, ATP8788, CR's24580, 26771 & 27781.
100K sheet	Forsayth 7660
AMG North	7944700.00
AMG East	774500.00
Latitude	-18.57
Longitude	143.60
Last update	28-5-2017
REFERENCES	(1) 1900; GSQ Publ 151 Underground plans, good description of workings (2) 1909; GSQ Publ 219 Description of underground workings similar of Publ 151 (3) 1976; GSQ Rept 91 Good summary of available information. (4) Bain, J.H.C., 1987; B p14 Sericite Dating. (5) 1993-1995 Union Mining conducted extensive mapping and sampling of Georgetown & Forsayth district historical mines CR24579, CR24758, CR25609, CR27781. (6) ATP 197, 479, 649, 1491, 1709, 2316, 3406, 4093 4281, 4315, EPM's 8788, 18359, 17687, 14498, 18093.

CAMP	Red Dam
CLASS ALL	PNLES
EPOCH	LCARB/EDEV?
Related Intrusion	none
Mineralisation Style	LD
QUARTZ ZONE	PLE
METAL ZONE	As
Size class (endowment)	
Mining Method	Recent open cut.
Production: Metal	Approx 30,000 tonnes
Production Grade	~10 g/t Au
Periods of Production	Not mined historically. Small open cut excavated by Deutsche Rohstoff 2011. Ore carted to Georgetown mill.
Reserves	
Reserves Grade	
commodities mined	Au, Ag
Current status	
Tenement Holder	ML30203 & EPM9158 Central Goldmines
Deposit Names	Red Dam
CHEM CLASS	SAT
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te As Sb Au Ag Bi Cu Pb Sn
Host 1	Einasleigh Metamorphics
Host Description	gneiss, migmatite, granodiorite
Host 1 Age	Proterozoic
Host 2	Cobbold metadolerite
Regional Structure	2.5kms north of Newcastle Range volcanic province (Namarrong Cauldron) and 500m north of the Carboniferous age Lubrina Granite.
Mineralisation Age	
Pb model age	
Deposit form	Shear hosted veinlets/stockwork.
Deposit Orientation	ENE (80°)
related structure	steep dipping ENE trending shear
ore minerals	pyrite, arsenopyrite, galena
ore texture	veins, stockwork, breccia. Quartz sulphides infill and replacement of host rock.
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	Fine euhedral quartz, recrystallised, saccharoidal +/- stockwork, bx, spider veins
BUCK & INFILL C to F	BfD
QUARTZ ZONE	PLE
gold fineness	
alteration minerals	quartz, chlorite, siderite. Alteration extends 5-10m into the adjacent host rock.
alteration facies	propylitic
Related Intrusion Name	Rhyolite dykes commonly found throughout the area. None observed in mine open cut.
Intrusive Age	Carboniferous?
Genetic Theories	
COMMENTS	Gold mineralisation in fresh sulphide below the weathering zone is believed to be refractory. Exploration in the Red Dam region has identified numerous narrow rhyolite dykes with associated gold mineralisation. Comments in company reports mentioned a suspicion that mineralisation at Red Dam and in the rhyolite dykes was related to the permian Yataga intrusive located 10kms to the SW (CRA 1996, CR27823; Triumph Resources 2000, CR33077).
Exploration	Discovered in 1987 by CRA during regional exploration of EPM9158.
100K sheet	Galloway 7662
AMG North	8015030.00
AMG East	786100.00
Latitude	-17.94
Longitude	143.70
Last update	13/06/17
REFERENCES	CR27823, CR33077, CR61455

CAMP	Robinhood West
CLASS ALL	IRLMP
EPOCH	EPERM
Related Intrusion	rhyolite, diorite
Mineralisation Style	LD, SW
QUARTZ ZONE	IM
METAL ZONE	Pb
Size class (endowment)	26
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	Gold
Current status	inactive prospects
Tenement Holder	EPM's 17788, 17949, 17629 Laneway Resources.
Deposit Names	Eastern Bar Creek (Jubilee North), Eagle Nest, Phoenix, Cattle creek prospect, Robertson 3, Moonbeam, Pegasus, Delaney, San Andreas, Digger Creek, Mt Spinifex
CHEM CLASS	GB
METAL ZONE	Pb
Element Core	Cu Au ?
GEOCHEMICAL ENRICHMENT SIGNATURE	Bi Ag Pb Te As Cu Au
Host 1	Daniel Creek Formation
Host Description	Schist, minor muscovite granite
Host 1 Age	Meso-Proterozoic
Host 2	Rhyolite dikes and plugs and diorite plugs
Regional Structure	Camp boundaries are NW and NE oriented Permian Faults and the regional scale Delaney Fault is within the camp and may localise Permian diorite at San Andreas and Delaney.
Mineralisation Age	Delaney prospect sample of sericite from minz/alterd rhyolite dyke dated at 276.8Ma +/- 6.4 (early Permian intrusive event). Eagles Nest Zr in dike also submitted.
Pb model age	
Deposit form	Shear zones with sericitic alteration and tectonic/hydrothermal breccias including rhyolite clasts and quartz sulfide infill or quartz veins. Structures at Eagle Nest strike NW parallel to the rhyolite dyke swarm passing through the area. Mineralisation is hosted in narrow shears of milled breccia with silicification but little quartz veining or quartz infill textures were observed. Schist host rock and rhyolite clasts have been incorporated in the breccia. At the Eastern Bar Creek prospect the mineralisation is hosted in a NW striking, 8m wide shear cutting schist and granite of the Daniel Creek Formation. The shear zone contains numerous irregular quartz veins and breccia lined by dog tooth quartz with sulphide cores. Mineralisation at Delaney is localised in the N-S striking Delaney Fault that cuts Proterozoic age granite. The fault cuts numerous E-W striking rhyolite/rhyodacite dykes. The fault has produced a 2m wide zone of silicified, clast support breccia with vughy comb quartz infill. At Moonbeam a narrow (1m) N-S striking shear hosted in schist has been replaced by silica and sulphides. At Pegasus a stockwork of narrow (<1cm) fine comb quartz +/- pyrite veins has developed along the margin of a NNW striking rhyolite dyke.
Deposit Orientation	Mineralised zones (shears) are mostly steep dipping and trend N-S to NW.
related structure	Generally the shears hosting mineralisation strike N-S parallel to the Delaney Fault or NW parallel to the rhyolite dyke swarm passing through the region
ore minerals	Gold, silver, pyrite, arsenopyrite, sphalerite, galena +/- chalcopyrite.
ore texture	Late stage sulphide interstitial to quartz crystals
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	Fine-medium comb quartz, +/- breccia, spider veins
BUCK & INFILL C to F	F-MD
QUARTZ ZONE	IM
gold fineness	
alteration minerals	Sericite, kaolinite, chlorite, siderite. Generally narrow alteration zones adjacent to shear zones.
alteration facies	Argillic, phyllic, propylitic
Related Intrusion Name	Cpir and rhyolite dikes most likely Early permian (~280Ma) based on sericite alteration in rhyolite at Delaney and comparison with Agate Creek etc and local later diorite plugs or dikes also inferred as Early permian by comparison with the Yataga Granodiorite and other plugs along the Delaney Fault and other NE & NW structures.
Intrusive Age	Early Permian
Genetic Theories	epizonal to mesozonal level lode and vein mineralisation related to Early Permian rhyolite dikes
COMMENTS	Robin Hood West is a district made up of numerous small prospects none of which are yet demonstrated as major camps. The common characteristic is sulfides in fine comb veins in breccia/shear zones with clasts of rhyolite or cutting dykes of rhyolite and overprinting diorite plugs and dikes that are most likely Early Permian age.
Exploration	In 1976, CRA conducted mapping and stream sediment sampling over the Mt Spinifex region searching for base metals. Two anomalies were identified and investigated but seemed to be of no significance. In 1982 AOG minerals collected rock chip samples over the San Andreas prospect. Assays of up to 14ppm Au, 80 ppm Ag, 10% Pb were returned. Minz. appeared to be related to a diorite dyke intruding schist and pegmatite along the Delaney Fault. In 1984 Billiton Australia (in JV with AOG) drilled 3 holes across the mineralised diorite contact at San Andreas. Only low gold grades were intersected (<0.25 g/t Au) in quartz-calcite veins at the diorite contact. ATP3795, CR's 11650, 11481. AOG also collected samples from rhyolite at Mt Spinifex that assayed 0.52% Pb, 1.14% As, 860 ppm Zn and 140ppb Au. A sample from the Moonbeam Mine assayed 0.21% Cu, 0.68% Pb, 1.8% Zn, 0.13% As, 72ppm Ag and 180ppb Au (ATP2251M, CR 12507). In 1986 CRA conducted stream sediment sampling over the Mt Spinifex & Digger Ck region and identified a number of gold anomalies. Follow-up work led CRA to conclude the anomalies were shedding from Mesozoic age gravels. In 1988, Australmin Holdings conducted airphoto and landsat interpretation and heavy mineral, bulk cyanide leach (BLEG) and -180# stream sediment sampling over ATP5099. The area covered Old Robinhood station & Mt Spinifex area. Geological traverses and rock chip sampling was conducted over the anomalous areas identified from the stream sediment geochemistry. A number of linear zones of veining and brecciation, often spatially associated with rhyolite dykes were identified and sampled. However the mineralisation located and sampled was not considered significant and the ATP relinquished (CR19494). In 1985 Newmont Holdings conducted reconnaissance rock chip sampling of stream sediment anomalies over Robinhood station. Results "failed to generate targets of sufficient size and grade to warrant further investigation", ATP3559, 3571 (CR14998). In 1994, BHP conducted exploration aimed at finding Stratabound zinc mineralisation. A 13km x 1km E-W soil grid was established over a coincident TEM anomaly & magnetic feature located 7kms NW of Robinhood Station. Results returned low levels base metal anomalies and the TEM anomaly was believed to have been related to carbonaceous units in the Corbett Formation. EPM8661, CR25656. Laneway Resources carried out additional sampling and drilling at Eastern Bar, Eagles Nest and Delaney demonstrating relatively Ag-rich rather than Au-rich mineralisation.
100K sheet	Forsayth 7660
AMG North	7913500.00
AMG East	777500.00
Latitude	-18.85
Longitude	143.63
Last update	29-5-2017
REFERENCES	

CAMP	The Drum
CLASS ALL	PNLEP
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD, VN
QUARTZ ZONE	PLE
METAL ZONE	Pb
Size class (endowment)	175
Mining Method	Shafts, pits, open cut
Production: Metal	157.6kg
Production Grade	24.1g/t
Periods of Production	Deceitful Susan (1885-1911) 27.6kg @ 26.3g/t; Better Luck 0.77 kg @ 47.8 g/t Au; Merry Monarch 9.16kg @ 40.3 g/t Au.
Reserves	
Reserves Grade	
commodities mined	Au
Current status	
Tenement Holder	EPM17687 Atherton Minerals Exploration Ltd, EPM26267 Nimble Resources Ltd.
Deposit Names	The Drum, Better Luck, McDermott Creek, Deceitful Susan, Merry Monarch, Butcher Bird, German Freds Gully, Stockman (The Bertha)
CHEM CLASS	TB
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Te Ag Pb Bi Cu Sb Zn
Host 1	Daniel Creek Formation
Host Description	Schist and quartzite (Stockman, Merry Monarch, Better Luck)
Host 1 Age	Mid Proterozoic
Host 2	Talbot Creek Granite (Deceitful Susan). Cobbold Metadolerite (The Drum).
Regional Structure	
Mineralisation Age	
Pb model age	
Deposit form	Irregular, discontinuous, shear hosted veins, veinlets and stockwork.
Deposit Orientation	Generally striking E-W with vertical to subvertical dips.
related structure	Generally hosted in E-W trending shears
ore minerals	Gold, pyrite, galena, chalcopyrite, malachite, azurite.
ore texture	
gangue minerals	Quartz
TYPICAL VEIN CHARACTERISTICS	Fine euhedral buck, recrystallised
BUCK & INFILL C to F	BfD
QUARTZ ZONE	PLE
gold fineness	
alteration minerals	Sericite, quartz, pyrite.
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	
Exploration	1990, Bafmin Pty Ltd evaluated the historical mines in the region and concluded most remaining resources in the Lighthouse district were small and would be difficult to mine independently. ATP6592M, CR22510. 1993, Union Mining made basic surface plans , conducted mapping, rock chip sampling and descriptions of numerous old workings EPM 9064, CR25921 & CR27781.
100K sheet	Georgetown 7661
AMG North	7958000.00
AMG East	775000.00
Latitude	-18.45
Longitude	143.60
Last update	27-5-2017
REFERENCES	(1) 1969, Sampey Exploration services describes the geology and historical mining production of numerous mines in the Georgetown and Forsyth gold districts ATP649M, CR2959. (2) 1978; GSQ Rept 100 Mine descriptions, geology, production (3) 1962; BMR Bull 71 Regional geology, production . (4) B Svirskis, 1962; ATP 197M, CR1094 Good summary of geology and mining history of the region (5) 1900; GSQ Publ 151 Mine descriptions, production, geology (6) ATP 197, 479, 649, 2707, 3843, 4315.

CAMP	Titania
CLASS ALL	PNLHP
EPOCH	EDEV?
Related Intrusion	none
Mineralisation Style	LD, VN
QUARTZ ZONE	PLH
METAL ZONE	Pb
Size class (endowment)	535
Mining Method	Pits and shafts
Production: Metal	479.9kg
Production Grade	35.5g/t
Periods of Production	Caledonia, 1878-1938 (7.609kg Au); Rescue, 1897-1901, (17.07kg bullion); Titania (1.027kg Au).
Reserves	
Reserves Grade	
commodities mined	Gold, silver
Current status	No mining, exploration
Tenement Holder	EPM19227 Australia Zhaoyuan Gold Mining, EPM15146 Central Goldmines, EPM17589 JKO Mining P/L.
Deposit Names	Mushroom, Titania, Caledonia, Storm, Combo, Rescue
CHEM CLASS	SAT
METAL ZONE	Pb
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Au As Te Pb Zn Ag Cu Sb
Host 1	Forsayth Granite
Host Description	Grey foliated coarse porphyritic biotite granite.
Host 1 Age	Mid Proterozoic
Host 2	
Regional Structure	Camp located 5kms west of Delaney Fault and 2kms north of the Big Wonder fault.
Mineralisation Age	
Pb model age	
Deposit form	Quartz veins hosted in shear zones
Deposit Orientation	Lodes and veins E in Caledonia NE in Titania, subvertical dips.
related structure	NE striking faults
ore minerals	pyrite, sphalerite, galena
ore texture	Med-fine euhedral buck, and med-fine comb quartz veins.
gangue minerals	Quartz, pyrite
TYPICAL VEIN CHARACTERISTICS	Coarse euhedral buck and comb quartz, cut by later shearing
BUCK & INFILL C to F	BcD
QUARTZ ZONE	PLH
gold fineness	
alteration minerals	quartz, sericite
alteration facies	Phyllic
Related Intrusion Name	
Intrusive Age	
Genetic Theories	
COMMENTS	Separated from Georgetown camp because of different vein strikes and different geochemical signature.
Exploration	1982 mapping, sampling & drilling of old workings at Caledonia (6 holes) by Serem CR10642. Best intercept at Caledonia was 20-23m, 3m @ 3.15 g/t Au. 1986, petrogram mapped and sampled old workings at Titania & Caledonia, ATP4093, CR16685. 1993-97, Union Mining completed extensive mapping and sampling of Georgetown & Forsayth district historical mines CR24579, CR24758, CR25609, CR27781.
100K sheet	Georgetown 7661
AMG North	7972900.00
AMG East	763800.00
Latitude	-18.32
Longitude	143.50
Last update	27-5-2017
REFERENCES	(1) 1978; GSQ Rept 100 Mines description, geology, production (2) 1939; QGMJ 40 p363, 402-407 Mining proposals & results (3) 1900; GSQ Publ 151 Mine descriptions, production, geology (4) 1887; GSQ Publ 135 Same as Publ. 151. (5) 1965; BMR Bull 71 Regional geology (6) 1935; QGMJ 36 p 276-278 Repeat of GSQ Publ. 151 (7) ATP 479, 649, 1111, 2316, 2159, 3406, 3603, 3908, 4093, 4346 (8) QGMJ 36 p 276-278.

Mineralisation Style	VN, LD
QUARTZ ZONE	PLH
METAL ZONE	As
Size class (endowment)	37
Mining Method	Pits and shafts
Production: Metal	True Blue (43.7), Tunnel (4.46), Liberator (Rosie?) (8.27)
Production Grade	55.2g/t
Periods of Production	
Reserves	
Reserves Grade	
commodities mined	Au, Ag, Tungsten (Alluvial scheelite)
Current status	Numerous alluvial mining leases held by ERO Georgetown Gold Operations Pty Ltd. Some actively being mined.
Tenement Holder	EPM15995, ERO Georgetown. EPM25727 Strategic Metals Aust. Pty Ltd.
Deposit Names	Halleys Comet, Western Creek, Frogmore, Nearly There, Rosie, Shawn Van Pep Cheeky, Tunnel, True Blue, True Blue #1, Much Success
CHEM CLASS	TB
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Au Ag Bi U As Pb
Host 1	Lane Creek Formation
Host Description	Grey, commonly carbonaceous, locally calcareous, metasilstone and fine sandstone. Often micaceous.
Host 1 Age	Proterozoic
Host 2	
Regional Structure	Situated 10kms west of regional scale N-S Delaney Fault. Cumberland Range Carboniferous volcanic centre located 8kms to NW. Carboniferous collapsed cauldron 5kms south (Mt Tabletop basin, Marquis Rhyolite & Mt Sircom microgranodiorite).
Mineralisation Age	
Pb model age	
Deposit form	Small, steep to moderate dipping veins often striking parallel to bedding and foliation in host metasediments.
Deposit Orientation	Generally NW striking with steep dips.
related structure	Metasediments strike north-west at Tunnel mine.
ore minerals	Pyrite, gold, galena
ore texture	Sulphide and carbonate infill of vein cores and vughs, interstitial to quartz crystals.
gangue minerals	Quartz, carbonate, (calcite, ankerite?)
TYPICAL VEIN CHARACTERISTICS	Coarse euhedral buck and med-fine comb
BUCK & INFILL C to F	BcLf-m
QUARTZ ZONE	PLH
gold fineness	
alteration minerals	Quartz
alteration facies	Phyllic
Related Intrusion Name	Unnamed rhyolite. Aphanitic to porphyritic rhyolite plugs & dykes.
Intrusive Age	Permo-Carboniferous
Genetic Theories	
COMMENTS	True Blue vein runs alongside a 'mylonitised?' metamorphic quartz vein and occasionally cross cuts that vein. Visible gold found in one gossanous specimen from the 'Tunnel'. Rhyolite porphyry dyke strikes parallel and adjacent (50m north) to the Tunnel workings. Some confusion of names between Tunnel and True Blue? Alluvial scheelite thought to originate in mid Proterozoic pegmatites these usually also have tantalite +/- cassiterite
Exploration	1971-1972 Bridge Minerals completed air photo interpretation, -80# stream sediment sampling, rock chip sampling of workings and dumps and mapping of the Cumberland and Western Ck areas. The rock chip & stream sediment samples were analysed for Cu, Pb, Zn, Mo, Mn only. Maps of some of the workings in the Western Creek area were made, ATP813M, CR3533 & CR4296. 1982 Geopeko: mapping only ATP2860, CR10472. 1987 PNC Exploration explored the Western Creek region for uranium. PNC collected 6 rock chip samples from the old workings and analysed for gold. Best result was 0.12 g/t Au. ATP4179M, CR16083. In 1987 CRA explored the Western Creek region for stratabound precious and basemetal mineralisation hosted in Proterozoic rocks. CRA conducted BLEG and -80# stream sediment sampling that identified numerous gold anomalies that were followed-up. The conclusion was that the mineralisation was related to numerous small, scattered quartz veinlets and no further work was conducted (ATP4485M, CR17642). 1987-1988 Metana Minerals explored the Western Creek are for epithermal style mineralisation. Thirty three rock chip samples were collected from the old workings in the True Blue area. Twenty four samples assayed better than 1 g/t Au, the highest was 23.1 g/t Au. Metana concluded the gold mineralisation is only associated with narrow, mesothermal style veins and relinquished the exploration permit. ATP5072M, CR20287. 1998 Kidston Goldmines conducted stream sediment sampling over the Western Ck region. Anomalous drainages were covered with soil grids and any mineralisation found outcropping in the soil grids was costeaned (ATP9824, CR29800).
100K sheet	Forrest Home 7561
AMG North	7956000.00
AMG East	758000.00
Latitude	-18.48
Longitude	143.44
Last update	29-05-2017
REFERENCES	(1) 1900; GSQ Publ 151 Very little information, production data (2) ATP 197, 813, 1393, 1631, 2860, 3837, 4179, 4485, 5027.

CAMP	Woolgar Epithermal
CLASS ALL	ERVEN
EPOCH	EPERM?
Related Intrusion	rhyolite, rhyodacite and andesite
Mineralisation Style	VN, SW
QUARTZ ZONE	EPB
METAL ZONE	Sb
Size class (endowment)	21887
Mining Method	
Production: Metal	
Production Grade	
Periods of Production	2014 global resource 27355kg global resource all deposits. 21887kg in epithermals
Reserves	27355kg global resource all deposits. 21887kg in epithermals
Reserves Grade	
commodities mined	
Current status	active advanced prospect
Tenement Holder	Strategic Minerals
Deposit Names	Lost World, Grand central, China Wall, Explorer, Shangai-Finn
CHEM CLASS	GST
METAL ZONE	Sb
Element Core	Mo-Bi-W?
GEOCHEMICAL ENRICHMENT SIGNATURE	Au Ag Cd As Pb Sb Zn Cu Bi W
Host 1	Einasleigh Metamorphics
Host Description	Generally granulite, gneiss, migmatite, amphibolite, schist and quartzite.
Host 1 Age	Mid Proterozoic
Host 2	Rhyodacite and rhyolite and minor andesite dikes
Regional Structure	Woolgar Fault and splays
Mineralisation Age	EPERM?
Pb model age	
Deposit form	chalcedonic silica veins
Deposit Orientation	Mainly ESE steep with flat pencil shoots
related structure	dilational jog in splays off Woolgar Fault and ESE dike swarm
ore minerals	pyrite, As-bearing pyrite, sphalerite, chalcocopyrite, tennantite-tetrahedrite, electrum
ore texture	
gangue minerals	Quartz, siderite
TYPICAL VEIN CHARACTERISTICS	chalcedonic, bladed, crustiform-colloform, fine crystalline
BUCK & INFILL C to F	FO
QUARTZ ZONE	EPB
gold fineness	600
alteration minerals	Sericite, chlorite
alteration facies	
Related Intrusion Name	Permian? rhyolite, rhyodacite and andesite dikes
Intrusive Age	Early Permian?
Genetic Theories	classic epithermal textures and zoning, relation to Permian? Dikes suggested rather than clearly demonstrated, but high Te enrichment in only complete analysis suggests intrusion-related epizonal
COMMENTS	
Exploration	1969 Kennecott Exploration Australia Limited; stream geochemical surveys for Cu. 1973-1974 Auric Minerals Exploration N.L.; drilling at Soapsar for Au 1978-1982 Central Coast Exploration N.L. (1979 –1980 in JV with Esso Exploration and Production Australia Inc.; 1980-1982 in JV with AFMECO Pty. Ltd.); uranium in the basement rocks of the Sandy Creek area. 1982 – 1984 Sovereign Mining Pty. Ltd.; gold exploration in the Soapspar area 1986 - 2015 Strategic Minerals N.L. (1986 in JV's with Billiton etc, 2003 – 2005 Barrick Gold, 2006 – 2007 Oxiana) and acquisition south of Lower Camp from Convergent Minerals (2009); gold exploration and resource definition at Soapspar, Sandy Creek, Perseverance, Lower Camp, Middle Camp, Upper Camp.
100K sheet	7558
AMG North	7818600
AMG East	747300
Latitude	-19.71257
Longitude	143.35935
Last update	16/06/17
REFERENCES	(1) 1965; BMR Bull 71 (2) 1973; Gilberton 1:250,000 exp notes Geology, production. (3) 1942; QGMJ 43:30-32 Production (Perseverance). (4) 1937; QGMJ 38:232-236 Geological map. (5) 1922; QGMJ 23:51-55 95-98 Geology, production, detailed description(. 6) ATP 572, 1164M, 1875M, 1998M, 1999M, 2000M (7) ATP 2303M Current (8) ATP 2781M Current (9) 1932; QGMJ 33:386-389 Mines description, production, list of mines

CAMP	Woolgar mesozonal
CLASS ALL	PNLMS
EPOCH	EDEV
Related Intrusion	none
Mineralisation Style	LD
QUARTZ ZONE	PLM
METAL ZONE	As
Size class (endowment)	37227
Mining Method	747kg
Production: Metal	30.6g/t
Production Grade	hard rock production totaled 24,256 T for 23,143 oz Au (Keid, 1937). Perseverance 1883-1895 15104 Kg from 6413 t 1895-1941 41080 Kg from 2163 t.
Periods of Production	2016 global resource for Big Vein South of 18.4Mt at 2 g/t, containing 1,173,000 oz. gold at a 0.75g/t cut-off. Older 27355kg global resource all deposits. 2014 resource 5468kg in mesothermal
Reserves	27355kg global resource all deposits. 5468kg in mesothermal
Reserves Grade	
commodities mined	Au Ag
Current status	active advanced prospect
Tenement Holder	Strategic Minerals
Deposit Names	Big Vein South, Soap spar, Perserverance
CHEM CLASS	ASM
METAL ZONE	As
Element Core	
GEOCHEMICAL ENRICHMENT SIGNATURE	Te Bi Sb Ag Au As
Host 1	Einasleigh Metamorphics
Host Description	Generally granulite, gneiss, migmatite, amphibolite, schist and quartzite.
Host 1 Age	Mid Proterozoic
Host 2	
Regional Structure	Woolgar Fault and splays
Mineralisation Age	378Ma K-Ar sericite/ EDEV
Pb model age	
Deposit form	shear hosted Lode with quartz blows
Deposit Orientation	Mainly NNE lodes and most quartz variable dip
related structure	Woolgar Fault
ore minerals	Gold, galena, pyrite, chalcopyrite
ore texture	
gangue minerals	Quartz, siderite
TYPICAL VEIN CHARACTERISTICS	medium buck deformed(bx, sty, sp) fine comb infill
BUCK & INFILL C to F	BmLf
QUARTZ ZONE	PLM
gold fineness	
alteration minerals	Sericite, chlorite
alteration facies	
Related Intrusion Name	none related to this mineralisation
Intrusive Age	
Genetic Theories	
COMMENTS	
Exploration	1969 Kennecott Exploration Australia Limited; stream geochemical surveys for Cu. 1973-1974 Auric Minerals Exploration N.L.; drilling at Soap sar for Au 1978-1982 Central Coast Exploration N.L. (1979 –1980 in JV with Esso Exploration and Production Australia Inc.; 1980-1982 in JV with AFMECO Pty. Ltd.); uranium in the basement rocks of the Sandy Creek area. 1982 – 1984 Sovereign Mining Pty. Ltd.; gold exploration in the Soap spar area 1986 - 2015 Strategic Minerals N.L. (1986 in JV's with Billiton etc, 2003 – 2005 Barrick Gold, 2006 – 2007 Oxiana) and acquisition south of Lower Camp from Convergent Minerals (2009); gold exploration and resource definition at Soap spar, Sandy Creek, Perseverance, Lower Camp, Middle Camp, Upper Camp.
100K sheet	7558
AMG North	7818600
AMG East	747300
Latitude	-19.71257
Longitude	143.35935
Last update	16/06/17
REFERENCES	(1) 1965; BMR Bull 71 (2) 1973; Gilberton 1:250,000 exp notes Geology,production. (3) 1942; QGMJ 43:30-32 Production (Perseverance). (4) 1937; QGMJ 38:232-236 Geological map. (5) 1922; QGMJ 23:51-55 95-98 Geology, production, detailed description(. 6) ATP 572, 1164M, 1875M, 1998M, 1999M, 2000M (7) ATP 2303M Current (8) ATP 2781M Current (9) 1932; QGMJ 33:386-389 Mines description, production, list of mines