Cowal Gold Corridor

“Opening Other Doors”
Objectives

• “The Doors” of the Corridor – local geology of Cowal Gold Corridor
• Styles and controls on mineralisation within the Corridor
• Vein paragenesis
• Summary of characteristics of Cowal Gold Corridor and its deposits
Regional Geology

Legend

- Alkalic porphyry Au-Cu
- Calc-alkalic porphyry Cu-Au
- Au skarn
- High sulphidation Au
- E42 Au - (Zn, Pb)

Modified from Holliday et al., 2002
Regional Simplified Geology

Cowal Gold Corridor
Volcaniclastics
Muddy Lake Diorite
Phase 2 Intrusion (455 – 467Ma)
Granodiorite Phase 3 Intrusion (445-452Ma)
"The Doors" of the Corridor

E46 Resource

- Currently under evaluation for Resource potential

E42 Open Pit

- Proven and Probable Reserves: 78.6Mt at 1.26g/t Au (3.19Moz)

E41 Resource

- Resource: 8Mt at 1.4g/t Au (0.34Moz)
VOLCANICLASTICS

MUDDY LAKE DIORITE

LAVA

TRANSPORTED SEDIMENT

Cowal Fault

West

East
Cowal Gold Corridor

Styles of Mineralisation

Supergene Oxide Blanket
Sheeted Vein System
Shear Zone Lode Style

E41 East Pod
E46 West Pod
E41 East Pod
E41 J Walker Zone
E41 East Pod
E46 East Pod
E46 Geology

MUDDY LAKE DIORITE

SUPERGENE ZONES

SHEAR ZONE

LODE STYLE

LAVA

Bedding

Fault

Legend

- Sediment
- Volcaniclastic
- Lava
- Diorite
- Diorite dyke
- Sphalerite
- Sphalerite
- Sediment
- Diorite
- >0.4 g/t Au
- Drill Hole

West

E46 WEST POD

1200 mRL

1000 mRL

500 mRL

East

E46 EAST POD

1200 mRL
Cowal Gold Corridor
Styles of Mineralisation

Supergene Oxide Blanket
Sheeted Vein System
Shear Zone Lode Style

J Walker Zone

E41 East Pod
E46 West Pod
E41 East Pod
E41 J Walker Zone
E46 East Pod
Supergene oxide zones

- Several hundred metres wide; 1-15m thick
- Associated with dark brown-black goethite stringer veining and goethite rich quartz veins

Diagram:
- Saprolite/Saprock
- 11m @ 4.33
- 5m @ 1.24

E46 East Pod

E46 West Pod
Cowal Gold Corridor

Styles of Mineralisation

- Supergene Oxide Blanket
- Sheeted Vein System
- Shear Zone Lode Style

Pods:
- E41 East
- E46 East
- E41 West
- E46 West
- J Walker Zone

Faults:
- BOOBROI FAULT ZONE
• Moderately dipping dilational veins with disseminated sulphides
• Calc-potassic alteration
• Overprinted by carbonate-base metals
e.g. rare sphalerite and galena, mainly chalcopyrite
Sheeted Vein Systems

- Pre-Au mineralising event
- Rock competency – dilational veins in diorite and volcanicslastics
- Structures
- Degassing deep intrusive source

Adapted from Corbett and Leach, 1998
Cowal Gold Corridor

Styles of Mineralisation

Supergene Oxide Blanket

Sheeted Vein System

Shear Zone Lode Style

E41 East Pod

E46 West Pod

E41 East Pod

J Walker Zone

E46 East Pod
Shear zone lode style

- Structurally controlled mineralisation
- Phyllic alteration: ser ± si ± py ± cb (ankerite)
Shear zone lode style

E46D3146 162m 79 g/t Au
E46D3146 155.8m 6.45 g/t Au
E46D3146 157.5m 2.67 g/t Au
E46D3146 152.8m 18.6 g/t Au
E46D3146 168.1m 3.67 g/t Au
Vein Paragenesis

Late cb-ep vein cut by ep-cb-prehnite veins hosted in diorite

Sheeted veins

Calc-silicate alteration

Quartz-sulphide event

Carbonate base metal sulphide event

Epithermal association

Vein Paragenesis

Act-ab-mgt-chl alteration cross cut by qz-ksp-cb

Qz-py±cb vein hosted in act-ab-mgt-chl altered diorite

Qz-cb-py shear vein with minor cpy-gn-sph hosted in volcaniclastics

Taken from “Controls to Low Sulphidation Epithermal Au-Ag” Greg Corbett, 2006
Fractured pyrite (creamy) containing vein fillings of sphalerite (mid-grey), gold (bright golden yellow) and a little chalcopyrite (yellow, less bright than gold). Plane polarised reflected light, field of view 0.25 mm across.

Fractured pyrite (creamy) invaded by sphalerite (mid-grey) with chalcopyrite inclusions, galena (pale grey) and gold (golden yellow). Largest gold grain is 25 µm across. Plane polarised reflected light, field of view 0.25 mm across.
E46 East Pod
E41 J Walker Zone

E41 East Pod
Questions?