City to Desert: Mapping and Exploration in Australia, 1994-2012

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GSWA Regional, Mineral and Regolith Mapping

- Regolith-landform mapping, 1:100,000
  - Tanami Desert
- Mineralisation mapping, 1:500,000
  - Bangemall Basin
- Regional mapping, 1:100,000
  - Duketon, Wiluna
- Abandoned Minesites Inventory
  - Kalgoorlie, Westonia
- Urban and Development Areas, 1:50,000
  - Margaret River, Geraldton, Kalgoorlie
WA Archaean Goldfields: First experience, February 1994, 1000km from Perth... and still flat!

Work on remote pastoral leases
1:100,000 Sheet Mapping, Duketon
800km north-east of Perth

Field mapping in Duketon
1995 - Cyclone Bobby, Pakistan and mapping Wiluna

February 1995, Cyclone Bobby
Late 1995: Wiluna, 700km north-east of Perth
1995-98: Bangemall Basin Mineralisation mapping
Mineralisation mapping

WAMIN occurrences in WA, 8622

DGPS, Dry Blowing and the World's Largest Rock
1:50,000 mapping of Cowaramup (Margaret River)

Fieldwork in the Geraldton

- Meru tip
- Limestone on the escarpment
- Beach and foredune
- Drainage sump
Mineral resource potential

Overview

The mineral resource potential of Victoria is limited to base metals, heavy minerals, and a small range of construction and industrial materials (Fig. 4). This group of construction and industrial materials, including gravel, sand, limestone, banded ironstone, and clay, is also referred to as basic raw materials. There is potential for the occurrence of coal in the Central Victorian Coal Measures beneath Horsham. The mineral resources of the Mid West were reviewed by Holli et al. (2006).

The mineral occurrences on the map are grouped into mineral occurrence and mineralisation style as described in Appendix D.

Site number: 70317 (Field number: 81498)

Location:

* BRAZER Zone: 50
* Easting: 261830
* Northing: 6843628

Latitude: 31°51'27.9" S
Longitude: 141°41'59.2" E

Description:

Southern end of O'Sullivan, #7717

Oblique: 11/5/1999

Nature:

Land-corporate and exploratory shaft. Small pocket of conglomerate in the valley.

Vegetation description:

Inappropriate

Slope:

Steep

Aspect:

3

Type:

Forest

Elevation:

121.5m

Laundries:

Mine
2001-03: Abandoned Minesites
Mapping the unknown deposit!

Infrastructure near a collapsed shaft
Active mine shaft
Active erosion of a shaft in a palaeochannel
Eroded mine shaft around 100 years old
- **GPS External antenna**
- **Compass**
- **Digital camera**
- **External power pack (10 hours operation)**
- **Symbol PPT2800**
  - LinksPoint clip-on GPS
  - Ruggedized
    - (4 feet drop to concrete)
  - Colour screen for outdoor use (bright sunlight)
  - Microsoft Pocket PC 2002 operating system
  - 64 MB RAM/32 MB ROM
- **Safety gear**
  - Satellite phone
  - EPIRB
  - First Aid (snake bite) kit

Kalgoorlie-Boulder: palaeochannel workings below the abandoned drive-in cinema
2005-07: Regolith-landform mapping, Tanami Desert
Dissected pediplain
1 in 1000 slope; 3km wide channels; sides 1 in 300
Company exploration post-GSWA

- 2008: Maximus Resources
  - Windimurra (Canegrass) magnetite (early Archaean)
- 2008-10: Flinders Mines
  - Hamersley Range hematite (Proterozoic CID, DID and BID)
  - Windimurra magnetite
- 2011: Nemex Resources
  - BIF, WA (Archaean) and remote sensing, Sierra Leone
- 2011: TNT Mines
  - Tin-tungsten Tasmania (Ordovician)
- 2011-12: Abra Mining (China Minmetals)
  - Bangemall Basin lead, gold, copper (Proterozoic)
- 2012: Sandfire Resources
  - Oolitic ironstone, NT (Hells Gate) and Base metals, Queensland (Proterozoic)
  - Manganese remote sensing, East Timor
- Hamersley Range hematite
- Qoolitic ironstone, NT
- Bangemall Basin lead, gold, copper
- Base metals, Queensland
- Windimurra (Canegrass) magnetite BIF, WA
- Tin-tungsten Tasmania

Canegrass magnetite: DD, mapping and RC
1. Composite whole-rock geochemistry from RC, ranging from 1- to 4-metres (1945 samples)
2. Composite whole-rock geochemistry from selected intervals in the diamond drilling, targeting magnetite-rich zones (240 two-metre samples)
3. Spot measurements using the X-MET handheld XRF on the diamond core, targeting magnetite-rich spots; general chemistry and unusual minerals (102, 9 measurements and 104, 210 measurements)
4. X-MET measurements on the magnetic fraction separated from selected intervals in the RC, targeting zones of high Fe/Mg and high magnetic susceptibility (430 low-energy measurements, plus cross-checks)
Hamersley hematite: RC and mapping

1:250,000 GSWA and 1:50,000 Flinders
Sandfire Resources: Hells Gate
750km, 8 hours driving

Site Office (right), Geologists’ Office (centre) and mess (left)

Field photograph P1020636_7_8.jpg showing typical savannah vegetation
RockLogger & OruxMaps on Samsung 7.7 tablet: All-In-One… at last!
Home in Geeveston
55km from Hobart in the Huon Valley

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