



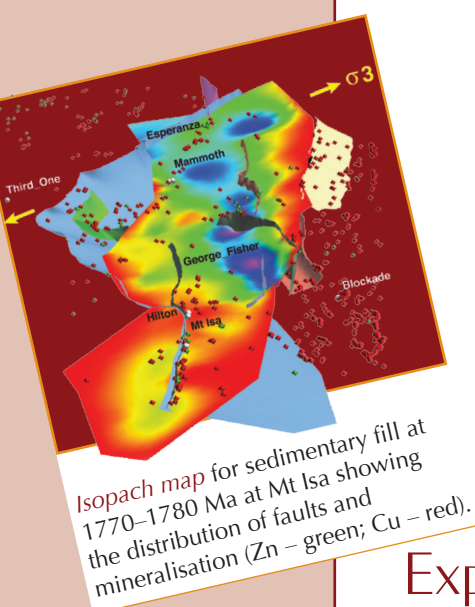
Australian Government

Geoscience Australia

Australian *Mineral* EXPLORATION

FEBRUARY 2007

A REVIEW OF EXPLORATION FOR THE YEAR 2006



OVERVIEW

- » Australian mineral exploration spending in 2005–06¹ rose by 20.6% to a record \$1240.7 million² of which 36.9% was spent on the search for new deposits³.
- » Western Australia dominated with 47.6% of Australian mineral exploration spending while South Australia, New South Wales, Victoria and Queensland had record expenditure and Tasmanian spending rose by 172%.
- » Gold remained the main target but its share of spending was eroded by growth in copper, iron ore, coal and uranium exploration.
- » Exploration results were announced for a wide range of commodities from across the country including Gullivers and Cooljarloo North (mineral sands), Saxon (nickel), Tekapo (gold-copper), Tandarra (gold), Cuttaburra (base metals), Swan (copper-gold-uranium), Rocklands (copper) and Tropicana (gold).

EXPLORATION REVIEW

Australian mineral exploration expenditure rose by 20.6% to \$1240.7 million in 2005–06¹ according to the Australian Bureau of Statistics (ABS). This was a record for annual current dollar expenditure for Australia. In 2005–06 constant dollars, expenditure rose by 16.9% (Figure 1) to reach 85.7% of the previous peak expenditure in 1996–97.

Spending increased in all jurisdictions except Western Australia where a 3% fall occurred but Western Australia was still dominant attracting \$590.2 million. Record spending was reported in: Queensland, up 31% to \$218.8 million; South Australia up 119% to \$146.5 million; New South Wales up 55% to \$114 million and Victoria up 44% to \$74.1 million. Spending increased by 34% in the Northern Territory to \$74.7 million and in Tasmania it rose by 172% to \$22.6 million.

Gold remained the major target in 2005–06 but its share of total exploration spending fell to 32% (\$399.7 million) due to growth in spending on base metals, iron ore, mineral sands, coal and uranium. Base metal spending rose to \$356.6 million—copper \$139.5 million (up 96%), zinc-lead-silver \$71.1 million (up 128%) and nickel \$145.9 (down 8%).

ABS survey data of spending showed that, nationally, 37% of spending was on exploration for new deposits, compared to 39% in 2004–05. Western Australia (46%) had the highest proportion of its exploration directed to the search for new deposits while New South Wales had the lowest at 25%. The national share of exploration for new deposits is slightly lower than the Metals Economics Group (MEG) world survey of non-ferrous minerals exploration budgets for 2006 which found that 38% of exploration budgets in Australia was for grassroots exploration.

1. Australian financial year from 1 July 2005 to 30 June 2006.

2. All monetary references in this paper are to Australian dollars unless otherwise stated.

3. Exploration spending on the search for new deposits covers exploration for previously unknown mineralisation or exploration on known mineralisation which is not yet classified as a resource.

An extended edition of this review is available at
www.ga.gov.au/minerals/research/pubs/minreview/min_review06.jsp

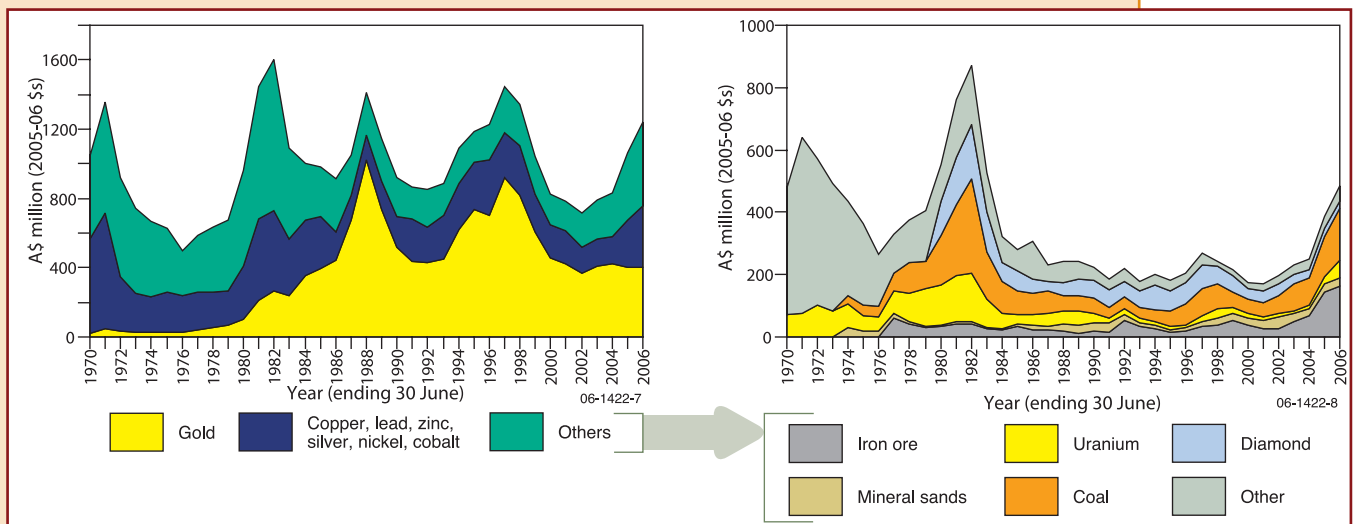


Figure 1: Australian mineral exploration expenditure in constant 2005–06 dollars. Based on ABS data deflated by Consumer Price Index.

In 2005–06, ABS reported that exploration drilling totalled 6.837 million metres, an increase of 53,000 metres from 2004–05. A reduction of 165,000m occurred in drilling in search of new mineralisation with 2.62 million metres drilled (38% of all exploration drilling).

The MEG survey of world non-ferrous mineral exploration budgets for 2006 reported an increase of 47% to an estimated record total budget of US\$7.5 billion. Of this, US\$753.5 million was directed to exploration in Australia, the highest since the peak year of 1997. However, Australia's share of global non-ferrous mineral exploration budgets fell to 10.6%, the lowest yet recorded. Australia retained its position as the country with the second highest share of budgets after Canada (19%).

According to the MEG survey, 53.8% of the 2006 non-ferrous mineral exploration budgets for Australian-based companies was for exploration in Australia. The survey included 330 companies with non-ferrous exploration budgets of more than US\$100 000 that were exploring in Australia, an increase of 22 over 2005. Budgets for Australian non-ferrous mineral exploration included: gold (US\$373.9 million), base metals (US\$292.5 million) and diamonds (US\$21.8 million).

Some 75 initial public offerings on the Australian Stock Exchange in 2006 were fully or partially for exploration in Australia. An estimated \$350 million was raised by these companies for Australian exploration.

Exploration

Exploration resulted in significant increases in resources at known deposits and a substantial number of drill intersections of economic interest. Amongst the more significant exploration results reported in 2006 include Gullivers mineral sands (South Australia), Saxon nickel, (Tasmania), Tekapo gold-copper (Northern Territory), Tandarra gold (Victoria), Cuttaburra base metals (New South Wales), Rocklands copper and Swan copper-gold-uranium, (Queensland), Cooljarloo North mineral sands and Tropicana gold (Western Australia). These and other exploration results for 2006 are briefly reviewed below.

GOLD

- » Drilling at the **McPhillamys** prospect, 35km SE of Orange, NSW by Alkane Exploration Ltd discovered mineralisation including 24m @ 2.03g/t Au from 4m including 5m @ 5.69g/t Au and 17m @ 1.50g/t Au. Later drilling returned 77m @ 1.65g/t Au and 31m @ 1.64% Zn, 12g/t Ag and 0.18g/t Au.
- » Tanami Gold NL discovered the **Tekapo** mineralisation at an unexplored area of its Lake Mackay project 400km NW of Alice Springs, NT. Intersections of

16m @ 3.4g/t Au from 29m, 3m @ 1.79g/t Au from 10m and 2m @ 2.01g/t Au from 22m were reported. Later drilling yielded 4m @ 2.67% Cu, 2m @ 0.83% Cu and 4m @ 0.60% Cu.

- » GBS Gold International Inc. released new drill intersections from exploration at the **Fountain Head** deposit, 70km NW of Pine Creek, NT. Intersections included 17m @ 4.4g/t Au, 6m @ 5.0g/t Au and 29m @ 4.8g/t Au. The Company will mine the deposit as part of its Union Reefs operation.
- » Extensions to the high-grade mineralisation in the Kilkenny structure at **Cracow**, Qld, were reported by Sedimentary Holdings Ltd. Intersections included 49m (28.3m estimated true width) @ 4.8g/t Au from 766m and 9.3m (7.2m estimated true width) @ 21g/t Au.
- » At the **Mount Carlton** Project, Qld, Conquest Mining Ltd discovered high-grade mineralization. Intersections include 85m @ 3.39g/t Au, 17.4g/t Ag, and 0.24% Cu from 79m, 36m @ 9.93g/t Au, 32.7g/t Ag and 0.4% Cu from 92m, and 21m @ 1864g/t Ag and 3.52% Cu from 54m. Project resources were revised to 6.646Mt at 1.47g/t Au (313,410oz), 85g/t Ag (18.175Moz) and 0.39% Cu (25,923t).
- » Drilling by Minotaur Exploration Ltd at the **Tunkillia** deposit, 145km NE of Ceduna, SA, intersected gold mineralisation in the supergene and primary zones and lower grade gold in the oxide zone. Better intersections included 7m @ 7.7g/t Au, 3m @ 8.5g/t Au and 6m @ 3.9g/t Au.

GOVERNMENT PROGRAMS

The Australian, State and Northern Territory governments continued to support the sector with programs designed to help reduce the inherent risk in exploration.

GEOSCIENCE AUSTRALIA

The Australian Government, as part of a broader energy security initiative, is providing \$58.9 million to Geoscience Australia for new geoscience data acquisition and research to better understand the geological potential of onshore Australia for minerals and petroleum. The research will apply the latest geophysical imaging and mapping technologies to assist in discovery of new mineral and petroleum resources, and will also examine the potential for geothermal energy from high heat producing terrains under cover. A major program of deep crustal seismic reflection transects in the Mt Isa and Georgetown regions (in partnership with the Geological Survey of Queensland) and a continent-wide airborne radiometric and magnetic tie-line survey are already under way under this initiative with AEM, seismic and other surveys in targeted regions planned for 2007.

NEW SOUTH WALES

EXPLORATION NSW is a \$30 million, seven-year (2000–2007) program supporting minerals and petroleum exploration and it has been extended to 2008 with an additional \$8 million, for 'New Frontiers' projects. It aims to provide world-class geoscience information to assist explorers with on-line access to data. The current focus is on frontier terrains and the 3rd dimension, targeting the Thomson Orogen and extensions to the Stawell/Bendigo zones. Data coverage includes gravity, seismic, geochemistry, solid geology, modelling and drilling.

NORTHERN TERRITORY

As part of its four-year, \$15.2 million, "Building the Territory's Resource Base" initiative, the Northern Territory Government acquired 2km spaced ground-based gravity data over extensive areas of the eastern Arunta Region of central Australia, and flew a detailed airborne magnetic and radiometric survey over the Tiwi Islands. Major reports were released on the Territory's uranium deposits and the geology of the Rum Jungle mineral field. A Territory-wide regolith map was produced in collaboration with the Cooperative Research Centre for Landscape, Environment and Mineral Exploration.

QUEENSLAND

The Queensland Government's four-year, \$20 million SMART EXPLORATION initiative, begun in mid-2005, will provide new geological and geophysical data for the Mount Isa region, the Bowen, Surat and Drummond Basins and the Mount Rawdon region. An additional \$29.08 million, four-year SMART MINING – FUTURE PROSPERITY program was launched in 2006. It includes funding for collaborative drilling with explorers, acquisition of new geoscientific data, improving land access, and encouraging women into the exploration and mining industry. A \$19 million program will allow the acquisition of new geoscientific data in the Charters Towers, Cape York and Cooper Basin regions.

SOUTH AUSTRALIA

The Plan for Accelerating Exploration (PACE), launched in 2004, is a five-year \$22.5 million initiative that aims to increase exploration and mineral production in South Australia, as well as ensuring that the state is showcased as a premier destination for resource exploration and investment. Planning and procurement processes are underway for further regional geophysical acquisition to be completed under PACE. In its third year, PACE Theme 2 (Drilling Collaboration) provided round 4 funding to 32 companies. PACE Theme 7, stage 1 upgrade of SARIG was completed with layers being updated and new data layers added.

TASMANIA

TasExplore is a four-year \$5.05 million program consisting of \$4.1 million for new geoscientific information and \$0.95 million for promotion of opportunities. Aeromagnetic and radiometric data will be acquired over NE Tasmania and the Furneaux Group and mapping will be undertaken in the central North. The aim of the project is an upgraded 3-D geological model of Tasmania.

VICTORIA

The Victorian Government announced the \$5 million, four-year, *Rediscover Victoria* initiative. It will target drilling, in conjunction with industry, and the development of a world-class 3-D geological map of Victoria to assist explorers. *Rediscover Victoria* will complement the Victorian Government's other geoscience programs including the *Victorian Initiative for Minerals and Petroleum* (VIMP) and *Developing Gold Undercover* which is a \$9 million initiative over 3 years from 2006 aimed at delivering new geoscience data and information to aid discovery of concealed gold resources.

WESTERN AUSTRALIA

The Western Australian Government provided an additional \$13.4 million over four years from 2004–05 to the Geological Survey of Western Australia to stimulate exploration spending. The program consists of the scanning and release on the web of all remaining (21,000) open file company mineral exploration reports, including those that can now be released under the provisions of the sunset clause of the *Mining Amendment Act 2004* that allows for a reduced (five year) confidentiality period. Work is also focussed on the acquisition and release of new regional geophysical information, particularly in greenfield regions of the State.

- » Drilling by Lefroy Resources Ltd at the Lefroy project, 40km N of Launceston, Tas, identified the **South Pinafore** mineralisation which occurs under basalt. Intersections included 2m @ 14.5g/t Au from 101m.
- » Frontier Resources Ltd intersected gold in the 666 Lode that parallels and lies 100m NE of the **Higgs** deposit near Moina, Tas. Intersections of 31.9m @ 21.2g/t Au and 2.0m @ 14.8g/t Au were reported from separate holes.
- » Leviathan Resources Ltd announced gold intersections at the **Tandarra** prospect 40km N of Bendigo, Vic. Exploration targeted gold deposits under cover and drilling confirmed quartz veining beneath 40–90m of sediment cover with intersections including 1m @ 160g/t Au from 104m, 1m @ 24.7g/t Au from 84m and 4m @ 1.3g/t Au from 70m.
- » Perseverance Corporation Ltd discovered a new zone of sulphide mineralisation at its **Fosterville** project, Vic. It reported that the mineralisation is analogous to the main mineralisation at Fosterville and intersections of 5.1m @ 5.0g/t Au, 4.0m @ 6.1g/t Au and 10.4m @ 2.2g/t Au were returned.
- » Successful exploration continued to be reported by Avoca Resources Ltd from its **Trident** deposit at Higginsville, WA. Wide high-grade zones were identified 100–150m below the Western Zone mineralisation including 25m @ 4.0g/t Au and 14m @ 4.7g/t Au. Drilling in the Athena Lodes returned 3m @ 63g/t Au, 3m @ 18.2g/t Au and 4m @ 8.3g/t Au. Avoca reported that resources at its Higginsville project were 8.7Mt @ 4.0g/t Au (1.11 Moz) with 4.3Mt @ 6.2g/t Au in Trident.
- » Drilling at the Independence Group NL and AngloGold Ashanti Ltd joint venture at **Tropicana**, E of Laverton, WA, continued to yield results suggestive of a large deposit. Intersections included, from the Tropicana Zone, 30m @ 3.0g/t Au and from the Havana Zone 63m @ 3.0g/t Au, 7m @ 3.9g/t Au and 11m @ 3.4g/t Au.
- » At the **Doolgunna** project, 150km N of Meekatharra, WA, Sandfire Resources NL reported encouraging intersections from the Old Highway prospect including 8m @ 2.81g/t Au, 24m @ 3.22g/t Au which included 12m @ 6.42g/t Au and 48m @ 5.90g/t Au which included 16m @ 11.28g/t Au.
- » Northern Star Resources Ltd reported intersections from drilling at its **Range** prospect 130km N of Halls Creek, WA, which included 4m @ 15.06g/t Au and 7.30g/t Ag from 21m, including 1m @ 57.15g/t Au and 15.70g/t Ag.

COPPER-GOLD

- » Golden Cross Resources Ltd announced a new resource for its **Copper Hill** deposit near Molong, NSW, with indicated resources of 79.9Mt @ 0.36% Cu and 0.35g/t Au and an inferred resource of 56.1Mt @ 0.30% Cu and 0.27g/t Au. Mineralisation 400m N of Copper Hill at Copper Hill North gave intersections including 188m @ 0.39% Cu and 0.16g/t Au.
- » Universal Resources Ltd reported that drilling by Xstrata Copper at **Cabbage Tree Creek**, immediately N of the Little Eva deposit, Qld, intersected copper-gold mineralisation beneath a thick cover of younger rocks. The discovery hole returned 14m @ 2.00% Cu and 0.46g/t Au from 393m including 6m @ 3.19% Cu and 0.81g/t Au from 393m.
- » Drilling by Ivanhoe Mines Ltd at the Amethyst Castle and **Swan** prospects, 100km S of Cloncurry, Qld, yielded IOCG type mineralisation and initial results from Swan included 79m @ 1.45% Cu and 0.99g/t Au from 83m and 115m @ 0.965% Cu and 0.86g/t Au from 65m. Later results included 13m @ 1.94% Cu, 0.56g/t Au and 401ppm U and 32m @ 0.96% Cu, 0.53g/t Au and 171ppm U.
- » Oxiana Ltd released results from near-mine drilling at **Prominent Hill**, SA, which highlight potential for increased resources. Mineralisation was intersected 400–500m under the current resource and is open at depth. Better copper-gold intersections from mineralised hematite breccias include 28m @ 2.1% Cu and 0.6g/t Au, 17m @ 1.8% Cu and 0.6g/t Au and 135m @ 1.5% Cu and 1.0g/t Au.

COPPER, ZINC, LEAD, SILVER

- » A greenfields discovery in the Thompson Orogen was announced by Compass Resources NL at the **Cuttaburra** and **Yancannia** prospects (Compass Resources NL 80%, Bohuon Resources Pty Ltd 20%), 130km NE of Wilcannia, NSW. Two holes intersected rocks similar to the Cobar Basin sequence under 75m of cover. Both intersected pyrite and/or pyrrhotite mineralisation and

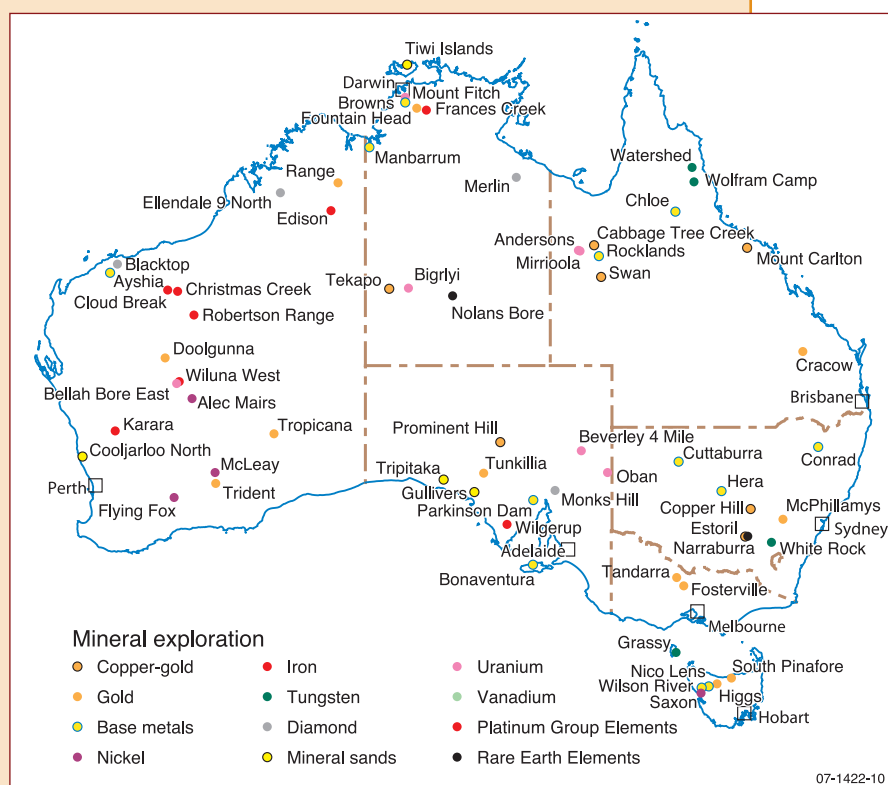


Figure 2: Selected mineral exploration projects, 2006.

the Cuttaburra hole returned up to 0.11% Cu, 0.18% Zn, 0.41% W and 40g/t Ag. Assays from Yancannia are not available.

- » Exploration at the **Hera** prospect, near Nymagee, NSW, by Triako Resources Ltd, extended the high-grade mineralisation. Results included 10.6m @ 14.5g/t Au, 0.6% Cu, 12.3% Pb, 16.4% Zn and 56g/t Ag from 358m and 14.7m @ 6.6g/t Au, 0.6% Cu, 5.6% Pb, 6.3% Zn and 31g/t Ag from 353m.
- » Malachite Resources NL reported high-grade silver intersections from drilling at its **Conrad** project, 20km S of Inverell, NSW. They included 3.1m @ 383g/t Ag, 0.68% Cu, 5.97% Pb, 0.26% Zn, 0.94% Sn and 22g/t In and 1.4m @ 712g/t Ag, 2.32% Cu, 8.23% Pb, 5.46% Zn, 2.66% Sn and 63g/t In.
- » Compass Resources NL undertook deep drilling at the **Browns** deposit 80km S of Darwin, NT. At Browns, intersections included 50m @ 0.87% Cu, 3.28% Pb, 0.11% Zn, 0.154% Co and 0.119% Ni from 393m and 13m @ 0.58% Cu, 7.34% Pb, 0.02% Zn, 0.208% Co and 0.155% Ni from 430m.
- » Drilling by Tennant Creek Gold Ltd at its **Manbarrum** project, 70km NE of Kununurra, NT, returned high-grade lead intersections including 11m @ 12.80% Pb, 0.32% Zn and 47.5g/t Ag, 16m @ 12.67% Pb, 0.84% Zn and 52.3g/t Ag and 18m @ 9.64% Pb, 1.9% Zn and 24.8g/t Ag.
- » Encouraging results were reported from the **Rocklands** project at Cloncurry, Qld, by CuDeco Ltd. Results included 57m @ 2.02% Cu from 69m, 17m @ 2.15% Cu and 68m @ 1.1% Cu. A later intersection was 22m @ 5.17% Cu which included 17m @ 6.79% Cu. Core from one hole returned 40m (down-hole thickness) with substantial native copper and chalcocite. CuDeco reported that 1m, 1kg random samples of native copper returned grades of up to 45.60% Cu.
- » At the **Chloe** prospect near Einasleigh, Qld, Copper Strike Ltd reported encouraging intersections from Chloe East, including 26m @ 6.1% Zn, 2.9% Pb, 60.4g/t Ag and 0.2% Cu from 173m. Other intersections included 7.0m @ 6.7% Zn, 2.6% Pb, 36g/t Ag from 175m and, in the same hole, 7m @ 4.4% Zn, 2.4% Pb and 54g/t Ag from 188m.

- » At the **Parkinson Dam** prospect, 60km W of Port Augusta, SA, Tasman Resources NL reported high-grade lead and zinc. An initial assay from diamond drill core returned 1.66m @ 7.6% Pb, 10.5% Zn, 0.4% Cu, 1.20g/t Au and 120g/t Ag.
- » Bass Metals Ltd reported that drilling on the **Nico Lens** at Que River, Tas, identified a second lens of mineralisation. Intersections reported included 5.4m @ 10.8% Zn, 3.2% Pb, 109g/t Ag and 1.5g/t Au from 57.5m and 5.2m @ 6.1% Zn, 4.0% Pb, 60g/t Ag and 1.5g/t Au from 47.8m.
- » Jaguar Minerals Ltd announced three intersections of Zn-Pb-Ag mineralisation in a drill hole at the **Wilson River** prospect, SW of Mount Bischoff, Tas. The best was 3m @ 5.2% Zn, 0.7% Pb and 21g/t Ag.
- » Drilling by Fox Resources Ltd at the **Ayshia** prospect in its West Whundo project, 50km SSE of Dampier, WA, yielded further high-grade intersections. Results reported included 18m @ 8.8% Zn, 31g/t Ag from 48m, 21m @ 6.5% Zn, 14g/t Ag from 60m and 2m @ 10.2% Zn, 23g/t Ag from 96m.

NICKEL

- » Allegiance Mining NL announced the discovery of the **Saxon** mineralisation at its Avebury project, 8km W of Zeehan, Tas. Drill intersections returned 8m @ 1.2% Ni and 4m @ 1.2% Ni both of which were within an intersection of 19m @ 0.8% Ni.
- » Jubilee Mines NL announced the intersection of high-grade massive sulphides at the **Alec Mairs** prospect, 0.5km S of the Cosmos Deeps mine, WA, including 7.4m @ 16.9% Ni, 11.2m @ 15.0% Ni and 4.1m @ 4.1% Ni in the AM2 Zone. An initial resource of 60,779t @ 12.91% Ni was announced for the Alec Mairs 2 deposit.
- » Continuing exploration at the **Flying Fox** deposit, WA, by Western Areas NL yielded intersections including 5.4m @ 5.1% Ni, 4.5m @ 7.2% Ni and 2.2m @ 7.0% Ni at T Zero (South). A down-hole intersection of 13.65m @ 4.6% Ni was reported from Flying Fox T4. At T5, in a zone to the south and above the T5 ore reserve, intersections of 5.0m @ 5.5% Ni, 5.1m @ 7.9% Ni and 5.6m @ 5.8% Ni were reported.
- » Independence Group NL reported that exploration at the **McLeay** deposit, WA, yielded high-grade intersections. Included were 4.5m (true width) @ 10.4% Ni, 3.5m (true width) @ 14.3% Ni and 3.7m (true width) @ 11.73% Ni. The total resource for this deposit is 344,000t @ 6.9% Ni (1% Ni cut-off).

IRON ORE

- » Drilling at Territory Iron Ltd's **Frances Creek** project, 170km SE of Darwin, NT, returned high-grade intersections including 37m @ 67.44% Fe, 0.02% P, 0.82% Al_2O_3 , 1.96% SiO_2 , 0.44% LOI and 13m @ 64.56% Fe, 0.06% P, 1.83% Al_2O_3 , 4.37% SiO_2 , 0.8% LOI.
- » Centrex Metals Ltd reported iron grades of up to 62.6% Fe from its **Wilgerup** prospect 30km SE of Lock, SA. Higher grade intersections reported included 62m @ 65.6% Fe, 1.12% SiO_2 , 0.95% Al_2O_3 , 0.192% P and 2.96% LOI, and 42m @ 64% Fe, 1.7% SiO_2 , 1.25% Al_2O_3 , 0.070% P and 3.37% LOI.
- » Fortescue Metals Group reported a new mineral resource for the **Christmas Creek** deposit in the Pilbara region, WA, of 1.415Bt @ 58.4% Fe, 4.30% SiO_2 , 2.49% Al_2O_3 , 0.054% P and 7.67% LOI. For the Cloud Break deposit, a resource of 816Mt @ 58.7% Fe, 4.10% SiO_2 , 2.44% Al_2O_3 , 0.056% P and 8.23% LOI was reported.
- » Gindalbie Metals Ltd announced a 75% increase in resources at its **Karara** magnetite deposit, 45km E of Koolanooka, WA, to 1.291Bt @ 36.3% Fe. Tests indicated that the magnetite can be upgraded with Davis Tube Magnetic Separation analysis producing a concentrate of 69% Fe, 3.9% SiO_2 , 0.04% Al_2O_3 and 0.01% P at a weight recovery of 40%.
- » FerrAus Ltd reported intersections at its **Robertson Range** prospect 100km ESE of Newman, WA, including 36m @ 62.1% Fe, 0.08% P, 3.1% SiO_2 , 1.8% Al_2O_3 , 6.0% LOI and 30m @ 60.1% Fe, 0.13% P, 3.3% SiO_2 , 1.9% Al_2O_3 , 8.5% LOI. FerrAus released a resource estimate for the project of 18.42Mt @ 58.8% Fe, 0.102% P, 4.71% SiO_2 , 2.72% Al_2O_3 and 8.14% LOI.

- » Golden West Resources Ltd reported high-grade iron intersections from drilling at its **Wiluna West** project, near Wiluna, WA. At the Bowerbird prospect results included 15.5m @ 67.37% Fe from 17.5m, 10.0m @ 68.4% Fe from 29m and 17.5m @ 66.75% Fe from 55m.

URANIUM

- » A resource estimate for the **Bigirlyi** deposit, 390km NW of Alice Springs, NT, was announced by Energy Metals Ltd. Indicated resource was 1.054Mt @ 0.23% U_3O_8 and 0.22% V_2O_5 ; inferred resource was 0.781Mt @ 0.17% U_3O_8 and 0.22% V_2O_5 . Energy Metals intersected extensions to the current resources, including 8.5m @ 2.17% eU_3O_8 and 0.49% V_2O_5 .
- » Compass Resources NL released a resource estimate for the **Mt Fitch** deposit 55km S of Darwin, NT, of indicated resources of 4.6Mt @ 0.047% U_3O_8 and inferred resources of 4.2Mt @ 0.044% U_3O_8 .
- » Drilling at Summit Resources Ltd's Mount Isa Uranium Project, 35km N of Mount Isa, Qld, returned encouraging intersections from a number of prospects including 28m @ 4.87 lb/t U_3O_8 and 5.94lb/t V_2O_5 from **Andersons**, and 5m @ 5.59lb/t U_3O_8 and 1.68lb/t V_2O_5 from **Mirrioola**.
- » High-grade intersections continued to be reported from the **Beverley 4 Mile** prospect, 10–15km NW of Heathgate Resources' Beverley mine, SA. Alliance Resources Ltd reported 1.5m @ 2.58% pU_3O_8 , 3.0m @ 2.11% pU_3O_8 , 3.0m @ 1.35% pU_3O_8 and 9.0m @ 1.657% pU_3O_8 .
- » Curnamona Energy Ltd reported that drilling at its **Oban** prospect, 60km N of the Honeymoon uranium deposit, SA. Results included 6.3m @ 0.036% eU_3O_8 and 5.4m @ 0.082% eU_3O_8 .
- » Encouraging results were reported by Encounter Resources Ltd from initial drilling at the **Bellah Bore East** prospect, 40km N of the Yeelirrie deposit, WA. Intersections included 7m (from 1m) @ 100ppm U_3O_8 and 17ppm V, 8m (from surface) @ 123ppm U_3O_8 and 49ppm V and 3m @ 781ppm U_3O_8 .

MINERAL SANDS

- » Matilda Minerals Ltd reported an increase of 34% in reserves and contained heavy minerals for the **Tiwi Islands** Mineral Sands Project, NT, with the reserve now totalling 6.5Mt @ 4.5% HM (at a 1% HM cut-off).
- » In April, Iluka Resources Ltd announced the discovery of the **Gullivers** deposit

60km E of Ceduna, SA, in the Eucla Basin. Gullivers differs from the other Eucla Basin deposits in that altered ilmenite is the primary component. HM grades are generally between 1% and 3% with the mineral assemblage composed of 60% altered ilmenite, 21% zircon, 5% leucoxene and 2% rutile.

- » Adelaide Resources Ltd announced drilling results from the **Tripitaka** deposit in the Eucla Basin, 100km NW of Ceduna, SA. These included 21m @ 5.6% HM. Iluka Resources Ltd released an inferred resource estimate for this deposit of 1Mt @ 2.4% HM (1% HM cut-off), containing approximately 65% zircon.
- » Image Resources NL reported that drilling at **Cooljarloo North**, 3km N of the Cooljarloo mine near Cataby, WA, returned very thick intersections of HM. Indicative of these are: 67m @ 1.9% HM including 26m @ 2.2% HM, 30m @ 6.6 HM, and 67m @ 2.1% HM. Very high-grade intersections have also been reported including 4m @ 49.2% HM from 6m.

DIAMOND

- » North Australian Diamonds Ltd reported a grade of 56 carats per hundred tonnes (cpht) from the previously untested small Perceval pipe in the **Merlin** kimberlite field, NT.
- » Flinders Diamonds Ltd recovered 43 microdiamonds from a 7.8kg sample from pipe 77a in the **Monks Hill** area of the Flinders Ranges, SA. Bulk sampling in its Flinders Range tenements yielded 75 diamonds (>0.5mm) of which 18 were 1–3mm in size and the largest was 0.09c.
- » Blina Diamonds Ltd also reported that bulk sampling of alluvial diamonds in gravels at its **Ellendale 9 North** deposit yielded grades up to 52.69cpht with an overall grade of about 20cpht. Drilling defined a significant extension to diamondiferous palaeochannels in the terrace 5 alluvial system.
- » Tawana Resources NL reported recovery of 263 diamonds weighing 20.89c from 215t of +1mm - 6mm material from the **Blacktop 01** kimberlite dyke, 40km NE of Pannawonica, WA, in a 50/50 joint venture with De Beers Australia Exploration Ltd. The largest stone

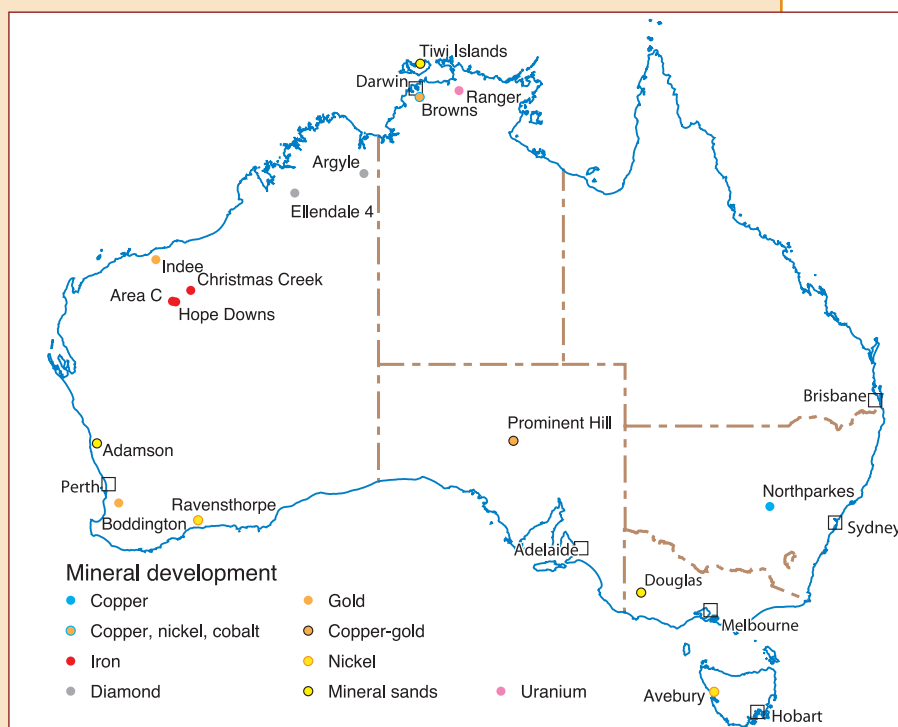


Figure 3: Selected mineral development projects, 2006.

recovered was 1.0249c. The nearby Blacktop 02 dyke is also diamondiferous.

PLATINUM GROUP ELEMENTS

- » At the **Edison** prospect 45km SW of Halls Creek, WA, Thundelarra Exploration intersected significant PGEs at the Lamboo project. Results included 46m @ 1.87g/t Pt+Pd+Au from surface, 33m @ 2.77g/t Pt+Pd+Au from surface and 37m @ 2.07g/t Pt+Pd+Au from 16m.

RARE EARTH ELEMENTS

- » Capital Mining Ltd reported a resource estimate for the **Narraburra**, NSW, project 12km NE of Temora of an inferred oxide resource to 40m of 55Mt @ 1000g/t ZrO_2 , 60g/t Y_2O_3 , 300g/t REO, 40g/t HfO_2 , 80g/t NbO_2 , 50g/t ThO_2 .
- » Arafura Resources NL continued drilling at the **Nolan's Bore** prospect, 135km NW of Alice Springs, NT, and reported intersections including 5m @ 6.4% REO, 27.8% P_2O_5 , and 1.13lb/t U_3O_8 and 10m @ 5.0% REO, 22% P_2O_5 , and 0.81lb/t U_3O_8 .

TUNGSTEN, MOLYBDENUM

- » At the **White Rock** tungsten project, N of Canberra, drilling by Copper Strike Ltd outlined an inferred resource of 150,000t @ 0.9% WO_3 associated with magnetite skarn bodies.
- » At the **Watershed** Prospect in N Queensland, Vital Metals Ltd carried out work to upgrade existing data to feasibility study standard. Intersections included 21m @ 0.86% WO_3 , 2m @ 3.49% WO_3 and 5m @ 1.39% WO_3 .
- » A new indicated and inferred resource (98.5% in the indicated category) of 13.4Mt @ 0.65% WO_3 (0.25% WO_3 cut-off) at the Dolphin deposit at **Grassy**, King Island, Tas, was released by King Island Scheelite Ltd.

PROJECT DEVELOPMENT

The following projects are indicative of the range of projects in various stages of development in 2006

COPPER

- » Rio Tinto Ltd announced that the Northparkes Mine Joint Venture partners (Rio 80% and Sumitomo 20%) approved the development, subject to New South Wales Government approval, of the E48 block cave project at the **Northparkes** operation. The project is expected to cost US\$160 million and will extend the life of the operation to 2016.
- » Compass Resources NL received approval from the Northern Territory Government for development of the **Browns Oxide** mine near Batchelor. When in full production the project is expected to produce 10,000t of copper cathode, 1,000t of cobalt and 750t of nickel annually. Capital cost is expected to be about US\$140 million.

DIAMOND

- » Rio Tinto Ltd continued with underground development at its **Argyle** mine in the Kimberley region, WA, awarding a contract for Phase 2 of the development works that involve around 30km of underground development, including the major elements associated with the establishment of the new block cave mine.
- » Kimberley Diamond Company NL successfully commissioned production from **Ellendale 4** (4.4Mtpa) and an upgrade of the east plant at Ellendale 9 to 3.3Mtpa was expected to be completed in early December. These and a further expansion of the Ellendale 9 east plant by June 2007 are expected to lift production to 650,000c per annum.

GOLD

- » A decision was taken to develop the **Boddington** project, S of Perth, WA, by Newmont Mining Corp and AngloGold Ashanti Ltd at a cost of \$1.8–\$2.0 billion. Initial production is expected in late 2008 or early 2009. The project has an estimated mine life of more than 15 years and over the first five years, output will average about 1Mozs Au/year.
- » Oxiana Ltd announced in August that it would develop a \$775 million mine at its **Prominent Hill** deposit, SA. Resources are 118.7Mt @ 1.3% Cu and 0.5g/t Au in the copper-gold breccia and 22.5Mt @ 1.24g/t Au in the Eastern gold only zone. Planned output from the operation is 104,000tpa of copper over the first four full years of operation and 71,000tpa over the next six years and 115,000ozs of gold per year over the life of the mine.
- » Range River Gold Ltd commenced production from the Withnell East and Withnell South pits at the **Indee** project, 80km SE of Port Hedland, WA. Stage 1 production is expected to be around 64,000ozs per year over 2 years.

IRON ORE

- » BHP Billiton's Iron Ore's \$770 million Rapid Growth (RPG) 2 in the Pilbara region, WA, was completed in 2006 and its \$2 billion RPG 3 project will expand the **Area C** mining operation by an additional 20Mtpa when completed by the end of 2007.
- » Rio Tinto Ltd—Hancock Prospecting's \$1.3 billion development of the new **Hope Downs** mine, WA, due to commence operation in early 2008—will produce 22Mtpa in stage one building to 30Mtpa in stage 2. Expansions at the Yandicoogina and Tom Price/Marandoo/Nammuldi mines will lift output capacity by another 30Mtpa by the end of 2007.
- » Fortescue Metals Group gained approval and finance for development of its **Christmas Creek – Cloud Break** deposits and commenced construction of infrastructure at Port Hedland. The \$1.9 billion project proposes to produce 45Mtpa of iron ore commencing in early 2008.

MINERAL SANDS

- » Iluka Resources Ltd opened the \$280 million **Douglas** mine near Hamilton, Vic, in August. The mine is expected to produce almost 250,000t of heavy mineral concentrate per year.
- » Approval was granted by Northern Territory Government to Matilda Minerals Ltd to mine the Andranangoo Creek and Letheridge Bay deposits on the **Tiwi Islands** and commercial production started at Andranangoo.
- » Mining and processing of ore from the zircon-rich **Adamson** deposit, 260km N of Perth, by Iluka Resources Ltd commenced in April. The deposit's HM assemblage is 20.4% zircon, 6.8% rutile and 46.4% ilmenite.

NICKEL

- » BHP Billiton continued construction of the **Ravensthorpe** lateritic nickel-cobalt project near Ravensthorpe, WA. Capital costs of the project rose to US\$2.2 billion. The project will involve production of up to 50,000tpa contained nickel and 1400tpa contained cobalt in a mixed intermediate product for further processing at Yabulu.
- » At **Avebury**, Tas, Allegiance Mining NL reported that construction continued and the project will have a mill throughput of 900,000tpa of ore producing more than 8,500t of nickel-in-concentrates per annum.

URANIUM

Energy Resources Australia Ltd announced that construction of a new \$27.6 million plant to treat lateritic ore at the **Ranger** mine, 220km E of Darwin, NT, will commence in April 2007. It is expected that the plant will add above 400tpa U_3O_8 to production over 7 years from 2008.

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