



Australian Government
Geoscience Australia

Australian *Mineral* EXPLORATION

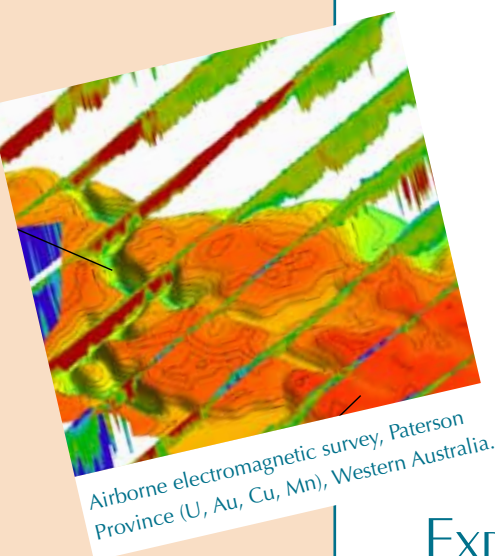
FEBRUARY 2011

A REVIEW of exploration for the year 2010

An extended version of this review is available at www.ga.gov.au

OVERVIEW

- » Australian mineral exploration spending in 2009–10¹ rose by \$9.4 million to \$2232.5² million of which 38% was spent on the search for new deposits³.
- » Substantial spending increases in Queensland and Victoria offset reductions in New South Wales and South Australia; Western Australia dominated with 56% of Australian mineral exploration spending.
- » Gold again became the major target commodity accounting for 26% of total exploration spending and overtaking iron ore exploration which fell to 23% of spending.
- » Exploration results were announced for a wide range of commodities from across the country including initial resource estimates for many iron ore deposits.



Exploration REVIEW

After falling in 2008–09, Australian mineral exploration stabilised in 2009–10 and recorded an increase of \$9.4 million according to data from the Australian Bureau of Statistics (ABS). This increase, although small, suggests that the greatest impact of the global financial crisis may have passed. However, the strength of recovery remains weak as in 2009–10 constant dollar terms spending in 2009–10 fell, but by less than 2% (Figure 1).

The small increase in current dollar exploration expenditure was due to a large increase in spending on gold exploration which rose by 32% to \$575.4 million and smaller increases in copper exploration (up 13% to \$201.6 million) and coal exploration (up 8% to \$321.1 million) while diamond exploration remained almost unchanged at \$10.3 million. Major reductions in exploration spending occurred for zinc-lead-silver (down 35.9% to \$51.6 million) and nickel-cobalt (down 21.5% to \$203.9 million). After strong growth in 2008–09, iron ore exploration recorded the largest reduction in spending, falling by \$64.6 million to \$524.1 million. The ABS 'Others' category, which includes commodities such as phosphate, manganese, vanadium, rare earth elements, tungsten and molybdenum, fell by 4.5% to \$147.1 million—the second largest ever recorded for that category in current dollar terms.

¹ Australian financial year from 1 July 2009 to 30 June 2010.

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.

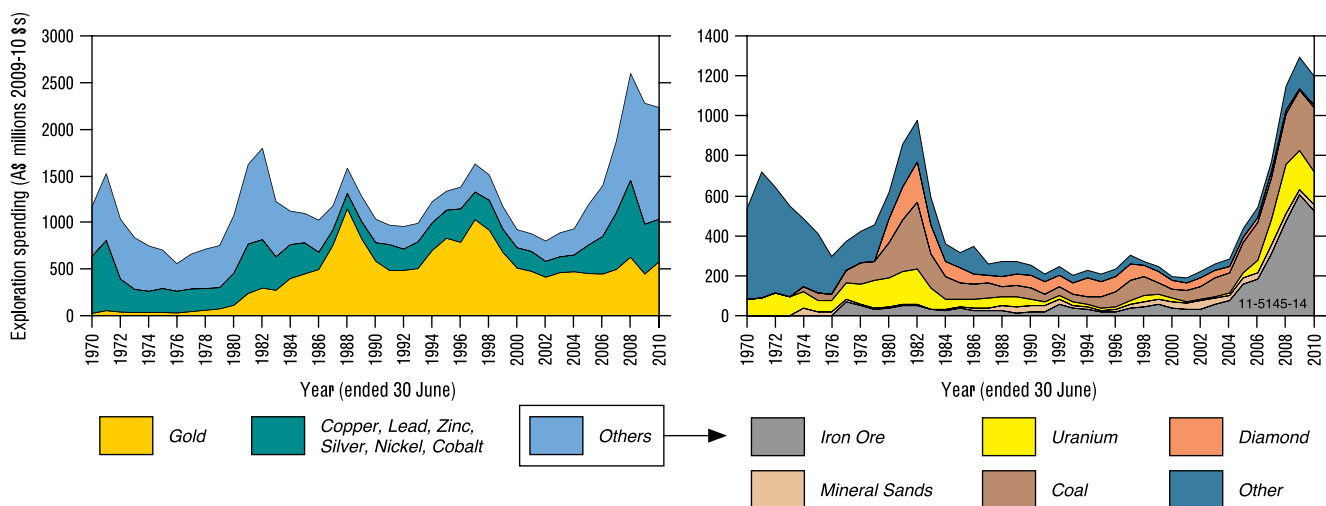


Figure 1. Australian mineral exploration expenditure in constant 2009–10 dollars (Based on Australian Bureau of Statistics data deflated by Consumer Price Index).

On a jurisdictional basis expenditure in 2009–10 was mixed with two jurisdictions recording large proportional increases, two recording large proportional falls and the remainder having little variation. Victoria and Queensland recorded increases of 36.3% to \$84.8 million and 24.1% to \$436.6 million, respectively. The falls in New South Wales and South Australia were 25.6% to \$130.4 million and 24.6% to \$166.5 million, respectively. Western Australia remained dominant with spending of \$1244.1 million a fall of 0.2% on 2008–09, while spending in Tasmania and the Northern Territory was little changed at \$20.7 and \$149.5 million, respectively.

As a further sign of improving conditions exploration drilling rose by 5.2% to 8.3 million metres in 2009–10. Drilling in greenfields areas rose by 12.3% to 3.1 million metres while in brownfields areas drilling rose by 1.5% to 5.2 million metres. These figures confirm the continuing dominance of brownfields exploration.

After suffering a 42% fall in 2009, world non-ferrous mineral (includes base metals, precious metals, diamonds, uranium, but not coal or iron ore) exploration budgets reported by the Metals Economics Group (MEG) rose by 44% to an estimated US\$12.1 billion in 2010. According to MEG this increase recovered almost two-

thirds of the loss recorded in 2009 as a result of the global financial crisis. They also noted that metals prices are the primary drivers for exploration and the fact that they have been above their long-term trends in 2010 has contributed substantially to the recovery in exploration budgets.

Some 40 Initial Public Offerings on the Australian Securities Exchange in 2010 were fully, or partially, for mineral exploration in Australia. In addition there was also a substantial number of listings that were for exploration outside of Australia.

Exploration

BASE METALS (INCLUDING COPPER-GOLD)

Northern Territory

Adelaide Resources Ltd reported encouraging drill intersections from the **Rover 1⁴** and Rover 4 prospects southwest of Tennant Creek. Intersections at Rover 4 included 21 m @ 2.33% Cu and 0.94g/t Au, and 3 m @ 3.28% Cu and 17 m @ 1.81% Cu, including 7 m @ 3.04% Cu. Assays from Rover 1 Prospect holes included 16 m @ 1.20% Cu and 0.21g/t Au, and 57 m @ 3.16% Cu, including 7 m @ 10.4% Cu.

Westgold Resources Ltd advised new drilling results from the 'Western Zone' at its **Rover 1** Gold-Copper Project, 80 km southwest of Tennant Creek. Intersections included 6 m @ 78.7g/t Au and 1% Cu from 474 m and included 1 m @ 375g/t Au. At Explorer 142 encouraging copper results in ironstones similar to those at Rover 1 and at many of the historical Tennant Creek mines were reported including: 7 m @ 0.89% Cu, 0.37g/t Au; 6 m @ 1.68% Cu, 0.27g/t Au; and 6 m @ 2.21% Cu, 0.12g/t Au.

Rox Resources Ltd continued exploration at its **Myrtle** zinc-lead project and reported drill intersections including: 5 m @ 3.40% Zn, 0.85% Pb; 12 m @ 2.99% Zn, 0.75% Pb, including 1 m @ 5.50% Zn, 1.71% Pb; and 9 m @ 2.90% Zn, 0.76% Pb. The company reported a total resource of 43.6 Mt @ 4.09% Zn, 0.95% Pb made up of an Indicated Resource of 5.8 Mt @ 3.56% Zn, 0.90% Pb for 0.205 Mt Zn and 52kt Pb, and an Inferred Resource of 37.8 Mt @ 4.17% Zn, 0.95% Pb for 1.575 Mt Zn and 0.361 Mt Pb.

⁴ All prospects and deposits indicated by a bold font in italics are shown on figures 2 to 7.

Table 1. A selection of Australian mineral discoveries since 2000.

Year	State	Deposit/Project	Commodities	Status
2000	WA	West Musgraves	Ni, Cu, Co	Exploration; Preliminary resource: 392 Mt @ 0.3% Ni, 0.33% Cu
2000 and later	WA	Golden Grove orebodies	Cu, Pb, Zn, Ag	Mine; June 2009 resource: 1.2 Mt Zn, 0.7 Mt Cu, 0.1 Mt Pb, 39 Moz Ag, 0.9 Moz Au
2000 and later	WA	Flying Fox orebodies	Ni	Mine; 31 Dec 2010 resource: 231 920 t Ni (incl. Spotted Quoll)
2000	NSW	Hera	Au, Zn, Pb, Cu, Ag	Exploration; June 2010 resource: 2.18 Mt @ 4.0g/t Au, 3.9% Zn, 2.8% Pb, 0.2% Cu, 15.6g/t Ag
2001	NSW	Wyoming and Caloma	Au	Exploration with feasibility study in progress; current resource: 0.84 Moz Au
2001	SA	Prominent Hill	Cu, Au	Mine; June 2010 resource: 2.54 Mt Cu, 7.2 Moz Au, 22.0 Moz Ag
2002	WA	Jaguar	Cu, Pb, Zn, Ag	Mine; July 2010 resource: 0.823 Mt @ 4.2% Cu, 0.7% Pb, 8.8% Zn, 124g/t Ag
2002	WA	Copernicus	Ni, Cu, Co	Mine not currently operating; June 2010 resource: 6164 t Ni, 4401 t Cu, 255 t Co
2004	WA	Trident	Au	Mine; January 2010 resource: 0.9 Moz Au
2004	SA	Jacinth and Ambrosia	Mineral sands	Mine; December 2007 resource: 239 Mt @ 4.0% HM
2005	WA	Tropicana	Au	Feasibility studies; December 2009 resource: 5.01 Moz Au
2005	SA	Four Mile	U	Decision to mine Four Mile West; January 2010 resource: 5.7 Mt @ 0.34% U ₃ O ₈
2005	SA	Tripitaka	Mineral sands	Feasibility study; September 2006 resource: 28 Mt @ 2.3% HM
2005	SA	Carrapateena	Cu, Au	Exploration; 905 m @ 2.17% Cu, 0.9g/t Au, 11.5g/t Ag
2005	WA	Caliwingina	Fe	Exploration; November 2010 resource; 1540 Mt @ 57.25% Fe; Channel Iron Deposit and Detrital ore; Pilbara Region
2006	QLD	Mount Carlton	Au, Ag, Cu	Feasibility study; October 2009 resource: 22.8 Mt @ 1.60g/t Au, 51g/t Ag, 0.3% Cu
2006	NSW	McPhillamys	Au	Feasibility study; July 2010 resource: 3 Moz Au, 61 000 t Cu
2006	QLD	Rocklands	Cu	Feasibility study; September 2010 resource: 0.51 Mt Cu, 43 160 t Co, 0.34 Moz Au
2007	WA	Spotted Quoll	Ni	Mine; December 2010 resource: 108 120 t Ni
2007	WA	Cyclone	Mineral sands	Exploration; October 2010 resource for Cyclone: 132 Mt @ 2.33% HM; Eucla Basin
2008	VIC	Chewton	Au	Exploration; June 2008 resource: 0.57 Moz Au
2008	VIC	Stavelly	Cu, Pb, Zn, Ag, Au	Exploration; June 2010 resource: 48 300 t Cu
2008	QLD	Merlin	Mo, Re	Exploration; August 2010 resource: 6.7 Mt at 1.34% Mo, 23.2/t Re
2008	WA	Bentley	Cu, Pb, Zn, Ag, Au	Developing mine; November 2010 resource: 3.05 Mt @ 2.0% Cu, 9.8% Zn, 0.6% Pb, 139g/t Ag, 0.7g/t Au
2009	WA	DeGrussa	Cu, Au, Ag	Pre-feasibility study; November 2010 resource: 10.67 Mt @ 5.6% Cu, 1.9g/t Au, 15g/t Ag & 3.74 Mt @ 1.2% Cu, 0.5g/t Au

GOVERNMENT PROGRAMS

GEOSCIENCE AUSTRALIA

Geoscience Australia continued its \$59 million five-year geoscience program. An airborne electromagnetic (AEM) survey consisting of 34 900 line kilometres has been completed in the Frome Embayment region of South Australia. Results from 373 kilometre seismic and magnetotelluric traverses over the southern Georgina Basin and the eastern Arunta region will be released in March 2011. The National Geochemical Survey of Australia's Atlas and data is planned to be released in June 2011.

NEW SOUTH WALES

The NEW FRONTIERS initiative has a budget of \$16.5 million for three years ending in 2011. The 2010 program included the acquisition of new high resolution geophysics over the prospective southeast Lachlan Orogen and the release of numerous maps, data packages and geoscientific reports on the Koonenberry Belt and Thomson Orogen. The systematic collection of HyLogger spectral data on representative mineral systems from across New South Wales is continuing. The underlying geoscientific databases and online services have also been enhanced. The 2011 program will include acquisition of geophysics over the Clarence Moreton Basin (energy focus) and adjacent New England Orogen (minerals focus).

NORTHERN TERRITORY

The BRINGING FORWARD DISCOVERY initiative is a four-year, \$14.4 million program that commenced in 2007–08. It includes extensive regional gravity surveys and field-based geological mapping and prospectivity assessments, with an emphasis on under-explored greenfields regions such as the Arunta region in central Australia. The initiative also provides funding for collaborative drilling with explorers, along with collaborative funding for regional-scale geophysical surveys and improving web-based delivery of information.

QUEENSLAND

The GREENFIELDS 2020 program with funding of \$18 million from 2010 to 2014 is designed to identify new mineral and energy districts and revitalise mature regions, by providing new information and applying new ideas and technologies. It includes grants for drilling, new geophysics and 3D models and a new map and book on Queensland Geology. The CARBON GEOSTORAGE initiative is a \$50 million collaborative program to help identify sites for greenhouse gas storage and the \$5 million COASTAL GEOTHERMAL ENERGY initiative is drilling holes to identify areas of high geothermal gradient, close to existing electricity transmission lines.

SOUTH AUSTRALIA

PACE 2020 builds on the leading initiative, the Plan for Accelerating Exploration, providing an additional \$10.2 million to the initial \$30.9 million since it was first introduced in 2004. PACE 2020 seeks to unlock new areas for exploration, further streamline the process from exploration to mine development and provide even better data delivery services to the resources industry. Anticipated 2011 releases include new state-wide coverage of ASTER hyperspectral data, AEM traverses and innovative data sets for locating uranium-unconformity associations in the Cariewerloo Basin. The initiative's highly successful collaborative drilling program will continue. PACE 2020 will issue a new release of SARIG to provide the next generation geoscientific data delivery, and Hylogger data through the National Virtual Core Library.

TASMANIA

2009-10 was the final year of the four-year, \$5.5 million TasExplore project, a highlight of which was the identification and mapping of formations in the Ordovician to Devonian Mathinna Supergroup and definition of major structures. Highly detailed 3D modelling of gold-bearing regions is well advanced. This will substantially increase the effectiveness of gold exploration in northeast Tasmania.

VICTORIA

The three-year, \$9 million Gold Undercover initiative was completed in 2009. It delivered new geoscience information to help explorers look for gold deposits under the sedimentary cover in northern Victoria. The program aimed to: (a) capture and interpret new data on geophysics, crustal architecture, geochronology, geochemistry, mineralogy and gold deposit models in central and western Victoria; (b) estimate probable undiscovered gold endowment; and (c) improve geological databases and provide better access to geoscience data. Reports and associated data may be downloaded at www.dpi.vic.gov.au/minpet/store. The four-year, \$5 million Rediscover Victoria initiative, comprises a drilling grant project that reimburses exploration companies a proportion of approved drilling costs, and the 3D Victoria project that will produce a 3D model of the State.

WESTERN AUSTRALIA

In April 2009 the Western Australia Government announced funding of a five-year, \$80 million Exploration Incentive Scheme (EIS) to encourage exploration in Western Australia. Most of the six broad programs under the EIS are focused in under-explored greenfield regions. Major components of the EIS are the completion of the State's coverage of airborne magnetic surveys at 400 m or less line spacing, a major expansion of the area covered by gravity surveys, Government co-funding of innovative exploration drilling by companies in under-explored areas, stratigraphic drilling, deep seismic lines, 3D geological mapping, and improving access to Aboriginal land for exploration.

New South Wales

YTC Resources Ltd said that the first diamond drill hole under *Nymagee* Copper Mine intersected 8.9 m @ 7.2% Cu, 24g/t Ag, 0.16g/t Au from 370.5 m and a wedge hole recorded an intersection of 7 m @ 8.3% Cu, 46g/t Ag, 0.32g/t Au from 345.4 m. Later drilling returned encouraging copper intersections including: 26 m @ 2.1% Cu, 7g/t Ag from 361 m; 11 m @ 3.7% Cu, 15.7g/t Ag from 401 m; and 5.5 m @ 2.7% Cu, 21.2g/t Ag from 392 m.

Goldminco Corporation reported further drill results from porphyry copper-gold exploration in the Temora district. At the *Yiddah* prospect 15 km north of Temora, an intersection of 72 m @ 0.31% Cu, 0.10g/t Au and 99g/t Mo confirmed up dip continuity of mineralisation. Also at Yiddah, 96 m @ 0.33% Cu, 0.13g/t Au, 76g/t Mo was recorded, while at Yiddah South an intersection of 122 m @ 0.21% Cu and 56g/t Mo indicates a continuous strike length of mineralisation (exceeding 0.2% Cu) of at least 1.7 km at Yiddah.

Queensland

Ivanhoe Australia Ltd announced a 20% increase in the *Mount Elliott* mineral resource to an estimated Indicated and Inferred Resource of 570 Mt @ 0.44% Cu and 0.26g/t Au containing 2.5 Mt Cu and 4.7 Moz Au. An important component of this resource is the Swan high-grade zone, which includes the Mount Elliott mine, now has an Indicated and Inferred Resource estimated at 62 Mt @ 1.01% Cu and 0.58g/t Au.

Ivanhoe Australia Ltd announced the discovery of a large copper, gold and cobalt mineralised system at the company's *Barnes Shaft* prospect in the Cloncurry district, 2 km from the Lanham's Shaft. The first hole drilled into Barnes Shaft intersected 28 m @ 1.01% Cu, 0.60g/t Au and 323ppm Co, including 12 m @ 1.83% Cu, 1.24g/t Au and 414ppm Co. Other intersections included 19 m @ 1.58% Cu, 0.74g/t Au, 502ppm Co, including 12 m @ 2.17% Cu, 1.14g/t Au and 438ppm Co from 14 m.

CuDeco Ltd continued exploration drilling programs at its *Rocklands* project near Cloncurry and released an updated resource estimate at a 0.15% Cu equivalent cut-off of: Measured Resource of 69 Mt @ 0.34% Cu, 0.06g/t Au, 228ppm Co; Indicated Resource of 82 Mt @ 0.17% Cu, 0.03g/t Au, 152ppm Co and an Inferred Resource of 94 Mt @ 0.14% Cu, 0.03g/t Au, 163ppm Co. The company reported

that this resource contained 0.51 Mt Cu, 0.34 Moz Au and 43 480 t Co. Drill intersections reported include: 98 m @ 4.79% Cu, 0.76g/t Au and 936ppm Co; 140 m @ 4.69% Cu, 0.54g/t Au and 632ppm Co which included 11 m @ 10.53% Cu, 1.03g/t Au, 738ppm Co and 15 m @ 11.10% Cu, 0.89g/t Au and 794ppm Co.

Mungana Goldmines Ltd intersected high-grade copper mineralisation during exploration drilling aimed at increasing gold resources at Mungana and *Red Dome*. The company said that the copper intersections indicated a copper dominated mineralised zone is developing at depth and along strike beneath the Red Dome pit. Intersections reported included: 10.40 m @ 6.50% Cu and 0.89g/t Au; 12.91 m @ 7.79% Cu and 0.99g/t Au; 4.10 m @ 5.75% Cu and 0.24g/t Au; and 8.70 m @ 7.92% Cu and 0.05g/t Au. The mineralisation varies in true width from 2 m to 7 m.

China Yunnan Copper Australia Ltd reported results from its *Mount Dorothy* prospect joint venture with Goldsearch Limited near Mary Kathleen. Drilling returned a sulphide copper-cobalt intersection of 35 m @ 1.52% Cu and 397ppm Co including 22 m @ 2.03% Cu and 591ppm Co. Late in the year the company reported intersecting supergene sulphide copper and returned intersections including 28 m @ 1.9% Cu and 247ppm Co, which included 9 m @ 5.5% Cu and 205ppm Co.

Queensland Mining Corporation Ltd announced encouraging drill results from its *Flamingo* Project, 40 km north of Cloncurry. These included 9 m @ 1.15% Cu and 0.37g/t Au; 2 m @ 4.43% Cu and 1.99g/t Au; 11 m @ 4.87% Cu, 0.62g/t Au and 1.51g/t Ag, including 2 m @ 23.2% Cu, 2.26g/t Au and 4.25g/t Ag from 35 m. An initial Inferred Resource estimate to a maximum depth of 60 m of 117 000 t @ 6% Cu and 1.8g/t Au was announced.

Syndicated Metals Ltd reported new copper and gold intersections from the *Barbara* project. These included: Barbara North Lode—14 m @ 0.99% Cu and 0.07g/t Au; 1 m @ 0.77% Cu and 1.53g/t Au, and from the Green

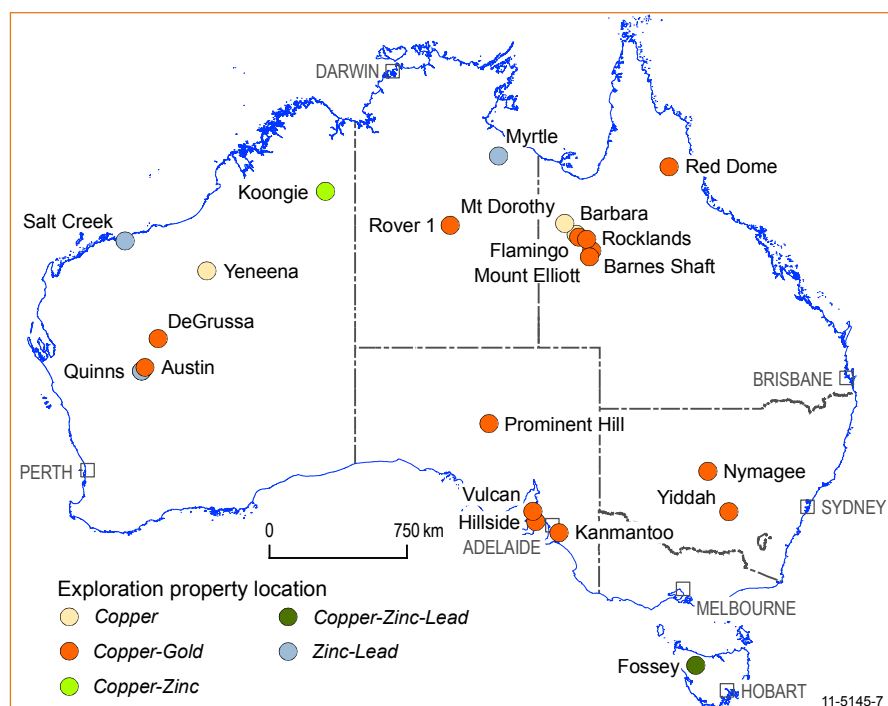


Figure 2. Selected base metal (excluding nickel) exploration projects 2010.

Zone—24 m @ 0.83% Cu, 8 m @ 1.05% Cu. Syndicated also announced an upgrade of the resource estimates for Barbara where Indicated Resources are estimated to be 3.778 Mt @ 1.6% Cu, 0.2g/t Au, 2.7g/t Ag and 265ppm Co, and Inferred Resources are estimated at 1.552 Mt @ 1.1% Cu, 0.1g/t Au, 2g/t Ag and 272ppm Co.

South Australia

Rex Minerals Ltd reported drill intersections from its *Hillside* Project on the Yorke Peninsula during the year. These included: 121 m @ 0.6% Cu and 0.3g/t Au, including 22 m @ 0.7% Cu and 0.6g/t Au; 60 m @ 0.7% Cu and 0.4g/t Au. Later results included: 15 m @ 2.2% Cu and 0.7g/t Au; 100 m @ 0.9% Cu and 0.4g/t Au, including 54 m @ 1.1% Cu and 0.6g/t Au; and 48 m @ 1% Cu and 0.3g/t Au.

OZ Minerals Ltd reported gold mineralisation from a new area, below what has previously been described as the Western Gold Zone at *Prominent Hill*. Drill intersections included 27 m @ 0.08% Cu and 1.79g/t Au, and 53 m @ 1.74% Cu and 1.03g/t Au.

Hillgrove Resources Ltd reported that exploration drilling to the south at the *Kanmantoo* Copper/Gold Project intersected new copper-gold mineralisation close to the proposed Kanmantoo copper ore processing facility. These included, at Wheal Fortune 5 m @ 2.50% Cu, 0.80g/t Au and 30.88g/t Ag, and at Emily Star South 17 m @ 0.95% Cu and 0.35g/t Au, and 5 m @ 2.95g/t Au and 0.36% Cu.

Tasman Resources Ltd reported intersecting copper sulphide mineralisation at the *Vulcan* iron-oxide copper gold uranium prospect, 30 km north of Olympic Dam. An upper mineralised zone extends over 56.65 m down hole and averages 0.59% Cu, 0.17g/t Au, 0.051kg/t U₃O₈ and 0.9g/t Ag. This zone contains a number of higher grade intervals.

Tasmania

Bass Metals Ltd intersected base metal sulphide mineralisation to the east of the *Fossey* Deposit. The new zone contains several narrow, discrete intervals of massive base metal sulphide mineralisation, including: 2.5 m @ 0.3% Cu, 3.8% Pb, 6.3% Zn, 56g/t Ag, 1.8g/t Au. A second hole intersected 12.1 m @ 0.6% Cu, 4.8% Pb, 9.1% Zn, 76g/t Ag and 1.9g/t Au. A zinc-rich intersection extended the strike length of Fossey East with 15 m @ 7.4% Zn, 4% Pb, 0.5% Cu, 76g/t Ag and 2.8g/t Au.

Western Australia

Sandfire Resources NL reported intersecting shallow, chalcocite-rich copper mineralisation above the primary DeGrussa lens at its *DeGrussa* deposit with results including 27.5 m of massive chalcocite; 36.6 m of chalcocite-rich massive sulphides and 35.3 m of chalcocite-rich massive sulphides. They also reported an intersection of 28.7 m @ 52.3% Cu and 1.1g/t Au from the near surface chalcocite zone. Other significant intersections included: 22 m @ 25.5% Cu, 2.6g/t Au; 12 m @ 16.5% Cu, 2.6g/t Au; and 6 m @ 20.8% Cu and 2g/t Au. Sandfire also announced the discovery of a new zone of massive sulphide mineralisation approximately 900 m northeast of the DeGrussa /Conductor 1 deposits, referred to as Conductor 5. It returned intersections including 10.4 m massive sulphides which yielded 0.4 m @ 7.8% Cu, 3.25g/t Au, 19.8% Ag. The company released an increased resource estimate for the DeGrussa project of 10.67 Mt @ 5.6% Cu, 1.9g/t Au and 15g/t Ag.

Encounter Resources Ltd announced encouraging drill results from the BM1 copper prospect at the *Yeneena* Project approximately 60 km south of the Nifty copper deposit. Assay results included: 4 m @ 5.45% Cu and 7 m @ 1.32% Cu. A second zone of plus 1% copper occurs 1.2 km south of these intersections and drilling intersected 6 m @ 1.41% Cu. Other results reported include: 20 m @ 2% Cu from 22 m; 12 m @ 1.5% Cu from 16 m; and 16 m @ 0.7% Cu from 8 m.

Anglo Australian Resources NL drilled its *Koongie* copper-zinc prospect 25 km southwest of Halls Creek. Intersections reported from the Sandiego deposit include:

71 m @ 5.04% Cu, 7.69% Zn, 68g/t Ag, 0.43g/t Au; 22 m @ 9.91% Cu; 25 m @ 11.4% Cu; and 11.7 m @ 4.04% Cu. In addition to these a number of zinc and lead lodes were intersected including: 19 m @ 5.5% Zn, 40g/t Ag; 13 m @ 2.2% Pb, 6.6% Zn, 59g/t Ag, 0.26g/t Au; and 38 m @ 4.4% Cu, 3.4% Pb, 13.1% Zn, 80g/t Ag, 0.64g/t Au. The Indicated and Inferred Resource for the Sandiego Deposit is estimated at 1.57 Mt @ 6.8% Zn, 0.2% Cu, 0.16g/t Au, 22g/t Ag.

Silver Swan Group Ltd announced results from drilling at the *Austin* project showed continuity of high-grade zinc intersections, and revealed a new high-grade copper zone above the main mineralisation in one hole. Intersections reported included: 11 m @ 3.6% Cu, 11g/t Ag, 0.7g/t Au; 3 m @ 16.7% Zn; 3 m @ 6.5% Zn; and 11 m @ 1.34% Cu, 5.5g/t Ag, 0.32g/t Au. The company announced an initial Measured, Indicated and Inferred Resource for Austin of 1.48 Mt @ 1.02% Cu, 1.39% Zn, 3.51g/t Ag and 0.24g/t Au.

Silver Swan Group Ltd advised that massive sulphide mineralisation was encountered in drilling at its Tasman prospect in the *Quinns* project northeast of Austin. Zinc, copper, silver and gold mineralisation was intersected with initial results including 6 m @ 3% Zn.

Venturex Resources Ltd reported that resource definition drilling at its *Salt Creek* VMS prospect intersected high-grade zinc-lead-silver mineralisation. Intersections reported in the eastern lens included 3.45 m @ 49.2% Zn, 7.1% Pb, 327g/t Ag and 4.1g/t Au, and 4.75 m @ 47.8% Zn, 8.7% Pb, 294g/t Ag and 0.9g/t Au. In the western massive sulphide lens an intersection of 12.8 m @ 8.8% Zn, 4.7% Pb, 76g/t Ag and 0.5g/t Au was obtained.

GOLD

New South Wales

Cortona Resources Ltd continued to report encouraging results from its *Dargues Reef* project 60 km east of Canberra. The company reported successful follow-up drilling 150 m north of the proposed Dargues

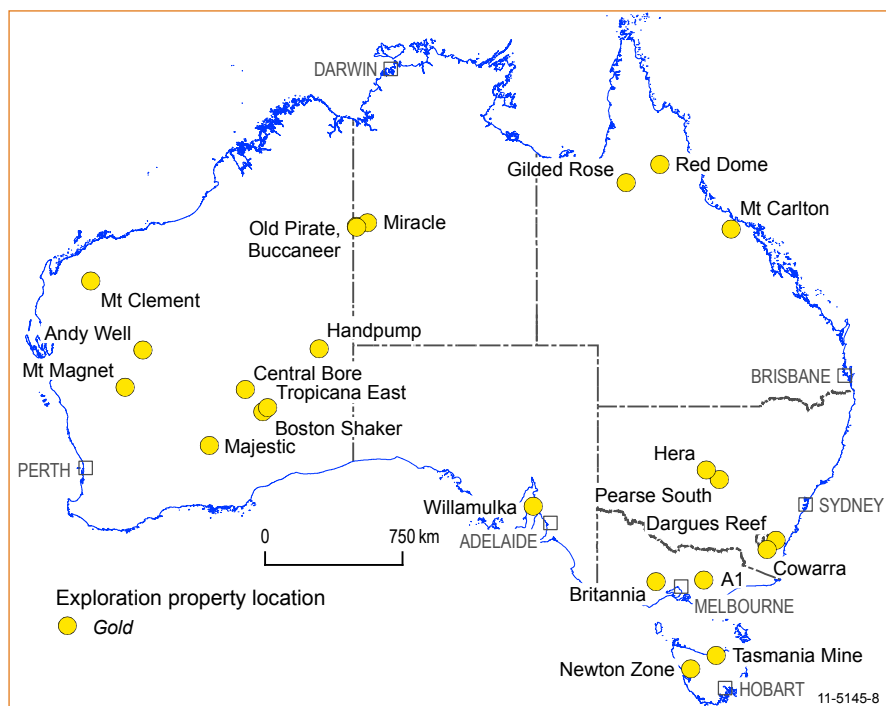


Figure 3: Selected gold exploration projects 2010.

Reef mine that confirmed a new shallow gold discovery referred to as the Ruby Lode. Intersections include 12.6 m @ 9.90g/t Au, 9 m @ 3.96g/t Au, and 3 m @ 5.80g/t Au.

YTC Resources Ltd continued exploration at **Hera** throughout the year and reported numerous encouraging drill intersections including: 6.8 m @ 15.42g/t Au, 2.86% Pb, 2.6% Zn; 3 m @ 15.52g/t Au, 33g/t Ag, 0.4% Cu, 4.5% Pb, 3.5% Zn; and 10.2 m @ 3.23g/t Au, 16g/t Ag, 4% Pb, 3.52% Zn. Other results reported extended the deposit and included 8 m @ 5.5g/t Au, 18g/t Ag, 0.47% Cu, 2.3% Pb, 1.4% Zn, and 3 m @ 5.87g/t Au, 26g/t Ag, 0.25% Cu, 9.8% Pb, 5.5% Zn.

Kimberley Metals Ltd announced the first results from drilling at the **Pearse South** deposit at its Mineral Hill mine. Intersections reported include: 36 m @ 11g/t Au, 196g/t Ag, including 7 m @ 45.7g/t Au, 108g/t Ag; 4 m @ 2.7g/t Au, 129g/t Ag; 19 m @ 8.3g/t Au, 130g/t Ag, which includes 4 m @ 13.4g/t Au, 329g/t Ag, and 9 m @ 7.7g/t Au, 159g/t Ag. At Pearse North, Kimberley confirmed potential for a shallow resource with intersections of 4 m @ 9.3g/t Au and 17g/t Ag from 25 m and 8 m @ 5.7g/t Au and 34g/t Ag from 28 m.

Capital Mining Ltd announced the results of drilling at its **Cowarra** Gold Project area near Bredbo. The drilling targeted gold sulphide mineralisation adjacent to known mineralisation in the old Cowarra Gold Mine. Drilling on the Ambassador lode returned 8.1 m @ 4.5g/t Au, including 1.7 m @ 17.1g/t Au. At the Victoria Lode intersections included: 10.5 m @ 2.57g/t Au, including 2.3 m @ 9.71g/t Au; 4.5 m @ 1.17g/t Au; and 2.1 m @ 14.3g/t Au.

Northern Territory

Tanami Gold NL reported that drilling at the Central Tanami Gold Project returned high-grade results from drilling at the Tombola and **Miracle** deposits. A hole to test the down dip potential of the mineralisation returned 5.2 m @ 11.6g/t Au. Other intersections from the area included: 3 m @ 8.4g/t Au; 5 m @ 3g/t Au; and 4 m @ 2.7g/t Au from 12 m. Miracle intersections included 3.5 m @ 32.2g/t and 10 m @ 5.6g/t from 105 m.

ABM Resources NL announced the results of drilling at the **Old Pirate** prospect. Highlights include: 5 m @ 274g/t Au; 43 m @ 7g/t Au, including 17 m @ 16.72g/t Au (1g/t cut-off); and 10 m @ 1.3g/t Au. Old Pirate Far North, 1 km north of main

Old Pirate zone returned: 11 m @ 3.55g/t Au, including 1 m @ 32.1g/t Au; 3 m @ 6.39g/t Au; and 2 m @ 4.69g/t Au. Visible gold was reported in outcrop at Old Pirate and Old Pirate Northern Extensions (located 100 m north of Old Pirate Central area of drilling).

ABM Resources NL announced the results from initial deep drilling at the **Buccaneer** prospect in its Twin Bonanza Project. The intersections included 271 m @ 0.54g/t Au, including 153 m @ 0.85g/t Au and 297 m @ 0.45g/t Au. Other drilling at Buccaneer returned 363 m @ 0.59g/t Au from 10 m down hole, including 202 m @ 1g/t Au. Step out drilling returned 41 m @ 1.12g/t Au in a zone of 112 m @ 0.51g/t Au.

South Australia

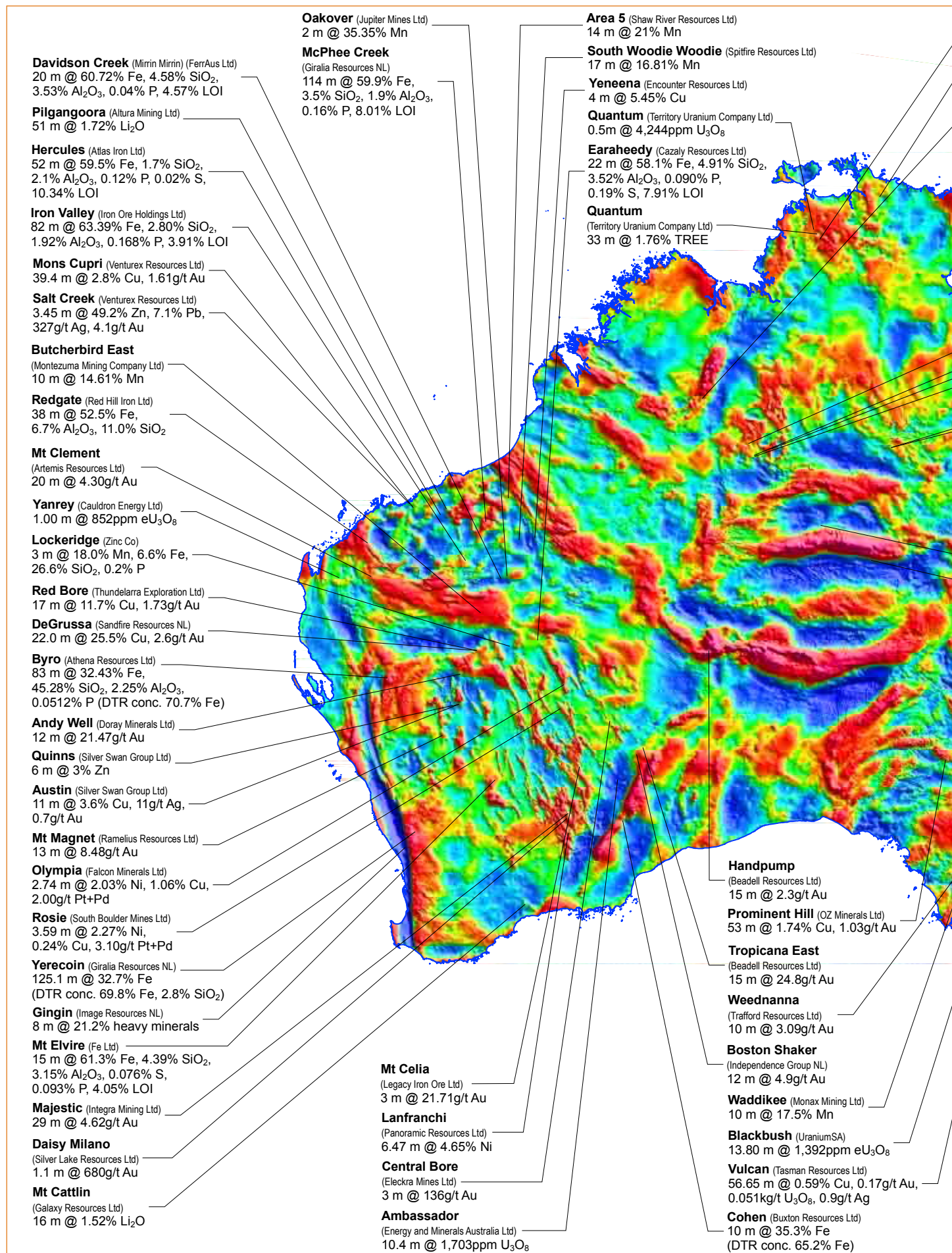
Adelaide Resources Ltd reported significant gold and copper assays from drilling at the **Willamulka** and Prospect 4 prospects at Moonta. At Willamulka, intersections included: 1 m @ 4.76g/t Au; 1 m @ 2.84% Cu; and 1 m @ 19.12g/t Au. At Prospect 4, drilling intersected anomalous gold and copper including 3 m @ 1.18g/t Au. Later assays from Willamulka included 8 m @ 2.35% Cu and 0.77g/t Au, including 1 m @ 4.68g/t Au and 1 m @ 7.72% Cu.

Tasmania

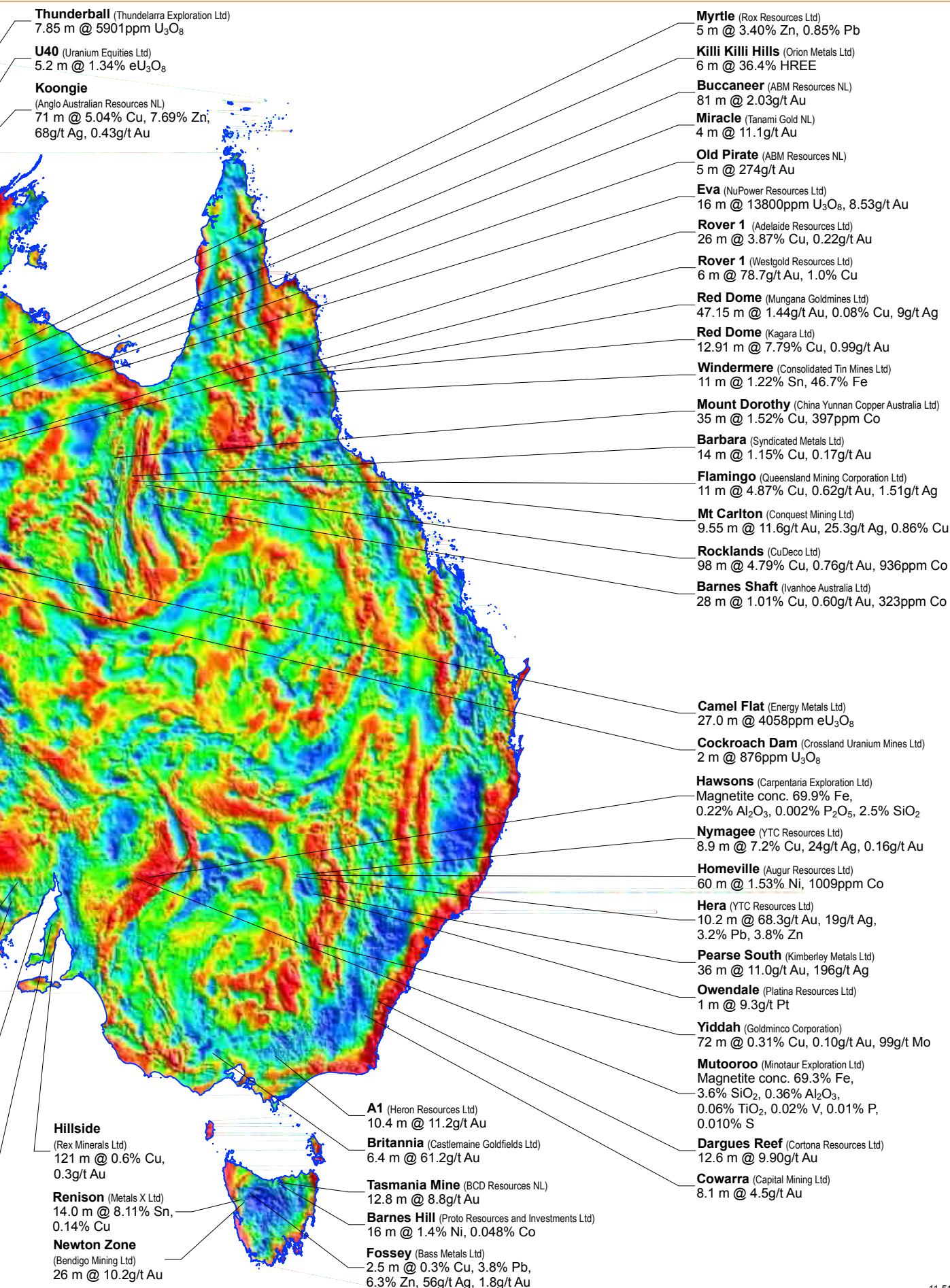
Bendigo Mining Ltd announced that drilling at the Henty Gold Mine discovered significant gold mineralisation, known as the **Newton Zone**. Drilling testing for depth extensions intersected the main lens for a further 100 m down dip, and a previously unknown footwall lens. Better drill intersections included: 26 m @ 10.2g/t Au; 17.6 m @ 5.9g/t Au; 17.8 m @ 8.5g/t Au; and 17.3 m @ 6.6g/t Au.

BCD Resources NL outlined an extension to known mineralisation at the **Tasmania Mine**. Drilling intersected 12.8 m @ 8.8g/t Au at the western end of the mine. This intersection includes zones of 5.3 m @ 8.2g/t Au and 4.3 m @ 16g/t Au. An update resource estimate was released and the total resource was 1.447 Mt @ 11.2g/t Au (521 000 oz Au) which included a reserve of 0.949 Mt @ 9.7g/t Au (294 000 oz Au).

Typical Australian Mineral Exploration Results 2010



(Base map is the Australian Gravity Map)



11-5145-11

Victoria

Castlemaine Goldfields Ltd undertook drilling programs at Ballarat gold project and early assays returned encouraging results including: 3 m @ 9.4g/t Au; 3 m @ 5.6g/t Au; and 1.5 m @ 80.3g/t Au. Later results reported included those from its **Britannia** prospect where drilling of the Britannia-Mako Fault Zone returned: 4.4 m @ 17.9g/t Au; 6.4 m @ 61.2g/t Au; and 11 m @ 8.1g/t Au. Drilling to test the Basking Fault at Britannia Compartment included 1.3 m @ 53.8g/t Au and 8 m @ 7.3g/t Au.

Heron Resources Ltd undertook evaluation of the **A1 Gold Mine** by underground development, drilling and bulk sampling. Underground drilling returned an intersection of 10.4 m @ 11.2g/t Au in a wider zone of 19 m @ 6.83g/t Au. Other intersections reported included: 156.5 m @ 1.67g/t Au, which included 55.5 m @ 1.95g/t Au and 90 m @ 1.63g/t Au.

Queensland

Mungana Goldmines Ltd announced drilling at its **Red Dome** gold-copper project extended the known size of the ore body with intersections reported including: 47.15 m @ 1.44g/t Au, 0.08% Cu, 9g/t Ag, including 23.15 m @ 1.91g/t Au, 0.1% Cu, 7g/t Ag; and 85.6 m @ 0.44g/t Au, 0.12% Cu, 6g/t Ag, including 5.2 m @ 1.65g/t Au, 1.46% Cu and 49g/t Ag.

Conquest Mining Ltd announced the discovery of high-grade gold mineralisation in an extension to the V2 deposit at its **Mt Carlton** project located 45 km northwest of Collinsville. Drilling returned intersections including: 9.55 m @ 11.6g/t Au, 25.3g/t Ag and 0.86% Cu, which included 3.06 m @ 18.2g/t Au, 56.8g/t Ag and 1.94% Cu and 1.5 m @ 23.7g/t Au, 18.4g/t Ag and 1% Cu; a deeper intersection returned 9.13 m @ 2.14g/t Au, 15.1g/t Ag and 0.47% Cu. The company also reported results from the A39 deposit at the Mt Carlton project of: 21 m @ 2266g/t Ag; 30 m @ 446g/t Ag; and 14 m @ 601g/t Ag from 122 m.

Queensland Mining Corporation Ltd announced results from its **Gilded Rose** project 5 km east-southeast of Cloncurry. Drilling returned high-grade gold mineralisation including 19 m @ 5.53g/t Au which included a higher-grade zone of 4 m @ 20.68g/t Au. Other intersections reported included: 11 m @ 2.19g/t Au, including a higher-grade zone of 3 m @ 7.28g/t Au; 6 m @ 2.83g/t Au; and 5 m @ 6.54g/t Au, including 3 m @ 9.86g/t.

Western Australia

Independence Group NL announced significant results from drilling at the **Boston Shaker** Prospect, 500 m northeast of the Tropicana resource currently the subject of a Feasibility Study by the Tropicana Joint Venture (IGO 30% AngloGold Ashanti 70%). Intersections reported included 5 m @ 3.9g/t Au; 17 m @ 3g/t Au; 12 m @ 4.9g/t Au; and 15 m @ 3.6g/t Au. Mineralisation has been defined over a 700 m strike length and is open down dip.

Beadell Resources Ltd reported that re-assaying of drill samples from its **Handpump** prospect, 560 km northeast of Leonora confirmed previous results. The new results included: 15 m @ 2.3g/t Au; 5 m @ 4.7g/t Au; 7 m @ 1.4g/t Au; and 11 m @ 1.1g/t. Beadell announced results from later drilling at Handpump with results including 12 m @ 1.3g/t Au, which includes 5 m @ 2g/t Au.

Ramelius Resources Ltd announced drill intersections from its **Mt Magnet** project from the Saturn, Mars and Titan pits. Intersections reported included: 13 m @ 8.48g/t Au; 33 m @ 2.21g/t Au; and 38 m @ 6.32g/t Au, including 3 m @ 10.9g/t Au; and 13 m @ 12g/t Au. A significant intersection was reported from beneath the Saturn Pit where, from 448 m downhole, 7.15 m @ 43.7g/t Au, including 1 m @ 300g/t Au was reported.

Integra Mining Ltd reported results from the **Majestic** Prospect which is part of the Monger Joint Venture between Integra (85%) and Newcrest Operations Ltd 60 km southeast of Kalgoorlie. An intersection of 198 m @ 1g/t Au included 12 m @ 1.59g/t Au and 20 m @ 5.79g/t Au. Additional intersections included 29 m @ 4.62g/t Au, including 1 m @ 58.28g/t Au; 21 m @ 3.88g/t Au, including 3 m @ 11.05g/t Au; and 22 m @ 3.58g/t Au, including 2 m @ 14.15g/t Au. Late in the year Integra reported an intersection of 20 m @ 0.59% Cu and 0.66g/t Au, including 5 m @ 1.07% Cu and 1.42g/t Au.

Beadell Resources Ltd reported that regional drilling at **Tropicana East** targeting the Hercules Shear Zone anomaly intersected high-grade gold mineralisation: 30 m @ 8.3g/t Au, including 10 m @ 23.1g/t Au and 5 m @ 40.2g/t Au. The Tropicana East project is 160 km northeast and along strike from the 5 Moz Tropicana gold deposit.

Artemis Resources Ltd announced further results from exploration at the **Mt Clement** Gold Project. Drilling returned encouraging results including 20 m @ 4.30g/t Au. Other results reported included 6 m @ 5.23g/t Au and 6 m @ 8.81g/t Au. The company also announced that the first drill hole also encountered copper mineralisation with an intersection of 5 m @ 2.80% Cu, 656g/t Ag also between 106 m and 111 m downhole depth.

Eleckra Mines Ltd, now known as Gold Road Resources Ltd, announced the highest grade results yet reported from **Central Bore**, 50 km east of Laverton. Assays returned bonanza grade gold of up to 404g/t Au over a one metre interval. The results include: 3 m @ 136g/t Au, including 1 m @ 404g/t Au; 2 m @ 53g/t Au, including 1 m @ 105g/t Au; and 1 m @ 7.8g/t Au.

Doray Minerals Ltd announced encouraging drill results from initial drilling its **Andy Well** prospect in Murchison Region. Intersections reported included: 12 m @ 21.47g/t Au, including 8 m @ 29.97g/t Au; 8 m @

62.53g/t Au, including 4 m @ 120.71g/t Au; and 9 m @ 42.97g/t Au, including 3 m @ 114.51g/t Au. High-grade intersections were reported throughout the year with 3.02 m @ 140.3g/t Au and 38.2g/t Ag, including 0.87 m @ 462g/t Au and 115g/t Ag, and 1.05 m @ 55.2g/t Au and 8.6g/t Ag.

IRON ORE

New South Wales

Carpentaria Exploration Ltd announced an initial Inferred Resource estimate for its **Hawsons** Iron Project located close to Broken Hill of 1.4 billion tonnes of magnetite ore with a magnetite Davis Tube Recovery (DTR) of 15.5% making it the largest magnetite discovery in New South Wales. The resource has a contained iron concentrate of 220 Mt @ 69.9% Fe, 0.22% Al_2O_3 , 0.002% P_2O_5 and 2.5% SiO_2 .

Northern Territory

Western Desert Resources Ltd reported that drilling at its **Roper Bar** project identified a new deposit at Area E (south). Drill intersections reported included: 10 m @ 42.6% Fe, 29.9% SiO_2 , 0.006% P, 2.7% Al_2O_3 , 5.4% LOI; 4 m @ 52.6% Fe, 21.8% SiO_2 , 0.006% P, 0.8% Al_2O_3 , 1.9% LOI; and 6 m @ 48.8% Fe, 25% SiO_2 , 0.007% P, 1.5% Al_2O_3 , 3.3% LOI. The company also reported identifying new high-grade mineralisation at Area E (east) where there appears to be a substantial thickness of direct shipping ore with intersections including; 8 m @ 60.1% Fe; 9 m @ 60.7% Fe; and 19 m @ 55.1% Fe.

Queensland

Eastern Iron Ltd reported high-grade magnetite-vanadium assays from samples from the **Hawkwood** joint venture area, 250 km from Gladstone. Samples reported included: 61% Fe, 1.101% V_2O_5 , 7.881% TiO_2 ; 60.8% Fe, 1.024% V_2O_5 , 7.963% TiO_2 ; and 60% Fe, 0.896% V_2O_5 , 7.418% TiO_2 .

South Australia

Minotaur Exploration Ltd announced results of a preliminary exploration programme into iron mineralisation at the **Mutooroo** project 24 km west of Carpentaria Exploration Ltd's Hawsons Iron project near Broken Hill. Samples from two drillholes showed an average DTR mass recovery of 21.8% magnetite and a DTR concentrate grade of 69.3% Fe. A more complete average analysis is: Head Grade

of 19.9% Fe, 47.6% SiO_2 , 8.2% TiO_2 , 0.57% V, 0.01% P, 0.18% S, 0.06% LOI; and a DTRC grade of 69.3% Fe, 3.6% SiO_2 , 0.36% Al_2O_3 , 0.06% TiO_2 , 0.02% V, <0.01% P, <0.010% S.

IronClad Mining Ltd announced an upgraded indicated and inferred skarn-hosted magnetite resource at the **Wilcherry Hill** Project, 100 km west northwest of Whyalla. The Wilcherry Hill resource includes an Indicated Resource of 48 Mt @ 25.5% Fe, 32.8% SiO_2 , 10.3% Al_2O_3 , 0.07% P and 7.5% LOI, and an Inferred Resource of 21 Mt @ 26.7% Fe, 31.9% SiO_2 , 5.3% Al_2O_3 , 0.07% P and 6.8% LOI. These resources occur in the Weednana, Ultima Dam East, Weednana North and Ultima Dam West prospects.

Western Australia (Pilbara Region)

FerrAus Ltd announced further intersections of high-grade Direct Shipping Ore from its **Davidson Creek** project 80 km east of Newman. Drilling at the Mirrin Mirrin prospect yielded intersections including: 20 m @ 60.72% Fe, 4.58% SiO_2 , 3.53% Al_2O_3 , 0.04% P, 4.57% LOI; 52 m @ 60.05% Fe, 3.07% SiO_2 , 2.24% Al_2O_3 , 0.11% P, 8.14% LOI; and 64 m @ 59.53% Fe, 4.75% SiO_2 , 1.19% Al_2O_3 , 0.11% P, 8.28% LOI. Subsequently FerrAus announced an initial Probable Reserve for the Davidson Creek project of 99 Mt @ 57% Fe, 5.5% SiO_2 , 3.3% Al_2O_3 , 0.1% P, 8.9% LOI.

Giralia Resources NL reported results of ongoing resource definition drilling at its **McPhee Creek** prospect 220 km southeast of Port Hedland. New intersections were reported during the year and included: 114 m @ 59.9% Fe, 1.9% Al_2O_3 , including 106 m @ 60.5% Fe, 1.7% Al_2O_3 ; and 70 m @ 57.1% Fe, 1.7% Al_2O_3 . Later drilling yielded intersections of: 126 m @ 59% Fe; 112 m @ 59.3% Fe; and 100 m @ 57% Fe. The new Indicated and Inferred Mineral Resource at MCPhee Creek Main Range is 260 Mt @ 56.2% Fe, 0.12% P, 6.7% SiO_2 , 2.3% Al_2O_3 and 9.5% LOI.

Fortescue Metals Group announced a 1.23 billion tonne resource estimate for its **North Star** tenement area where

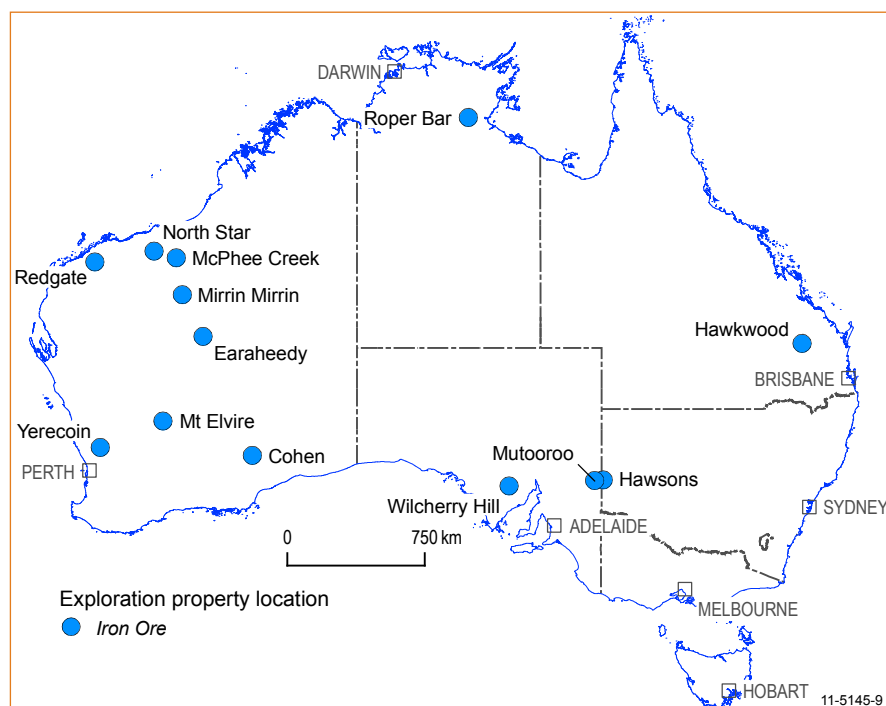


Figure 4: Selected iron ore exploration projects 2010.

the ore is hosted in the main BIF member of the Pincunah Formation. Of the total resource 310 Mt @ 32.9% Fe, 39.4% SiO₂, 1.76% Al₂O₃, 0.096% P, 6.10% LOI is in the Indicated Resource category. The remaining 930 Mt is an Inferred Resource with a grade of 31.7% Fe, 40.6% SiO₂, 2.21% Al₂O₃, 0.98% P and 6.50% LOI. The deposit is 100 km south of Fortescue's port facility at Port Hedland.

Red Hill Iron Ltd announced results of drilling at the *Redgate* channel iron deposit 25 km southwest of Pannawonica. Typical intersections reported were: 38 m @ 52.5% Fe, 6.7% Al₂O₃, 11% SiO₂; 40 m @ 54.2% Fe, 5.1% Al₂O₃, 8.8% SiO₂; and 22 m @ 54% Fe, 4.9% Al₂O₃, 9.8% SiO₂. An Inferred Resource for Redgate of 114.4 Mt @ 51.6% Fe, 5.7% Al₂O₃, 0.04% P and 10.2% SiO₂ was reported at a cut-off grade of 48% Fe.

Western Australia (Other Regions)

Giralia Resources NL reported the results of drilling at its *Yerecoin* magnetite project, located 120 km north-northeast of Perth. The drilling returned intersections including: 125.1 m @ 32.7% Fe (DTR 69.8% Fe, 2.8% SiO₂, with a 38.8% weight recovery); 96 m @ 34.8% Fe (DTR 71.3% Fe, 1% SiO₂, 45.7% weight recovery); and 68 m @ 35.7% Fe (DTR 71.4% Fe, 0.9% SiO₂, 39.6% weight recovery). Giralia announced an initial Inferred Resource estimate for Yerecoin of 186.8 Mt @ 30.9% Fe (70.1% Fe, 2.1% SiO₂ DTR concentrate) with weight recovery of 32.8%.

Cazaly Resources Ltd announced results from its first drilling at the *Earaheedy* Project, 290 km southeast of Newman, where it is in a 50:50 Joint Venture with Vector Resources Ltd. At the *Cecil Rhodes* prospect intersections included 22 m @ 58.1% Fe, 4.91% SiO₂, 3.52% Al₂O₃, 0.090% P, 0.19% S, 7.91% LOI; 26 m @ 55.1% Fe, 9.50% SiO₂, 3.63% Al₂O₃, 0.090% P, 0.23% S, 7.41% LOI. Iron mineralisation occurs as goethite with lesser hematite and is potentially suitable as Direct Shipping Ore.

Fe Ltd completed an initial drilling program at its *Mt Elvire* Iron Ore Project, located in the Yilgarn Province 240 km north of Southern Cross. Drilling indicated the high-grade nature and lateral extent of the mineralisation in the Iron Crescent Prospect. Best results from the program include: 15 m @ 61.3% Fe, 4.39% SiO₂, 3.15% Al₂O₃, 0.076% S, 0.093% P, 4.05% LOI; and 48 m @ 41.4% Fe, 30.97% SiO₂, 3.84% Al₂O₃, 0.045% S, 0.038% P, 5.06% LOI.

Buxton Resources Ltd reported that drilling intersected magnetite-rich rock at the *Coben* Prospect which is part of the Zanthus Project, 230 km east of Kalgoorlie. Significant drill results include: 15 m @ 24.8% Fe; 43 m @ 33.9% Fe; and 17 m @ 37.1% Fe. DTR tests returned encouraging recoveries and concentrate grades at a coarse grind. DTR results included 10 m @ 35.3% Fe which gave a concentrate of 65.2% Fe and a mass recovery of 51%.

LITHIUM

Western Australia

Galaxy Resources Ltd announced the discovery, in late 2009, of a new zone of lithium-bearing pegmatite mineralisation to the northwest of the current resource at its *Mt Cattlin* deposits at Ravensthorpe. Ongoing drilling returned encouraging intersections including: 16 m @ 1.52% Li₂O; 9 m @ 2.41% Li₂O; and 20 m @ 1.15% Li₂O. The company released a new resource estimate for Mt Cattlin of: Measured Resources 2.672 Mt @ 1.17% Li₂O, 150ppm Ta₂O₅; Indicated Resources of 9.629 Mt @ 1.09% Li₂O, 171ppm Ta₂O₅; and Inferred Resources of 3.575 Mt @ 1% Li₂O, 145ppm Ta₂O₅.

Reed Resources Ltd and joint venture partner Mineral Resources Ltd announced increased resources for the *Mount Marion* deposit, 36 km south of Kalgoorlie. The new total resource for Mount Marion is 10.552 Mt @ 1.4% Li₂O for a contained 146 500 t of Li₂O. Included in the total is a measured resource of 2.1 Mt @ 1.5% Li₂O.

Altura Mining Ltd undertook costeaning and drilling at the *Pilgangoora* prospect 120 km to the southeast of Port Hedland in the Pilbara region of Western Australia. Costeaning intersected spodumene mineralisation with grades of up to 2.33% Li₂O. Drilling also returned encouraging intersections including: 51 m @ 1.72% Li₂O; 30 m @ 1.71% Li₂O; and 51 m @ 1.77% Li₂O.

MANGANESE

New South Wales

Alloy Resources Ltd completed a reconnaissance geological mapping and sampling of known manganese occurrences in its *Cootamundra* Project area, 120 kms northwest of Canberra. At three of the prospects, 23 rock samples assayed greater than 15% Mn with 12 exceeding 30% Mn and 7 samples exceeding 40% Mn.

Northern Territory

Northern Mining Ltd's sampling of outcropping manganese mineralisation at its *Camel* Prospect, 127 km southwest of Alice Springs, returned up to 15.6% Mn in which the manganese appears to replace carbonate, sandstone and breccia units in the Amadeus Basin. Later reconnaissance sampling yielded up to 45.6% Mn from about 23 km east of the first sample location.

South Australia

Monax Mining Ltd reported results from drilling at its *Waddikee* project. Highly encouraging results from the southern section of the Jamieson Tank prospect have confirmed the presence of multiple layers of manganese. Better intersections included: 10 m @ 17.5% Mn, including 2 m @ 26.7% Mn; 3 m @ 21.2% Mn; 3 m @ 19.8% Mn; and 5 m @ 19.2% Mn.

Western Australia

Montezuma Mining Company Ltd reported drilling at *Butcherbird East* including: 19 m @ 11.89% Mn from 2 m; 22 m @ 12.28% Mn from surface; and 10 m @ 14.61% Mn from surface. The company reported that drilling at Butcherbird West included: 16 m @ 12.50% Mn from surface; 15 m @ 11.61% Mn from surface; and 24 m @ 9.38% Mn from surface.

Zinc Co announced the discovery of stratabound manganese mineralisation at the **Lockeridge** Prospect in the Earahedy Basin. Initial drilling at Lockeridge intersected manganese mineralisation over 1.6 km of strike. Intersections include: 12 m @ 11.1% Mn, 6.3% Fe, 31.5% SiO₂, 0.2% P from 28 m; 3 m @ 18% Mn, 6.6% Fe, 26.6% SiO₂, 0.2% P from 37 m; and 3 m @ 13% Mn, 7.5% Fe, 32.4% SiO₂, 0.2% P from 14 m.

Spitfire Resources Ltd reported the discovery of near-surface manganese mineralisation at its **South Woodie Woodie** Project. The discovery, named 'Contact', is 10 km northwest of the Company's Tally-Ho prospect. Drill results included: 17 m @ 16.81% Mn from 13 m, including 4 m @ 21.98% Mn; 4 m @ 10.23% Mn from 22 m; and 5 m @ 19.02% Mn from 2 m depth, including 1 m @ 31.3% Mn.

Jupiter Mines Ltd announced encouraging exploration results from drilling at its **Oakover** Manganese Project, with assays of up to 49.6% Mn from shallow depths. The drill program returned significant intersections including: 2 m @ 35.35% Mn from 17 m; 4 m @ 31.21% Mn from 33 m, including 1 m @ 49.60%; and 4 m @ 26.89% Mn from surface.

MINERAL SANDS

Victoria

Astron Ltd announced a Probable Ore Reserve estimate for the **Donald** Project, 50 km northeast of Horsham, of 305 Mt @ 6.4% heavy minerals with the heavy mineral suite composed of 32% ilmenite, 19% leucoxene, 4.4% rutile and 19% zircon.

South Australia

Red Metal Ltd and Bemax Resources Limited reported an Inferred Resource for the **Barton** deposit located 120 km southeast of Maralinga. The reported Inferred Resource is 285.4 Mt @ 1.94% heavy minerals. Contained heavy minerals in the resource are estimated to be 46.8% ilmenite (2.6 Mt), 8.3% zircon (459 551 t), 2.6% leucoxene (140 000 t) and 2.2% rutile (120 000 t).

Iluka Resources Ltd announced an Inferred Resource for the **Typhoon** deposit, 200 km northwest of Ceduna, and 4 km southeast of Iluka's Jacinth-Ambrosia mine. The resource was estimated at 22 Mt @ 6.1% heavy minerals for a contained

1.34 Mt of heavy minerals. The deposit has a combined ilmenite and leucoxene content of 76%, a zircon content of 14%, and 1% rutile.

Western Australia

Diatreme Resources Ltd's Cyclone deposit is located in the Wanna Lakes area of the Eucla Basin, 25 km from the South Australian border. The company reported that the total resource for Cyclone is 132.1 Mt @ 2.33% heavy minerals for a contained 3.08 Mt of heavy minerals. Cyclone is a zircon-rich deposit with zircon accounting for 32.4% of the contained heavy minerals.

Image Resources NL reported an initial resource for its **Cyclone Extended** deposit, which abuts the Diatreme Resources' Cyclone deposit. The total resource is 86.3 Mt @ 1.9% heavy minerals for a contained 1.64 Mt of heavy minerals. This heavy mineral suite includes 345 000 t of zircon and 395 700 t of altered ilmenite.

Image Resources NL reported further high-grade heavy mineral sand intersections at a new zone at **Gingin**, 63 km north of Perth in the North Perth Basin. Significant intersections include: 8 m @ 21.2% heavy minerals; 5 m @ 20.3% heavy minerals; and 4 m @ 20.1% heavy minerals.

NICKEL

New South Wales

Augur Resources Ltd reported results from drilling at the **Homeville** nickel-cobalt deposit, 130 km east-southeast of Cobar. Drilling returned encouraging intersections including: 60 m @ 1.53% Ni, 1009ppm Co, including 16 m @ 2.33% Ni, 57 m @ 1.59% Ni, 394ppm Co, including 12 m @ 2.43% Ni; and 44 m @ 1.08% Ni and 814ppm Co.

Queensland

Metallica Minerals Ltd announced an updated resource estimate for the **Greenvale** project with a combined Measured, Indicated and Inferred Resource of 8 Mt @ 1.04% Ni, 0.08% Co containing 83 000 t of Ni and 3800 t Co. At Lucknow the company announced a Measured, Indicated and Inferred Resource of

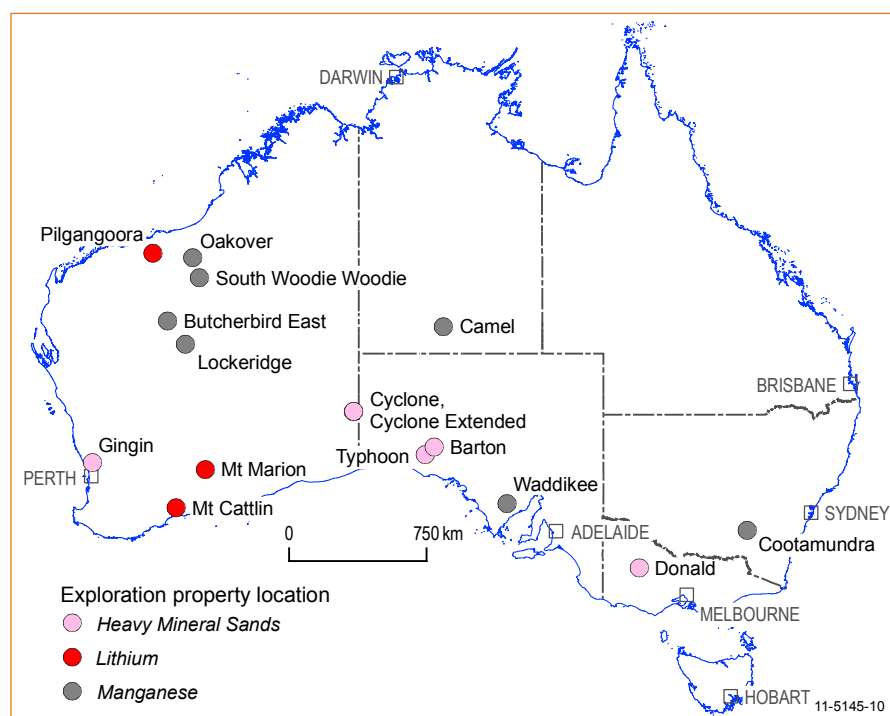


Figure 5: Selected mineral sand, lithium and manganese exploration projects 2010.

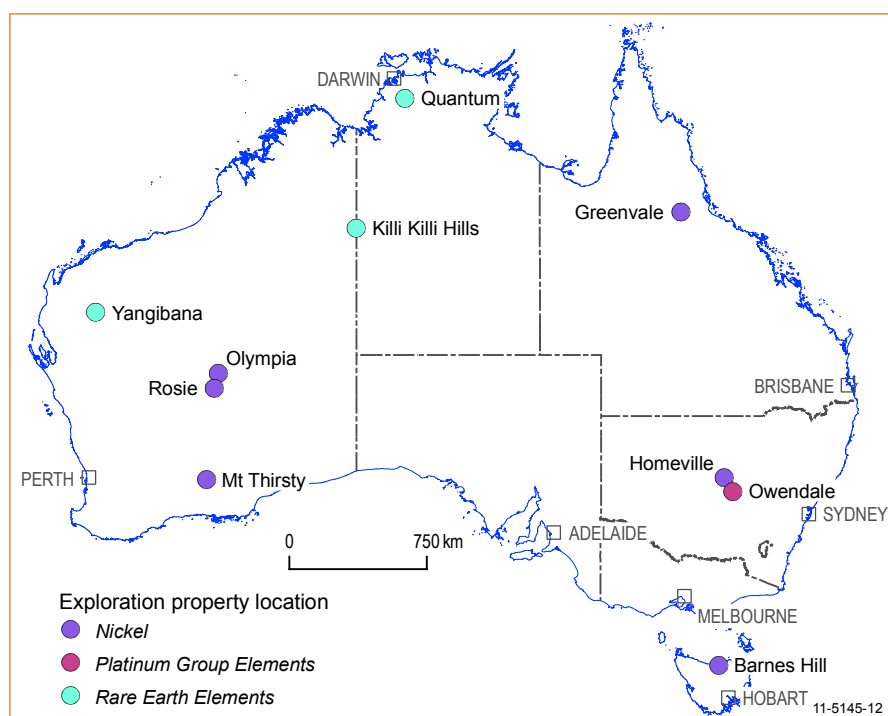


Figure 6: Selected nickel, platinum group elements and rare earth elements exploration projects 2010.

2.42 Mt @ 0.57% Ni, 0.20% Co and 97g/t Sc, and a Measured, Indicated and Inferred scandium resource of 6.24 Mt @ 169g/t Sc. Drilling yielded encouraging intersections including: 23 m @ 310g/t Sc; 14 m @ 326g/t Sc; 16 m @ 265g/t Sc; and 11 m @ 2% Ni and 0.17% Co.

Tasmania

Proto Resources & Investments Ltd reported drill intersections from the **Barnes Hill** project 3 km west-southwest of Beaconsfield. Included in results were: 16 m @ 1.4% Ni, 0.048% Co; 13 m @ 1.5% Ni, 0.092% Co; and 6 m @ 1.3% Ni and 0.04% Co. The company released a resource estimate for the Barnes Hill deposit of 6.6 Mt @ 0.82% Ni and 0.06% Co and a reserve estimate of 4 Mt @ 0.84% Ni and 0.06% Co.

Western Australia

South Boulder Mines Ltd and **Independence Group NL** announced that drilling at **Rosie**, 135 km north of Laverton, intersected massive, matrix and disseminated mineralisation. Intersections reported include: 3.59 m @ 2.27% Ni, 0.24% Cu, 3.10g/t Pt+Pd, including 0.76 m @ 4.98% Ni, 0.25% Cu, 6.98g/t Pt+Pd; 5 m @ 2.04% Ni, 0.61% Cu, 0.06% Co and 1.09g/t PGEs, including 3.83 m @ 2.48% Ni, 0.75% Cu, 0.07% Co and 1.21g/t PGEs and a higher-grade interval of 1.20 m @ 4.73% Ni, 1.10% Cu, 0.15% Co and 2.99g/t PGEs.

The Mt Thirsty joint venturers, **Fission Energy Ltd** and **Barra Resources Ltd** announced the intersection of primary nickel sulphide mineralisation in a hole into the footwall basalt contact west of the **Mt Thirsty** cobalt-nickel-manganese oxide deposit located 20 km north-northwest of Norseman. The hole returned 6 m @ 3.40% Ni, including 2 m @ 6.75% Ni. Other intersections reported included 2 m @ 5.9% Ni, which included 1 m @ 8.1% Ni; and 1 m @ 3.95% Ni.

Falcon Minerals Ltd announced the results of drilling at the **Olympia** Prospect in the Collurabbie Project, 190 km north of Laverton, where intersections reported included: 2.74 m @ 2.03% Ni, 1.06% Cu, 2g/t Pt+Pd, including 0.84 m @ 3.18% Ni, 0.97% Cu and 2.57g/t Pt+Pd; and 3.74 m @ 1.47% Ni, 1.59% Cu, 4.43g/t Pt+Pd, including 1.42 m @ 2.72% Ni, 2.13% Cu, 7.49g/t Pt+Pd.

PLATINUM GROUP ELEMENTS

New South Wales

Platina Resources Ltd announced assay results from Owendale Project. A 16 m-thick poly-metallic mineralised zone was intersected at 12 m drilled depth and returned grades of 479g/t Sc, 0.5g/t Pt, 0.1% Ni, 0.1% Co and 0.4% Cr. The scandium intersection was up to 915g/t Sc over a 1 m interval. An earlier hole intersected 17 m @ 405g/t Sc, 0.3g/t Pt, 0.2% Ni and 0.2% Co. A 1 m intercept of platinum mineralisation in a primary pyroxenitic rock returned 9.3g/t Pt from 314 m drilled depth and a second intersection gave 2 m @ 1.2g/t Pt.

RARE EARTH ELEMENTS

Northern Territory

Territory Uranium Company Ltd reported that drilling at the **Quantum** prospect, 115 km east-southeast of Darwin, intersected a 5–12 m-thick uranium-rare earth-gold mineralised zone. Drill intersections of rare earth element (REE) mineralisation included: 5 m @ 1.09% REE (excluding cerium and lanthanum); 33 m @ 1.76% Total Rare Earth Elements (TREE) includes a high-grade zone of 6 m @ 6.55% TREE; 2.3 m @ 2.75% Total Rare Earth Oxides (TREO); and 50 m @ 1.55% TREO. REOs were calculated by summing the values for Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tb, Tm, Yb, and Y.

Western Australia

Orion Metals Ltd reported encouraging rock chip sampling on its **Killi Killi Hills** tenements 200 km southeast of Halls Creek. 20 samples contained significant levels of Heavy Rare Earth Elements (HREE) including dysprosium, ytterbium, and erbium associated with significant levels of other REE. Drilling returned intersections including: 6 m @ 36.4% HREE; 5 m @ 41.4% HREE; and 5 m @ 31.6% HREE.

Artemis Resources Ltd announced that a soil auger program at the **Yangibana** Rare Earth Project, 285 km east-southeast of Carnarvon, returned anomalous rare earth values. Yangibana

North Prospect, returned anomalous near-surface levels of cerium (to 3883ppm), lanthanum (to 1727ppm), neodymium (to 1585ppm), praseodymium (to 490ppm), gadolinium (to 100ppm) and occasional samarium (to 212ppm).

TIN

Queensland

Consolidated Tin Mines Ltd reported assays from a drilling program at the **Windermere** project near Cairns. Intersections reported included 11 m @ 1.22% Sn, 46.7% Fe; 3 m @ 0.60% Sn, 33.2% Fe; and 6 m @ 0.35% Sn, 44.1% Fe. The Windermere Project has an Inferred Resource of 2.1 Mt @ 0.55% Sn.

Tasmania

Metals X Ltd reported that drilling at the **Renison** Mine, 8 km west-southwest of Rosebery, outside the existing resource returned high-grade tin intersections. Encouraging intersections from Area 4 included: 14 m @ 8.11% Sn, 0.14% Cu; 14.3 m @ 4.80% Sn, 0.24% Cu; and 8.78 m @ 6.10% Sn. Subsequently discovery of a new ore lode referred to as the Mawson Lode was reported. Drill intersections included: 20.24 m @ 2.39% Sn, 0.28% Cu; 2.04 m @ 2.27% Sn; and 15.51 m @ 1.78% Sn, 0.28% Cu.

URANIUM

Northern Territory

Energy Metals Ltd announced results from its **Camel Flat** prospect 33 km south of the Bigryli uranium deposit. Results included 27 m @ 4058ppm eU₃O₈ including 9.80 m @ 10 567ppm eU₃O₈. Subsequently the company announced a further intersection of 2.55 m @ 3022ppm eU₃O₈.

NuPower Resources Ltd reported high-grade uranium-gold assays from the **Eva** Prospect. Intersections reported include: 16 m @ 13 800ppm U₃O₈ and 8.53g/t Au from surface and 7 m @ 4600ppm U₃O₈, 3.77g/t Au from 19 m; and 12 m @ 5900ppm U₃O₈, 13.39g/t Au from surface including 2 m @ 22 200ppm U₃O₈, 10.24g/t Au from 1 m.

Territory Uranium Company Ltd

reported significant uranium intercepts from the newly discovered **Quantum** uranium prospect in the Pine Creek region. Intersections included 0.5 m @ 4244ppm U₃O₈ from 497.5 m; 0.7 m @ 829ppm U₃O₈ from 405.7 m; and 1.2 m @ 600ppm U₃O₈ from 279.1 m.

Thundelarra Exploration Ltd

reported assays for drilling at its **Thunderball** prospect, 140 km southeast of Darwin. Significant intersections are: 7.85 m @ 5901ppm U₃O₈, including 1 m @ 2.5% U₃O₈; 15 m @ 8633ppm U₃O₈, including 9 m @ 1.4% U₃O₈; and 3 m @ 6592ppm U₃O₈, including 1 m @ 1.3% U₃O₈.

Queensland

Summit Resources Ltd, manager of the Isa Uranium Joint Venture, announced a new mineral resource estimate for the **Valhalla** deposit, 40 km north-northwest of Mount Isa. The estimate covers the main Valhalla deposit as well as the southeastern extension, Valhalla South. The updated resource estimate for Valhalla is, at a cut-off grade of 230ppm U₃O₈: Measured and Indicated resources of 34.66 Mt @ 830ppm U₃O₈ for a contained 28 776 t U₃O₈; and an Inferred Resource of 9.1 Mt @ 643ppm U₃O₈ for a contained 5824 t U₃O₈.

U₃O₈ Ltd announced results from the first reverse circulation drilling programme on the **Ardmore** project, 90 km south of Mt Isa. The company followed up radiometric anomalies with rock chip sampling which returned results of up to 0.54% U₃O₈ and 0.43% V₂O₅. Drill intersections included: 3 m @ 702ppm U₃O₈, 1660ppm V₂O₅, including 1 m @ 1580ppm U₃O₈, 2517ppm V₂O₅; 1 m @ 1627ppm U₃O₈, 1707ppm V₂O₅; 5 m @ 708ppm U₃O₈, 680ppm V₂O₅, including 2 m @ 1421ppm U₃O₈, 1071ppm V₂O₅; and 1 m @ 1545ppm U₃O₈, 1612ppm V₂O₅.

South Australia

UraniumSA Ltd reported the results of drilling at its **Blackbush** Prospect south of Whyalla, with intersections including: 13.80 m @ 1392ppm eU₃O₈⁵, including 12.60 m @ 1470ppm eU₃O₈; 2.57 m

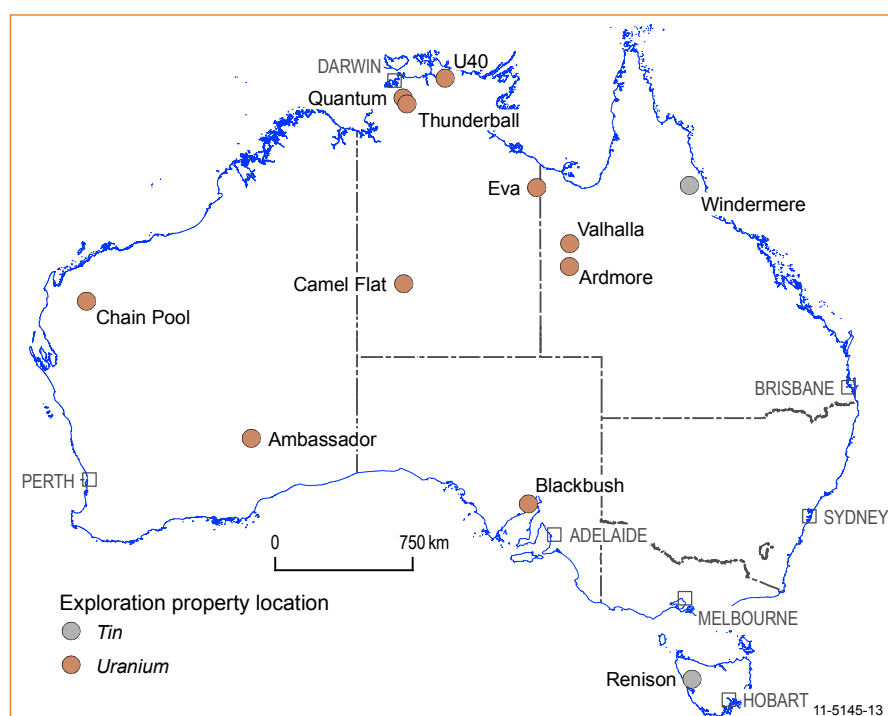


Figure 7: Selected tin and uranium exploration projects 2010.

⁵ e = gamma radiation logging system

@ 3950ppm pU₃O₈⁶, including 0.87 m @ 5170ppm pU₃O₈; 9.70 m @ 1357ppm pU₃O₈, including 4.63 m @ 1520ppm pU₃O₈; and 2.12 m @ 2360ppm pU₃O₈. The company reported an Inferred Resource of 45.5 Mt @ 280ppm eU₃O₈ containing 12 700 t of U₃O₈.

Western Australia

Energy and Minerals Australia Ltd announced encouraging results from drilling at the **Ambassador** deposit at Mulga Rock, 240 km northeast of Kalgoorlie. Included in the intersections reported were: 10.4 m @ 1703ppm U₃O₈; 5.2 m @ 2093ppm U₃O₈; and 3.5 m @ 1989ppm U₃O₈. The company announced an increased mineral resource estimate for Ambassador to 27.6 Mt @ 469ppm U₃O₈ for a contained 12 900 t U₃O₈.

⁶ p = prompt fission neutron logging system

Raisama Ltd identified high-grade uranium mineralisation at surface in a previously unexplored region at its **Chain Pool** project, 220 km southeast of Exmouth, in the Gascoyne region. Results from 13 rock chip samples included 1014ppm (0.101%) U₃O₈, 658ppm (0.066%) U₃O₈, 645ppm (0.064%) U₃O₈, 644ppm (0.064%) U₃O₈ and 512ppm (0.051%) U₃O₈.

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