

# AUSTRALIA MINERALS

REALISE THE OPPORTUNITY

## **Australia – a land of opportunities**

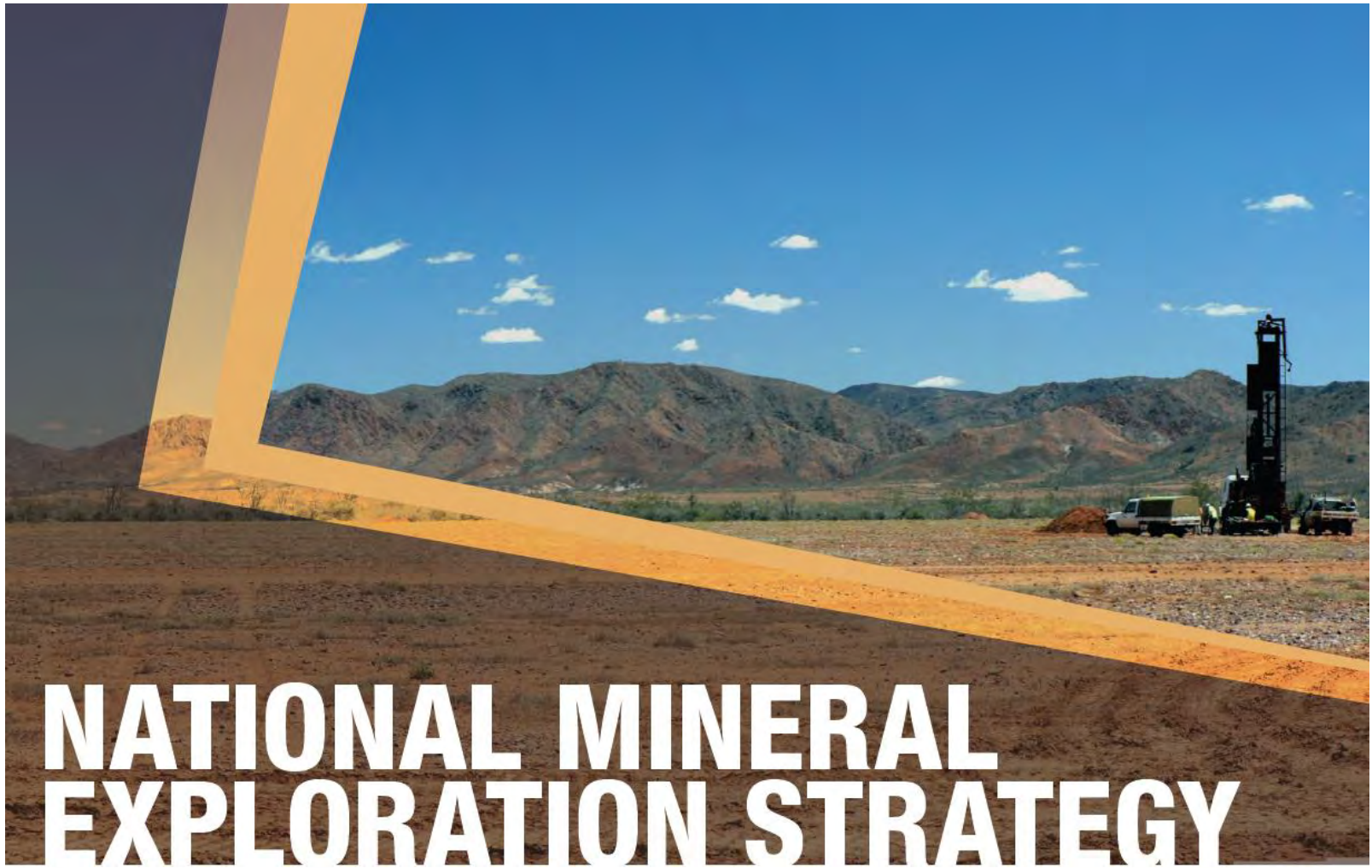
Dr James Johnson  
Deputy CEO, Chief Resources Division  
Geoscience Australia



# Federation Australia

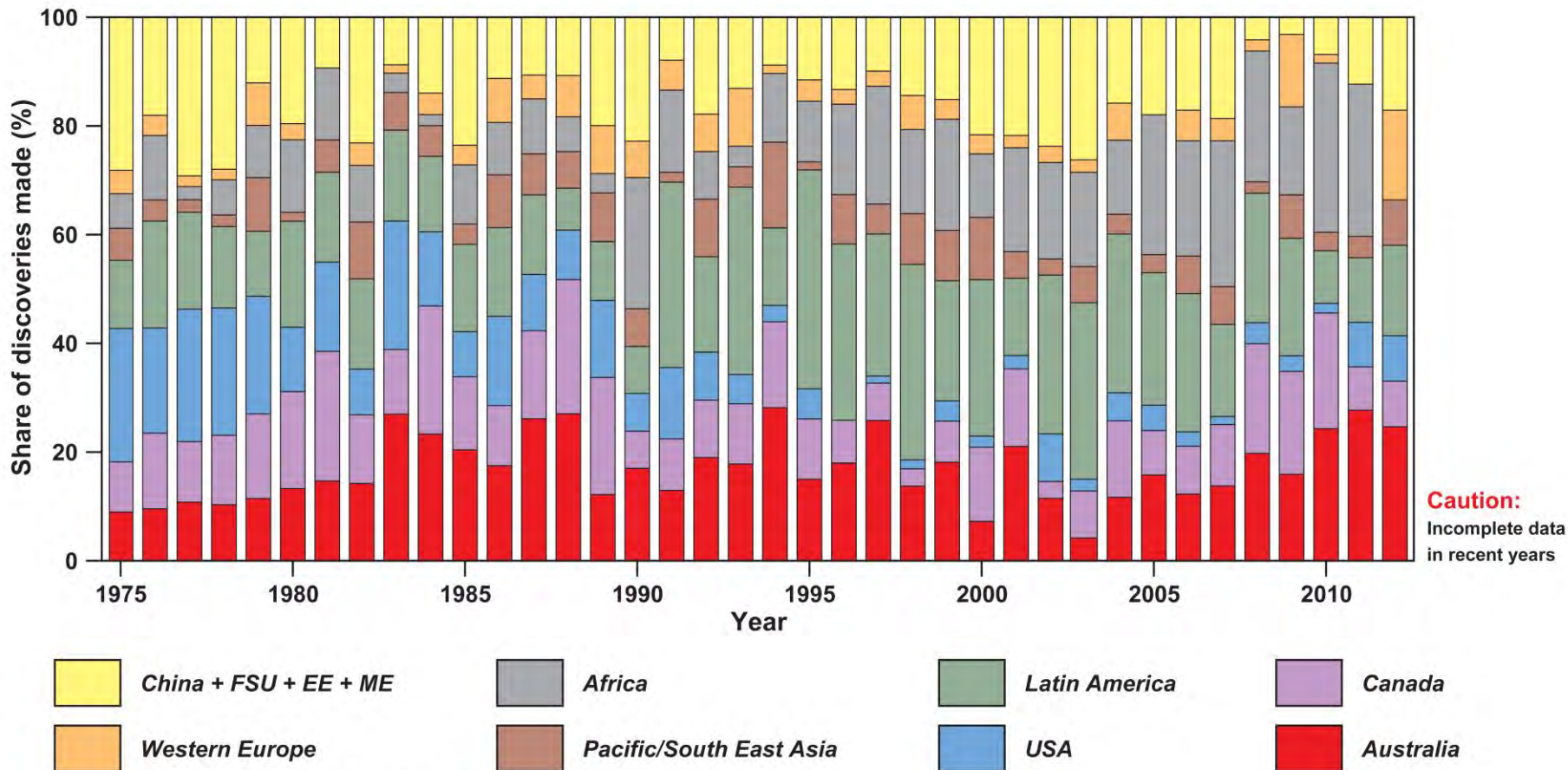


# Federation Australia



## NATIONAL MINERAL EXPLORATION STRATEGY

# Minerals potential



Source: Richard Schodde, MinEx Consulting, 2013


NOTE: Discoveries are for deposits >0.1 MozAu, >5 kt U<sub>3</sub>O<sub>8</sub>, >10 kt Ni, >0.1 Mt Cu-equiv  
Excludes satellite deposits within existing Camps  
Excludes bulk mineral discoveries


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# A wealth of resources

Hydrogen H																	Helium He
Lithium Li	Beryllium Be											Boron B	Carbon C	Nitrogen N	Oxygen O	Fluorine F	Neon Ne
Sodium Na	Magnesium Mg											Aluminium Al	Silicon Si	Phosphorus P	Sulfur S	Chlorine Cl	Argon Ar
Potassium K	Calcium Ca	Scandium Sc	Titanium Ti	Vanadium V	Chromium Cr	Manganese Mn	Iron Fe	Cobalt Co	Nickel Ni	Copper Cu	Zinc Zn	Gallium Ga	Germanium Ge	Arsenic As	Selenium Se	Bromine Br	Krypton Kr
Rubidium Rb	Strontium Sr	Yttrium Y	Zirconium Zr	Niobium Nb	Molybdenum Mo	Technetium Tc	Ruthenium Ru	Rhodium Rh	Palladium Pd	Silver Ag	Cadmium Cd	Indium In	Tin Sn	Antimony Sb	Tellurium Te	Iodine I	Xenon Xe
Caesium Cs	Barium Ba	*	Hafnium Hf	Tantalum Ta	Tungsten W	Rhenium Re	Osmium Os	Iridium Ir	Platinum Pt	Gold Au	Mercury Hg	Thallium Tl	Lead Pb	Bismuth Bi	Polonium Po	Astatine At	Radon Rn
Francium Fr	Radium Ra	**															
		*	Lanthanum La	Cerium Ce	Praseodymium Pr	Neodymium Nd	Promethium Pm	Samarium Sm	Europium Eu	Gadolinium Gd	Terbium Tb	Dysprosium Dy	Holmium Ho	Erbium Er	Thulium Tm	Ytterbium Yb	Lutetium Lu
		**	Actinium Ac	Thorium Th	Protactinium Pa	Uranium U											

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 Resources (demonstrated and inferred) and exploration

 Production, resources and exploration

 Exploration

 High criticality

# World ranked supplier

Commodity	World ranking	
	<i>Resources</i>	<i>Production</i>
Iron ore	1	1
Gold	1	2
Uranium	1	3
Copper	2	5
Zinc	1	2
Nickel	1	4
Coal (black)	5	4

Source: Geoscience Australia, USGS

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# Record of exploration success

2003-2012

Region	Exploration spend (2012 \$b)		Major discoveries		Estimated value (2012 \$b)		Value/spend
	Value	Share	Number	Share	Value	Share	
Australia	\$12	10%	14	17%	\$13	14%	1.12
Canada	\$21	18%	15	18%	\$15	16%	0.71
USA	\$9	8%	6	7%	\$5	6%	0.60
Latin America	\$27	23%	15	18%	\$23	24%	0.84
Pacific/South East Asia	\$6	5%	2	2%	\$4	4%	0.63
Africa	\$16	14%	20	24%	\$22	24%	1.38
Western Europe	\$3	3%	1	1%	\$1	2%	0.48
Rest of World	\$22	19%	11	13%	\$10	11%	0.46
Total	\$116	100%	86	100%	\$94	100%	0.81

NOTE:

Analysis excludes bulk materials, and excludes satellite deposits found within existing camps.

Discoveries refer to Moderate-, Major- and Giant- sized deposits.

The Estimated Value is approximate only and ignores the value of unreported discoveries

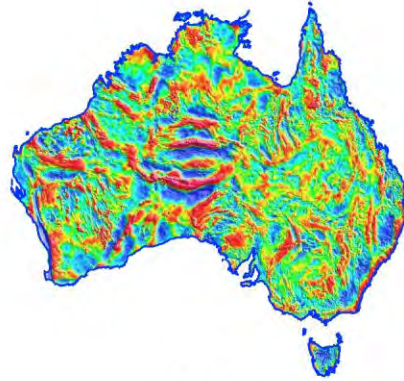
Source: Richard Schodde, MinEx Consulting, 2013

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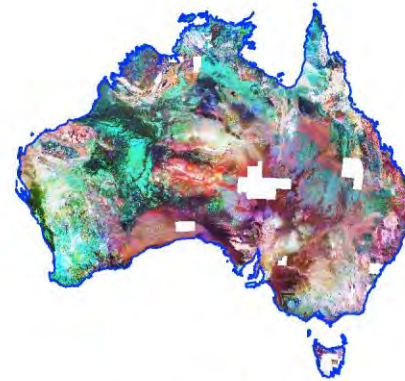
# Unrivalled information



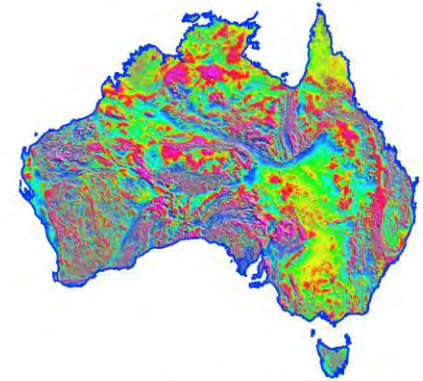
1:1M Surface Geology



Gravity



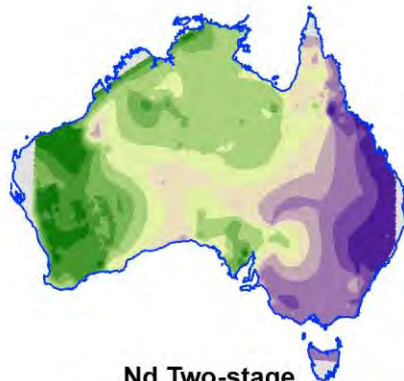
Radiometrics



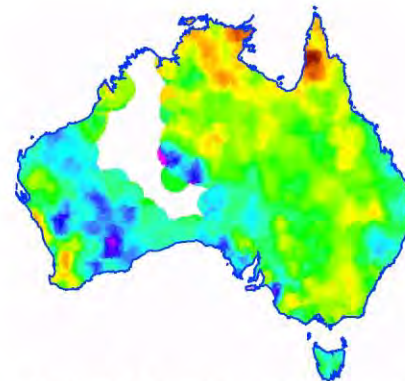
Magnetics



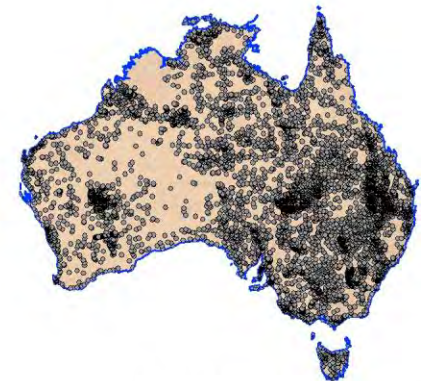
Onshore Seismic Lines



Nd Two-stage  
Depleted Mantle Model



National Geochemical Survey



Bore holes

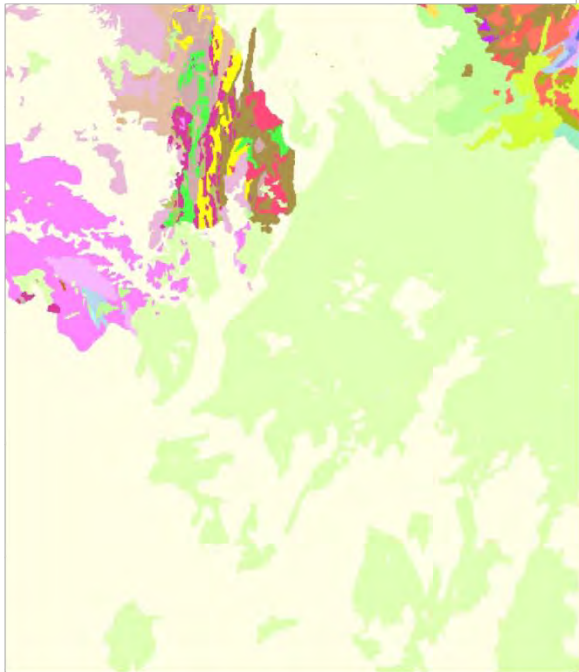
Data from Geoscience Australia and State/NT geological surveys

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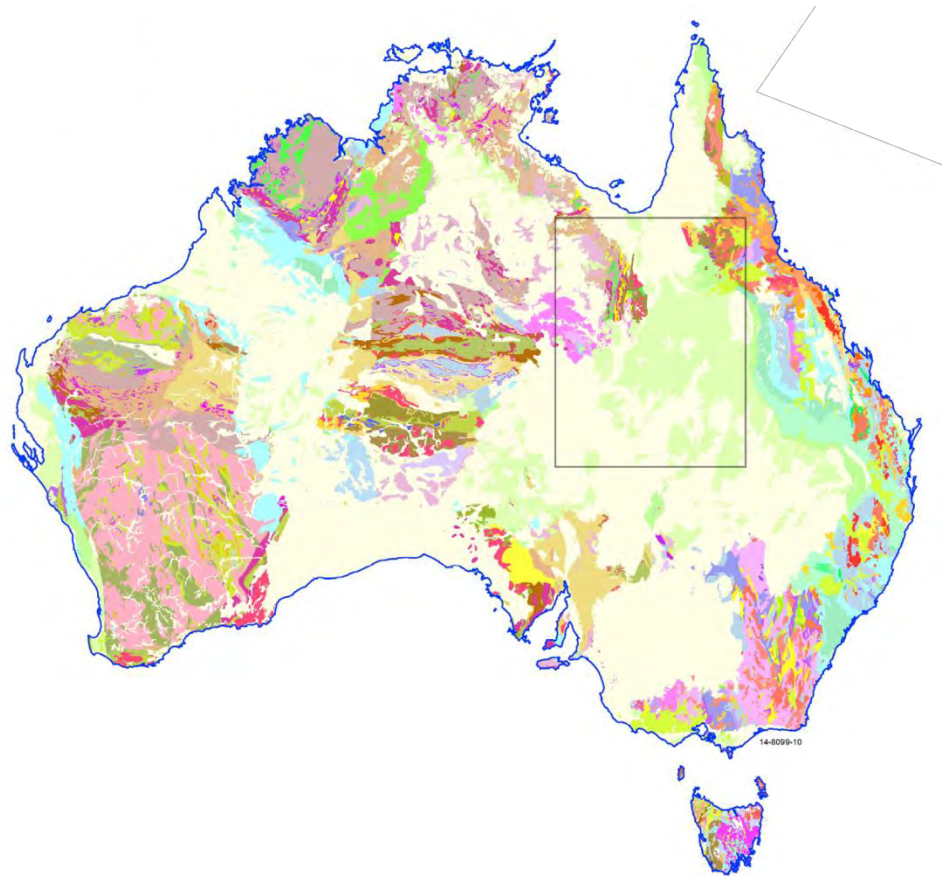


# World-class expertise

Seeing through cover

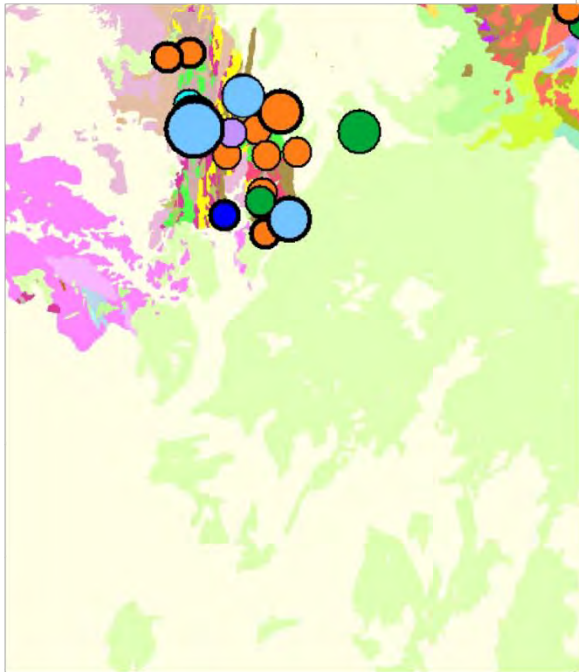


Surface geology 1:2.5 million

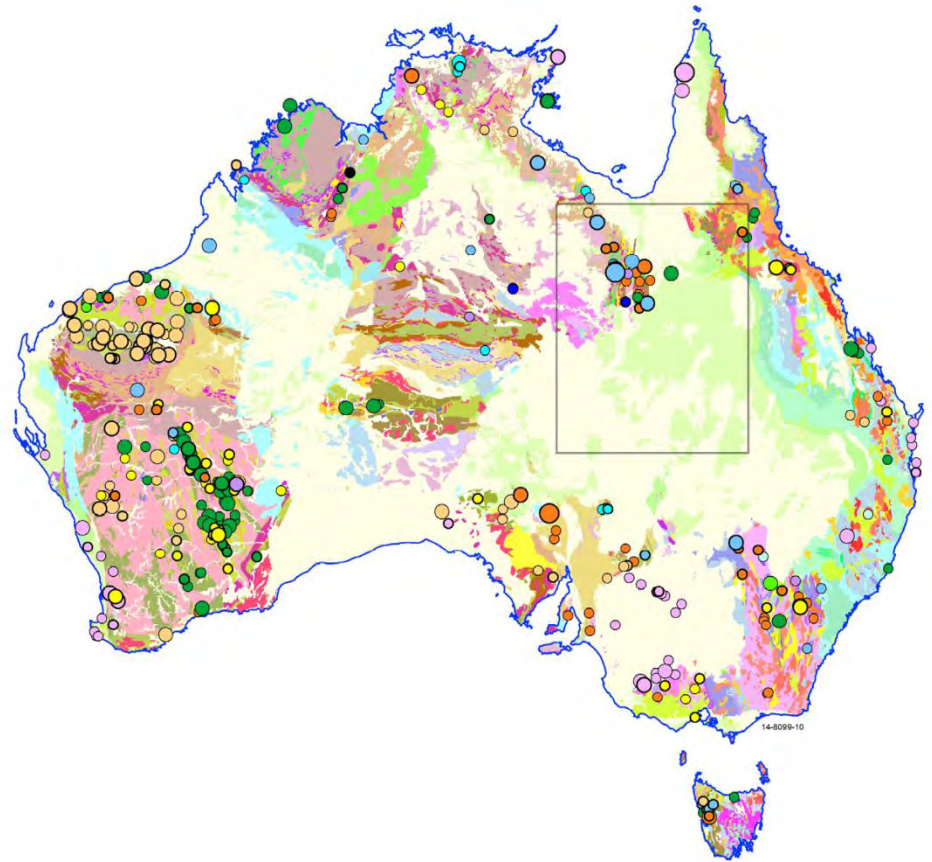


# World-class expertise

Seeing through cover



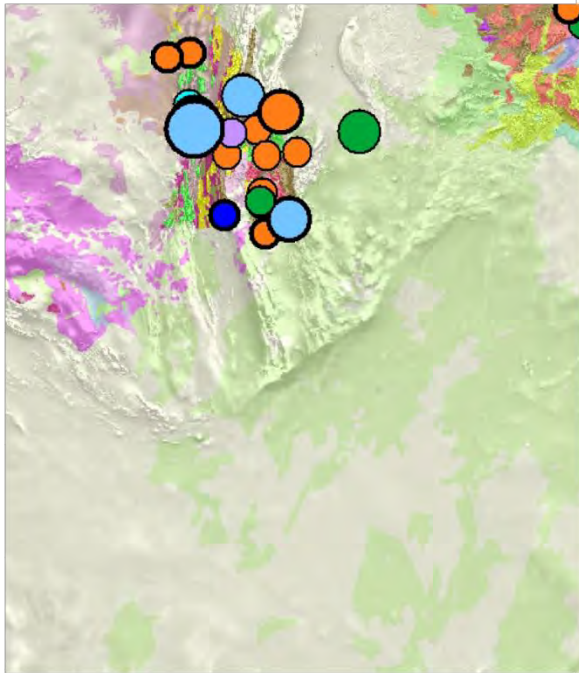
Major mineral deposits



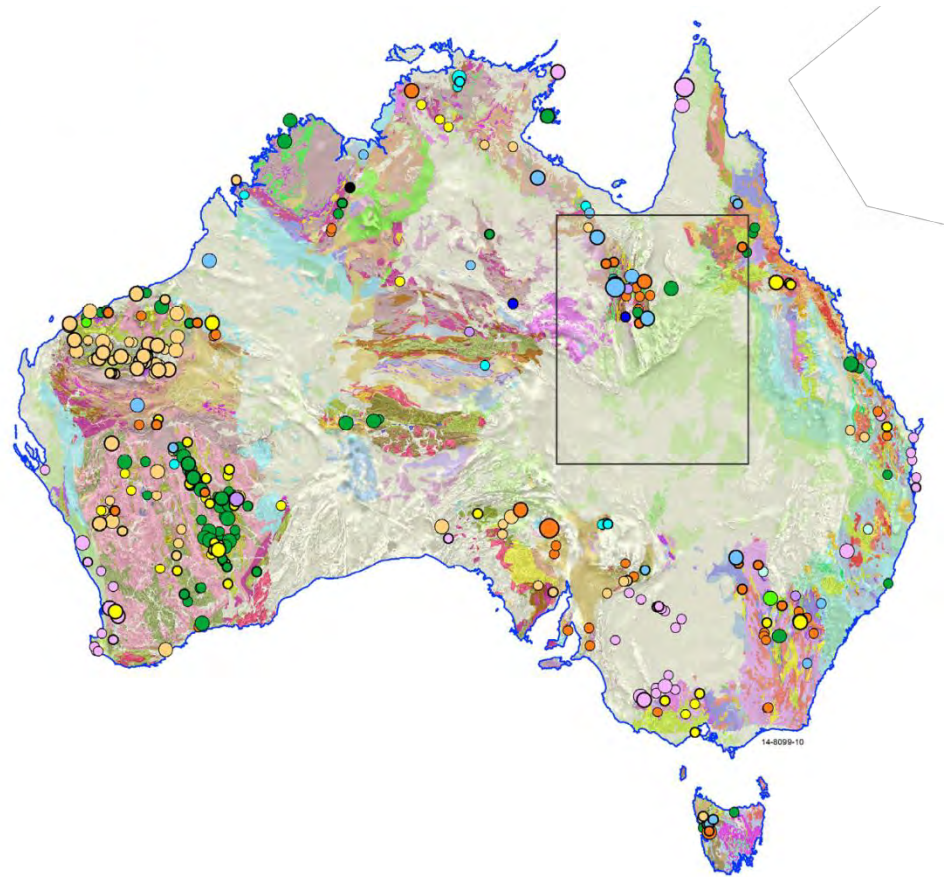
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# World-class expertise

## Seeing through cover

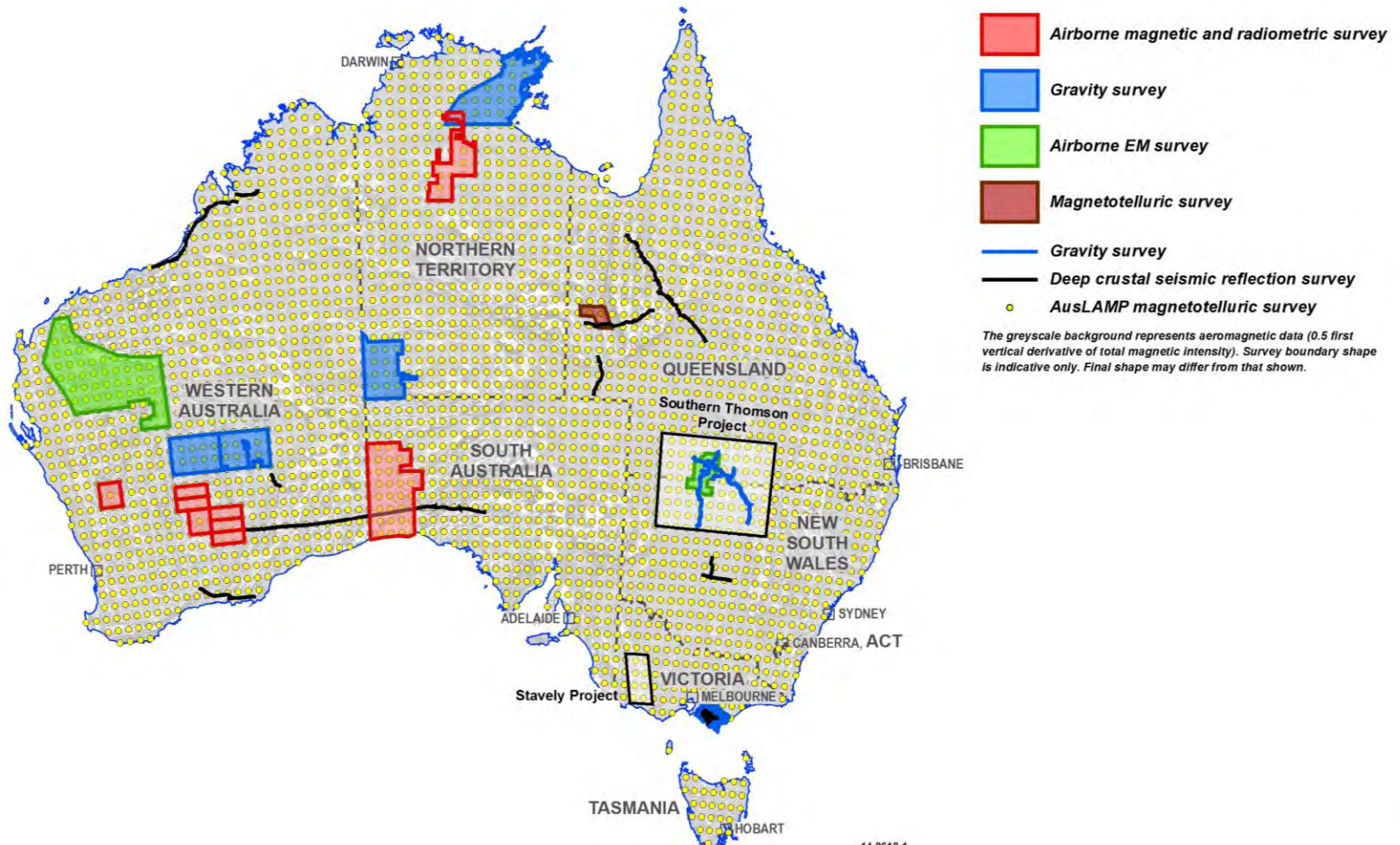


Aeromagnetics (0.5 vert. deriv.)



# Record of innovation

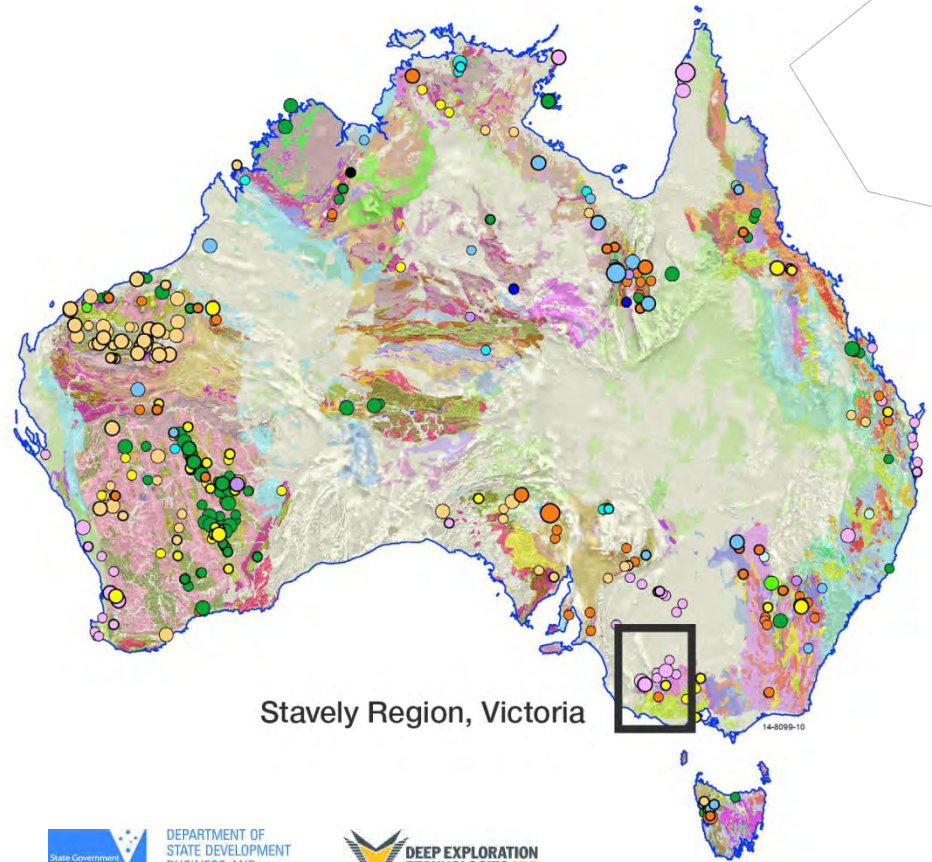
## Current survey program



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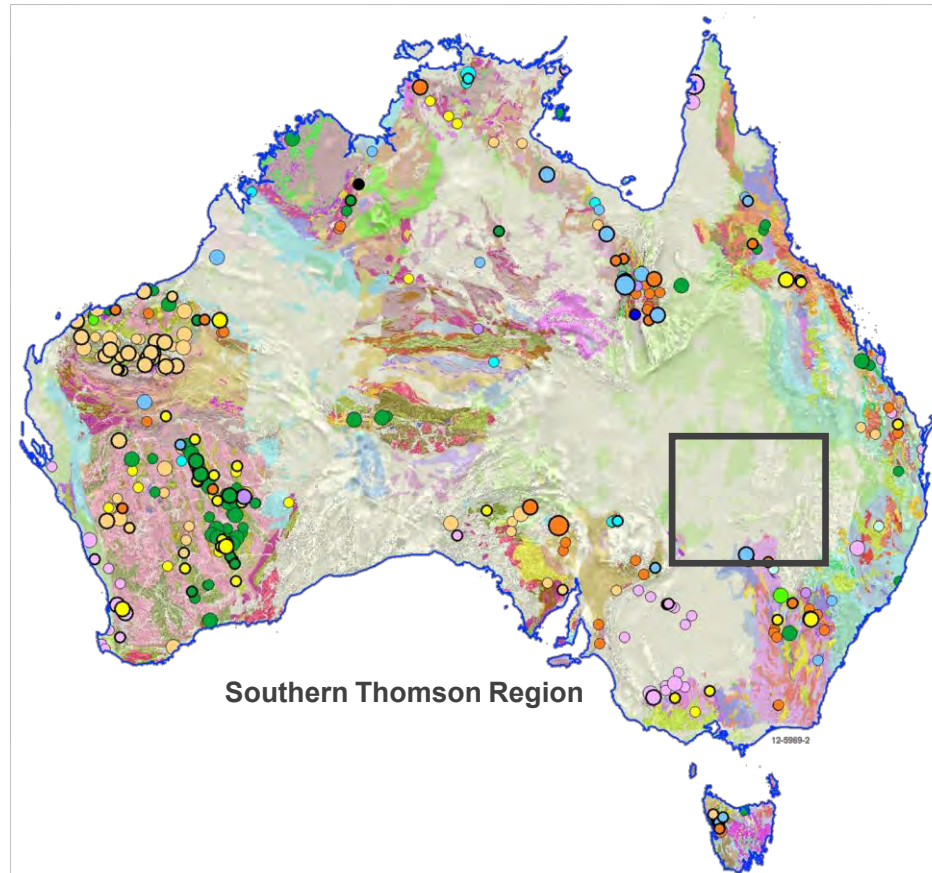
# Record of innovation

## UNCOVER – Stavely Project



# Record of innovation

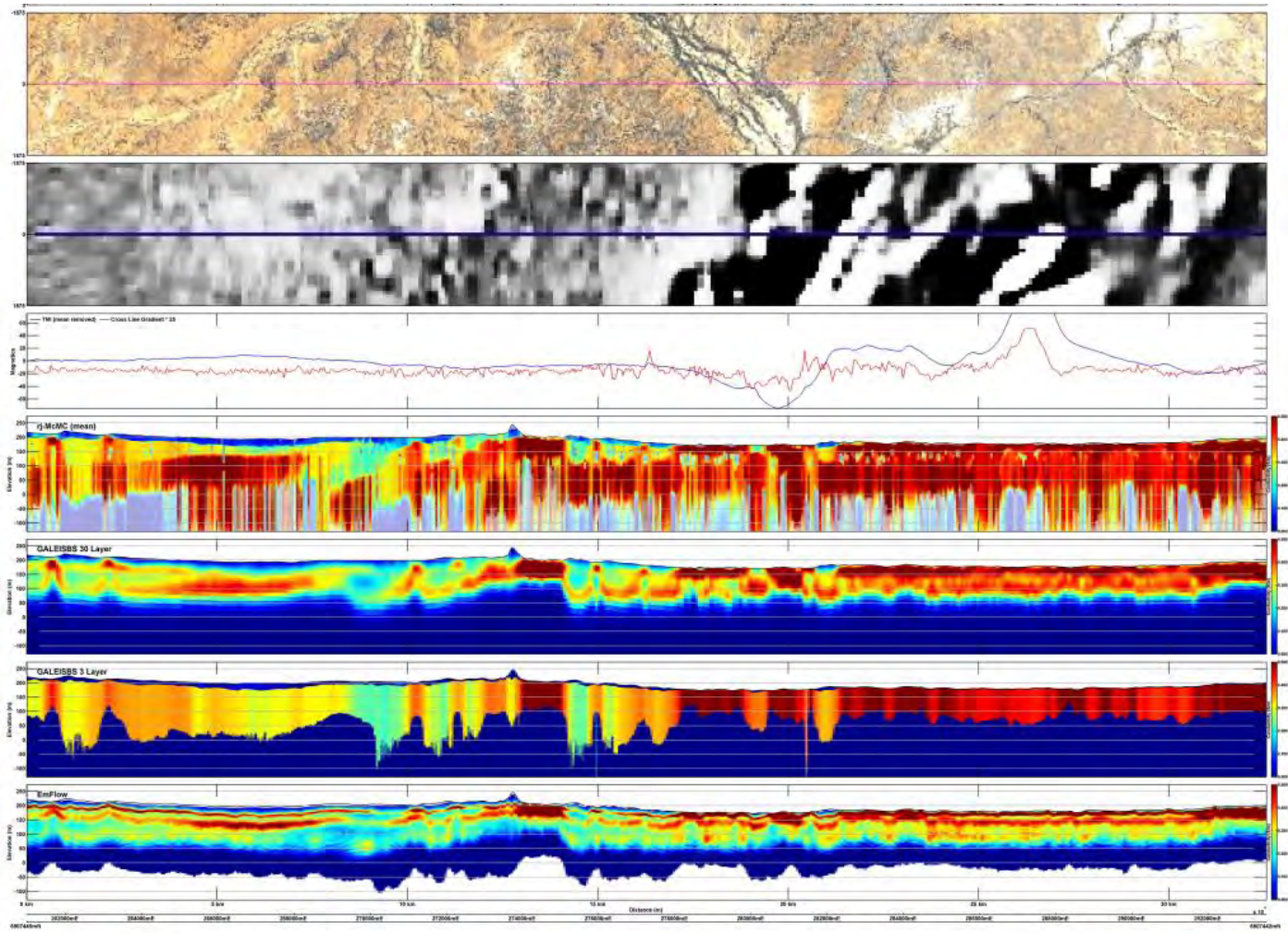
## UNCOVER – Supercomputing



# Record of innovation

## UNCOVER – Supercomputing

A  
B  
C  
D



# Confidence to invest in Australia



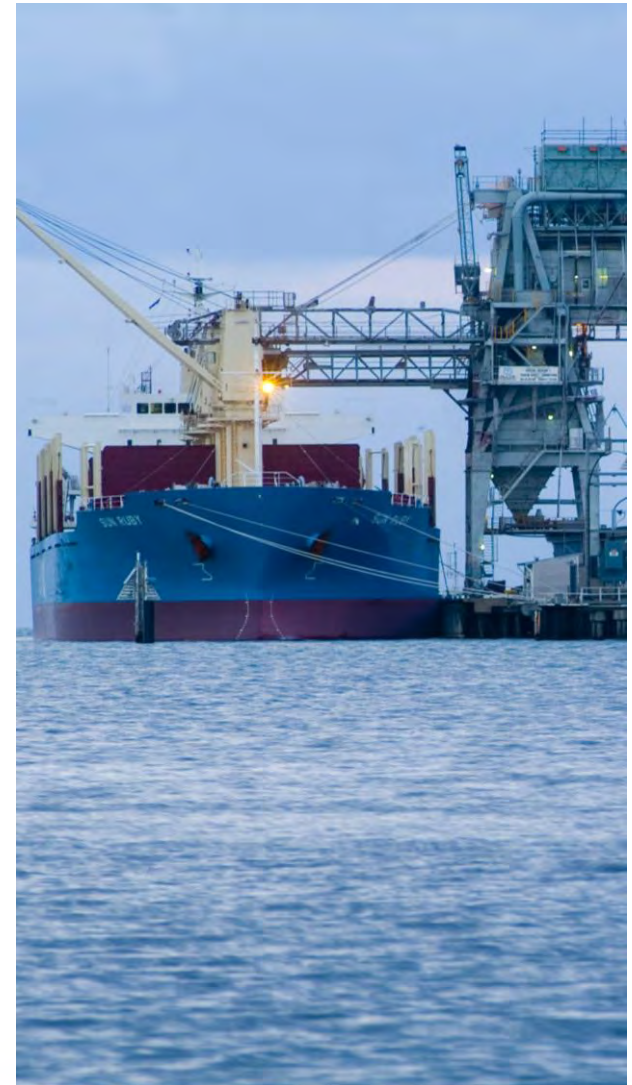
**Mineral  
potential**

**Exploration  
success**

**Unrivalled  
pre-competitive  
information**

**World-class  
expertise**

**Innovation**





# Confidence to invest in Australia



**Supportive governments**

**Streamlined processes**

**Legal protection**

**Skilled workforce**

**Established services sector**



# Australia – Realise the opportunity

For free national and regional geoscientific datasets visit:

[www.geoscience.gov.au/](http://www.geoscience.gov.au/)

