Drawing together some threads

• Look what we can do in areas of dense data coverage – great but that’s not where the problem is!
• All that work (regardless of the current trends in economics, commodities, exploration methods and scientific thinking) is fundamentally pattern recognition
• All that work requires data/sample (there is no data undercover, we need to get it). We need to drill to get a sample
• All that work requires a certain density of data in order to recognise the pattern. How often do we need to drill?
• Different density of data relevant to different questions
  ➢ Province selection (permissive terrane): Fundamental geodynamic questions
  ➢ Camp selection (mineral system): Reservoir delineation and fluid pathways
  ➢ Targeting (deposits): Prioritisation, ‘vectoring’ within systems
What draws the research community together?

- Geochronology and isotope chemistry – sample
- Mineral System footprints – sample
- Structural Geology – sample
- Lithospheric characterisation – sample
- Calibrating geophysics – sample
- Calibrating 3D models – sample

- NO RISK MITIGATION AND NO PROGRESS UNTIL WE SAMPLE
- NO SAMPLING UNTIL WE DRILL
The enduring value of the sample

- Provides research platform for all researchers (the sample is an essential part of the research infrastructure)
- Legacy – sample survives as trends come and go, available to future researchers and explorers
- Provides data levelling tool (important for incorporation of inherited data sets)
- Not just mineral exploration – informs diverse land use options (energy, water, agriculture)
What density of sampling is required and who does the work?

- **Province scale** – to open up the search space, provide confidence for explorers to enter, precompetitive
  - Targeted (stratigraphic) drilling of density required to identify critical geology (~50km centres?)
  - Government (‘cause nobody else will)
- **Camp scale** – to map the mineral system from early in the exploration cycle
  - Targeted drilling of density required to map the fluid pathways (~2 – 10km centres?)
  - Companies and Government/Industry alliances
- **Target scale** – to prioritise and move toward ore
  - Targeted drilling to find ore grade horizons
  - Companies
Northern Australia
Area ~1.34 M sq km
Nodes ~535

Western Australia
Area ~0.43 M sq km
Nodes ~172

Southern Australia
Area ~1.04 M sq km
Nodes ~414
Data courtesy of Scott Halley, Minmap
The Challenge for UNCOVER

- Do we have the courage to ask for what is needed?
- A serious, long term deep sampling (drilling program) Thousands of holes!
- Linked to the Australian geoscience research powerhouse
- In the context of continent wide (calibrated) geophysics
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