

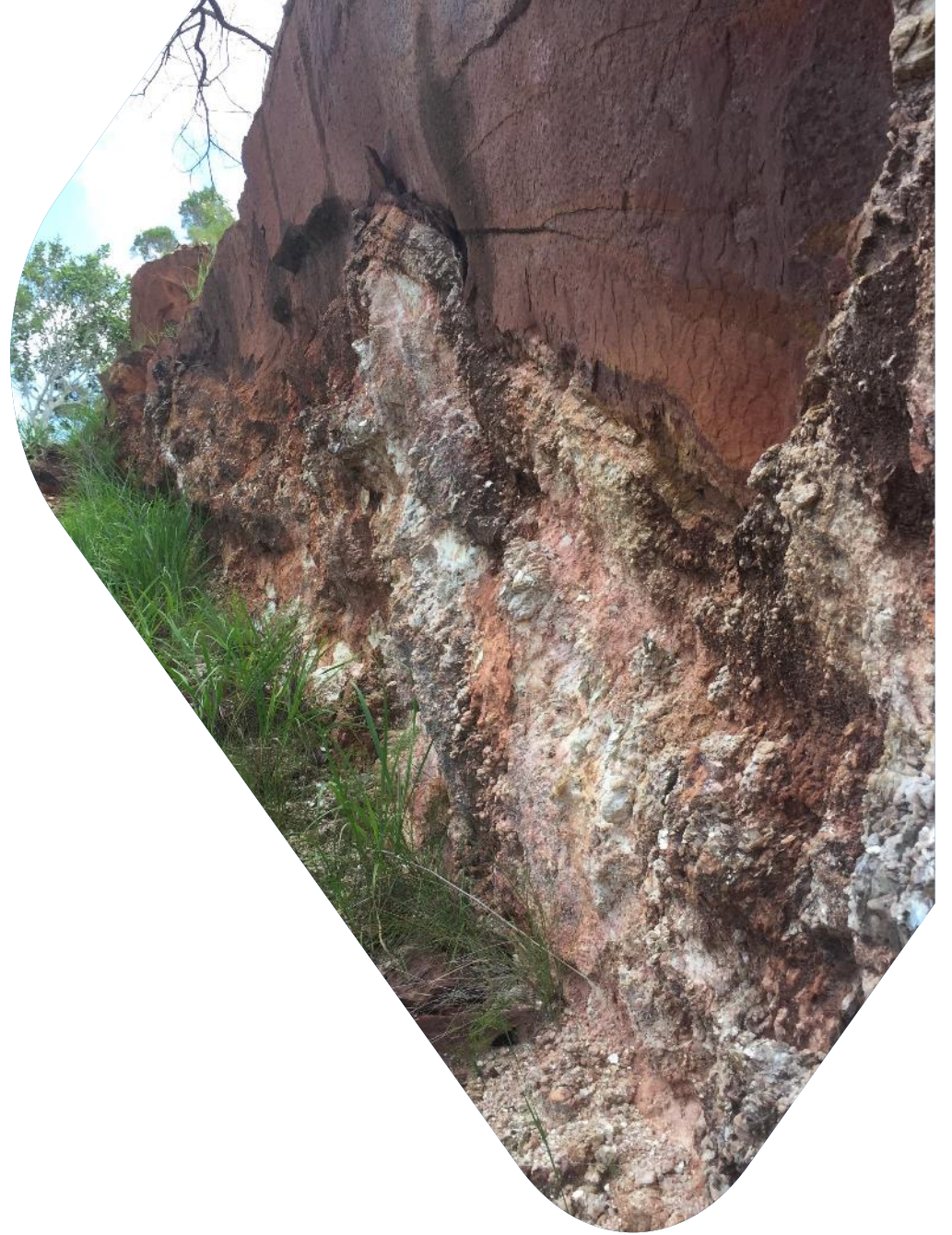


Application of Gravity to Finniss Lithium Project

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corelithium.com.au | ASX CXO



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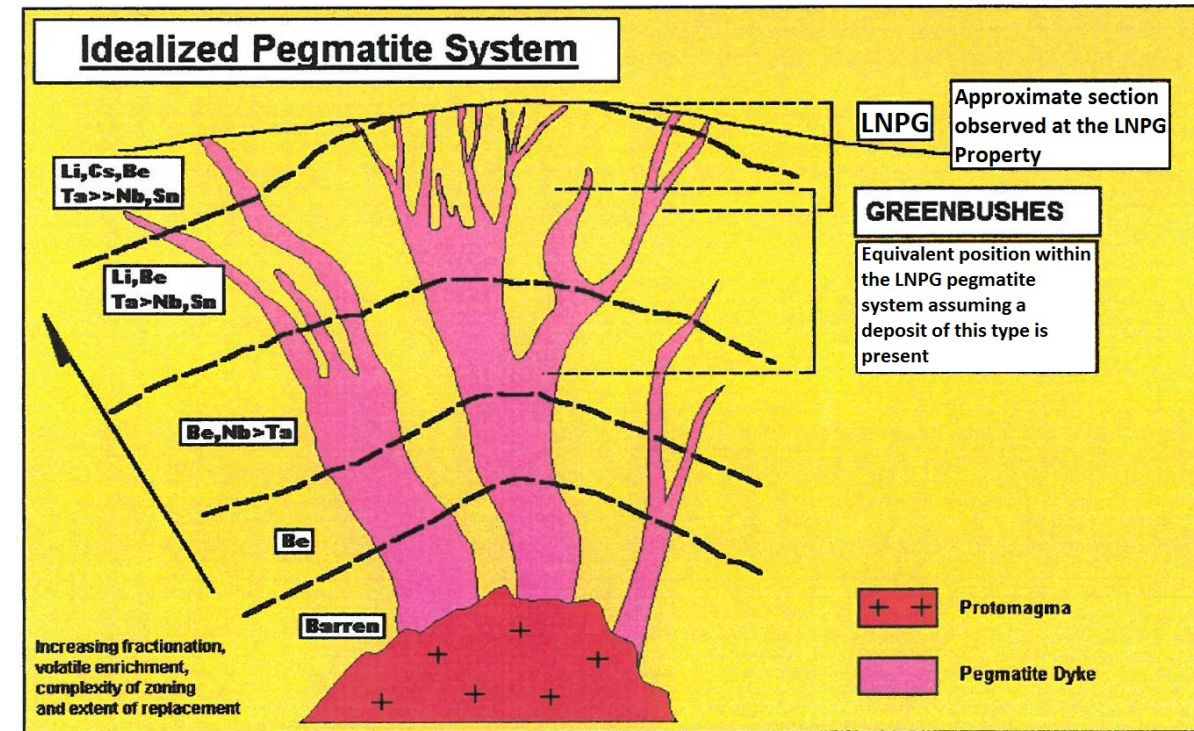
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There is a low level of geological confidence associated with the inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.

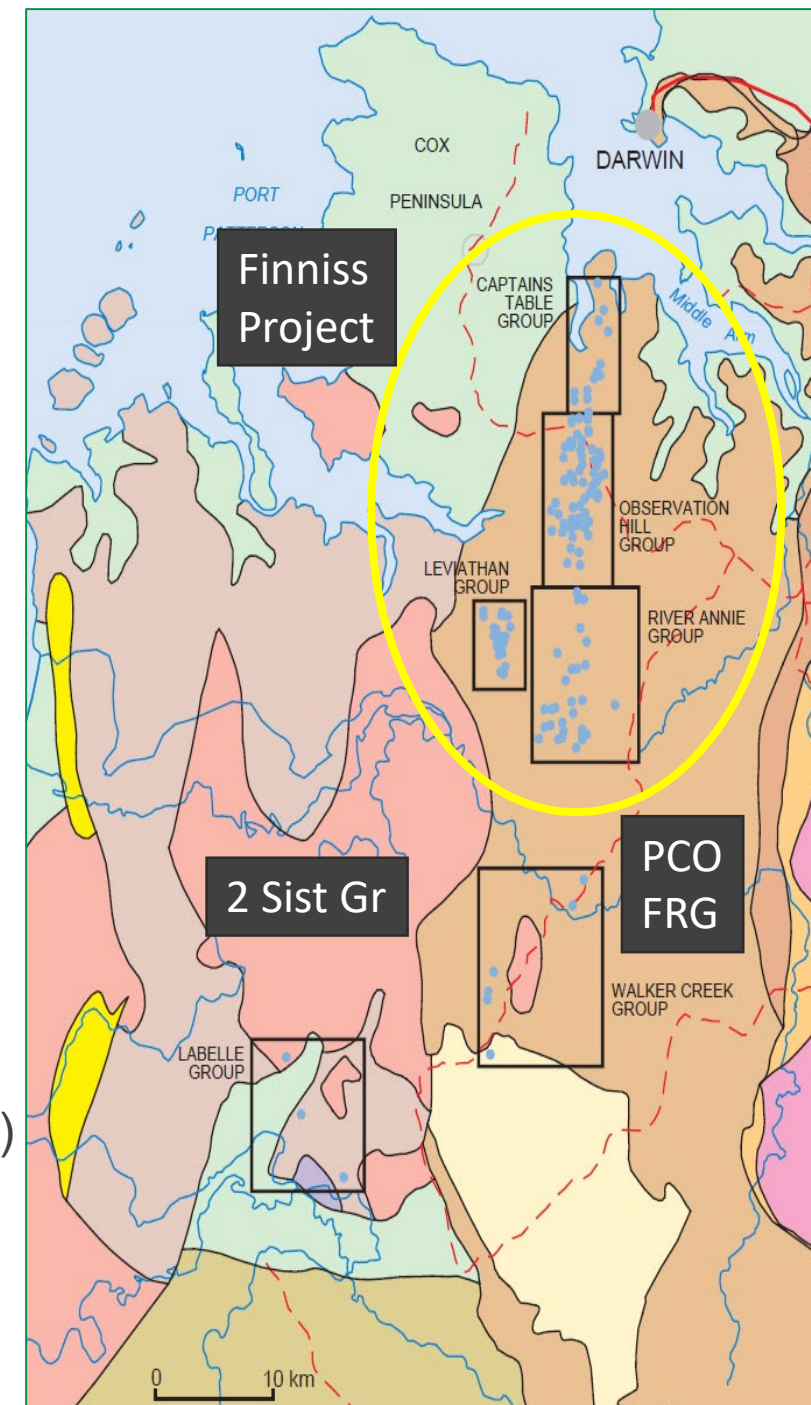
Background – Rare Element Pegmatite models

- Pegmatite: swarms of dykes, sills & lenses above source granite
- Granite source character for LCT pegmatites:
 - S-type Al-rich “LCT” granite (Li – Cs – Ta)
 - fractional crystallisation from residual melt that is highly enriched in incompatible elements, LILs and volatiles
- LCT pegmatite character:
 - chemically enriched by factors of 1000s in Li, Cs, Rb, Be, Sn, Ta and Nb
 - principle mineralogy: Na feldspar (albite), Li pyroxene (spodumene), K feldspar (microcline), quartz & muscovite
 - some regions (greenstones - WA) also contain lepidolite, petalite and other Li minerals
- Zonation of chemistry and mineralogy outward from granite due to declining temp and devolatilization
- “Sweet spot” for Lithium 3-4 km above granite



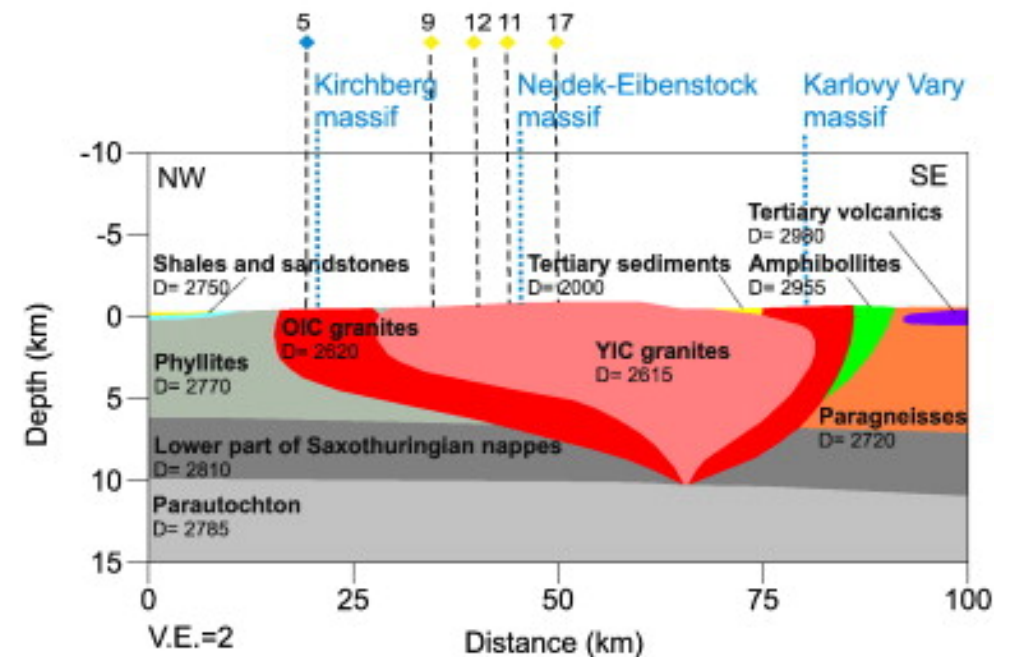
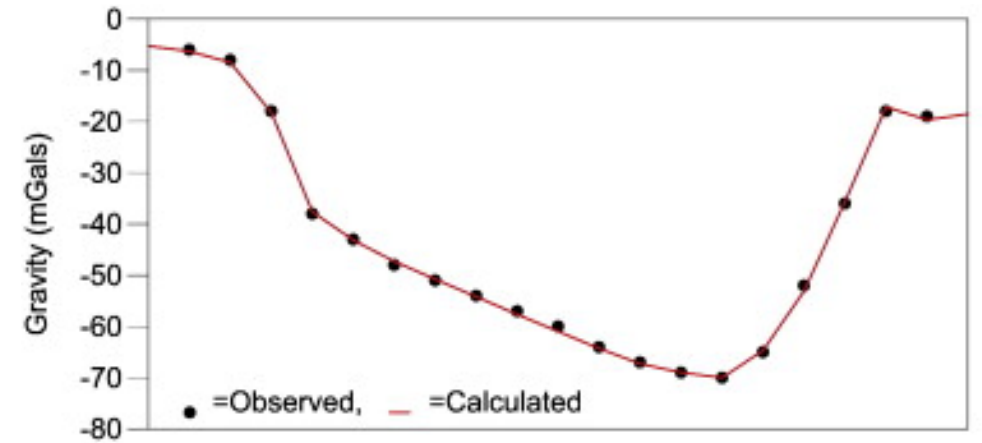
Finniss Lithium Project - PCO

- Pegmatite bodies intruded into Finniss River Group (Burrell Ck Fmn)
- Shape: Steep NNE lozenges (dykes) & shallow dipping sheets (sills)
- Size: Economic bodies up to 300m long and 35m wide
 - Barren bodies much larger (1500x300m)
- Fertility: some Li rich, some barren, some Ta-Sn rich, some mixed
- Source: postulated to be Two Sisters Granite underpinning the area
- Pegmatites emanate from apophyses on granite roof?
- Current geophysical or geochemical data do not allow source to be demonstrated or roof geometry to be resolved at Finniss
- Two Sisters Granite is non-magnetic & current gravity too broad (11 km)
- Economic Importance: 6 pegmatites have mineral resource and two subject of development. More economic bodies required.



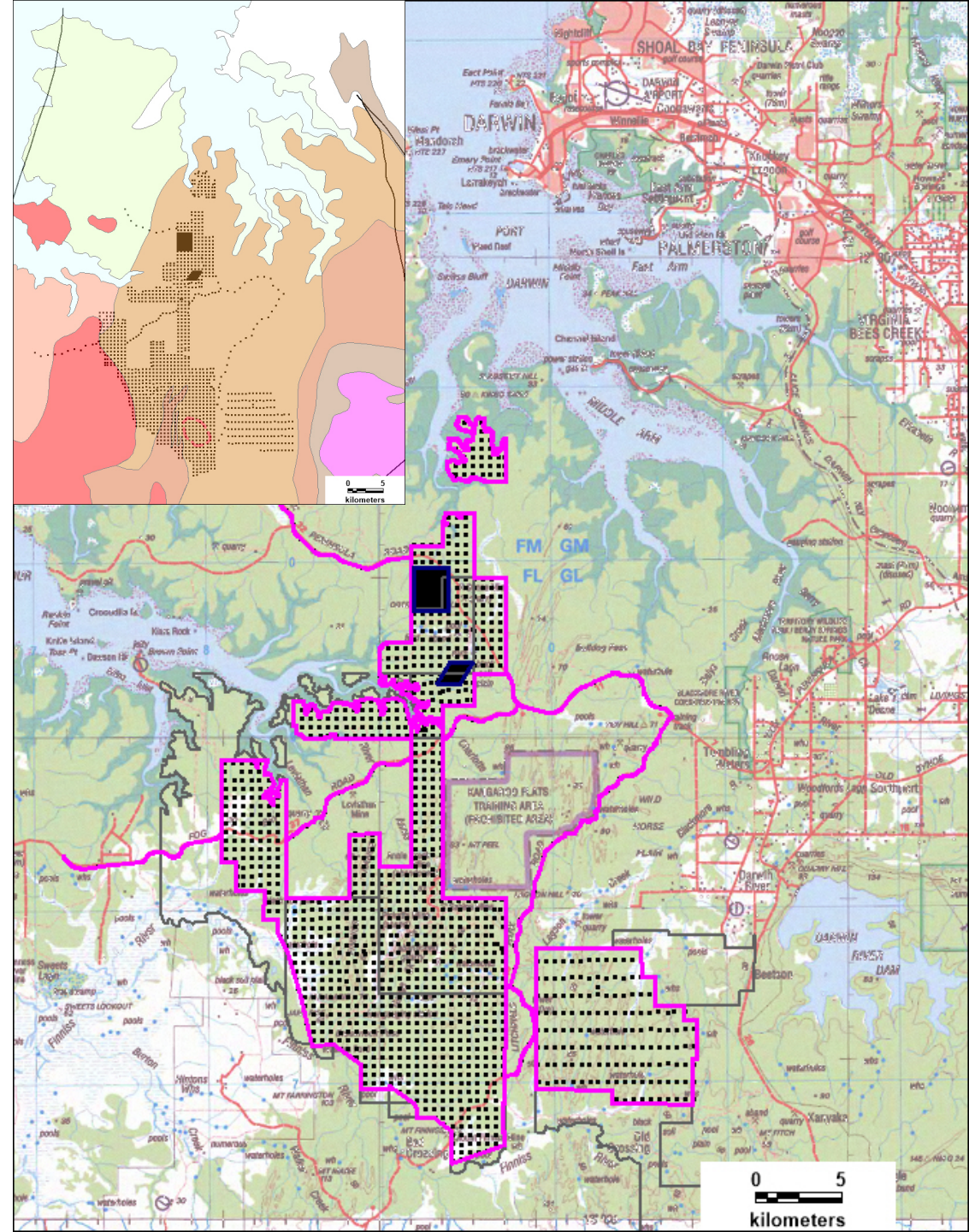
Granites and Gravity

- Granite & Pegmatite typical SG = 2.65
- Sandstone or shale prior to metamorphism SG = 2.4
- Metamorphic host BCF SG = 2.85 (loss of porosity)
- Resultant gravity LOW over granite
- Shape of gravity profile relates to granite geometry and compositional variations



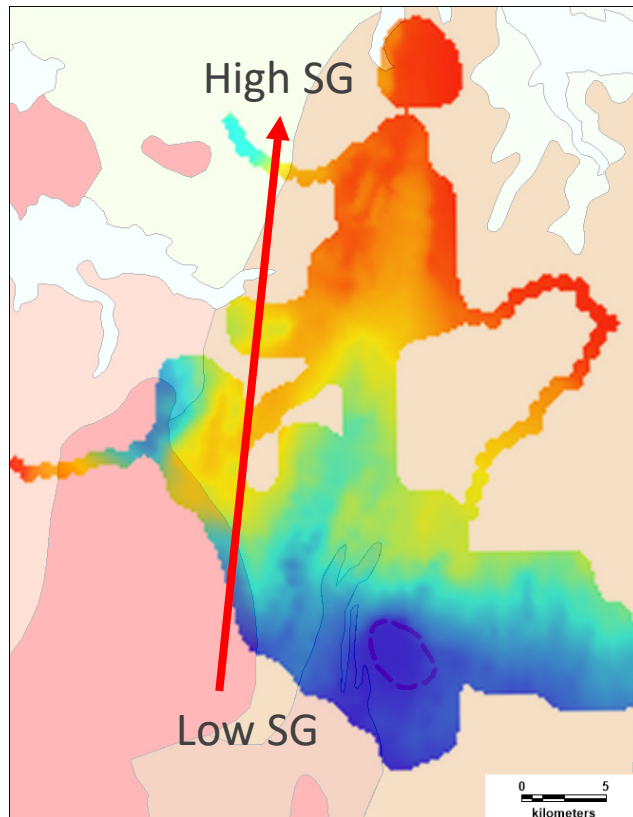
Finniss Gravity Survey 2020

- Collaborative Co-funded Program (NTGS)
- 1898 ground gravity stations
- 500x500m and 500x1000m spacing across most of Core's tenure and along road corridors
- Infill to 100x200m and 20x100m at Grants and BP33 lithium deposits
- Aim was to provide a rough depth map for underlying granite where the pegmatites originated
- Help understand pegmatite distribution, geometry and lithium fertility
- Identify new fertile areas for mineralised pegmatite

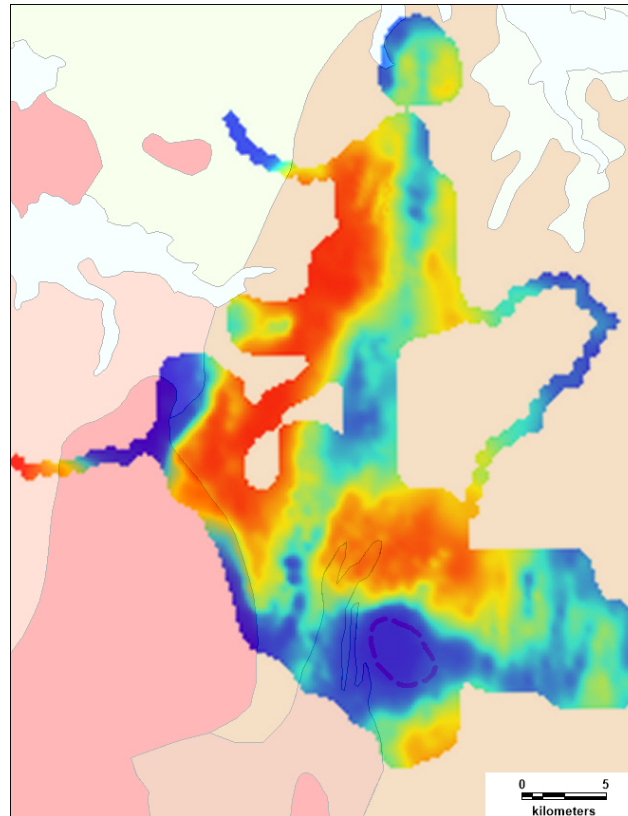


Gravity Datasets

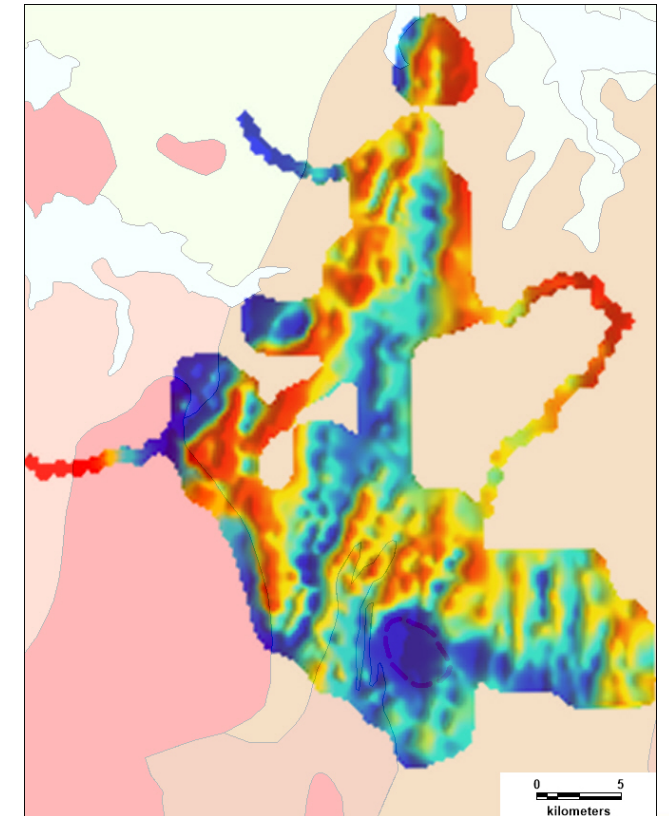
Regional: Dominated by deep sources



Residual: Dominated by 1-10km sources

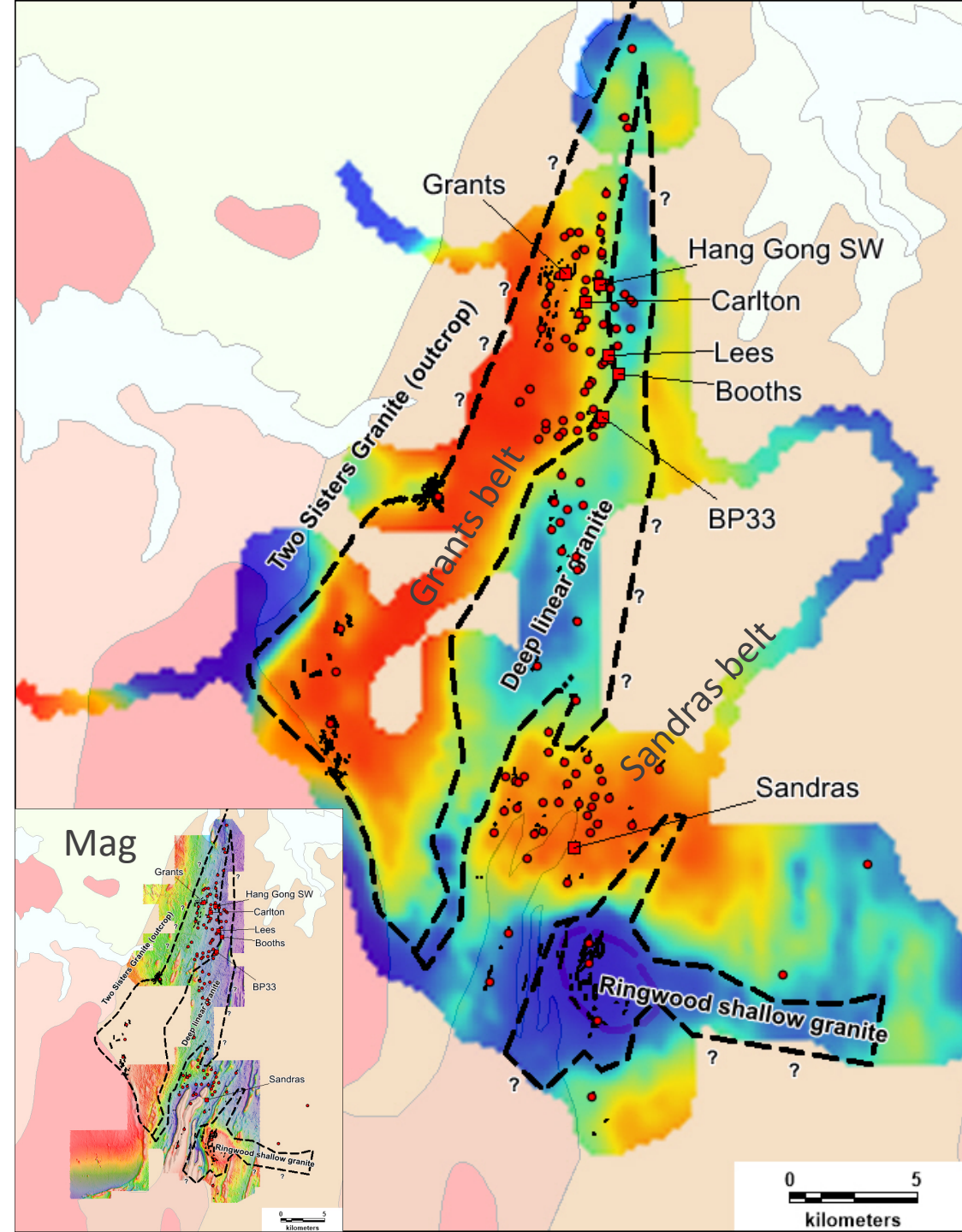


Vertical Derivative (VD):
Dominated by 1-2 km sources



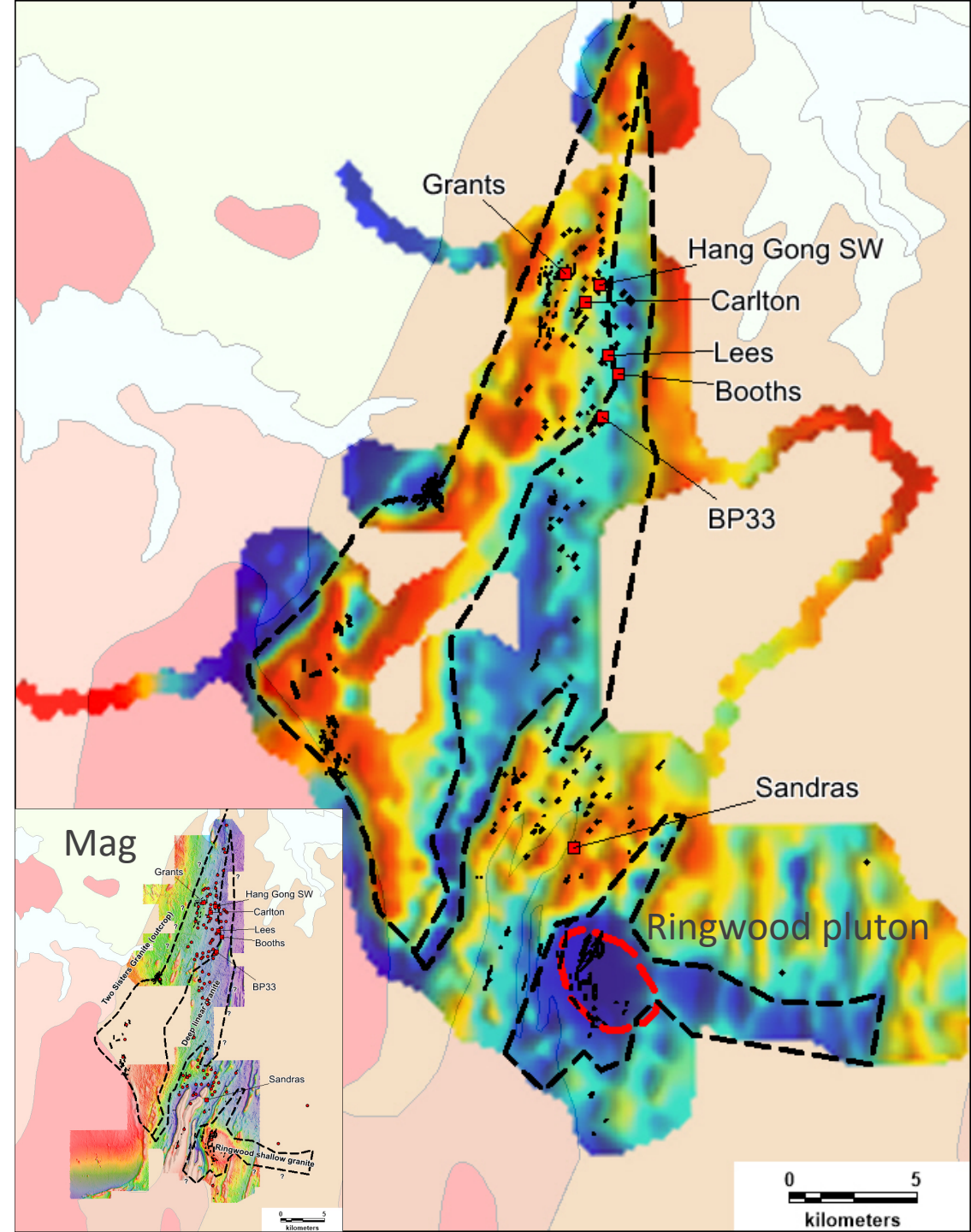
Residual gravity

- Density domains consistent with granite geometry
- Gravity Lows (blue = “light”)
 - Granite dominates
 - West: Two Sisters Granite (outcrop)
 - Southeast: Ringwood concealed pluton that is evident in magnetics and has a metamorphic overprint (=shallow)
 - Central: linear granite that is not visible in magnetics or metamorphic gradient (=deep)
- Gravity Highs (red = “dense”)
 - Metasediments dominate
 - West: Grants belt hosting majority of mineralised pegmatites
 - Southeast: Sandras belt hosting sub-economic or barren pegmatites
- Pegmatites in granite domains are large and barren (=close to source)



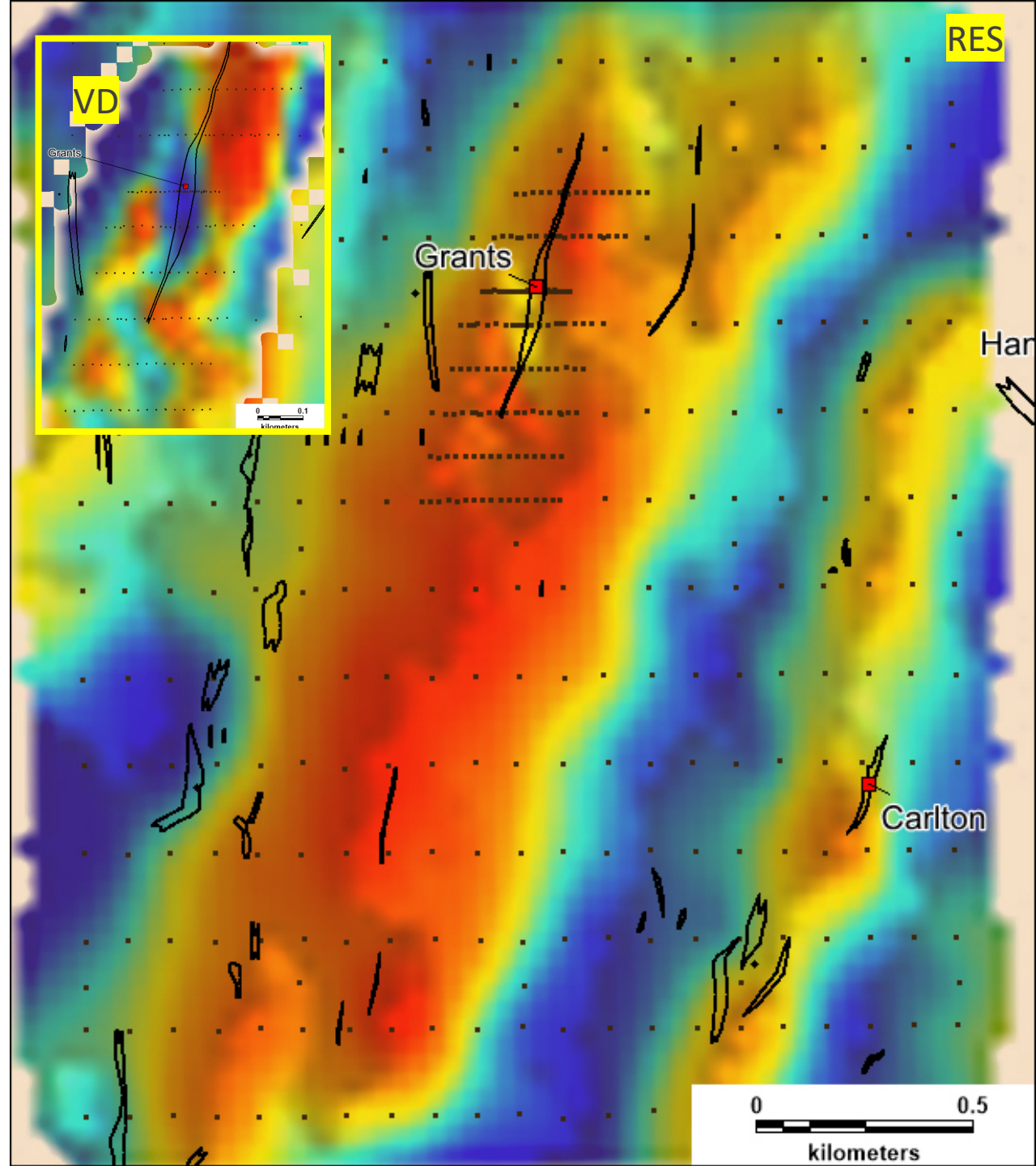
Vertical Derivative

- Higher frequency texture = granite shape
- NNE fabric = structure control on granite emplacement
- Steep dipping fertile pegmatites on crest of highs
- Shallow dipping pegmatites on flanks
- Granite shape exerts structural control above it and influences the pegmatite shape
- Heat-flow created by the regional-scale and meso-scale depth-to-granite is also likely to have controlled the depth at which pegmatites are fertile for lithium precipitation and preservation



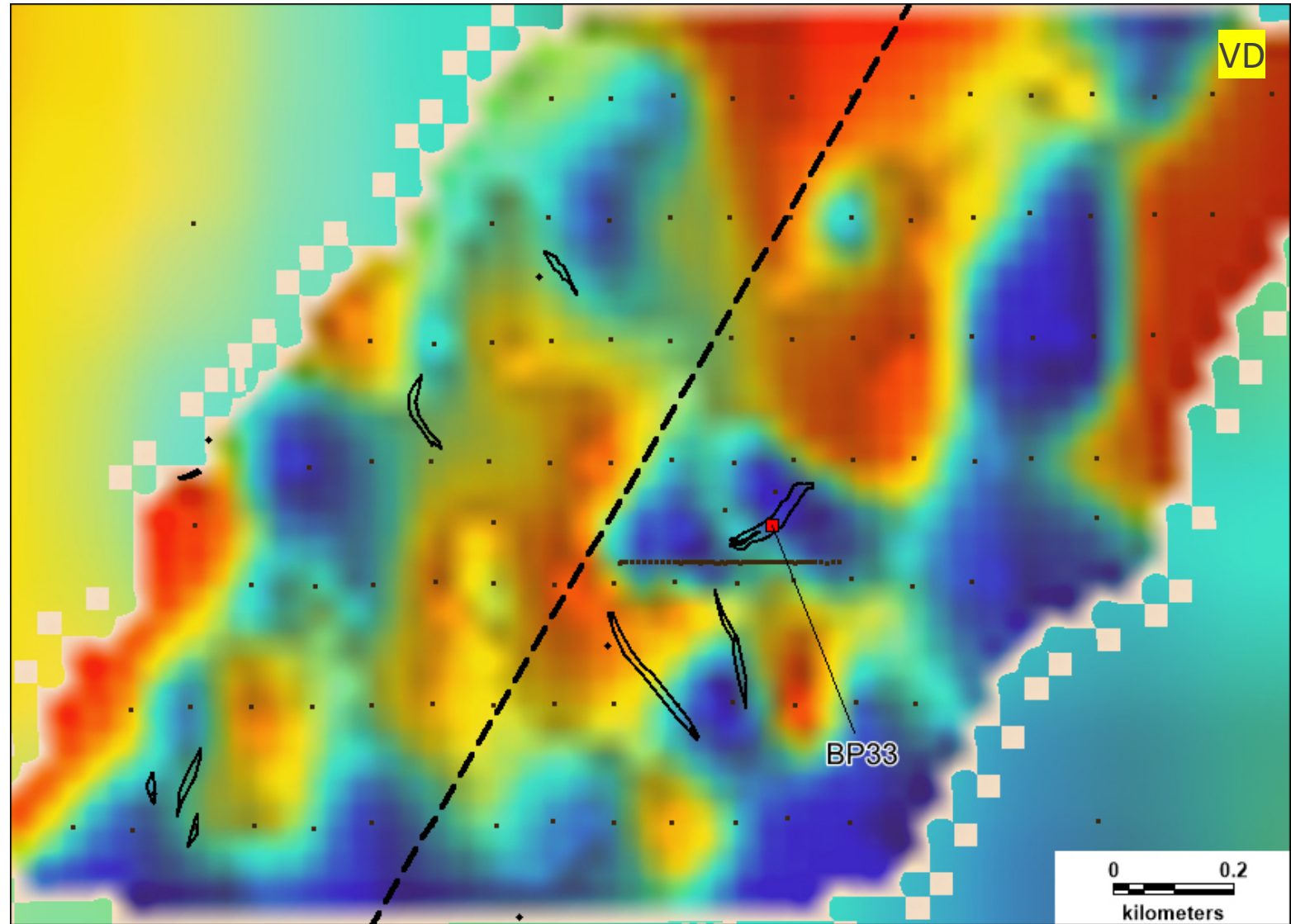
Grants detailed

- 100x200m stations and several 20x100m lines
- NNE vertical body 250x25m
- Depth extent yet to be determined, but plunges steeply south or sub-vertical
- Distinct gravity low within a dominant gravity high in Residual grid
- VD has a North to NNW trend, oblique to pegmatite (cross-fault?)
- NNE dilational jog?
- Carlton is a similar shaped pegmatite but has no distinct gravity signature
- Economic pegmatites sit above roof pendants, not apophyses!
 - Is this where sweet spot lies?



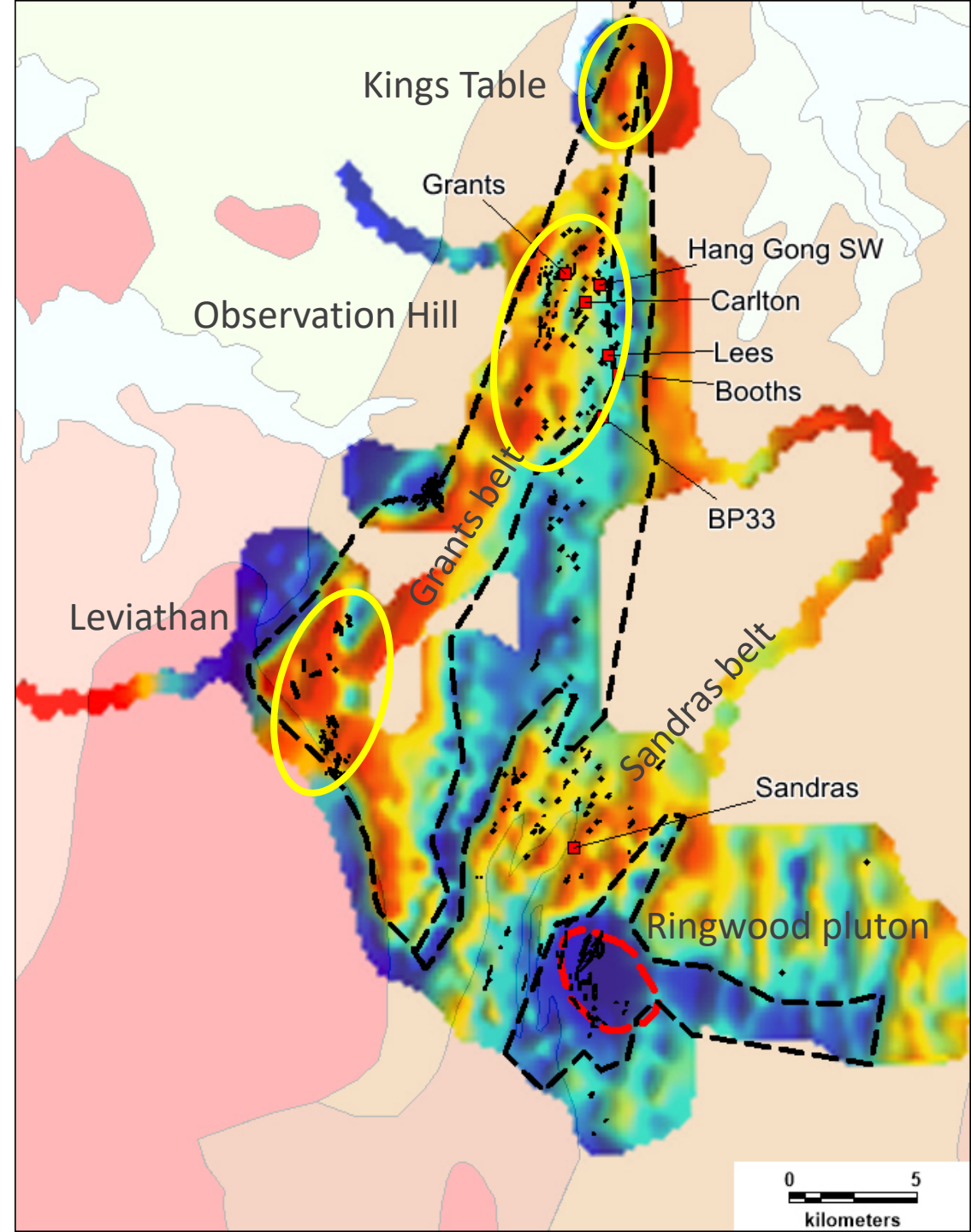
BP33 detailed

- 100x200m stations one 10x100m line
- NE vertical to steep SE dipping body 160x40m
- Depth extent yet to be determined, but plunges steeply south
- NE oblique tension or pull apart
- Distinct structurally from Grants
- Other similar gravity lows in the immediate vicinity yet to be tested



Implications for Lithium Exploration

- Grants belt gravity high extends SSW from the Kings Table Group to the Observation Hill Group (inc Grants and BP33) to the Leviathan Group
 - These may not be clusters
 - Areas in between are prospective for Lithium (these are largely covered in laterite and estuarine alluvium)
- Sandras belt may be more prospective than currently viewed – reflects exploration maturity?
- Structure is resolved nicely and may solve some riddles about plunge
- Direct detection has potential but is expensive



Conclusions

- Gravity looks like it will be a game-changer for regional exploration at Finniss
- Can differentiate granite and host at macro and meso scales
- Mimics structure and granite shape where host geology is simple
- Predicts pegmatite style
- How it relates to Fertility yet to be resolved
- Prospectivity mapping is the next step
- Connection with recently identified Gold mineral system?
- 2021 Plan: Infill Grants belt to 100x200m grid

