Uranium contained resource (tonne) Less than 1000 10 000 - 24 999 25 000 - 999 999 MAJOR URANIUM MINES (approved) Developing uranium projects

occurrences and mines

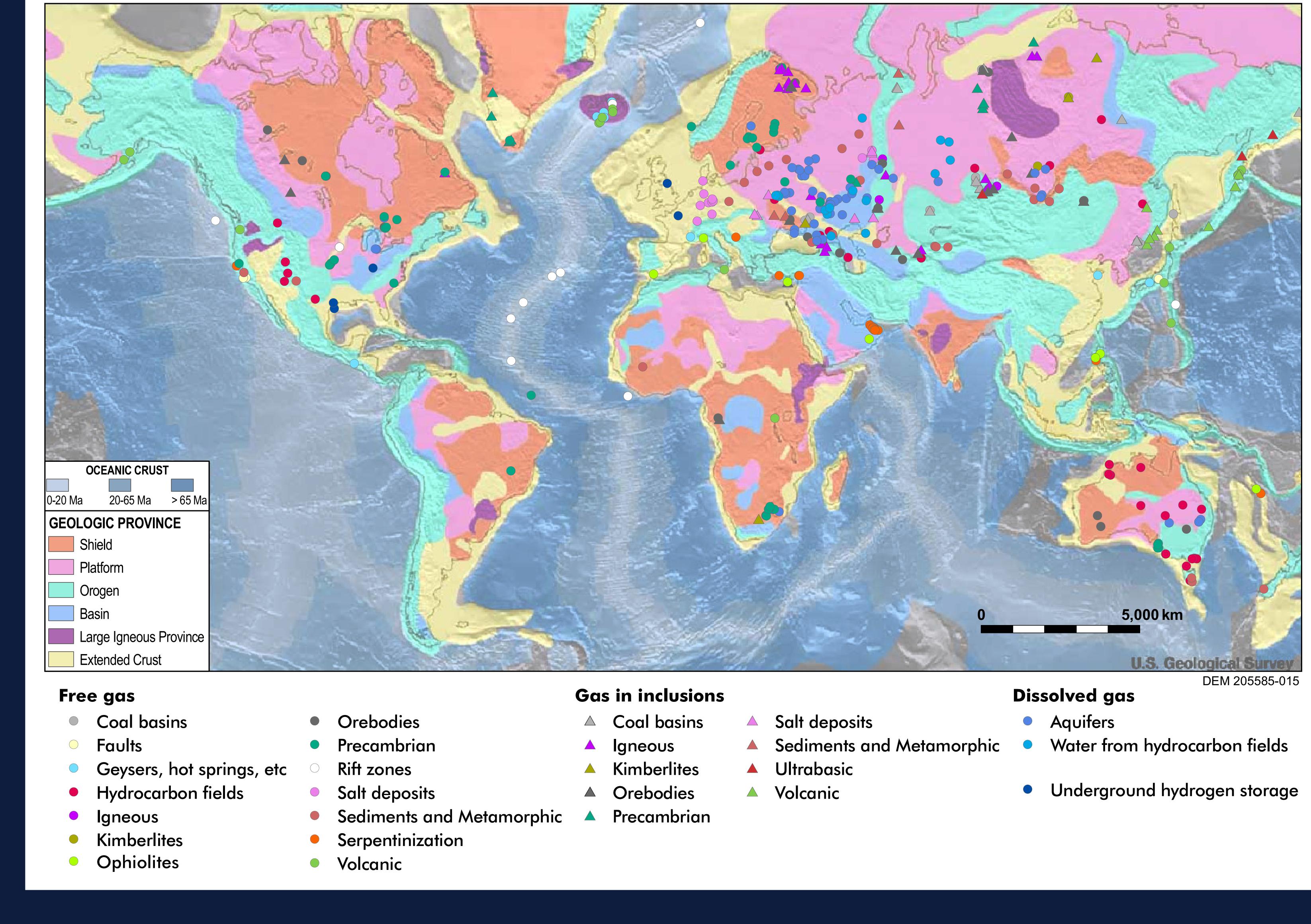
Surface

ron ore

occurrences

heat flow

WHY SOUTH AUSTRALIA IS ON THE GLOBAL MAP



Locations and geological environments of recorded hydrogen measured at >10% volume around the world (Modified from Zgonnik 2020; Truche et al. 2020, Truche and Barzakina 2019; Boreham et al. 2021a; Sherwood Lollar et al. 2014; Warr et al. 2019; Moretti et al. 2021.)

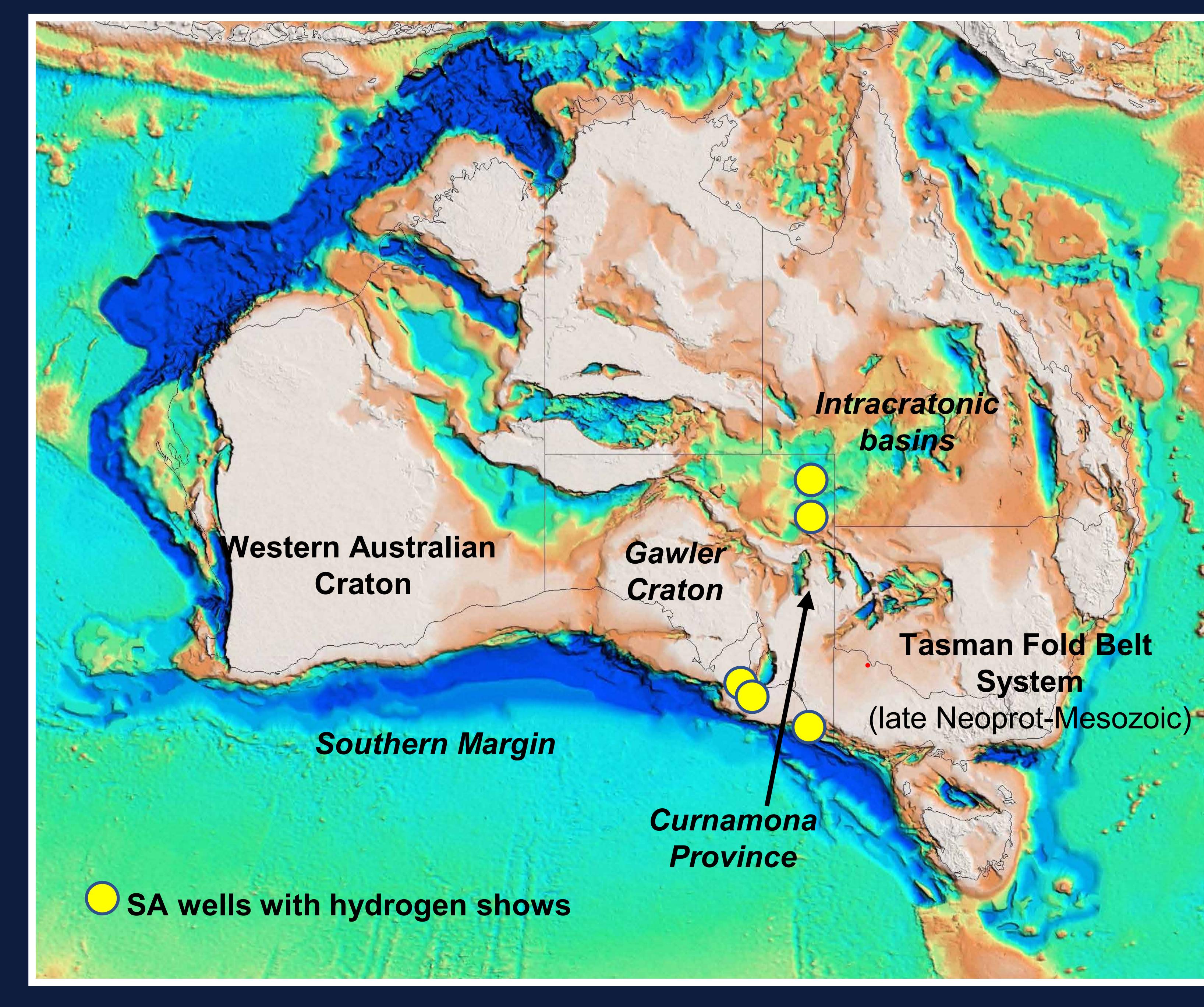


2. Moretti et al. (March 2021) drew attention to potential 'fairy circles' on southern Yorke Peninsula



3. Collecting gas from the Ramsay Oil Bore 1 near Minlaton in 1931. The well reached ~548m, and a small gas flow of almost pure hydrogen was recorded (SADEM photograph

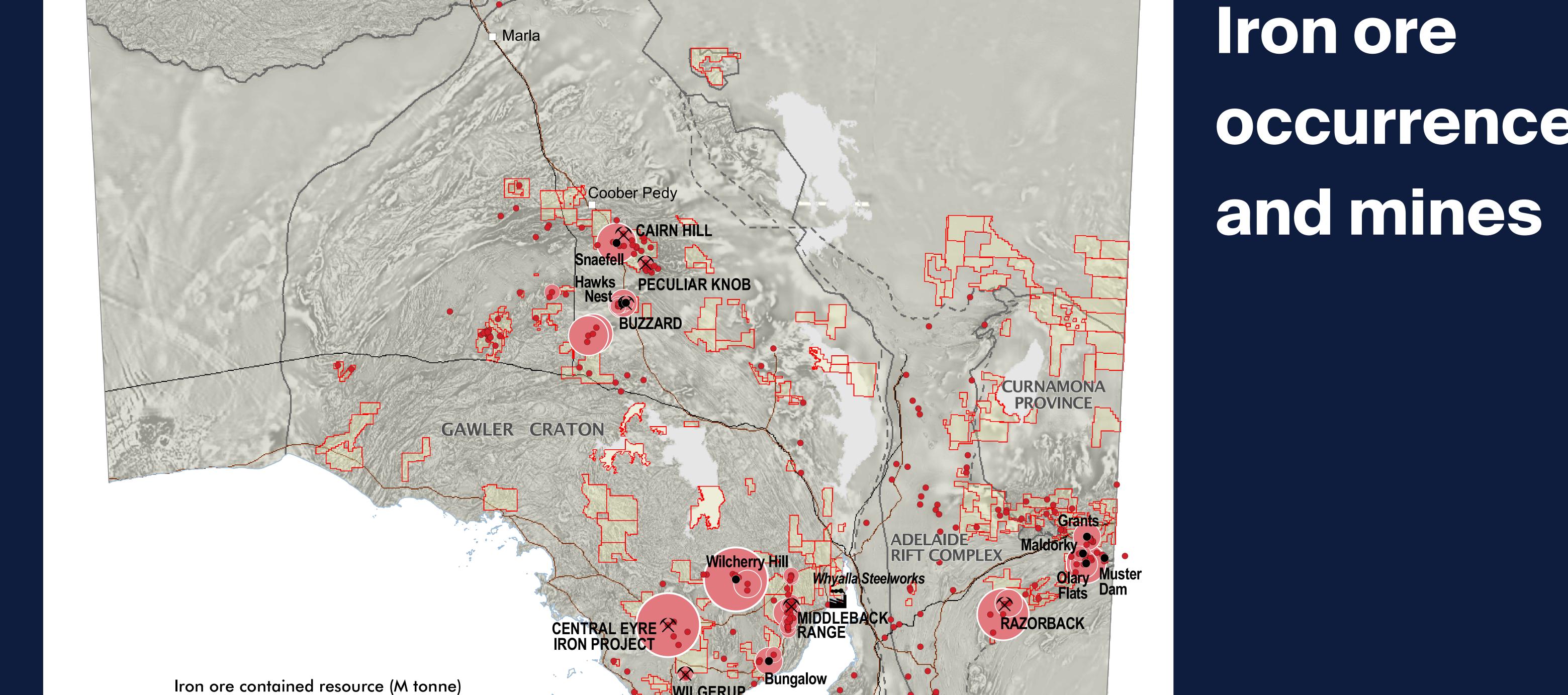
Zgonnik (2020) found online SARIG records revealing significant hydrogen contents from Government analyses of gas samples taken from three historic drillholes:



OZSEEBASE 2021 – depth to basement (Geognostics) geognostics.com/oz-seebase-2021

- Hydrogen indications in drillholes.
- Ancient basement complexes which contain iron and/or uranium rich rocks e.g. Archaean greenstone and Precambrian basement terranes, 'hot' granites' - may generate hydrogen via:
 - radiolytic processes (radioactive decay breaks bonds in water) and
 - oxidation of Fe₂+rich minerals (serpentinization).
- Fractured and seismically active source areas deep-seated faults can both channel migrating hydrogen up from deep sources to surface and introduce water downward for further chemical reaction with iron-rich rocks.
- Sedimentary cover may reservoir and trap migrating hydrogen particularly if aquifer systems and /or seal rocks like salt are present.
- Thermogenic decomposition of organic matter (e.g. over-mature source rocks).

Surficial hydrogen seeps - seeps can be blind or coincident with visible sub-circular topographic depressions on the metre to kilometre scale ('fairy circles').



Heatflow data point

Data points represent calculated heat flow measurements from individual drill holes.





