Alligator Energy

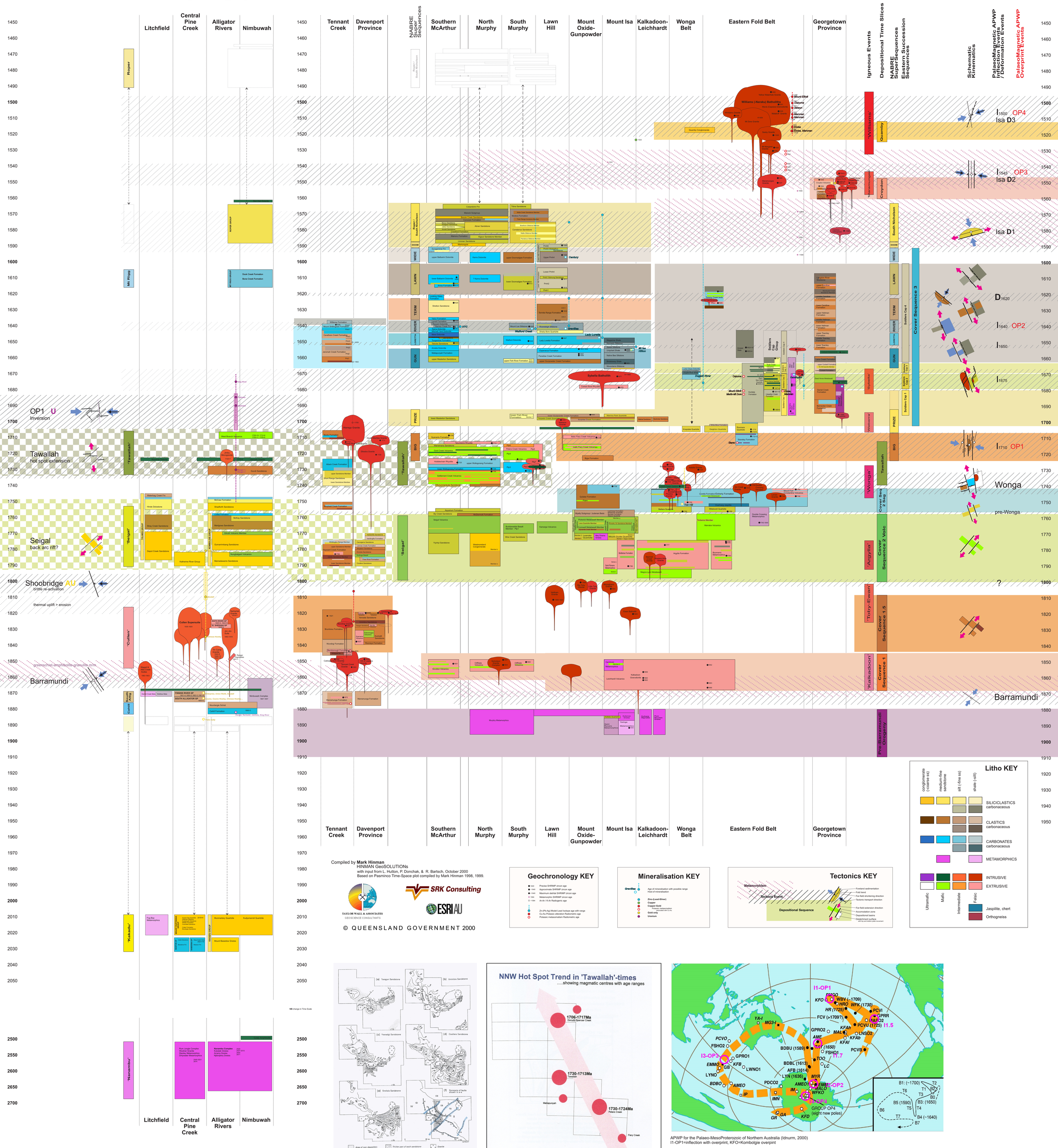
ALLIGATOR RIVERS-PINE CREEK MINERAL PROVINCES

NORTH-WEST QUEENSLAND MINERAL PROVINCE
PROTEROZOIC EVENT STRATIGRAPHY

and including for comparison **Tennant Creek-Davenport**, **Southern McArthur** and **Georgetown Provinces**

Alligator Energy version, Feb 2015
Mark Hinman

Queensland Government
Department of Mines and Energy



Compiled by **Mark Hinman**
HINMAN GeoSOLUTIONs
with input from L. Hutton, P. Donchak, & R. Bartsch, October 2000
Based on Pasminco Time-Space plot compiled by Mark Hinman 1998, 1999.

TAYLOR WALL & ASSOCIATES
GEOSCIENCE CONSULTANTS

SRK Consulting

ESRI AU

© QUEENSLAND GOVERNMENT 2000

Geochronology KEY

- 1640 Precise SHRIMP zircon age
- ~1640 Approximate SHRIMP zircon age
- >1640 Maximum detrital SHRIMP zircon age
- 1584 Metamorphic SHRIMP zircon age
- ~1584 Ar-Ar / K-Ar Radiogenic age
- Zn-(Pb-Ag) Model Lead Isotope age with range
- Cu-Au Potassic alteration Radiometric age
- Potassic metasomatism Radiometric age

Mineralisation KEY

- Grevillea — Age of mineralisation with possible range; Host of mineralisation
- Zinc-(Lead-Silver)
- Copper
- Copper-Gold — Potassic metasomatism associated with Cu-Au
- Gold only
- Uranium

Tectonics KEY

Metamorphism; Tectonic Event; Depositional Sequence

- Foreland sedimentation
- Fold trend
- Far-field shortening direction
- Tectonic transport direction
- Far-field extension direction
- Accomodation zone
- Depositional basins
- Detachment surface — with top and bottom plate movement

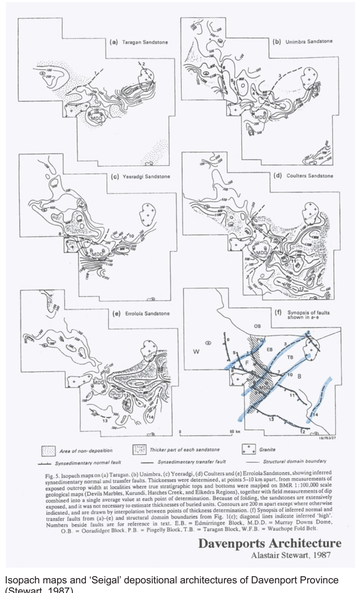
Litho KEY

conglomerate (~coarse ss) | medium-fine sandstone | silt (-fine ss) | shale (-silt)

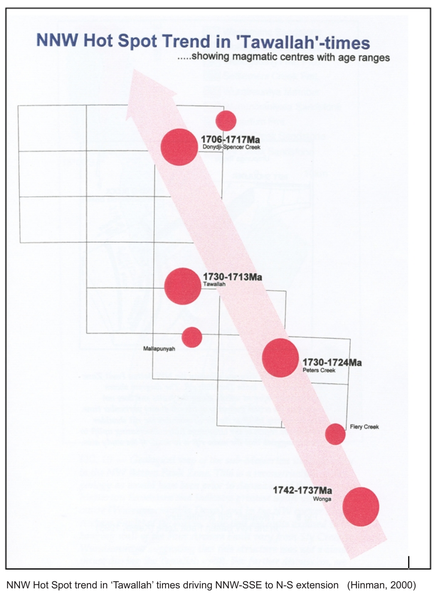
- SILICICLASTICS carbonaceous
- CLASTICS carbonaceous
- CARBONATES carbonaceous
- METAMORPHICS
- INTRUSIVE
- EXTRUSIVE

Ultramafic | Mafic | Intermediate | Felsic

- Jaspilite, chert
- Orthogneiss



Isopach maps and 'Seigal' depositional architectures of Davenport Province (Stewart, 1987)



NNW Hot Spot trend in 'Tawallah' times driving NNW-SSE to N-S extension (Hinman, 2000)

APWP for the Palaeo-MesoProterozoic of Northern Australia (Idnurm, 2000)
I1-OP1=inflection with overprint, KFO=Kombolgie overprint

Alligator Energy

Compiled by **Mark Hinman**
HINMAN GeoSOLUTIONs
February, 2015