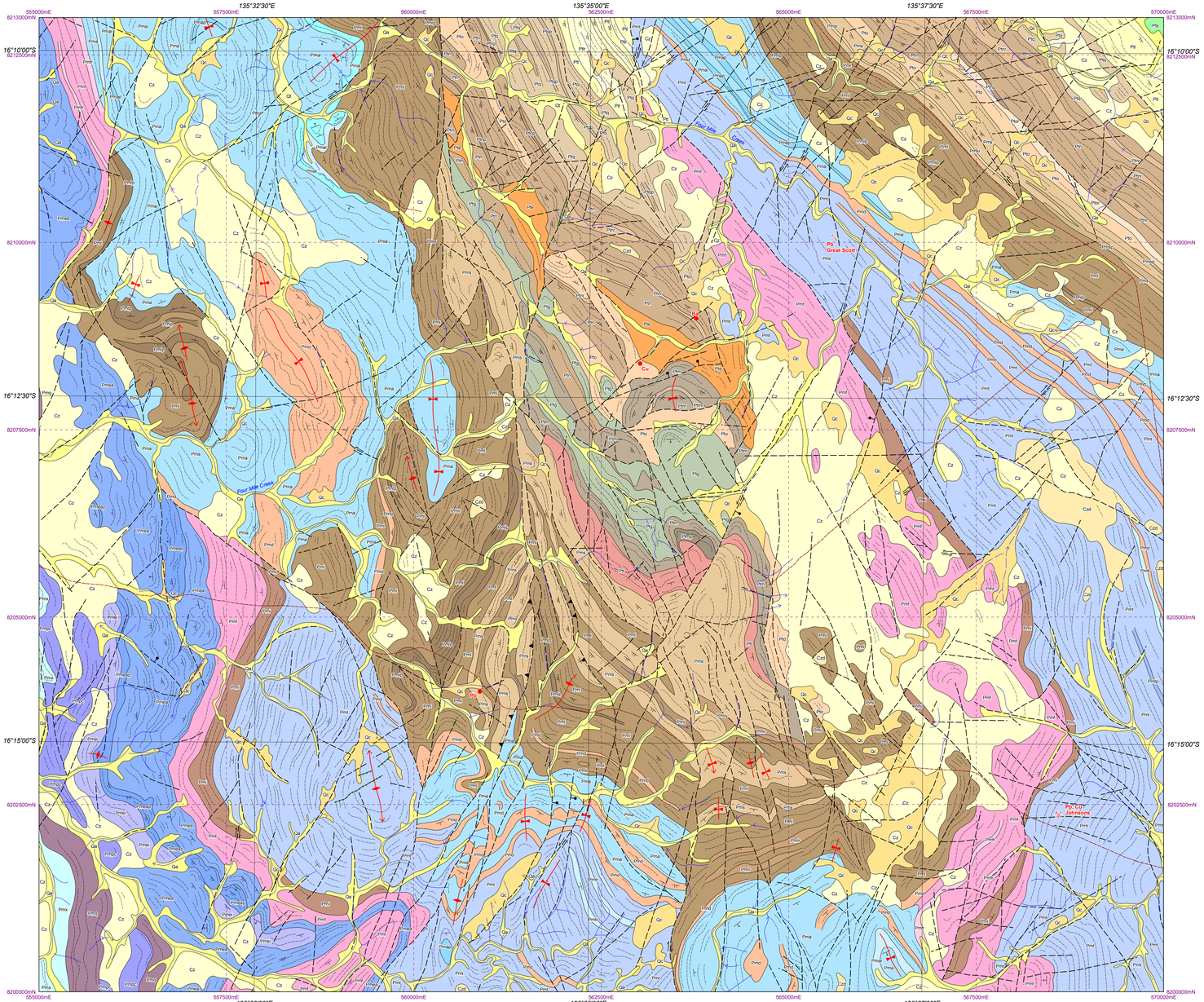


LEGEND INTERNATIONAL HOLDINGS INC

TANABURS PROJECT, N.T.

PHOTOGEOLOGICAL INTERPRETATION OF PSEUDO-STEREO PRISM PAN SHARPENED LANDSAT 7 IMAGERY

SHEET 1 OF 1

1:25,000

0 1 2 3 4

kilometres

DATUM GDA 94, PROJECTION MGA ZONE 53

Explanation of geological units and symbols for sheets 1 of 1

Quaternary and Recent

- **Qa** — Alluvium: gravel, sand and silt
- **Qt** — Older alluvial terraces: gravel, sand and silt
- **Qc** — Colluvium and sheet wash deposits: scree, gravel and sand

Cainozoic

- **Cz** — Undivided alluvial, colluvial and eluvial deposits: unconsolidated gravel, sand, silt, clay, ferruginous cemented detritus, minor calcrete, ferricrete and silcrete
- **Czd** — Dark toned transported and eluvial deposits; possible ferricrete

Proterozoic

McARTHUR GROUP
Umbaloonga Subgroup

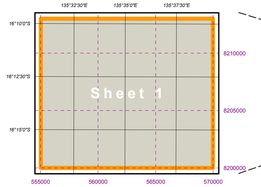
- **Pma** — *Reward Dolomite*: Ridge-forming and recessive: dololutite, stromatolitic dololutite, silty dololutite, dolarenite
- **Pmd** — *Barney Creek Formation*: Recessive: thin-bedded to laminated, dolomitic, carbonaceous and pyritic shale and siltstone; dololutite, rare breccia and sandstone
- **Pmdc** — *Coxco Dolomite Member*: Recessive; grey crystalline dololutite with gypsum crystal pseudomorphs
- **Pmc** — *Mitchell Yard Dolomite Member*: Generally recessive; massive dark grey, karstic weathering, crystalline dololutite
- **Pmea** / **Pmeap** — *Mara Dolomite Member*: Ridge forming: dololutite, stromatolitic dololutite, dolomitic siltstone, dolarenite and dolomitic breccia; Photogeologically prominent sub-unit of Pmea
- **Pmf** / **Pmfp** — *Myrtle Shale*: Thin-bedded to laminated, commonly dolomitic siltstone, shale, dololutite and fine-grained sandstone; halite casts common; Photogeologically prominent sub-unit of Pmf
- **Pmi** — *Leila Sandstone*: Recessive and ridge-forming; dark grey weathering dolomitic sandstone with thin interbeds of sandy dolostone
- **Pmt** / **Pmtp** / **Pmtr** — *Tooganinnie Formation*: Generally recessive: dololutite, stromatolitic dololutite, dolomitic shale and siltstone, dolarenite, sandy dolarenite and sandstone; Photogeologically prominent sub-unit of Pmt; Photogeologically recessive sub-unit of Pmt
- **Pmd** — *Tatoola Sandstone*: Upper: Ridge-forming vuggy dolomitic sandstone Lower: Ridge-forming white quartz sandstone, shale, siltstone, dolomite
- **Pma** / **Pmap** / **Pmar** / **Pmal** — *Amelia Dolomite*: Recessive: stromatolitic dololutite and silty dololutite with interbeds of dolarenite and shale and rare fine-grained sandstone; ooidal, brecciated and conglomeratic intervals; Photogeologically prominent sub-unit of Pma; Photogeologically recessive sub-unit of Pma; Lower photogeological sub-unit of Pma
- **Pml** / **Pmlv** / **Pmlp** — *Mallapunyah Formation*: Mainly recessive: red to purple dolomitic shale and siltstone; dolomitic cross-bedded sandstone interbeds; stromatolitic dolostone more prevalent in the upper part of the formation; Photogeologically recessive sub-unit of Pml; Photogeologically prominent sub-unit of Pml
- **Pms** / **Pmsr** / **Pmsp** — *Masterton Sandstone*: Ridge forming: pink, brown and buff, fine- to medium-grained quartzarenite, siltstone, ferruginous mottled sandstone, basal conglomerate; Photogeologically recessive sub-unit of Pms; Photogeologically prominent sub-unit of Pms

TAWALLAH GROUP

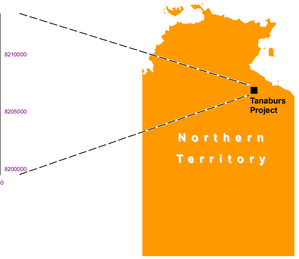
- **Pti** — *Tanumbirini Rhyolite*: Recessive: deeply weathered, porphyritic lava with phenocrysts of quartz and feldspar
- **Ptn** / **Ptnp** / **Ptnv** — *Warramana Sandstone*: Ridge-forming: medium- to coarse-grained, cross bedded and rippled, lithic and feldspathic sandstone, conglomerate, shale; Photogeologically prominent sub-unit of Ptn; Photogeologically recessive sub-unit of Ptn
- **Ptq** — *Gold Creek Volcanics*: Recessive: amygdaloidal vesicular basaltic lavas; basaltic-dolerite sills and dykes
- **Pto** / **Ptor** — *Wollogorang Formation*: Recessive: mainly dark grey weathering, thinly bedded dololutite, commonly pyritic; dololutite breccia, upper unit of ferruginous sandstone; Photogeologically recessive sub-unit of Pto
- **Pti** — *Settlement Creek Volcanics*: Recessive: reddish-brown to dark grey spheroidally-weathering, fine- to medium-grained basaltic-doleritic lavas; autoclastic, flow-banded rhyolite lavas; intercalated hornfelsed sediments; basal part of sequence: dololutite, dololutite breccia; potash-metasomatised high-level dolerite intrusives and basaltic lavas throughout sequence
- **Pty** / **Ptyc** / **Ptyv** — *Wunnumantyala Sandstone*: Ridge-forming; red to mauve-grey, locally feldspathic sandstone, mainly medium-grained; thin shale interbeds; Photogeologically prominent sub-unit of Ptn; Photogeologically recessive sub-unit of Ptn
- **Ptq** / **Ptqp** — *Aquarium Formation*: Recessive: red-purple and grey dolostones, thinly bedded dololutite, silty dololutite and fine- to medium-grained dolarenite, interbedded red and green shale and fine-grained sandstone; Photogeologically prominent sub-unit of Ptq
- **Ptl** / **Ptlr** — *Sly Creek Sandstone*: Ridge-forming: quartzarenite, mainly fine-to medium grained and medium-bedded with medium- to very coarse-grained quartz pebble beds common in the upper part of unit; Photogeologically recessive sub-unit of Ptl
- **Pta** — *Seigal Volcanics*: Recessive: amygdaloidal basalt lava

- Lithological contact; interpreted, extrapolated, inferred
- Trend of bedding, foliation
- Fault, fracture, lineament, with interpreted sense of displacement
- Fold axis; synclinal, anticlinal
- Photogeologically interpreted dyke, vein
- Photogeologically interpreted circular feature
- Strike and dip of photogeologically interpreted bedding; <5deg, <10 deg, 0-30 deg, 30-60 deg, >60deg
- Watercourse
- Intermittent drainage channel
- Road, vehicle track, fence line
- Pb — Economic mineral occurrence, prospect

1:25,000 Map Sheet Layout



Location Map



Interpretation based on 1:25,000 pseudo stereo hardcopy imagery printed from Landsat 7 bands 7,4,2=R,G,B, pan sharpened with 2m resolution PRISM data. Stereo model prepared from 5m resolution PRISM DEM. Landsat 7 and PRISM data acquired and processed by Geoimage Pty Ltd in Perth. Photogeological interpretation utilised a conventional Zeiss N2 mirror stereoscope. Interpreted stratigraphy loosely based on published NTGS 1:250,000 sheet SE 53-3 Illaahnia Downs 1st edition, 1991. No independent field work was undertaken by the map authors. Undertaken on behalf of Legend International Holdings Inc by Barry McGrail and Nick Lockett & Associates Pty Ltd, 27A Townshend Road, Subiaco, WA 6008. Tel: (0)8 9388 6222 E-mail: nlockett@vianet.net.au April, 2010. GIS preparation and printing of maps undertaken by CAD Innovations, 47 Ord Street, West Perth WA 6005. Tel (0)8 9321 0600 E-mail: innova@space.net.au