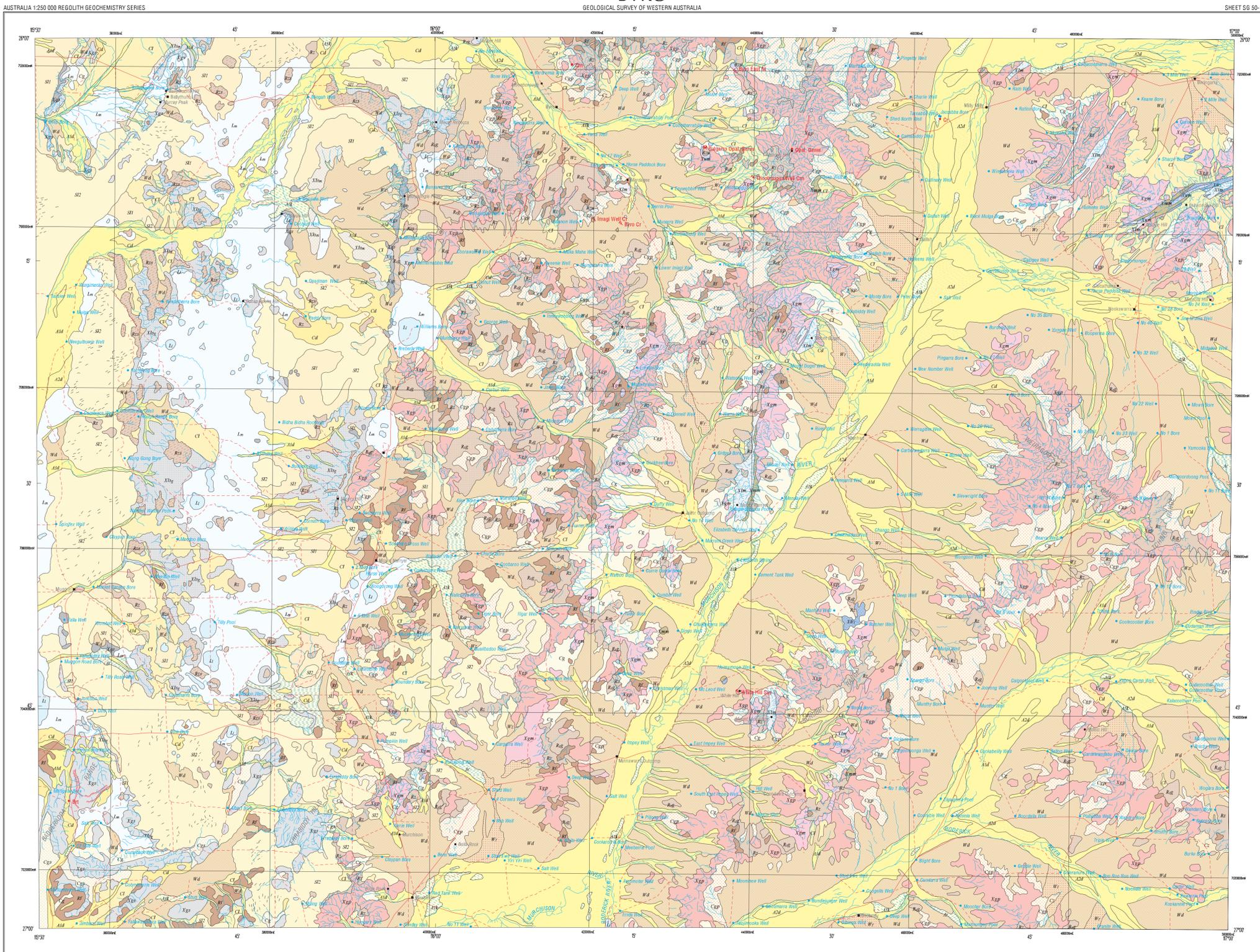


BYRO

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA

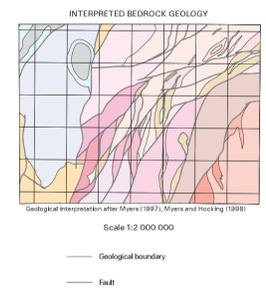
SHEET 56-50-10

REGOLITH MATERIALS



- REFERENCE**
- RESIDUAL (R)** - Residual sand, duricrust, and proximal reworked material derived by weathering in situ
- Rr comprising mainly iron-rich material (terricrete)
 - Rqd comprising sand derived from quartzofeldspathic rock
 - Rz comprising mainly silica-rich material (silcrete)
 - Rzr comprising mainly silica-rich material (silcrete) developed over sedimentary rock
 - Rzwr comprising mainly silica-rich material (silcrete) developed over ultramafic rock
- EXPOSED (X)** - Outcrop of saprock, bedrock, and subcrop with locally derived sand, silt, clay, and rubble
- Xlv derived from terrigenous chemical sedimentary rock (banded iron-formation and quartz-magnetite rock)
 - Xgm derived from quartzofeldspathic metamorphic rock (granodiorite, monzonite, gneiss, and tonalite protolith)
 - Xgp derived from quartzofeldspathic plutonic rock (monzonite and granite)
 - Xsp derived from quartzofeldspathic sedimentary rock
 - Xvm derived from heterogeneous metamorphic rock (quartzite, metaconglomerate, metasandstone, siliceous schist, and mylonite)
 - Xtg derived from glaciogenic rock
 - Xtw derived from fine-grained sedimentary rock (mudstone, siltstone, and shale)
 - Xwm derived from terrigenous metamorphic rock (siliceous schist, amphibolite, and metamorphosed dolerite and gabbro)
 - Xip derived from quartz-rich siliceous sedimentary rock (conglomerate, sandstone, and siltstone)
 - Xim derived from metamorphosed ultramafic rock (serpentinized peridotite and pyroxenite)
- COLLUVIAL (C)** - Unconsolidated and semi-consolidated silt, sand, gravel, and rubble
- Cd undivided
 - Cq derived mainly from quartzofeldspathic rock
 - Cgp derived mainly from quartzofeldspathic plutonic rock (monzonite and granite)
 - Csp derived from quartzofeldspathic sedimentary rock
 - Ct derived from mixed rock types
 - Cz containing abundant silica-rich material
- LOW-GRADIENT SLOPE (W)** - Sand- and clay-dominated colluvium and sheetwash
- Wd undivided
 - Wf sheet-flood or fan deposits
 - Wz containing abundant silica-rich material
- ALLUVIAL (A)** - Cobbles, gravel, sand, silt, and clay in alluvial channels and floodplains
- Ald alluvium in active drainages
 - Aldm consolidated alluvium, locally indurated
 - Af floodplain deposits
 - Afk carbonate-rich alluvium in active drainages
- LACUSTRINE (L)** - Clay, silt, sand, gravel, and evaporitic material
- Ll in lakes and large plays
 - Lm in mixed dune and playa terrain
- SANDPLAIN (S)** - Eolian and residual sand
- Sf in mixed sandplain, colluvium, and sheetwash terrain, with local eolian reworking; weakly indurated
 - Sz in mixed sandplain, colluvium, and sheetwash terrain, with local eolian reworking; typically vegetated
- SYMBOLS**
- Regolith boundary
 - Breakaway
 - Sand dune
 - Formed road
 - Track
 - Watercourse
 - Pool, rockhole, spring, bore, well
 - Byro
 - Mount Reference
 - Bulgarno
 - Byro East
 - Mineral occurrence
 - Barite
 - Chromium
 - Corundum
 - Gems
 - Nickel
 - Opal
 - Silica
 - Opencurt, abandoned
 - Prospect

Edited by N. Telfer, K. Greenberg, and G. Luan
 Cartography by M. Vicenti
 Topography from Australian Surveying and Land Information Group, and Department of Land Administration Sheets 56-50-10
 This map was compiled and produced using a Geographic Information System (ArcInfo), and the data are available in digital form
 Published by the Geological Survey of Western Australia. Copies of this map, or extracts of the data, are available from the Information Centre, Department of Minerals and Energy, 100 Plain Street, East Perth, W.A., 6004. Phone (08) 9222 3459. Fax (08) 9222 3444
 Compiled by P. A. Morris 2000
 Field observations 2000 by G. Brittle, M. Gallen, R. Haszany, D. O'Farrell, S. McGinness, P. Morris, G. White, and A. Yerran
 Compiled using Landsat TM images (1988 data); 1:965 1:50 000 scale black and white aerial photography MYERS, J. S., 1997. Byro, W.A. Sheet 56-50-10 (second edition); Western Australia Geological Survey, 1:250 000 Geological Series, MYERS, J. S., and HOODING, R. M., 1998. Geological map of Western Australia, 1:2 500 000 (12th edition); Western Australia Geological Survey, and field observations 2000
 The recommended reference for this map is: MORRIS, P. A., 2001. Regolith materials, Byro, W.A. Sheet 56-50-10. In Geological mapping of the Byro 1:250 000 sheet, by P. A. MORRIS and A. YERREN. Western Australia Geological Survey, 1:250 000 Regolith Geochemistry Series Explanatory Notes, Plate 3



- PHANEROZOIC**
- EARLY TERMIAN**
- Byro Group
 - Bioturbated siltstone and fine-grained sandstone
 - Wooramel Group
 - Siltstone, quartzose or feldspathic sandstone, carbonaceous shale, and micaceous claystone
 - Lyons Group
 - Intermediate sandstone, siltstone, shale, micaceous claystone, and silt; numerous glacial erratics
- PROTEROZOIC**
- BEGERADES Group**
- Siltstone, ally sandstone, feldspathic and quartzose sandstone, and minor pebbly conglomerate lenses
 - YARRA YARRA GRANITE: coarse-grained, equigranular, leucocratic monzonitic; metamorphosed at granulite facies
 - CHURLA GRANITE: coarse-grained, equigranular, leucocratic monzonitic; metamorphosed at granulite facies
 - BALLA GRANITE: coarse-grained, porphyritic to equigranular monzonitic, with inclusions of EURADA GNEISS; metamorphosed at amphibolite facies
 - IMPEY GRANITE: heterogeneous, coarse-grained, porphyritic to equigranular monzonitic; metamorphosed at amphibolite facies
 - Coarse-grained, equigranular to porphyritic granite, locally with inclusions of amphibolite, ultramafic rock, metasedimentary rock, or gneiss
 - YALLALONG GRANITE: coarse-grained, equigranular, leucocratic monzonitic; metamorphosed at granulite facies
 - WANDARRIE GRANITE: coarse-grained, equigranular, leucocratic monzonitic
 - Unfolded metasedimentary rocks, including banded iron-formation, quartzite, pelite, quartzite, conglomerate, sandstone, siliceous schist, mylonite, quartzite schist, and micaceous quartzite; subvolcanic metagabbro, ultramafic schist, and amphibolite
 - MILGA GNEISS: granulitic gneiss
 - DUGEL GNEISS: monzonitic and syenitic gneiss
 - EURADA GNEISS: monzonitic to tonalitic gneiss, with inclusions of MEEBERRE GNEISS and veined by DUGEL GNEISS
 - MEEBERRE GNEISS: monzonitic to tonalitic gneiss, veined by EURADA GNEISS and DUGEL GNEISS
 - VERACCO GRANITE: porphyritic to equigranular monzonitic; metamorphosed at amphibolite facies
 - CUNBARRA GRANITE: coarse-grained, equigranular to porphyritic monzonitic; metamorphosed at amphibolite facies
 - TCHING GRANITE: monzonitic with inclusions of BEARRA GNEISS
 - BEARRA GNEISS: quartzic and leucogranitic gneiss, possibly an earlier phase of the TCHING GRANITE
- ARCHAIC**
- Metakonglomerate
- Geochronological Terminals



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DEPARTMENT OF MINERALS AND ENERGY
 L. C. BAINFORD, DIRECTOR GENERAL

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 GLENYRON, M.A.C.A.
 MINISTER FOR STATE DEVELOPMENT, TOURISM, SMALL BUSINESS, GOVERNMENT EMPLOYMENT

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA
 TIM GIBBERT, DIRECTOR

SCALE 1:250 000

UNIVERSAL TRANSVERSE MERCATOR PROJECTION
 HORIZONTAL DATUM: GEOCENTRIC DATUM OF AUSTRALIA 1994
 VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
 Grid lines indicate 20 000 metre interval of the Map Grid Australia, Zone 50
 The Map Grid Australia (MGA) is based on the Geocentric Datum of Australia 1994 (GDA94)
 GDA94 positions are compatible within one metre of the datum WGS84 positions

REGOLITH MATERIALS

REGOLITH GEOCHEMISTRY SERIES

BYRO

SHEET 56-50-10

FIRST EDITION 2001

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