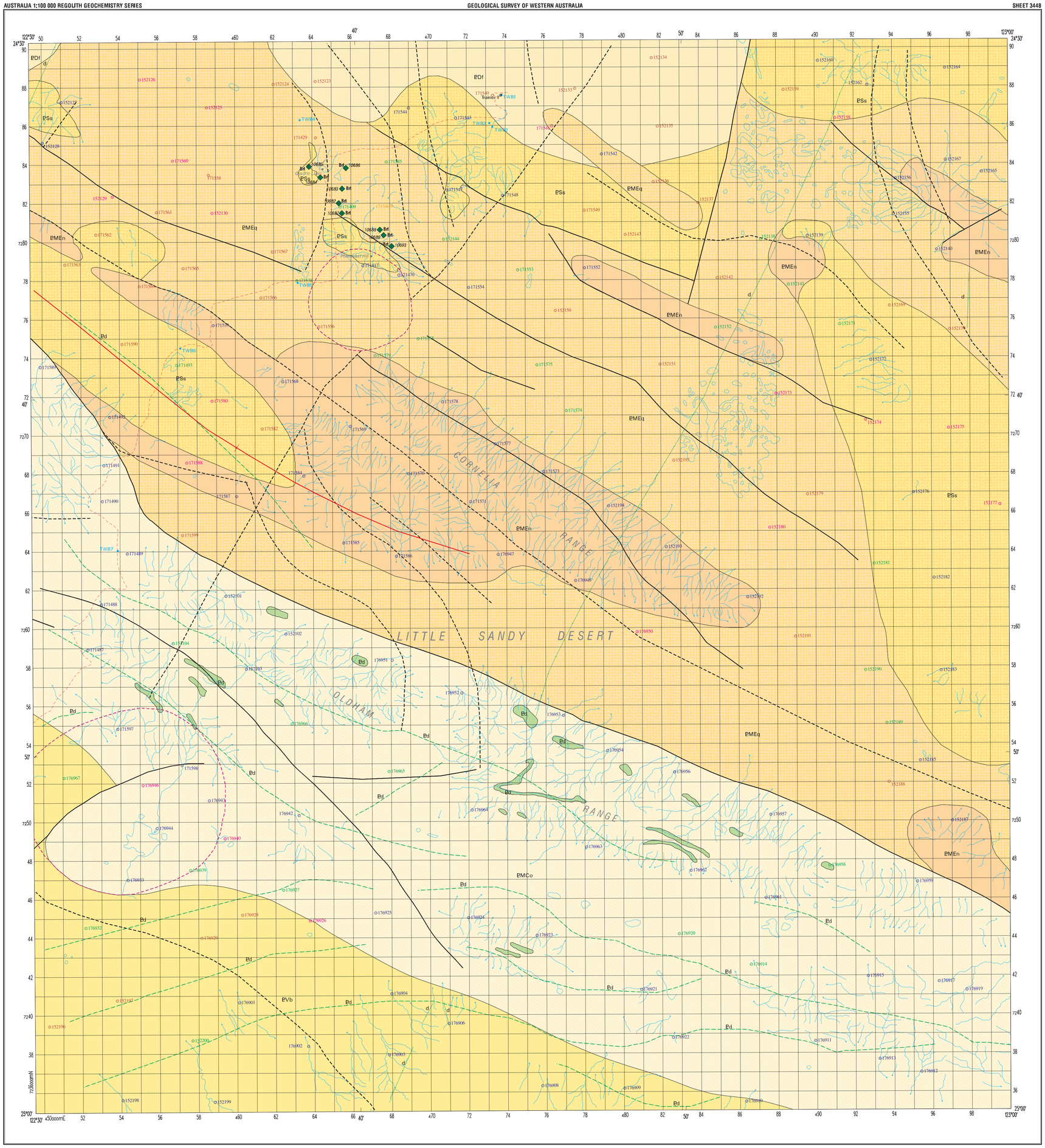
NICHOLLS

AUSTRALIA 1:100 000 REGOLITH GEOCHEMISTRY SERIES | GEOLOGICAL SURVEY OF WESTERN AUSTRALIA | SHEET 3448



Edited by G. Hall, K. Greenberg, and C. Brien

Cartography by M. Vicentic

Topography from Australian Surveying and Land Information Group, and Department of Land Administration Sheet SG 51-2, 3448

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 Mineral and Petroleum Resources, 100 Plain Street, East Perth, WA, 6004. Phone (08) 9222 3459, Fax (08) 9222 3444
Web www.mpr.wa.gov.au Email geological_surveys@mpr.wa.gov.au

Gravity and aeromagnetic interpretation by S. I. Shevchenko 2001

Gravity interpretation using: GEOLOGICAL SURVEY OF WESTERN AUSTRALIA, 1996, Savory Basin first vertical derivative of Bouguer gravity image, 1:250 000; Western Australia Geological Survey
Aeromagnetic interpretation using: BMR Trainor regional magnetic survey, project 498, 1984

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1:100 000 maps shown in black
1:250 000 maps shown in brown
Gravity survey shown in magenta

Compiled by A. J. Sanders 2001

Sampling by A. J. Sanders

Total sample sites: 175; 91 stream sediment, 28 sheetwash, 18 soil, 1 lake sediment, and 37 sandplain

Analyst: Genalysis Laboratory Services

Method: Total digest
Minimum sample size: 1 kg
Fraction of sample analysed: < 2 mm -> 0.45 mm

Method: Partial digest
Minimum sample size: 0.1 kg
Fraction of sample analysed: < 0.2 mm

Geological interpretation after: HOCKING, R. M., GREY, K., BAGAS, L., and STEVENS, M. K., 2000, Mesoproterozoic stratigraphy in the Oldham Inlier, Little Sandy Desert, Central Western Australia: Western Australia Geological Survey, Annual Review 1999-2000, p 49-56; MYERS, J. S., and HOCKING, R. M., 1998, Geological map of Western Australia, 1:2 500 000 (13th edition): Western Australia Geological Survey; WILLIAMS, I. R., 1995, Trainor, W.A. Sheet SG 51-2 (2nd edition) Western Australia Geological Survey, 1:250 000 Geological Series.

The recommended reference for this map is:
SANDERS, A. J., 2002, Regolith materials, Nicholls, W.A. Sheet SG 51-2, 3448, *in* Geochemical mapping of the Nicholls 1:100 000 sheet *by* A. J. SANDERS: Western Australia Geological Survey, Regolith Geochemistry Explanatory Notes, Plate 1

SAMPLE LOCATIONS

Sample point reference

- 152101 Stream sediment
- 152104 Sheetwash
- 152125 Soil
- 171546 Lake sediment
- 152123 Sandplain

SYMBOLS

- Track
- Watercourse
- Phenoclast Hill — Locality
- TWB4 — Water bore
- Trainor 1 — Stratigraphic drillhole

Water bore locations from STEVENS, M. K., and CARLSEN, G. M., 1998, A compilation and review of data pertaining to the hydrocarbon prospectivity of the Savory Sub-basin, Officer Basin, Western Australia: Western Australia Geological Survey, Record 1998/5, 65p.

MINERAL OCCURRENCES

MINERALIZATION STYLES: ◇ Vein and hydrothermal ú undivided
MINERAL AND ROCK COMMODITY GROUPS: ● Industrial mineral
OCCURRENCE NUMBERS: Numbers refer to GSWA WAMIN mineral occurrence database
KEY TO OPERATING STATUS: *Italic numbers* Mineral occurrence or prospect
MINERAL COMMODITY: Barite..... Brt

INTERPRETED BEDROCK GEOLOGY

PROTEROZOIC

NEOPROTEROZOIC

- d — Fine-grained dolerite dykes
- Bd — Fine-grained dolerite dykes and sills, deeply weathered (kaolinized); where dashed interpreted from aeromagnetic data

Disappointment Group
- EDf — McFADDEN FORMATION: laminated fine- to coarse-grained sandstone, feldspathic sandstone, quartz wacke; minor conglomerate, and siltstone

Sunbeam Group
- EPs — SKATES HILLS FORMATION: stromatolitic dolomite and limestone, fine- to medium-grained sandstone, siltstone, shale; basal conglomerate

Salvation Group
- EPb — BRASSEY RANGE FORMATION: fine- to coarse-grained sandstone and siltstone, quartzose and feldspathic; typically moderately indurated

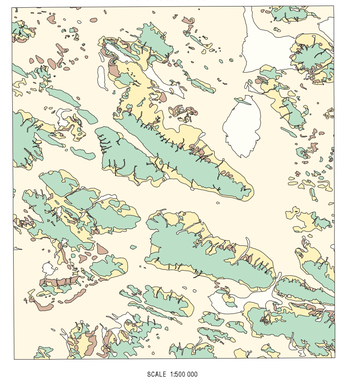
MESOPROTEROZOIC

Collier Group
- EMCo — OLDHAM SANDSTONE: fine- to medium-grained silicified sandstone, siltstone; moderately dipping

Edmund Group
- EMEn — CORNELIA SANDSTONE: fine- to medium-grained intensely silicified sandstone, siltstone, wacke; steeply dipping
- EMEq — QUADRIO FORMATION: shale, siltstone, minor sandstone, chert; steeply dipping to subvertical

- Geological boundary
- Fault, exposed
- Fault, concealed
- Syncline
- Interpreted circular gravity feature

GENERALIZED REGOLITH



- Residual
- Exposed
- Colluvial (includes low-gradient slope)
- Alluvial and lacustrine
- Sandplain

SCALE 1:500 000

Department of Mineral and Petroleum Resources
CLIVE BROWN, M.L.A., MINISTER FOR STATE DEVELOPMENT
JIM LIMERICK, DIRECTOR GENERAL

Geological Survey of Western Australia
TIM GRIFFIN, DIRECTOR

SCALE 1:100 000

1000 0 1 2 3 4 5 6 7 8 9 10
METRES KILOMETRES

UNIVERSAL TRANSVERSE MERCATOR PROJECTION
VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
HORIZONTAL DATUM: GEOCENTRIC DATUM OF AUSTRALIA 1994
Grid lines indicate 1 000 metre interval of the Map Grid Australia, Zone 51

GDA 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

SAMPLE LOCATIONS

REGOLITH GEOCHEMISTRY SERIES

NICHOLLS

SHEET 3448

FIRST EDITION 2002

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WARNING: Inks are water soluble and will fade with prolonged exposure to light