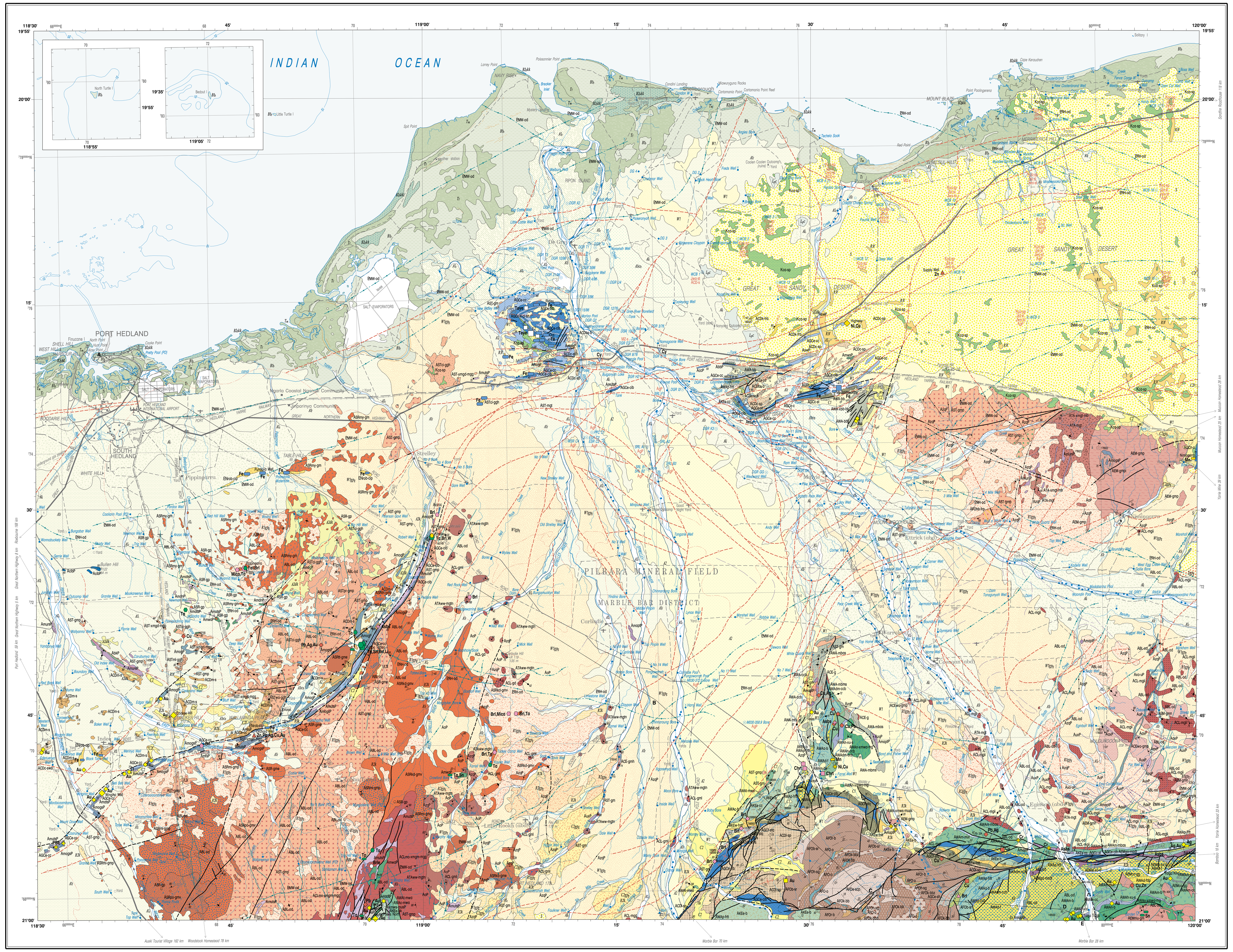
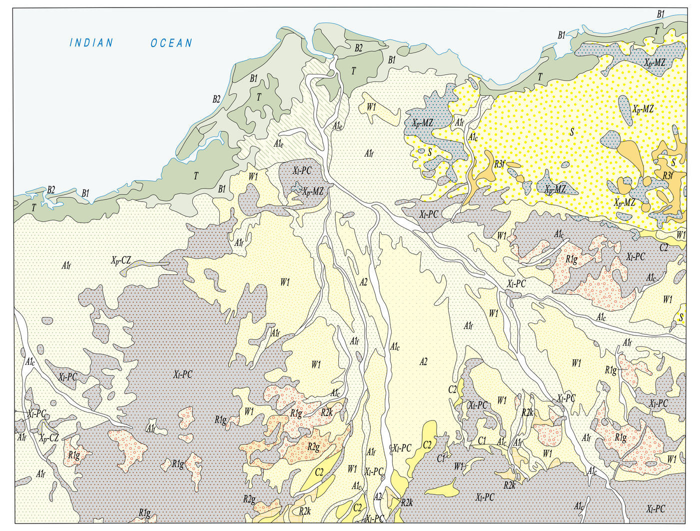
PORT HEDLAND – BEDOUT ISLAND

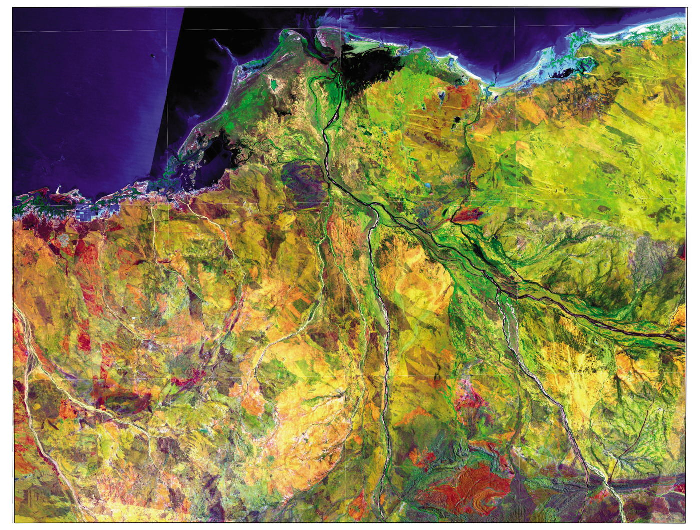
GEOLOGICAL SURVEY OF WESTERN AUSTRALIA



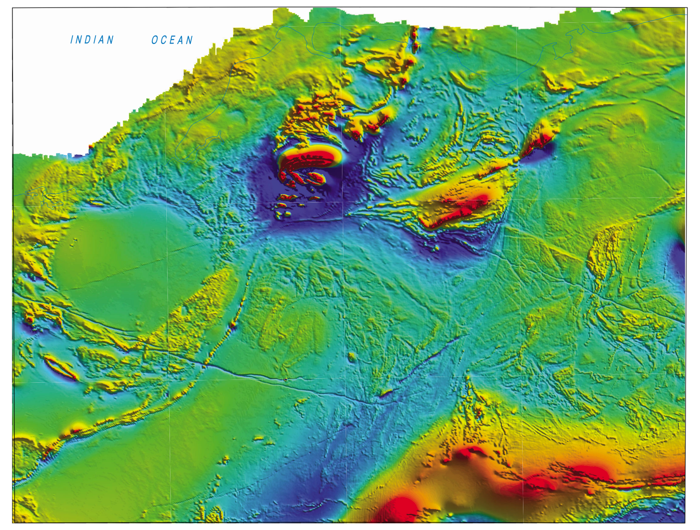
SIMPLIFIED REGOLITH



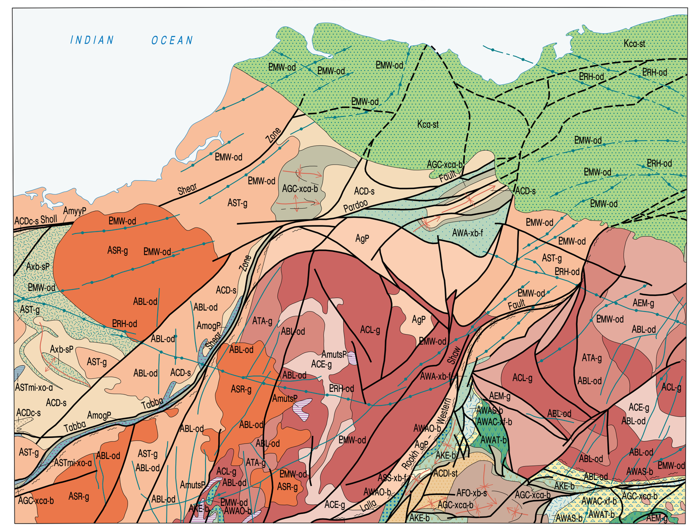
LANDSAT THEMATIC MAPPER — BANDS 7, 4, and 1



TOTAL MAGNETIC INTENSITY

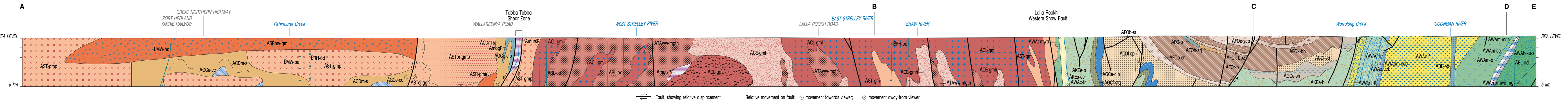


INTERPRETED BEDROCK GEOLOGY



DIAGRAMMATIC SECTION

NATURAL SCALE



BELLARY FORMATION — Coarse-grained to pebbly sandstone; minor pebble conglomerate; thickly bedded

DATA DIRECTORY

Theme	Data Source	Data Currency	Agency
Geology	GSWA	2006	Dept of Industry and Resources
Structural data	WAROX	FEB 2006	Dept of Industry and Resources
Mineral occurrences (non-confidential)	MINEDEX *	FEB 2006	Dept of Industry and Resources
	WAMIN	FEB 2006	Dept of Industry and Resources
LANDSAT	Remote sensing services	MAY 2006	Dept of Land Information
Total Magnetic Intensity	GSWA	MAY 2006	Dept of Industry and Resources
Horizontal control	GESMAR	JUN 2004	Dept of Land Information
Topographic nomenclature	GEONOMA	2005	Dept of Land Information
Topography	DLI and GSWA field survey	2001–2003	Dept of Land Information
Water bores	Water Information System (WIN)	2005	Dept of Water
Bathymetry	Nautical charts	1998	Dept of Planning and Infrastructure

* GSWA and DoIR databses can be viewed online (www.doir.wa.gov.au/aboutus/geoview_launch.asp) or can be downloaded from the GSWA Data and Software Centre (www.doir.wa.gov.au/GSWA/downloadcentre)

MINERAL OCCURRENCES

MINERALIZATION STYLES*

- Pegmatite
- Orthomagmatic mafic and ultramafic
- Vein and hydrothermal
- Stratabound volcanic and sedimentary
- Stratabound sedimentary and sedimentary banded iron-formation
- Regolith hosted
- Undivided

MINERAL AND ROCK COMMODITY GROUPS

- Precious mineral
- Precious metal
- Steel industry metal
- Speciality metal
- Base metal
- Iron
- Industrial mineral
- Construction material

MINERAL AND ROCK COMMODITIES

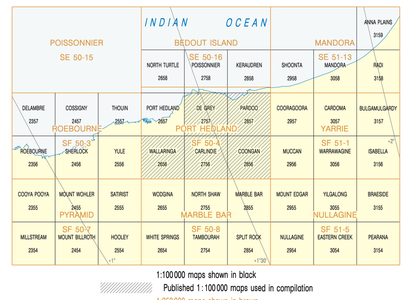
Asbestos, chrysotile (serpentine)	Asbs	Lithium	Li
Barite	Brt	Manganese	Mn
Beryl	Brl	Mica	Mica
Emerald	Brle	Nickel	Ni
Chert	Chrt	Platinum Group Elements	PGE
Chromium	Cr	Silver	Ag
Clay	Cy	Tantalum	Ta
Copper	Cu	Tiger eye	Teye
Feldspar	Fel	Tin	Sn
Gold	Au	Tungsten	W
Iron	Fe	Zinc	Zn
Lead	Pb		

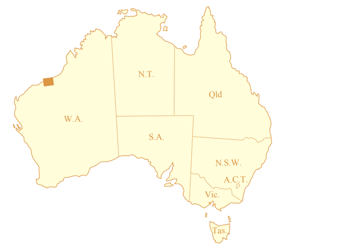
Mineral occurrences and numbers are from the GSWA WAMIN database.
* Larger symbols represent mines or deposits also in the DoIR MINEDEX database.

Geological boundary
exposed
concealed
concealed, interpreted from aeromagnetic data

Aeromagnetic lineament
Isotopic age determination site with identification number

SHEET INDEX





Search for current GSWA map products online (www.doir.wa.gov/ebookshop)

The lines indicate magnetic declination, 1995
+ means declination is east and correction must be added to compass bearing to give true bearing
- means declination is west and correction must be subtracted from compass bearing to give true bearing
Annual change is 2' easterly

Geology by M. J. Van Kranendonk and R. H. Smithies 2005

Geochronology by:
(1) M. T. D. Wingate and J. W. Giddings, 2000, Precambrian Research, v. 100, p. 335–357.
(2) T. S. Blake, 2001, Precambrian Research, v. 107, p. 139–178.
(3) N. T. Arndt et al., 1991, Australian Journal of Earth Sciences, v. 38, p. 261–281.
(4) M. T. D. Wingate, 1999, Australian Journal of Earth Sciences, v. 46, p. 493–500.
(5) M. T. D. Wingate, 2003, written communication; based on data in (1).
(6) R. H. Smithies et al., 1999, Precambrian Research, v. 94, p. 11–28.
(7) R. Buick et al., 2002, Precambrian Research v. 114, p. 87–120.
(8) I. S. Williams and W. J. Collins, 1990, Earth and Planetary Science Letters, v. 97, p. 41–53.
(9) N. J. McNaughton et al., 1993, Precambrian Research, v. 60, p. 69–98.
(10) M. Van Kranendonk, unpublished U–Pb SHRIMP data
(11) R. I. Thorpe et al., 1992, Precambrian Research, v. 56, p. 169–189.
(12) M. E. Barley et al., 1998, Precambrian Research, v. 88, p. 3–23.
(13) S. T. de Vries, 2004, Geologica Ultraiectina, No. 44.
(14) R. Buick et al., 1995, Nature, v, 375, p. 574–577.
(15) D. E. L. Baker, University of Newcastle, written communication, 2001.
(16) M. E. Van Koolwijk et al., 2001, AGSO — Geoscience Australia, Record 2001/37, p. 102–103.

GSWA geochronology data are available online at www.doir.wa.gov.au/aboutus/geoview_launch.asp or on disk

Edited by F. Eddison and G. Loan

Cartography by D. Ladbrook and B. Williams

Landsat and total magnetic intensity images processed by J. Watt

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Website www.doir.wa.gov.au Email geological.survey@doir.wa.gov.au

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Department of Industry and Resources
JOHN BOWLER, M.L.A.
MINISTER FOR RESOURCES

Geological Survey of Western Australia
TIM GRIFFIN
EXECUTIVE DIRECTOR

SCALE 1:250 000

UNIVERSAL TRANSVERSE MERCATOR PROJECTION
HORIZONTAL DATUM: GEOCENTRIC DATUM OF AUSTRALIA 1994
VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
BATHYMETRIC DATUM: LOWEST LOW SEA LEVEL

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

PORT HEDLAND – BEDOUT ISLAND

SHEET SF 50-4 AND PART OF SHEET SE 50-16 THIRD EDITION 2006
Version 1.0 — June 2006

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