

Government of Western Australia
Department of Mines and Petroleum

Calendar 2016



Geological Survey of
Western Australia





JANUARY 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				New Year's Day 1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	Australia Day 26	27	28	29	30	31



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January

www.dmp.wa.gov.au/GSWA

*Manganese dendrites in sandstone, possibly from Eastern Goldfields.
Fluid percolating through the sandstone causes the manganese
to precipitate along a bedding plane in the rock.
The central fern shape is about 5 cm long*



FEBRUARY 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	 GSWA Open Day 26	27	28
29						



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February

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*Goats grazing on banded iron-formation
at the top of Woonnaminya Hill (432 m),
some 20 km southeast of the town of
Yalgoo, Murchison goldfields*



MARCH 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	1	2	3	4	5	6
Labour Day (WA) 7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	Good Friday 25	26	Easter Day 27
Easter Monday 28	29	30	31			



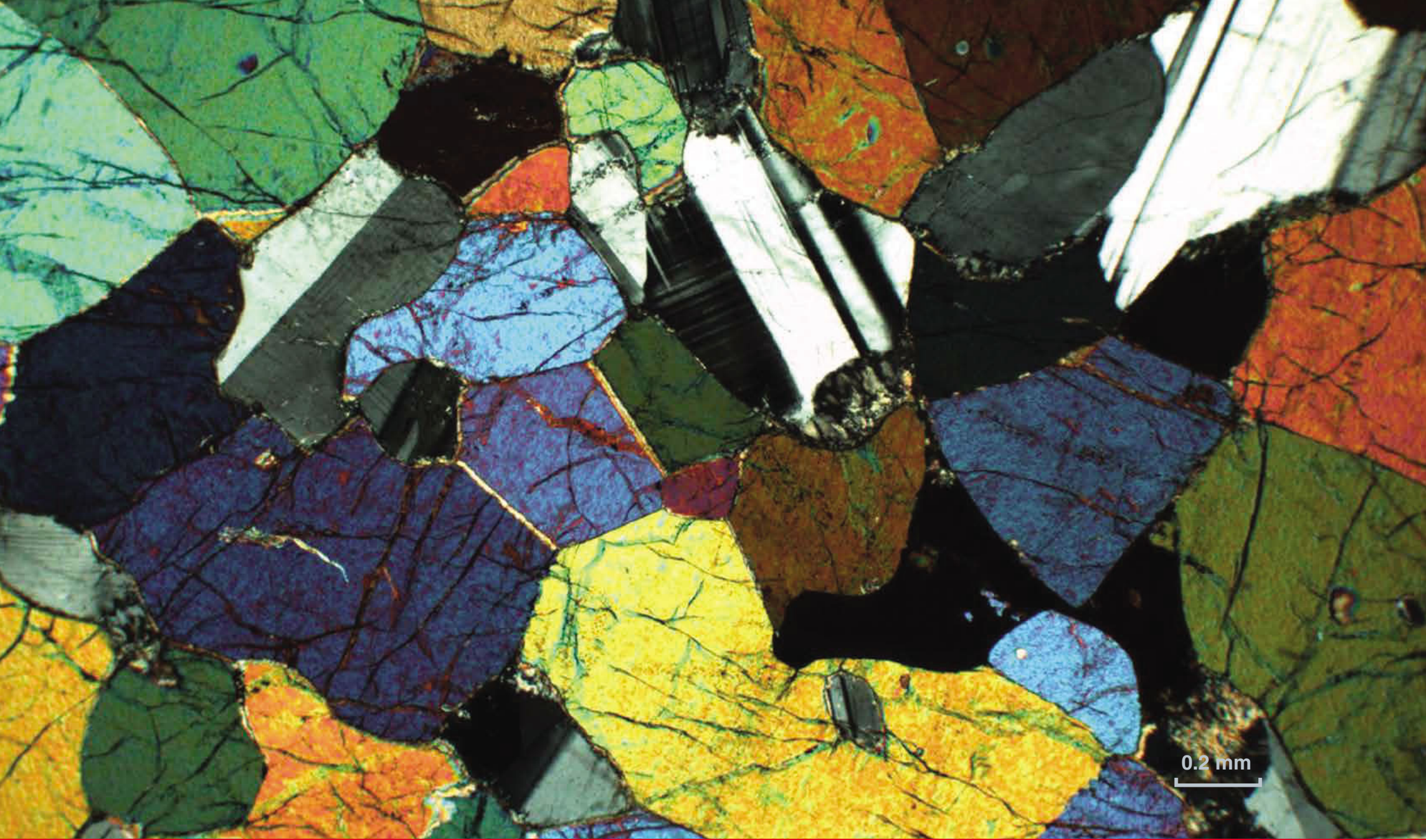
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March

www.dmp.wa.gov.au/GSWA

*A large pegmatite dyke in the southern wall of the
Marvel Loch openpit, 30 km southeast of Southern Cross.
The Marvel Loch mines have produced more than
three million troy ounces of gold*



APRIL 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				1	2	Geologists' Day 3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
Anzac Day 25	26	27	28	29	30	



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April

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This thin section of an adcumulate-textured troctolite from the Blackstone Range in the west Musgrave Province shows triple junctions mostly between olivine and plagioclase grains formed from progressive mineral growth



MAY 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29



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May

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Steeply dipping grey and pinkish quartzites of the Mesoproterozoic Mount Ragged Formation form the line of hills protruding through dense vegetation on a flat plain. In the foreground is Mount Ragged and, looking to the northeast, the wave-cut benches on the flanks of the peaks of Russell Range can be seen in the distance. Cape Arid National Park



JUNE 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		1	2	3	4	5
Western Australia Day 6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			



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June

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*Rapid deposition of intraclastic sandstone breccia initiates soft-sediment deformation of the underlying bed, with the resulting overturned flame structures indicating paleo-flow from right to left. During diagenesis reducing fluids focused on permeable pathways remove ferrous minerals giving the contrasting cream and brick red colours.
Donnybrook Sandstone, Beelerup Quarry*



JULY 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



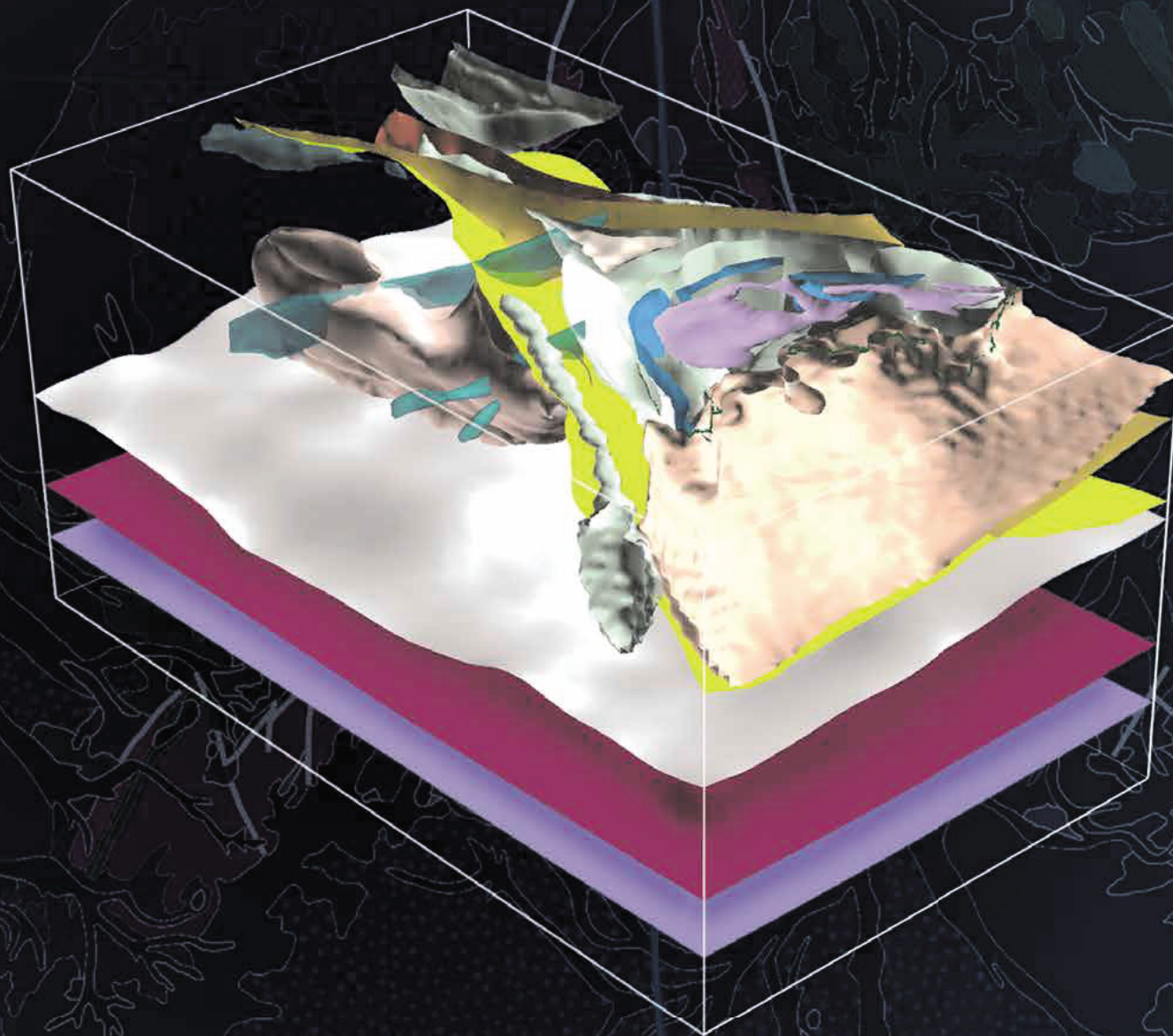
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July

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*First shafts of sunlight light up a GSWA base camp
near Dixon Range on the divide between the
west Musgrave Province and the Amadeus Basin*



AUGUST 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				



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August

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*Modelling deep levels of the Earth's crust,
Sandstone greenstone belt.
Making robust predictions of the 3D world beneath requires the
integration of geological observations with geochemical and
geophysical measurements. Generating 3D geological
models provides a challenge to how industry,
researchers, and government agencies acquire,
process, and archive geoscience data*



SEPTEMBER 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	Petroleum Open Day, Hyatt Hotel 15	16	17	18
19	20	21	22	23	24	25
Queen's Birthday (WA) 26	27	28	29	30		



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September

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*Brilliant blue-green botryoidal malachite
on a silica and iron oxide matrix.
Sample from the DeGrussa oxide zone
of the DeGrussa copper-gold mine.
Sample courtesy Murray Thompson, Sandfire Resources NL*



OCTOBER 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
31					1	2
3	4	5	6	7	8	9
10	11	12	International Women in Geoscience Day 13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30



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October

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Horizon askew, extreme reflections of the last sunrays, and back-to-front registration plate on vehicle lead the viewer to the realization that all is not as it seems. The photo is a reflection in the wing mirror of the leading vehicle. Field work in the Sylvania Inlier



NOVEMBER 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	Melbourne Cup Day 1	2	3	4	5	6
7	8	9	10	Remembrance Day 11	12	13
14	15	GIS Day 16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				



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November

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*Reworked heavy minerals on a windswept coast,
Skippy Rock near Cape Leeuwin.
Cenozoic strandlines in the Perth Basin are mined for heavy minerals
of titanium (rutile, ilmenite, and leucoxene) and zirconium (zircon).
Such strandlines are identified in the Departmental online
GIS-based mapping tool GeoVIEW.WA under
the layer called Land Use Planning*



DECEMBER 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			1	2	3	St Barbara's Day* 4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	Christmas Day 25
Boxing Day 26	Public Holiday 27	28	29	30	31	* Saint Barbara is the patron saint of miners



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December

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*Very typical regolith landscape of sheetwash with
sparse mulga vegetation in the Gascoyne region*

MINISTER FOR MINES AND PETROLEUM
Hon. Bill Marmion MLA

DIRECTOR GENERAL
DEPARTMENT OF MINES AND PETROLEUM
Richard Sellers

EXECUTIVE DIRECTOR
GEOLOGICAL SURVEY OF WESTERN AUSTRALIA
Rick Rogerson

The Geological Survey of Western Australia (GSWA) is a Division of the Department of Mines and Petroleum. We carry out geoscientific studies that reveal the geological framework of Western Australia and the potential for mineral and energy resources. Our aim is to make Western Australia the preferred destination for local, national, and multinational explorers.

GSWA manages the Exploration Incentive Scheme (EIS), a State Government initiative to encourage exploration in Western Australia for the long-term sustainability of the State's resources sector.

This initiative, originally funded at \$80 million over four years, has now been extended to June 2017, with total funding of \$130 million to stimulate increased private-sector resource exploration and ultimately lead to new mineral and energy discoveries. Most of the activities in the EIS are focused in under-explored greenfields regions.

For more information on EIS go to: <www.dmp.wa.gov.au/EIS>



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EXPLORATION
INCENTIVE SCHEME

Geological Survey of
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The photographs for this calendar were taken by Geological Survey staff (rather than professional photographers) during our field activities that take us to remote and beautiful locations throughout the State. The following photographers provided the stunning images:

Klaus Gessner, Peter Haines, Charlotte Hall, Heather Howard, Tom Lenane, Leon Normore, Andreas Scheib, Peter-Jon Waddell, Michael Wingate, Stephen Wyche, and Ivan Zibra

Front cover image: Onshore Bouguer gravity (from Geoscience Australia) merged with offshore bathymetry data for northern Western Australia

Back cover image: Elongate salt lake on the Yilgarn Craton — part of the Moore-Monger paleovalley — here viewed from the top of Wownaminy Hill, 20 km southeast of Yalgoo, Murchison goldfields

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<www.dmp.wa.gov.au/GSWApublications>

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