Department of **Energy, Mines, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

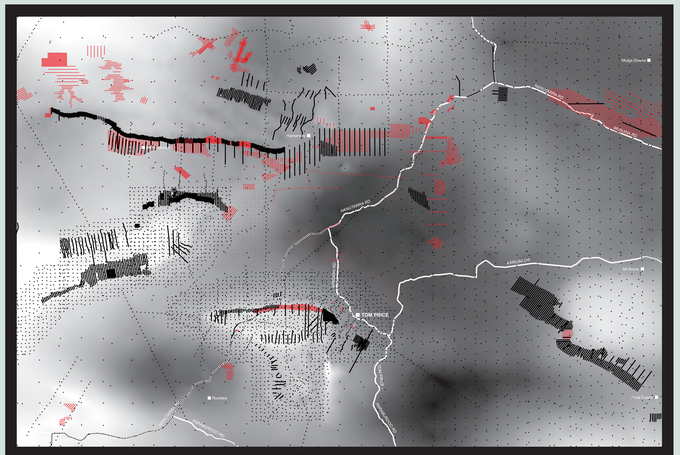
WAMEX company ground gravity data harmonisation

An example of harmonisation of data from ground gravity surveys on the MOUNT BRUCE 1:250 000 map sheet, extracted from company reports submitted to GSWA between 2001 and 2017.

Geological Survey of Western Australia

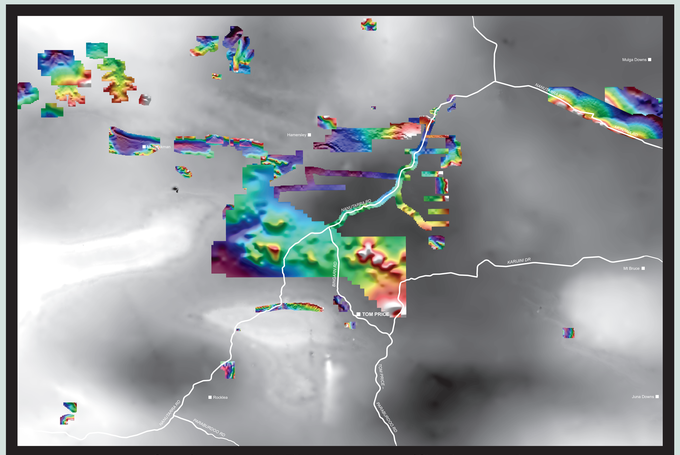
PointId	SurveyId	Date	Longitude_GDA94	Latitude_GDA94	Height_GDA94	AHD_AusGeoid09	GravObs_AAGD07_gu	FAA_gu	SCBA267_gu
62658817	A062658	2001	117.28670	-22.19930	657.87	664.61	9785954.53	291.13	-453.88
62658821	A062658	2001	117.28703	-22.19846	658.07	664.81	9785953.73	291.48	-453.76
62658825	A062658	2001	117.28748	-22.19764	658.87	665.61	9785950.83	291.57	-454.58
62658850	A062658	2001	117.28787	-22.19680	659.45	666.19	9785947.94	291.01	-455.80
62658854	A062658	2001	117.28833	-22.19600	660.15	666.89	9785943.14	288.85	-458.73
76404960	A071449	2005	117.48334	-22.81929	454.04	462.02	9786382.12	-305.87	-820.38
76404965	A071449	2005	117.48381	-22.81931	454.17	462.15	9786383.02	-304.56	-819.22
76404970	A071449	2005	117.48431	-22.81933	454.48	462.46	9786383.06	-303.57	-818.58
76404975	A071449	2005	117.48480	-22.81931	455.12	463.09	9786383.58	-301.09	-816.82
76404980	A071449	2005	117.48527	-22.81928	455.34	463.31	9786384.42	-299.55	-815.53
8670210	A086702	2009	117.44935	-22.07102	512.32	519.18	9785966.52	-65.13	-645.58
8670211	A086702	2009	117.44974	-22.07064	514.01	520.86	9785959.22	-66.99	-649.35
8670212	A086702	2009	117.45008	-22.07036	512.50	519.35	9785959.22	-71.48	-652.13
8670213	A086702	2009	117.45038	-22.07005	509.68	516.54	9785961.72	-77.46	-654.93
8670214	A086702	2009	117.45074	-22.06974	507.25	514.10	9785962.62	-83.89	-658.60
1013352	A101335	2013	117.89718	-22.67717	820.40	827.42	9785467.52	1.30	-927.31
1013353	A101335	2013	117.89650	-22.66736	803.78	810.80	9785485.03	-26.17	-936.00
1013354	A101335	2013	117.89573	-22.65720	788.68	795.71	9785501.28	-49.98	-942.77
1013355	A101335	2013	117.89552	-22.64981	788.41	795.44	9785494.46	-52.88	-945.37
1013356	A101335	2013	117.89502	-22.64072	784.15	791.19	9785496.46	-58.21	-945.88
1165832	A116583	2017	118.40500	-22.18490	401.17	407.95	9785982.08	-464.25	-918.92
1165833	A116583	2017	118.40500	-22.18410	400.88	407.67	9785982.98	-463.71	-918.06
1165834	A116583	2017	118.41200	-22.18940	400.76	407.53	9785985.18	-465.23	-919.44
1165835	A116583	2017	118.41200	-22.18860	400.55	407.32	9785985.67	-464.88	-918.86
1165836	A116583	2017	118.41200	-22.18770	400.18	406.96	9785986.20	-464.92	-918.48

Extract from dataset of 32 000 gravity stations from data in 35 WAMEX reports harmonised to standard datums and column names

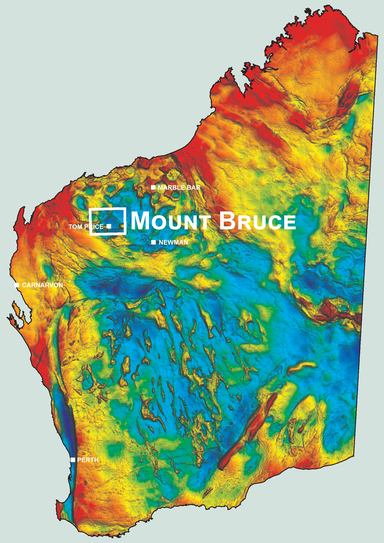


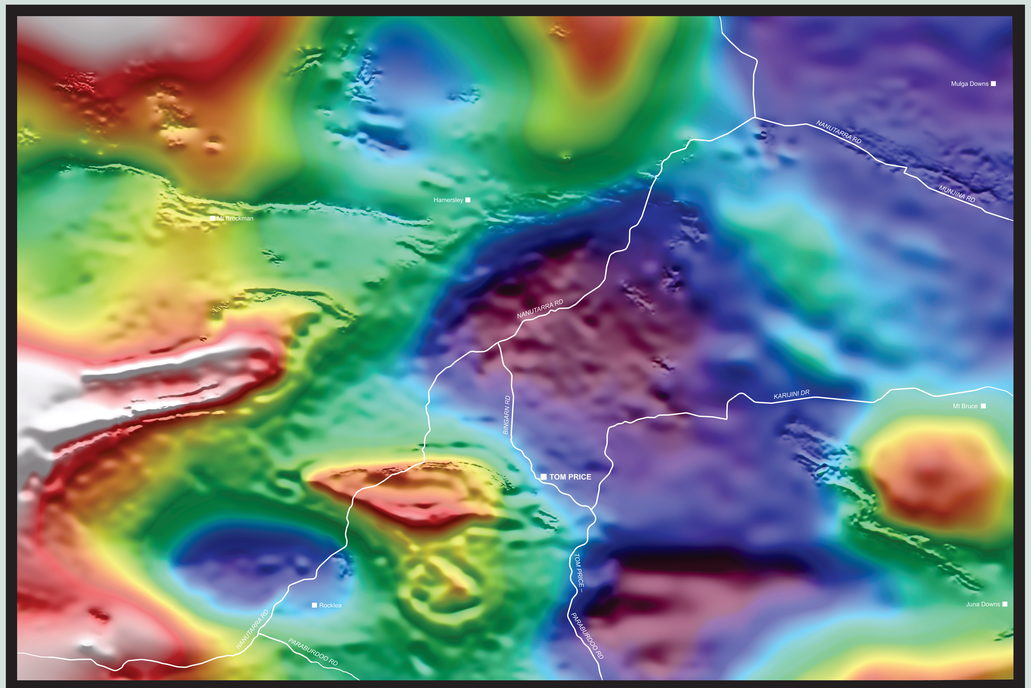
ANGD data points (black) and WAMEX data (red) on background of State Bouguer gravity

(ANGD — Australian National Gravity Dataset)

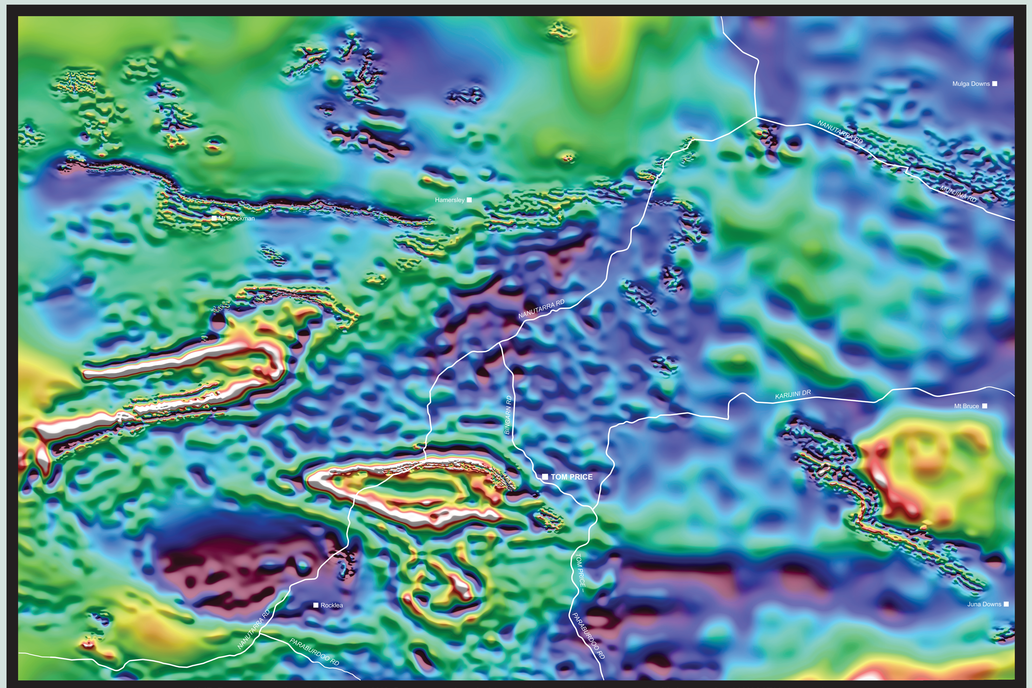


Grids of harmonised WAMEX data on background of State Bouguer gravity





Bouguer gravity grid of current WA State ground and airborne data compilation merged with harmonised WAMEX data points



1VD Bouguer gravity grid of current WA State ground and airborne data compilation merged with harmonised WAMEX data points

Data and Software Centre

Dowload data from the DEMIRS Data And Software Centre (DASC)

Data submitted to the Western Australian Mineral Exploration (WAMEX) repository by exploration companies over the years has varied with contents and datums in a range of different formats. The Geological Survey of Western Australia proposes to harmonise these varied datasets to be compiled and presented in a standard form. As an example, a subset of reports containing ground gravity data over the MOUNT BRUCE 1:250 000 map sheet was selected for a test exercise. Two different consultants were contracted to separately process the same set of reports to review their approaches and assess results. The specification provided left scope for the detail of what was required and how it would be presented. On delivery the two sets of results, while comparable, were different in some critical aspects. A more rigorous and detailed specification will be required to proceed with the project for systematic harmonisation of gravity or any other type of datasets contained in the WAMEX collection.

Acknowledgement of Country
The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) respectfully acknowledges Aboriginal peoples as being the traditional custodians of Western Australia. We acknowledge the enduring connection Aboriginal people continue to share with the land, sea and sky through both their ancestral ties and custodianship to Country. We pay our respect to Elders both past and present, and acknowledge the value brought to our department through the collective contribution of Aboriginal and Torres Strait Islander peoples across Western Australia.

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