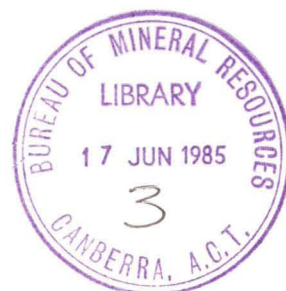




Report 261

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Gravity base-station network values, Australia



Peter Wellman, B. C. Barlow, & A. S. Murray

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BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

REPORT 261

GRAVITY BASE-STATION NETWORK VALUES, AUSTRALIA

by

Peter Wellman, B.C. Barlow, & A.S. Murray

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ABSTRACT

This Report lists stations of the Australian gravity base-station network. It gives values both on the old and on the new international gravity datums. Formulae are given for calculating gravity anomalies, and for converting between the two datums within Australia.

INTRODUCTION

The primary control for land and marine gravity surveys in Australia is an Australia-wide set of gravity base-stations and a set of gravity-meter calibration ranges. The value of gravity at the base-stations controls the gravity datum for nearby surveys, and the calibration-range intervals control gravity scale for gravity meters calibrated on the ranges. The Australian base-station network was established between 1964 and 1967 at 200 towns/airstrips uniformly across Australia (Barlow, 1970). The gravity-meter calibration ranges were established at many major towns in 1960 (Barlow, 1967).

When the Australian base-station network was established the international gravity datum was the value at Potsdam in the German Democratic Republic, and normal gravity was calculated using the 1930 international formula. The scale within Australia was defined (Dooley & others, 1961; Barlow, 1970) from gravity pendulum apparatus measurements within Australia, and the datum was defined from indirect pendulum ties between Australia and Potsdam. Gravity values on the Potsdam datum for the base-station network stations have been available since the 1965 and 1967 surveys, but they were never published because of known inconsistencies in the gravity measurements. However, these gravity values were used on all Australian gravity surveys, so they provide the datum and scale for pre-1978 maps, and for pre-1984 BMR listings of principal facts in the Australian area.

Between 1967 and 1971 the international gravity datum and normal gravity formula were changed to more correct values, which differ from the old values by about $140 \mu\text{m s}^{-2}$; the current datum is the International Gravity Standardization Net 1971 (IGSN 71; Morelli & others, 1971), and the current formula is the 1967 international gravity formula (IAG, 1967). In 1979 accurate absolute gravity measurements were made at six major centres in the Australian region (Arnautov & others, 1979). These have provided for Australia a very precise scale and datum consistent with the IGSN 71 gravity values. In 1980, gravity-meter measurements were made between the absolute sites, and these form a network that greatly strengthens the earlier base-station network measurements (Wellman & others, in press). From the results of the 1980 survey, together with the McCracken (1978) recalculation of the measured intervals of the 1964-67 survey, improved gravity values can be calculated for all Australian base-stations. This publication lists all Australian gravity base-stations, together with their positions and gravity values on the old and new gravity datums.

Before metrication the accepted gravity unit was the milligal (mGal) - i.e., one-thousandth of a Gal, where $1 \text{ Gal} = 1 \text{ cm s}^{-2}$. With metrication, all units are now SI and those incorporating lineal measurements are now based on the metre and 10^{-3} divisions of this, so the new gravity unit is the micrometre per second squared ($\mu\text{m s}^{-2}$). Hence $1 \mu\text{m s}^{-2} = 0.1 \text{ mGal} = 10^{-6} \text{ m s}^{-2} = 1 \mu\text{N kg}^{-1} = 1 \text{ gravity unit (American)}$. In this Report the unit mGal has been used for the superseded station values based on the Potsdam datum, and $\mu\text{m s}^{-2}$ is used for the current station values based on the IGSN 71 datum.

DISTRIBUTION OF GRAVITY BASE-STATIONS

The distribution of towns or locations with gravity base-stations in Australia is shown in Figure 1. The base-stations are at about 250 km intervals wherever airstrips are available. In the desert area of central and western Australia, some temporary airstrips were constructed specially for the gravity base-stations. The distribution of gravity base-stations on Australian outlying islands and on Australian Antarctic bases is shown in Figure 2.

At each town or location there are generally more than one gravity station, as a precaution against destruction of the site of one of the stations. Ideally for a small town there are two stations at the airport at separate buildings, and one station within the town. Most stations are on horizontal concrete at ground level outside buildings, and are marked by a brass disc 60 mm in diameter glued to the concrete at the station position.

Geographic positions of the stations have been scaled from 1:250 000 topographic maps with latitudes and longitudes based on Australian Geodetic Datum. Altitudes are based on Australian Height Datum (Roelse & others, 1971).

NUMBERING OF GRAVITY STATIONS IN AUSTRALIA

In order to integrate gravity data for Australia and the surrounding ocean, a system of numbering of gravity stations was adopted that provides a unique identifying number for each gravity station.

On land an eight-digit gravity station number was adopted - four digits either side of a decimal point. The integer part contains the year of the survey, and the identifying serial number of the survey, while the fractional



Fig. 1. Locations of national gravity base-stations on the Australian landmass

part specifies the individual station number. Thus the second station of the second survey of 1965 would have the number 6501.0001. For any year (1965 for example) surveys 6500 to 6529, and 6590 to 6599, would be BMR surveys, and surveys 6530 to 6589 would be surveys by other bodies. For national gravity base-stations the last two digits for any town are generally constant.

For marine surveys a ten-digit gravity station number was adopted - four digits before the decimal point with the same meaning as above, and six after. The six digits after the decimal point give for that cruise the day number, the hour, and the minute. Hence a station that was defined two minutes after midnight on the first day of the second survey in 1966 would be 6601.010002.

The derivation of International Gravity Commission numbers is given in Morelli & others (1971).

GRAVITY VALUES ON THE POTSDAM DATUM - ISOGAL65 VALUES

The calculation of Isogal65 values (May 1965 Isogal values) has been described by Barlow (1970) and McCracken (1978). The 1965 and 1967 air ties are shown in Figure 3.

Generally three gravity meters were used in each tie, one LaCoste & Romberg gravity meter, and two quartz-mechanism meters. Gravity intervals in scale divisions were calculated after corrections of meter drift had been made; Earth-tide corrections were not applied. Intervals in milligals were calculated using the makers' calibration table for the LaCoste & Romberg gravity meter, and calibrations determined from calibration ranges for the quartz-mechanism meters. Values for airports along the eastern Australian margin were calculated using the 1965 US Air Force/BMR LaCoste & Romberg gravity meter measurements (Whalen, 1966; Shirley, 1966), Melbourne A datum (station 5099.9901 = 979979.0 mGal), and mean-Australian-milligal scale (Barlow, 1970). Gravity values for stations on east-west traverses were calculated by taking the arithmetical means of air-tie estimates, and calculating westwards from the adopted east coast values. Values for stations on north-south traverses other than along the east coast were calculated using east-west traverse values.

GRAVITY VALUES ON THE IGSN 71 SYSTEM - ISOGAL84 VALUES

Isogal84 values are based on absolute gravity measurements made during 1979 in Sydney, Port Moresby, Hobart, Alice Springs, Darwin, and Perth (Arnautov & others, 1979). These measured values are compatible with IGSN 71 values at these



Fig. 2. Locations of national gravity base-stations on outlying islands and at Australian Antarctic bases



Fig. 3. Air ties between base-stations made between 1964 and 1967

cities. In 1980, measurements were made with seven LaCoste & Romberg gravity meters on the traverses shown in Figure 4 (Wellman & others, in press). A least-squares reduction of the gravity meter observations using the six absolute measurements as control gave gravity values at 50 airports. Values at the remaining airports were calculated by adopting the values at the 50 airports, using corrected intervals of the 1964-67 survey, and distributing residuals equally to all intervals between stations occupied in 1980. The air ties controlling the Isogal84 values are shown in Figure 5. The corrected intervals are the intervals for each meter after allowing for drift and Earth tides (McCracken, 1978), but adjusting to the scale factors resulting from McCracken's network adjustment. Ground ties within each town or location are from McCracken, except where there have been subsequent measurements.

GRAVITY VALUES AT OUTLYING ISLANDS AND ANTARCTIC BASES

Wellman (1976) has summarised gravity ties to Australian Antarctic bases and to Christmas Island; Williams (1981) has documented later ties at Davis base; and Williams & Murray (in preparation) have reported on ties to Lord Howe and Norfolk Islands. The gravity values of the national gravity base-stations on Australia's outlying islands and Antarctic bases (Appendix 2) were calculated from the gravity intervals presented in the reports referred to above, and from Isogal84 values for stations on mainland Australia. However, Mawson A-McMurdo A tie is taken as the pendulum result of Woollard & Rose (1963) - 2502.65 mGal - tied to the IGSN 71 value of McMurdo A, and Mawson excentre ties are recalculated using 1977 measurements. The Cocos Island value is from the IGSN 71 list.

SECONDARY TIE-STATIONS

For economic reasons many gravity surveys are not tied directly to the national gravity base-station network, but instead are tied to one or more permanently marked existing gravity stations, which have previously been tied directly or indirectly to a national base-station. Use of these secondary base-stations has the advantages that they are more convenient, because one can often be found close to the survey area, and the new survey is more closely tied to existing surrounding gravity surveys. The disadvantage of tying a new survey to an old survey is that often the precision of the new survey is higher than the old survey because of the higher reading accuracy and lower drift rate of LaCoste & Romberg gravity meters, which are often used for modern surveys.

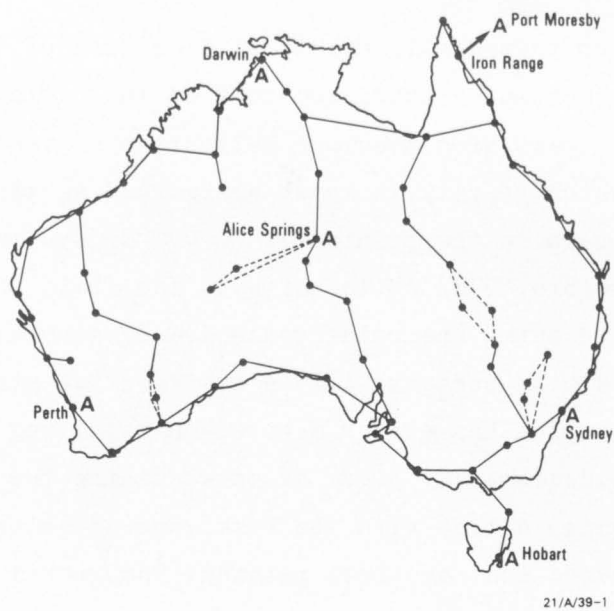


Fig. 4. Air ties between base-stations made during 1980



Fig. 5. Gravity meter base-station net, 1985

These second-order permanently marked stations are of three types:

1) Government bench-marks which are part of the national levelling network, and which are part of a previous helicopter or road gravity survey. Most bench-marks at which gravity is known are marked as permanently marked gravity stations on roads on the printed 1:500 000 or dyeline 1:250 000 BMR gravity maps issued before 1978. At the site in the field there is generally a guide post and a ground mark. The guide posts are of several types - (i) concrete posts with painted numbers; (ii) a star-section steel post about 50 mm across (star picket), which has either a wired-on metal tag with a number stamped on it or a welded-on flat piece of metal facing the road with 'BM' painted on it; and (iii) a tree with the bark removed (blazed) and symbols and letters cut into the wood and sometimes painted. The ground mark consists of (i) a short star picket, (ii) a concrete block with a metal object cast in it, or (iii) an inscribed brass disc attached to a pre-existing solid surface. In towns there are generally no guide posts but only ground marks.

2) During the helicopter gravity survey of Australia the gravity stations with the more accurately known values (cell centres) were marked by a star picket with a tag giving the station number. These are shown as permanently marked stations away from roads on pre-1978 BMR gravity maps. In some areas of Australia these may still be in place.

3) For some major detailed or semi-detailed gravity surveys the local base-station may be permanently marked and still recoverable.

BMR can provide gravity values, locations, and altitudes for all permanently marked gravity stations, and for some gravity stations (mainly bench-marks or railway stations) it can provide detailed station descriptions.

FORMULAE

Earth-tide corrections should not be necessary for many detailed and semi-detailed surveys where the local base-stations are re-occupied at intervals of less than three hours. When Earth-tide corrections are necessary, they are generally calculated on the computer using Longmans formula and a constant of 1.2. For precision surveys, use can be made of Earth-tide constants measured at seven sites over Australia (Ducarme & others, 1976).

For reducing observations on the Potsdam datum (Isogal65 values), the 1930 International Gravity Formula must be used:

$$g_n(1930) = 978\,049.0 (1.0 + 0.005\,2884 \sin^2 \phi - 0.000\,0059 \sin^2 2\phi) \quad \text{mGal}$$

where ϕ is the latitude of the gravity station. For a gravity station

h metres above sea level, the free-air correction is $0.3086h$ mGal, and for an assumed rock density ρ t m⁻³ ($\rho = 2.67$ is standard) the Bouguer correction is $-0.0419\rho h$ mGal, so the Bouguer anomaly Δg_{BA} is:

$$\Delta g_{BA}(1965) = g_{obs}(Isogal65) - g_n(1930) + 0.3086h - 0.0419\rho h \quad \text{mGal}$$

For reducing observations on the IGSN71 datum (Isogal84 values), the 1967 International Gravity Formula (Coron, 1972) must be used:

$$g_n(1967) = 9\,780\,318 \left(1 + 0.005\,3024 \sin^2\phi - 0.000\,0059 \sin^2 2\phi \right) \quad \mu\text{m s}^{-2}$$

The Bouguer anomaly is:

$$\Delta g_{BA}(1984) = g_{obs}(Isogal84) - g_n(1967) + 3.086h - 0.419\rho h \quad \mu\text{m s}^{-2}$$

In Australia, the difference between anomalies calculated on the two systems is approximately the same as that given by Anfiloff & others (1976) for the difference 'Anomaly (1967/71) - Anomaly (1930/65)', and is:

$$\Delta g_{BA}(1984) - 10\{\Delta g_{BA}(1965)\} \approx 25 - 110 \sin^2\phi \quad \mu\text{m s}^{-2}$$

where $\Delta g_{BA}(1965)$ is expressed in milligals.

The difference between anomalies in Australia varies from +2.1 mGal ($21 \mu\text{m s}^{-2}$) at Thursday Island in the north to -2.6 mGal ($-26 \mu\text{m s}^{-2}$) at Tasmania in the south.

Conversion from Isogal65 observed gravity values expressed in milligals to Isogal84 observed gravity values expressed in micrometres per second squared can be made very approximately using the linear formula:

$$g(Isogal84) = 10\{979\,671.88 + 1.000\,53 [g(Isogal65) - 979\,685.74]\} \quad \mu\text{m s}^{-2}$$

The conversion can be more accurately made using a fifth-order polynomial giving the difference (V), between the gravity values at a base-station where

$V = \text{Isogal65} - \text{Isogal84}$ mGal. At latitude D°S and longitude F°E this is expressed as a function of X and Y, where $X = F - 135^\circ\text{E}$ and $Y = D - 25^\circ\text{S}$

$$\begin{aligned} V = & + 14.1660 & - 0.183800 \times 10^{-2}X & + 0.405366 \times 10^{-1}Y \\ & - 0.220256 \times 10^{-3}X^2 & + 0.476101 \times 10^{-3}XY & + 0.709150 \times 10^{-3}Y^2 \\ & + 0.166350 \times 10^{-5}X^3 & - 0.964709 \times 10^{-4}X^2Y & - 0.373075 \times 10^{-4}XY^2 \\ & - 0.147880 \times 10^{-3}Y^3 & + 0.915962 \times 10^{-6}X^4 & + 0.764998 \times 10^{-6}X^3Y \\ & - 0.772339 \times 10^{-7}X^2Y^2 & - 0.673367 \times 10^{-5}XY^3 & - 0.982392 \times 10^{-5}Y^4 \\ & + 0.910128 \times 10^{-8}X^5 & + 0.147126 \times 10^{-6}X^4Y & + 0.666914 \times 10^{-7}X^3Y^2 \\ & + 0.568814 \times 10^{-6}X^2Y^3 & + 0.456620 \times 10^{-6}XY^4 & + 0.438121 \times 10^{-6}Y^5 \end{aligned}$$

The standard deviation of the error in using this formula is 0.05 mGal ($0.5 \mu\text{m s}^{-2}$).

CALIBRATION RANGES

A calibration range consists of two gravity stations, near a major town, that are primarily used to calibrate quartz-mechanism gravity meters (Barlow, 1967). Stations with a gravity difference of about $500 \mu\text{m s}^{-2}$ are generally

selected, because this amount approaches the largest range usable with some quartz-mechanism meters; however, a few ranges of 1000 to 2000 $\mu\text{m s}^{-2}$ have been established. Most calibration ranges use stations on the top and at the base of a hill, so that the 500 $\mu\text{m s}^{-2}$ difference can be obtained within a short driving distance. The locations of Australian calibration ranges are shown in Figure 3, and they are listed together with their gravity intervals in Table 1.

A measurement of gravity meter calibration is made by taking alternate gravity meter readings at the two stations of the calibration range; generally four readings are taken at one station and three readings at the other station over a period of no more than three hours. This process provides three semi-independent estimates of the gravity interval in scale divisions. The ratio of calibration-range gravity interval: mean measured-range interval in scale divisions gives the calibration constant of the gravity meter. The calibration constant changes slowly with time.

Unfortunately gravity meters with a quartz mechanism give readings that depend on the atmospheric pressure at the time of the reading. Hence, the calibration constant as determined above is not exactly the constant that should be used for anomalies in level country (Coutts & others, 1980). It is, however, recommended that quartz-mechanism gravity meters are calibrated as above, and the calculation carried out, if these meters are to be used for detailed and semi-detailed surveys.

LaCoste & Romberg gravity meters are generally calibrated over a 500 $\mu\text{m s}^{-2}$ range before and after major surveys, in order to check that they are working correctly in terms of reading repeatability and reading ease. Both the 500 $\mu\text{m s}^{-2}$ calibration ranges, and the 1000-2000 $\mu\text{m s}^{-2}$ calibration ranges in Canberra and Melbourne, can be used to roughly check the calibration of these meters. Accurate calibrations for precision surveys can be obtained only by using a north-south calibration line such as the Australian Calibration Line along the east coast of Australia (Wellman & others, 1974; Wellman & McCracken, 1975). Gravity differences calculated from the manufacturers' calibration tables should be multiplied by about 10.005 to give correct gravity differences in micrometres per second squared. LaCoste & Romberg gravity meter readings are not significantly affected by changes in pressure or temperature (Williams, 1983).

ACKNOWLEDGEMENT

The figures were drafted by G.A. Clarke of the BMR Cartography Section.

TABLE 1. GRAVITY INTERVALS FOR AUSTRALIAN CALIBRATION RANGES
(from Wellman & others, in press)

<u>Town</u>	<u>Gravity stations</u> <u>BMR numbers</u>	<u>Gravity</u> <u>interval</u> <u>($\mu\text{m s}^{-2}$)</u>	<u>Standard</u> <u>error of</u> <u>mean</u>	<u>Range</u> <u>destroyed</u>
Townsville	6091.0151-6091.0251	605.54	0.12	
Brisbane	6091.0147-6091.0247	582.51	0.03	
Sydney	6091.0105-6091.0205	590.03	0.08	D
Sydney	8291.0105-6091.0205	583.34	0.06	
Canberra	6491.0304-6491.0204	547.72	0.02	D
Canberra	7691.0104-7691.0204	560.02	0.02	
Canberra	7490.0001-7490.0020	2295.73	0.13	
Melbourne	6091.0101-6091.0201	530.26	0.10	
Melbourne	8090.0301-8090.0401	1707.15	0.08	
Hobart	6091.0160-6091.0260	546.48	0.06	
Adelaide	6091.0108-6091.0208	626.60	0.05	
Adelaide	6091.0108-6793.0208	1158.71	0.04	D
Alice Springs	6091.0235-6091.0135	521.68	0.05	D
Darwin	8090.0332-8090.0432	314.16	0.04	
Perth	6091.0217-6091-0117	540.18	0.20	D
Perth	7391.0117-7391.0217	542.42	0.3	
Perth	8090.0317-7391.0217	541.82	0.05	

REFERENCES

- ANFILOFF, W., BARLOW, B.C., MURRAY, A., DENHAM, D., & SANDFORD, R., 1976 - Compilation and production of the 1976 1:5 000 000 gravity map of Australia. BMR Journal of Australian Geology & Geophysics, 1, 273-276.
- ARNAUTOV, G.P., BOULANGER, Yu.D., KARNER, G.D., & SHCHEGLOV, S.N., 1979 - Absolute determination of gravity in Australia and Papua New Guinea during 1979. BMR Journal of Australian Geology & Geophysics, 4, 383-393.
- BARLOW, B.C., 1967 - Gravity meter calibration ranges in Australia. Bureau of Mineral Resources, Australia, Report 122.
- BARLOW, B.C., 1970 - National report on gravity in Australia, July 1965 to June 1970. Bureau of Mineral Resources, Australia, Record 1970/62.
- CORON, S., 1972 - Carte d'anomalies moyennes a l'air libre par 5° x 5°. Bureau Gravimetrique International, Bulletin d'Information, 29 (1) 10-13.
- COUTTS, D.A., WELLMAN, P., & BARLOW, B.C., 1980 - Calibration of gravity meters with a quartz-mechanism. BMR Journal of Australian Geology & Geophysics, 5, 1-7.
- DOOLEY, J.C., MCCARTHY, E., KEATING, W.D., WILLIAMS, L.W., & MADDERN, C.A., 1961. Pendulum measurements of gravity in Australia, 1950-51. Bureau of Mineral Resources, Australia, Bulletin 46.
- DUCARME, B., MELCHIOR P., MATHER, R.S., & BARLOW, B.C., 1976 - Tidal gravity profiles in Australia and Papua New Guinea. Unisurv G, 25, 17-53.
- IAG, 1967 - Systeme geodesique de reference 1967. International Association of Geodesy, Paris, Special Publication 3.
- MCCRACKEN, H.M., 1978 - Australian gravity network adjustment, 1975. Bureau of Mineral Resources, Australia, Report 207; BMR Microform MF68.
- MORELLI, C., GANTER, C., HONKASALO, T., McCONNELL, R.K., TANNER, J.B., SZABO, B., UOTILA, U., & WHALEN, C.T., 1971 - The International Gravity Standardization Net 1971. International Association of Geodesy, Paris, Special Publication 4.
- ROELSE, A., GRANGER, H.W., & GRAHAM, J.W., 1971 - The adjustment of the Australian levelling survey 1970-1971. Division of National Mapping, Canberra, Technical Report 12.
- SHIRLEY, J.E., 1966 - Gravity meter measurements in connection with the Western Pacific Calibration Line (Australian segment), 1965. Bureau of Mineral Resources, Australia, Record 1966/160.
- WELLMAN, P., 1976 - Gravity ties to Australian Antarctic bases and Christmas Island, 1967-1975. Bureau of Mineral Resources, Australia, Record 1976/11.

- WELLMAN, P., BOULANGER, Yu.D., BARLOW, B.C., SHCHEGLOV, S.N., & COUTTS, D.A., 1974 - Australian and Soviet gravity surveys along the Australian Calibration Line. Bureau of Mineral Resources, Australia, Bulletin 161.
- WELLMAN, P., McCONNELL, K., & WILLIAMS, J.W., in press - Australian gravity base-station network: 1980 survey. BMR Journal of Australian Geology & Geophysics, 9(3).
- WELLMAN, P., & McCracken, H.M., 1975 - Gravity measurements on Papua New Guinea crustal movement markers, and along the Australian Calibration Line, 1975. Bureau of Mineral Resources, Australia, Record 1975/126.
- WHALEN, C.T., 1966 - The West Pacific Calibration Line survey, 1964-65. United States Air Force APCS OPLAN 503, Phase Report 3.
- WILLIAMS, J.W., 1981 - Geophysical and surveying work along the Ingrid Chistensen coast near Davis base, Antarctica, 1980/1981 summer. Bureau of Mineral Resources, Australia, Record 1981/59.
- WILLIAMS, J.W., 1983 - LaCoste & Romberg gravity meters: laboratory investigations into the effects of changes of air pressure, temperature and meter supply voltage. Bureau of Mineral Resources, Australia, Record 1983/3.
- WILLIAMS, J.W., & MURRAY, A.S., in preparation - Gravity measurements at Sydney, Lord Howe and Norfolk Islands. Bureau of Mineral Resources, Australia, Record.

APPENDIX 1. GRAVITY VALUES OF NATIONAL GRAVITY BASE-STATIONS - AUSTRALIA

Station descriptions for Australian gravity base-stations are available from Director, Bureau of Mineral Resources, P.O. Box 378, Canberra A.C.T. 2601, attention Gravity Section, Division of Geophysics; Phone (062) 499111. International Gravity Commission numbers (IGC) for the localities are given after the locality name, and IGC letters are given before the BMR station number.

BMR station number	Latitude		Longitude		Altitude (m)	Gravity value		Location (for abbreviations see end)
	S (°)	(')	E (°)	(')		Isogal65 (mGal)	Isogal84 ($\mu\text{m s}^{-2}$)	
ABMINGA 41964								
J 6491.9019	26	8.1	134	51.0	216.77	978963.37	9789491.9	RS SIGN AP29
K 6600.0002	26	8.0	134	51.0	216.87	978963.37	9789491.9	FETTLERS SHED
ADELAIDE 45548								
A 5099.9908	34	55.3	138	36.3	33.	979723.60	9797097.0	UNI OBSERVATORY
J 6091.0108	34	55.4	138	40.0	111.62	979706.66	9796927.6	KENSINGTON CS1
K 6091.0208	34	55.5	138	43.6	445.38	979644.05	9796301.0	NORTON CS2
L 6491.0108	34	56.6	138	32.1	5.47	979719.02	9797051.5	A/S TERMINAL
M 6491.0208	34	47.6	138	38.3	14.51	979704.28	9796905.2	PARAFIELD A/S
N 6491.0308	34	56.6	138	32.1	5.47	979719.05	9797051.5	A/S
O 6491.0408	34	55.3	138	36.3	36.40	979722.67	9797087.7	UNI OBSERVATORY
P 6491.0508	34	47.6	138	38.3	14.52	979704.38	9796904.2	A/S PARAFIELD
Q 6491.0608	34	45.4	138	40.8	51.33	979696.47	9796825.9	OLD SPOT HOTEL
R 6491.0708	35	0.5	138	42.7	489.56	979645.15	9796312.3	MT LOFTY RS
S 6491.0908	34	55.3	138	36.3	38.47	979722.39	9797084.5	UNI PHYSICS
T 6793.0208	34	58.6	138	42.7	711.46	979590.83	9795769.1	MT LOFTY SUMMIT
U 8090.0108	34	56.6	138	32.2	5.	979719.30	9797054.3	A/S MEMORIAL
ALBANY 45747								
A 5099.9918	34	56.3	117	47.7	66.85	979706.13	9796922.9	A/S STORE
J 6491.0118	34	56.6	117	47.9	69.01	979706.60	9796927.6	A/S TERMINAL
K 8090.0118	34	36.6	117	47.9	69.	979706.57	9796927.3	A/S HANGAR
ALBURY 45466								
J 6591.1136	36	5.2	146	55.5	161.77	979771.57	9797576.8	RS
K 6591.9136	36	4.3	146	57.3	162.09	979765.62	9797517.4	A/S TERMINAL
L 6793.1136	36	4.3	146	57.3	162.09	979765.62	9797517.4	A/S TERMINAL
M 7591.1136	36	4.3	146	57.3	162.24	979765.60	9797517.4	A/S TERMINAL
N 8090.1136	36	4.3	146	57.3	162.	979765.73	9797518.5	A/S HIRE CAR
ALEXANDER SPRING 42064								
J 6491.9086	26	7.6	124	45.5	413.74	978920.62	9789063.9	A/S
ALEXANDRIA DOWNS 38396								
J 6491.9054	19	8.1	136	45.9	248.64	978502.92	9784885.2	A/S NEAR SHED

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
ALICE SPRINGS 41933						
A 5099.9935	23 48.2	133 52.7	545.	978654.03	9786397.4	A/S
B 7999.0135	23 43.	133 50.	580.	978645.08	9786307.9	ABSOLUTE
J 6491.0335	23 48.4	133 53.9	542.57	978653.70	9786394.1	A/S NEW TERM
K 6491.0135	23 48.2	133 52.9	545.31	978653.97	9786396.8	A/S OLD TERM
L 6091.0135	23 33.7	133 52.2	708.58	978641.04	9786267.6	CS1 BM68-53
M 6091.0235	23 21.3	133 48.2	713.66	978693.14	9786789.3	CS2 BM68-50
N 8090.0135	23 48.4	133 53.9	543.	978653.69	9786394.0	A/S DOT
AMMAROO 41915						
J 6491.9040	21 44.3	135 14.6	391.96	978646.66	9786323.7	A/S WINDSOCK
K 6600.0006	21 45.1	135 14.2	394.96	978646.38	9786320.9	HS BM66-21
ANNA PLAINS 38491						
A 5099.9927	19 15.3	121 29.0	6.27	978625.36	9786111.2	HS GARAGE
J 6792.0127	19 15.7	121 30.6	16.65	978624.99	9786107.4	A/S WINDSOCK
K 6792.0227	19 14.9	121 30.6	17.35	978624.47	9786102.3	A/S NEAR APRON
ANNITOWA 41916						
J 6491.9041	21 12.6	136 27.1	272.28	978627.09	9786128.1	A/S WINDSOCK
K 6491.1041	21 12.8	136 28.4	274.56	978626.54	9786122.6	HS BM64-9
ARMIDALE 45301						
A 5099.9946	30 29.3	151 38.6	1026.	979114.18	c9791001.3	UNI OLD SCIENCE
J 6491.0146	30 32.1	151 36.9	1084.	979101.73	9790876.8	A/S TERMINAL
K 6491.0246	30 31.1	151 39.2	996.79	979120.08	9791060.2	RS
L 6525.0146	30 31.5	151 38.1	1019.12	979115.36	9791013.1	MP2 PM5047
AYERS ROCK 41951						
J 6792.9213	25 20.2	131 2.9	514.08	978805.30	9787911.3	A/S WINDSOCK
K 6792.1213	25 21.2	131 3.8	523.46	978800.30	9787861.4	CURATOR LODGE
L 6205.7612	25 20.6	131 4.3	518.46	978802.93	9787887.7	BM76-12
BAIRNSDALE 45477						
J 6491.1005	37 52.9	147 34.3	47.65	979982.59	9799688.2	A/S HANGAR 103
K 6491.9005	37 52.9	147 34.3	47.63	979982.62	9799688.5	A/S HANGAR 104
BALGO HILL MISSION 42007						
J 6792.9217	20 9.2	127 50.5	337.35	978559.49	9785451.1	A/S WINDSOCK
K 6792.1217	20 8.8	127 50.1	335.50	978560.00	9785456.2	A/S END STRIP
L 5605.0029	20 8.4	127 48.2	333.84	978561.94	9785475.6	OLD MISSION N29
M 8090.1217	20 9.5	127 56.9	*****	978535.90	9785215.2	A/S NEW MISSION
BALRANALD 45443						
J 6491.9134	34 37.4	143 34.4	63.63	979695.60	9796817.3	A/S WINDSOCK
K 6491.1134	34 38.6	143 33.9	63.63	979697.05	9796831.8	PM5863
L 6491.2134	34 39.6	143 33.6	65.12	979697.71	9796838.4	RS
BARCALDINE 41835						
J 6491.9031	23 33.9	145 18.0	266.71	978797.27	9787830.4	A/S TERMINAL
K 6491.1031	23 33.4	145 17.3	266.53	978796.38	9787821.5	COURT BM38-1
L 6491.2031	23 33.2	145 16.4	257.87	978796.69	9787824.7	MAGELLAN BASE18

BMR station number		Latitude S (°) (')	Longitude E (°) (')	Altitude (m)	Gravity Isogal65 (mGal)	value Isogal84 ($\mu\text{m s}^{-2}$)	Location (for abbreviations see end)
BARLOWEERIE 42176							
J	6792.9206	27 11.0	116 16.6	299.19	979047.97	9790338.0	A/S WINDSOCK
K	6792.1206	27 11.1	116 16.7	300.16	979047.74	9790335.8	A/S SHED
L	6792.2206	27 10.8	116 16.2	296.37	979047.10	9790329.6	A/S NEAR SIGN
BARROW CREEK 41913							
J	6793.9317	21 29.8	133 54.7	496.79	978612.46	9785981.4	A/S
K	6793.1317	21 32.1	133 53.2	510.60	978605.37	9785910.4	PO HIGHWAY BM
BARROW ISLAND 42105							
J	6793.9312	20 47.6	115 25.6	19.69	978660.22	9786459.3	A/S APRON
K	6793.1312	20 47.6	115 25.6	19.60	978660.13	9786458.5	A/S WINDSOCK
BENALLA 45465							
J	6793.9302	36 33.3	146 0.0	171.31	979814.12	9798002.5	A/S TERMINAL
K	6793.1302	36 33.3	146 0.0	171.38	979814.18	9798001.9	A/S HANGAR
L	5103.0035	36 32.8	145 59.1	171.67	979814.79	9798009.2	RS
BLTOOTA 41850							
J	6491.9022	25 41.8	140 44.7	70.20	978990.95	9789767.5	HOTEL BM51-27
BIRDSVILLE 41959							
A	5099.9957	25 53.8	139 21.1	46.03	979004.07	9789898.5	NURSING HOME
J	6491.0157	25 53.9	139 20.9	46.41	979004.00	9789897.8	A/S MONUMENT
BLACKSTONE MINING CAMP 42068							
J	6491.9084	26 1.2	128 22.8	560.31	978929.40	9789152.3	A/S BM81-18
BOLLON 41887							
J	6491.9011	28 3.1	147 28.8	182.09	979133.85	9791198.0	A/S MONUMENT
K	6210.6016	28 2.2	147 28.8	182.33	979136.01	9791219.6	POLICE BM176
BOMBALA 45469							
A	5099.9903	36 54.8	149 14.5	706.	979744.61	9797306.9	BOMBALA MOTORS
J	6491.0103	36 54.4	149 10.9	736.54	979731.53	9797176.5	A/S GATE POST
K	6793.0103	36 54.4	149 10.9	739.06	979730.73	9797168.5	A/S AERO CLUB
BOULIA 41929							
A	5099.9956	22 54.6	139 54.4	154.56	978793.91	9787797.8	SCHOOL
J	6491.0156	22 55.0	139 53.9	162.97	978794.54	9787804.4	A/S CONCRETE
K	8090.0156	22 55.0	139 53.9	163.	978794.60	9787805.0	A/S TERMINAL
BOURKE 45405							
J	6491.9107	30 2.6	145 57.1	106.43	979320.08	9793061.2	A/S HANGAR
K	6491.1107	30 5.6	145 56.3	105.45	979323.07	9793091.2	COURT PM5212
L	8090.1107	30 2.6	145 57.1	106.	979320.05	9793060.9	A/S TERMINAL
BREMER BAY 45749							
J	6491.9129	34 22.7	119 19.9	38.49	979677.24	9796633.5	A/S WINDSOCK

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BRISBANE 41773						
A 5099.9947	27 30.1	153 1.1	20.19	979170.01	9791558.5	UNI
B 6491.0347	27 30.1	153 1.1	22.90	979169.44	9791553.4	UNI GEOLOGY
C 6499.0147	27 30.1	153 1.1	20.19	979170.01	9791559.2	UNI GEOLOGY
D 6091.0147	27 30.1	153 1.1	22.76	979169.40	9791553.2	UNI GEOL CS1
I 6525.0147	27 28.2	153 1.8	2.	979170.31	9791562.3	EAGLE ST WHARF
J 6491.0147	27 25.9	153 5.0	6.49	979159.59	9791455.1	A/S
K 6491.0247	27 34.3	153 .8	13.29	979168.38	9791540.9	ARCHERFIELD A/S
N 6091.0247	27 29.7	152 57.2	226.33	979111.14	9790970.7	MT COOT-THA CS2
R 7213.0147	27 25.8	153 4.9	6.	979159.89	9791458.1	A/S ANA TERM
S 7390.0147	27 25.8	153 4.8	6.	979160.25	9791461.7	A/S NR ANA TERM
T 7390.0247	27 25.9	153 5.0	6.5	979159.57	9791454.9	A/S TAA TERM
BROKEN HILL 45421						
A 5099.9941	32 2.3	141 28.2	284.24	979455.09	9794412.4	A/S DCA GARAGE
J 6491.0141	32 2.3	141 28.2	283.76	979455.28	9794414.3	A/S HANGAR
K 6491.0241	32 0.0	141 28.4	285.44	979454.50	9794407.3	A/S FLYING DOC
BROOME 38472						
J 6491.9061	17 57.2	122 14.0	9.26	978538.54	9785241.4	A/S TERMINAL
K 6491.1061	17 57.2	122 14.0	9.	978538.58	9785241.8	A/S DCA PSM1
L 6410.0010	17 57.2	122 14.0	9.13	978538.57	9785241.7	A/S DCA
M 6410.0011	17 57.2	122 14.0	9.	978538.61	9785242.2	A/S DCA
N 6410.0012	17 57.2	122 14.0	8.97	978538.64	9785242.4	A/S DCA
O 6410.0013	17 57.2	122 14.0	9.11	978538.61	9785242.1	A/S DCA
P 6410.0014	17 57.2	122 14.0	9.15	978538.54	9785241.5	A/S DCA
Q 6892.1061	17 57.4	122 14.5	6.66	978539.74	9785253.7	THOMAS PILLAR
R 6892.2061	17 57.9	122 14.2	9.53	978539.31	9785248.8	DAMPIERS CHEST
BUDGERYGARH 41893						
J 6410.0025	29 21.2	143 41.1	131.12	979260.63	9792466.9	A/S GATE
BURKETOWN 38379						
J 6491.9052	17 44.8	139 32.3	15.	978544.29	9785298.7	A/S TERMINAL
K 6491.1052	17 44.7	139 32.8	c5.	978546.31	9785318.9	POLICE QBM71
BUSSELTON 45735						
J 6793.9310	33 40.7	115 19.6	7.52	979589.05	9795751.6	A/S HANGAR
K 6793.1310	33 39.1	115 20.6	2.51	979582.79	9795688.7	PO
CAIGUNA 45626						
J 6491.9122	32 16.	125 29.	106.46	979497.30	9794833.2	A/S END STRIP
K 6491.1122	32 16.3	125 29.0	105.98	979495.76	9794817.7	JOHN EYRE MOTEL
L 6491.2122	32 16.4	125 28.0	*****	979497.30	9794832.7	MP231 Y46
M 8090.1122	32 16.3	125 29.0	106.	979495.68	9794816.9	JOHN EYRE TOILET

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CAIRNS 38265								
A 5099.9952	16	53.4	145	45.1	2.41	978500.60	9784862.3	A/S ANA HANGAR
J 5810.0152	16	53.3	145	45.1	2.	978500.54	9784861.7	A/S
K 6491.0152	16	55.8	145	46.7	3.33	978496.37	9784820.0	WHARF
L 6591.0252	16	55.7	145	46.4	3.05	978499.08	9784847.0	RS
M 6600.0152	16	53.5	145	45.2	2.	978500.66	9784862.9	A/S TAA TERM
N 8090.0152	16	53.4	145	45.1	2.	978500.66	9784862.9	A/S TAA TERMINAL
CALVERT HILLS 38377								
J 6491.9068	17	12.2	137	20.9	170.	978446.03	9784315.8	A/S DCA
K 6491.1068	17	13.7	137	19.6	168.32	978445.29	9784308.4	HS
CANBERRA 45459								
A 6718.0000	35	17.6	149	8.2	562.95	979617.83	9796039.6	BMR GRAVITY LAB
B 5099.9904	35	16.8	149	7.6	565.52	979617.01	c9796031.3	CIVIC CENTRE
J 6491.0104	35	18.5	149	11.3	567.	979620.29	9796064.1	A/S OLD TERM
K 6491.0204	35	16.6	149	5.7	803.20	979561.20	9795473.0	BLACK MT CS2
L 6491.0304	35	17.0	149	6.8	560.78	979615.92	9796020.7	UNI CS1
M 6893.0104	35	18.5	149	11.4	566.85	979620.56	9796066.8	A/S NEW TERM
N 6893.0204	35	18.5	149	11.3	565.89	979620.52	9796066.4	A/S AERO CLUB
O 6893.0304	35	17.3	149	17.9	784.52	979583.37	9795694.9	KOWEN FOREST
P 7390.0104	35	18.4	149	11.1	564.	979621.16	9796072.8	A/S APRON
Q 7490.0001	35	19.4	148	57.3	470.	979616.88	9796030.1	COTTER KIOSK
R 7490.0020	35	29.2	148	46.6	1644.	979387.31	9793734.4	MT FRANKLIN
S 7691.0104	35	17.6	149	08.2	565.	979617.16	9796032.9	BMR MAIN DOOR
T 7691.0204	35	16.3	149	09.4	842.3	979561.17	9785472.9	MT AINSLIE
U 7791.0104	35	18.5	149	11.3	567.	979620.50	9796066.2	A/S TERMINAL
V 8391.0104	35	17.6	149	08.2	565.	979617.18	9796033.1	BMR MAIN DOOR
CARNARVON 42143								
A 5099.9924	24	53.0	113	39.7	2.55	978943.88	9789295.8	A/S DCA GARAGE
J 6500.0124	24	53.0	113	39.7	2.62	978943.93	9789296.5	A/S TERM
K 8090.0124	24	53.0	113	39.7	2.5	978943.89	9789296.1	A/S WORKSHOP
CEDUNA 45523								
A 5099.9910	32	7.6	133	41.8	17.22	979452.21	9794383.0	A/S HANGAR
J 6491.0110	32	7.5	133	41.9	16.42	979452.42	9794385.1	A/S
K 6600.0110	**	****	***	****	*****	979456.04	9794421.3	CEMETERY WG51
L 8090.0110	32	7.5	133	41.9	16.	979452.50	9794385.9	A/S DOT SHED
CHARLEVILLE 41866								
J 6491.9024	26	24.9	146	15.4	301.92	978968.41	9789542.6	A/S TERMINAL
K 6491.1024	26	24.3	146	13.9	295.27	978967.68	9789535.3	COURT BM 35
CHARTERS TOWERS 41806								
J 6491.9047	20	2.8	146	16.3	290.30	978595.42	9785811.2	A/S TERMINAL
K 6491.1047	20	4.9	146	16.2	308.16	978590.80	9785764.9	RS C-46
L 6491.2047	20	5.1	146	15.1	356.52	978582.07	9785676.5	SEISMOGRAPH

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CLERMONT 41827								
A 5099.9950	22	49.6	147	38.5	267.51	978776.06	9787618.3	HOTEL
J 6491.0150	22	46.6	147	37.4	271.30	978776.50	9787622.7	A/S TERMINAL
K 6491.0250	22	49.6	147	38.5	267.79	978775.64	9787614.1	RS R-70
CLONCURRY 41800								
A 5099.9955	20	40.2	140	30.5	187.44	978651.94	9786376.5	A/S DCA
J 6491.0155	20	40.2	140	30.5	186.83	978651.61	9786373.2	A/S
COBAR 45415								
A 5099.9943	31	30.1	145	50.1	241.06	979396.20	9793823.6	POLICE
J 6491.0143	31	32.5	145	47.9	217.98	979403.15	9793893.4	A/S ON SIGN
K 6491.0243	31	30.0	145	50.5	238.55	979397.24	9793834.0	PM4917
L 8090.0143	31	32.4	145	47.7	218.	979403.07	9793892.6	A/S TERMINAL
COLAC 45483								
J 6491.9001	38	22.1	143	41.1	185.43	979993.43	9799796.4	YEO A/S HANGAR
K 6491.1001	38	20.3	143	35.8	126.28	980000.08	9799862.9	PO
L 6491.2001	38	20.6	143	35.3	133.13	979998.79	9799850.0	RS
M 6491.3001	38	20.6	143	35.3	136.65	979998.06	9799842.7	NR RS FROME K16
COOK 45500								
J 6491.9099	30	36.9	130	24.5	120.69	979320.91	9793068.7	A/S
COOKTOWN 38255								
J 6491.9072	15	26.8	145	11.2	5.	978442.24	9784278.4	A/S TERMINAL
K 6491.1072	15	27.9	145	14.9	4.47	978435.57	9784211.7	PO
L 7090.1072	15	26.8	145	11.2	5.37	978442.24	9784278.4	A/S TERMINAL
M 7390.1072	15	26.8	145	11.2	5.	978442.43	9784280.3	A/S APRON
N 8090.1072	28	1.9	145	37.2	5.	979442.23	9784278.3	A/S HOUSE
COWELL 45536								
J 6491.9132	33	40.3	136	53.6	30.79	979644.24	9796303.1	A/S TERMINAL
K 6491.1132	33	40.3	136	53.6	30.85	979644.18	9796302.5	A/S DCA PSM7
L 6600.1132	33	41.2	136	55.6	8.	979646.70	9796329.7	HARBOURS BOARD
CRESWELL DOWNS 38375								
J 6491.9067	17	57.0	135	54.1	222.61	978465.04	9784505.7	HS WINDMILL
K 6505.0833	17	57.0	135	54.1	222.9	978465.04	9784505.7	HS DAM
CROYDON 38282								
J 6491.9050	18	13.0	142	15.2	116.50	978520.16	9785057.0	A/S CATTLE GRID
K 6612.4165	18	12.3	142	14.7	115.17	978523.62	9785060.5	POLICE BM DZ-22
CUNNAMULLA 41885								
J 6491.9012	28	1.9	145	37.2	188.64	979131.69	9791176.5	A/S APRON
K 6491.1012	28	4.3	145	40.8	190.97	979131.91	9791178.7	COURT QBM36
L 8090.1012	28	1.9	145	37.2	189.	979131.74	9791177.0	A/S TERMINAL

<i>BMR station number</i>	<i>Latitude S (°) (')</i>		<i>Longitude E (°) (')</i>		<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
DALY WATERS 38363								
A 5099.9933	16	16.0	133	22.5	210.19	978389.08	9783746.2	A/S
J 6491.0133	16	16.0	133	22.5	210.06	978389.18	9783747.2	A/S RADIO MAST
K 6793.0133	16	16.0	133	22.5	210.	978389.13	9783746.7	A/S TERMINAL
L 6712.3456	16	16.0	133	22.5	210.	978389.20	9783747.4	A/S
DARWIN 38320								
A 6491.0532	12	27.5	130	50.2	22.64	978313.96	9782995.6	EX BMR OFFICE
B 5099.9932	12	25.3	130	51.8	22.13	978316.31	9783019.3	A/S
C 7999.0132	12	25.1	130	55.3	*****	978315.33	9783009.5	ABSOLUTE
J 6491.0232	12	25.3	130	52.1	27.53	978315.32	9783009.4	A/S TERMINAL
K 6491.0432	12	25.3	130	52.1	27.52	978315.32	9783009.4	A/S INT TERM
L 6491.0132	12	25.4	130	52.3	29.78	978315.00	9783006.2	A/S HANGAR
M 6491.0332	12	28.4	130	50.8	6.35	978316.81	9783024.3	WHARF
N 8090.0132	12	25.4	130	52.4	27.	978315.08	9783007.0	A/S DOT
O 8090.0232	12	25.3	130	51.8	27.	978315.30	9783009.2	A/S TERMINAL
P 8090.0332	13	13.9	131	06.7	55.	978328.92	9783145.4	CS1
Q 8090.0432	13	20.8	131	07.9	180.	978297.51	9782831.3	CS2
DECCA AIRSTRIP 42086								
J 6792.9203	28	18.8	126	3.4	360.70	979114.65	9791006.5	A/S MK-16
K 6792.1203	28	18.6	126	2.1	342.06	979119.10	9791051.0	BM
L 6792.2203	28	18.2	126	4.7	363.80	979112.23	9790982.3	BM
DERBY 38473								
A 5099.9928	17	22.3	123	39.7	6.	978520.68	c9785062.6	A/S HANGAR
J 6491.0128	17	22.3	123	39.7	6.03	978520.72	9785063.1	A/S KENT HANGAR
K 6491.0228	17	22.3	123	39.7	6.13	978520.68	9785062.7	A/S
L 6491.0328	17	22.3	123	39.7	6.30	978520.66	9785062.4	A/S
M 6500.0128	17	22.3	123	39.7	6.88	978520.42	9785059.8	A/S TERMINAL
N 6500.0228	17	18.2	123	37.5	7.40	978518.93	9785045.1	CLUB HOTEL
DE ROSE HILL 41963								
J 6491.9081	26	25.6	133	15.8	410.05	978975.45	9789612.9	A/S WINDSOCK
K 6491.1081	26	26.0	133	15.6	409.97	978975.48	9789613.2	HS GARAGE
DEVONPORT 49016								
J 6491.9141	41	10.4	146	25.5	8.23	980284.17	9802707.0	A/S NEAR TERM
K 6491.1141	41	9.6	146	21.2	24.00	980282.09	9802686.2	LIGHTHOUSE
L 6500.1141	41	10.4	146	25.5	8.41	980284.08	9802706.4	A/S TERMINAL
DUBBO 45428								
J 6491.9113	32	13.0	148	34.2	280.33	979431.88	9794180.0	A/S APRON
K 6491.1113	32	14.6	148	36.4	261.82	979440.50	9794266.2	TOWN PM2294
L 6491.2113	32	14.7	148	36.6	264.74	979440.08	9794262.0	RS EA336
M 8090.1113	32	13.0	148	34.2	280.	979431.83	9794179.5	A/S TERMINAL
DUNBAR 38262								
J 6491.9070	16	2.9	142	23.0	43.	978428.59	9784141.8	A/S
K 6491.1070	16	2.8	142	22.7	43.	978428.90	9784144.9	HOSPITAL

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isoga165 (mGal)</i>	<i>value Isoga184 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
EDMUND 42136						
J 6792.9208	23 46.1	116 5.8	336.28	978788.71	9787745.2	A/S WINDSOCK
K 6792.1208	23 46.0	116 5.7	336.28	978788.51	9787743.3	A/S STRIP
L 6792.2208	23 45.7	116 5.9	337.70	978788.38	9787742.0	A/S BM ZN-67
M 5105.3320	23 45.7	116 6.8	335.76	978787.96	9787737.7	GATE
ELCHO ISLAND 38325						
J 6491.9076	12 1.2	135 34.2	29.	978330.48	9783161.1	A/S
EMU 41982						
J 6792.9201	28 37.6	132 12.0	257.29	979167.33	9791533.9	A/S WINDSOCK
K 6792.1201	28 38.2	132 12.2	263.09	979167.91	9791539.7	BM 2980
L 6792.2201	28 38.2	132 11.6	273.67	979164.90	9791509.6	HUT
ESPERANCE 45631						
A 5099.9913	33 51.0	121 54.1	2.83	979621.06	9796071.5	DRY CLEANERS
J 6491.0113	33 41.0	121 50.1	142.84	979580.38	9795665.0	A/S TERMINAL
K 6491.0213	33 51.7	121 53.6	2.75	979621.93	9796080.1	AGRIC. DEPT.
L 8090.0113	33 41.0	121 50.1	143.	979580.37	9795664.9	A/S LIGHT BASE
EUCLA 45618						
A 5099.9911	31 43.1	128 53.5	5.	979439.54	c9794256.0	OLD TELEGRAPH
J 6491.0111	31 42.4	128 53.0	4.03	979439.40	9794254.6	A/S TROUGH
K 6491.0211	31 42.8	128 53.1	3.76	979439.62	9794256.7	ROAD JN Y88A
L 6491.0311	31 42.8	128 53.1	3.76	979439.60	9794256.7	ROAD JN Y88B
M 6491.0411	31 42.8	128 53.1	3.76	979439.60	9794256.7	ROAD JN Y88C
FITZROY CROSSING 38485						
J 6491.9060	18 11.0	125 33.7	115.43	978518.45	9785040.4	A/S TERMINAL
K 5308.9036	18 10.7	125 35.8	109.27	978521.07	9785066.6	BM T-36
FLINDERS ISLAND 49007						
J 6491.1140	40 5.7	148 0.2	30.16	980204.61	9801911.3	DCA GARAGE
K 7390.1140	40 5.6	148 0.4	31.	980204.25	9801907.9	A/S APRON
L 6491.9140	40 5.7	148 0.3	30.92	980204.49	9801910.3	A/S TERMINAL
FORREST 45608						
A 5099.9912	30 50.8	128 6.8	155.80	979306.25	9792922.2	A/S HANGAR
J 6491.0112	30 50.8	128 6.8	155.80	979306.28	9792922.6	A/S
GASCOYNE JUNCTION 42155						
J 6491.9092	25 4.1	115 8.9	139.66	978925.03	9789108.0	A/S WINDSOCK
GEORGETOWN 38283						
J 6491.9049	18 18.1	143 31.8	314.	978493.34	9784789.1	A/S GATE
K 6612.4230	18 17.5	143 32.6	294.04	978494.73	9784803.0	COURT BM EI-57

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
GERALDTON 42184						
A 5099.9920	28 47.5	114 41.9	33.95	979269.79	9792557.2	A/S DCA HANGAR
J 6500.0120	28 47.8	114 42.0	32.97	979270.48	9792564.2	A/S TERMINAL
K 7391.0120	28 46.6	114 35.7	2.	979275.38	9792613.1	WHARF HUT
L 8090.0120	28 47.7	114 42.0	33.	979270.46	9792563.9	A/S TERMINAL
M 8090.0220	28 47.5	114 42.0	33.	979270.29	9792562.2	A/S DOT
N 8090.0320	29 2.9	115 20.6	268.00	979159.06	9791449.9	LASER SITE
GIBB RIVER 38466						
J 6793.9313	16 25.2	126 26.3	506.94	978338.36	9783238.6	A/S WINDSOCK
K 6708.1557	16 26.4	126 26.6	522.43	978334.95	9783204.5	BM JK-57
L 6793.2313	16 25.8	126 25.9	498.21	978339.84	9783253.4	HS
GILES 42058						
J 6792.9973	25 2.0	128 18.0	596.13	978769.24	9787551.2	MET BUILDING
K 6792.0173	25 2.0	128 18.0	596.08	978769.30	9787551.5	METEOROLOGY
L 6792.0273	25 2.7	128 17.8	578.66	978772.56	9787584.4	A/S WINDSOCK
M 6205.7655	25 2.8	128 18.3	581.06	978773.53	9787594.1	ROAD JN BM 76-55
GLENORMISTON 41928						
J 6491.9034	22 53.3	138 48.9	156.49	978789.95	9787758.2	A/S ON SIGN
K 6491.1034	22 55.0	138 47.9	142.30	978796.58	9787824.2	HS BM5-19
GOONDIWINDI 41780						
J 6491.9009	28 31.4	150 19.5	216.50	979158.85	9791447.8	A/S
K 6491.1009	28 32.8	150 18.5	217.11	979158.99	9791449.2	COURT
L 6491.2009	28 32.8	150 18.5	217.65	979159.07	9791450.0	COURT QBM26
M 6591.1009	28 33.1	150 18.6	217.57	979159.69	9791456.2	MOBIL PM5072
N 6525.2009	28 31.4	150 19.5	217.	979158.68	9791446.1	A/S FLAG
GORDON DOWNS 38488						
J 6491.9058	18 40.9	128 35.6	335.55	978480.48	9784661.3	A/S HUT
K 6491.1058	18 40.9	128 35.6	345.72	978480.49	9784661.1	A/S BM
GRAFTON 41792						
J 6491.1110	29 41.2	152 55.5	9.56	979320.31	9793063.8	RS 1/46
K 6491.9110	29 45.6	153 1.8	28.91	979329.33	9793153.8	A/S TERMINAL
L 6491.2110	29 42.2	152 56.1	5.	979323.23	9793092.8	ROTARY PARK R52
M 8090.1110	29 45.6	153 1.8	29.	979329.31	9793153.6	A/S TERMINAL
GREEN HEAD 45704						
J 6491.9093	30 3.0	114 58.5	2.14	979359.99	9793457.2	A/S WINDSOCK
HALLS CREEK 38487						
A 5099.9929	18 13.7	127 40.0	408.78	978463.72	9784493.4	OLD HUT
J 6491.0129	18 14.2	127 40.1	409.61	978461.63	9784473.0	A/S TERMINAL
K 8090.0129	18 14.2	127 40.1	410.	978461.50	9784471.7	A/S WORKSHOP

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 (μm s⁻²)</i>	<i>Location (for abbreviations see end)</i>
HAMELIN POOL 42164						
J 6792.9207	26 25.5	114 12.4	27.64	979048.63	9790344.4	A/S WINDSOCK
K 6792.1207	26 25.5	114 12.3	26.60	979048.95	9790347.6	A/S STRIP
L 5307.0305	26 24.1	114 9.8	3.21	979052.84	9790386.5	PO
M 8090.1207	26 25.5	114 12.3	3.	979048.86	9790346.7	A/S HUT
HAMILTON 45472						
J 6491.9002	37 39.0	142 3.6	238.76	979938.39	9799246.6	A/S TERMINAL
K 6491.1002	37 44.8	142 1.7	175.44	979967.00	9799532.8	RS
L 6491.2002	37 45.0	142 0.6	*****	979965.92	9799521.8	FROME BASE B
HAWKER 45518						
J 6491.9117	31 53.5	138 25.7	321.52	979394.27	9793804.1	A/S CRICKET
K 6491.1117	31 53.5	138 25.7	322.06	979394.33	9793804.7	SCHOOL
HAY 45444						
A 5099.9942	34 30.6	144 50.5	91.16	979670.07	9796562.2	HARDWARE STORE
J 6491.0142	34 32.0	144 49.8	90.81	979671.66	9796578.0	A/S TERMINAL
HENBURY 41943						
J 6491.9037	24 35.0	133 13.5	425.98	978783.36	9787690.9	A/S BM
K 6792.1037	24 35.1	133 13.9	425.50	978784.12	9787698.5	A/S WINDSOCK
L 6106.7219	24 33.9	133 14.6	428.14	978777.63	9787633.6	BM72-19
M 8090.1037	24 35.0	133 13.5	426.	978783.61	9787693.3	A/S GATE
HERMANNSBURG 41932						
J 6792.9214	23 56.0	132 48.3	599.91	978647.48	9786332.0	A/S WINDSOCK
K 6792.1214	23 56.2	132 48.0	597.23	978648.44	9786341.6	MONUMENT
L 6131.0501	23 55.9	132 48.9	595.52	978649.64	9786353.6	A/S GATE
HOBART 49027						
A 6491.9960	42 54.5	147 19.2	132.24	980431.01	9804177.4	UNI VAULT
B 7499.0160	42 54.5	147 19.2	132.00	980431.08	9804178.2	ABSOLUTE
K 7530.0160	42 50.4	147 30.4	3.	980448.88	9804356.1	A/S TERMINAL
L 6091.0160	42 54.2	147 19.6	20.22	980444.27	9804310.0	UNI CS1
M 6091.0260	42 55.6	147 20.7	333.90	980389.56	9803763.5	MT NELSON CS2
N 6491.0260	42 53.1	147 20.0	2.41	980450.52	9804372.5	PIER
O 6491.0360	42 54.5	147 19.2	132.	980430.51	9804172.4	UNI VAULT 4399
P 7390.0160	42 50.3	147 30.3	3.	980449.24	9804359.8	A/S FUEL POINT
Q 7390.0260	42 50.4	147 30.4	3.	980447.65	9804343.9	A/S ANA HANGAR
R 6491.9138	42 53.5	147 14.2	997.80	980230.21	9802168.0	MT WELLINGTON
S 7090.1138	42 53.9	147 14.2	1265.	980169.45	9801561.8	MT WELLINGTON
T 6491.0160	42 50.4	147 30.3	3.65	980448.91	9804356.5	A/S TERMINAL
U 8090.0160	42 50.4	147 30.4	3.	980448.45	9804351.9	A/S TERMINAL
HOOKER CREEK 38380						
J 6491.9057	18 20.1	130 38.0	313.41	978474.28	9784600.2	A/S MILK BAR
HUGHENDEN 41804						
A 5099.9953	20 50.8	144 11.7	325.84	978604.31	9785900.4	ROYAL HOTEL
J 6491.0153	20 48.9	144 13.4	314.69	978610.77	9785965.0	A/S TERMINAL

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
INNAMINCKA 41870						
J 6491.9015	27 42.2	140 44.1	56.65	979115.14	9791011.0	A/S SHED IM-37
K 6211.3036	27 44.9	140 44.0	53.15	979116.75	9791027.1	MONUMENT IM-36
INVERELL 41791						
J 6491.9008	29 53.1	151 8.5	799.60	979112.85	9790988.1	A/S TERMINAL
K 6004.0910	29 45.9	151 7.2	583.69	979153.51	9791394.7	RS BM GI-10
IRON RANGE 38223						
J 6491.9073	12 47.4	143 18.3	18.	978344.91	9783305.5	A/S
K 6600.0025	12 47.3	143 18.4	18.78	978346.17	9783318.0	A/S TERMINAL
L 7390.1073	12 47.3	143 18.4	19.0	978345.86	9783314.9	A/S APRON
JULIA CREEK 41801						
J 6491.9044	20 40.0	141 43.4	122.39	978654.25	9786399.7	A/S TERM H16
KALGOORLIE 45601						
A 5099.9914	30 46.9	121 27.7	355.75	979290.73	9792766.5	A/S DCA HANGAR
J 6491.0114	30 47.0	121 27.4	358.50	979290.38	9792763.1	A/S TERMINAL
K 6491.0214	30 46.9	121 27.7	355.46	979290.50	9792764.3	A/S CONCRETE
KALLAKOOPAH AIRSTRIP 41977						
J 6491.9017	27 43.3	137 38.3	-4.68	979142.96	9791289.1	SHOT POINT E95
KALUMBURU 38446						
J 6491.9062	14 17.4	126 37.8	21.82	978358.57	9783441.4	A/S HUT
K 6793.1062	14 17.5	126 38.6	20.69	978358.60	9783441.8	BM FK-5
KATHERINE 38342						
J 6793.9318	14 27.0	132 16.4	107.88	978344.91	9783305.0	A/S WORKSHOP
K 6793.1318	14 27.0	132 16.4	107.89	978344.86	9783304.5	A/S EQUIPMENT
L 6410.0020	14 27.0	132 16.4	107.88	978344.93	9783305.2	A/S TERMINAL
M 8090.1318	14 31.3	132 22.6	129.7	978339.27	9783248.6	A/S TERMINAL
N 8090.2318	14 31.3	132 22.6	129.2	978339.17	9783247.6	A/S DOT
KEMPSEY 45312						
J 6491.9111	31 4.3	152 46.0	14.72	979426.34	9794124.1	A/S TERMINAL
K 6491.1111	31 4.7	152 50.0	9.60	979436.10	9794221.8	RS PLATFORM
L 7390.1111	31 4.3	152 46.0	15.	979426.26	9794123.3	A/S APRON
M 6525.2111	31 4.9	152 49.9	*****	979436.28	9794223.6	RS R29
N 6525.1111	31 4.6	152 50.0	*****	979436.47	9794225.5	RAILWAY MP313
O 8090.1111	31 4.2	152 46.0	15.	979426.40	9794124.7	A/S HANGAR
KENMORE PARK 41962						
J 6491.9082	26 20.4	132 28.8	606.18	978892.37	9788782.2	A/S
K 6491.1082	26 19.7	132 26.8	615.74	978886.71	9788725.6	HS GARAGE
KERANG 45453						
J 6793.9303	35 44.9	143 56.0	77.18	979787.36	9797735.1	A/S GARAGE
K 6793.1303	35 44.9	143 56.0	77.57	979787.38	9797735.3	A/S GATE
L 5608.0018	35 44.0	143 55.4	79.23	979786.26	9797724.2	RS

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
KINGAROY 41761						
J 6491.9027	26 34.9	151 50.4	437.96	978982.79	9789686.6	A/S TERMINAL
K 6491.1027	26 32.8	151 50.3	429.60	978986.23	9789721.0	NR COURT QBM33
L 6491.2027	26 33.6	151 50.3	433.77	978985.73	9789716.3	RAILWAY
KING ISLAND 45493						
J 6491.9143	39 52.9	143 53.5	36.69	980196.73	9801832.8	A/S TERMINAL
K 6491.1143	39 52.9	143 53.5	37.41	980196.87	9801834.2	A/S POWER
KINGSCOTE 45557						
J 6793.9306	35 42.7	137 31.5	6.30	979828.71	9798148.3	A/S TERMINAL
K 6793.1306	35 42.6	137 31.4	6.65	979828.59	9798147.1	A/S DCA STORE
L 8090.1306	35 42.6	137 31.5	20.	979828.72	9798148.4	A/S LIGHT TOWER
LAKE EVERARD 45515						
J 6491.9118	31 44.1	135 1.6	124.73	979447.15	9794332.4	A/S NR WINDSOCK
K 6491.1118	31 43.9	135 1.9	123.48	979446.80	9794328.9	A/S END STRIP
LAKE NASH 41907						
J 6491.9042	20 58.8	137 55.0	192.52	978636.82	9786225.4	A/S ON SIGN
K 6600.0007	20 58.0	137 55.0	192.39	978636.69	9786224.1	POLICE BM62-15
LAKE YEO 42084						
J 6792.9204	28 4.0	124 23.5	353.66	979052.77	9790387.4	A/S END STRIP
K 6792.1204	28 4.0	124 23.5	359.83	979051.30	9790372.7	A/S
L 6792.2204	28 4.1	124 23.7	355.26	979052.52	9790384.9	A/S ROAD
LAUNCESTON 49017						
A 6491.9971	41 32.9	147 12.6	170.10	980275.47	9802620.1	A/S FIRE
J 6491.0171	41 33.1	147 12.5	171.86	980275.65	9802622.0	A/S OLD APRON
K 6491.0271	41 33.1	147 12.5	171.95	980275.89	9802624.6	A/S OLD TAA
L 6491.0371	41 33.1	147 12.5	171.91	980275.78	9802623.3	A/S OLD ANA
M 6850.0171	41 32.8	147 12.3	170.	980275.46	9802620.2	A/S NEW TERM
N 6850.0271	41 32.8	147 12.3	171.	980275.39	9802619.3	A/S NEW TERM
R 6491.1003	41 23.6	147 25.6	1317.8	980027.87	c9800144.3	MT BARROW HUT
S 6491.9003	41 22.8	147 25.4	1308.9	980026.15	c9800127.1	MT BARROW HUT
LAVERTON 42082						
A 5099.9915	28 37.5	122 24.2	456.19	979101.92	9790879.1	SEWELL'S HOUSE
J 6792.0115	28 36.8	122 24.7	461.06	979097.77	9790837.5	A/S FUEL SHED
K 6792.0215	28 37.0	122 25.0	462.36	979096.64	9790826.3	A/S WINDSOCK
L 8090.0115	28 36.9	122 24.8	462.	979097.32	9790833.1	A/S TERMINAL
LAWN HILL 38388						
J 6491.9053	18 34.7	138 34.8	105.67	978526.50	9785120.9	A/S QUARTERS
LEIGH CREEK 45508						
A 5099.9937	30 27.9	138 24.7	192.68	979319.87	9793058.4	A/S TERMINAL
LONGREACH 41834						
A 5099.9954	23 26.5	144 16.0	191.01	978790.35	9787761.6	A/S EQUIPMENT
J 6491.0154	23 26.5	144 16.0	191.02	978790.35	9787761.6	A/S EQUIPMENT

<i>BMR station number</i>	<i>Latitude S (°) (')</i>		<i>Longitude E (°) (')</i>		<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
LOONGANA 45617								
J 6491.9098	30	56.6	127	1.8	180.70	979352.81	9793387.7	A/S FUEL SHED
MACKAY 41819								
A 6499.9961	21	8.9	149	11.3	5.39	978734.94	9787207.5	AMBULANCE BOARD
J 6491.0161	21	10.3	149	11.0	3.99	978734.08	9787198.7	A/S TAA
K 6305.1223	21	8.6	149	11.4	6.34	978735.36	9787211.6	COURT BM7
L 6410.0002	21	10.1	149	11.0	3.8	978733.81	9787196.1	A/S
M 7390.0161	21	10.3	149	11.0	4.	978733.96	9787197.6	A/S APRON
N 6410.0003	21	9.0	149	11.0	*****	978734.40	9787202.0	RS STEPS
O 6003.0639	21	9.0	149	11.0	6.10	978734.42	9787202.3	RS TM-49
P 8090.0161	21	10.2	149	11.0	4.	978733.97	9787197.4	A/S TERMINAL
MADURA 45617								
J 6491.9121	31	53.5	127	1.7	97.98	979464.23	9794502.7	A/S END STRIP
K 6491.1121	31	53.3	127	1.6	98.61	979464.53	9794505.7	A/S WINDSOCK
MALLACOOTA 45479								
J 6491.9006	37	36.1	149	43.4	24.79	979998.71	9799849.3	A/S GATE EV633A
K 6491.1006	37	36.1	149	43.4	24.81	979998.65	9799848.7	A/S GARAGE
MALLAPUNYAH SPRINGS 38365								
J 6491.9066	16	57.9	135	46.6	192.	978454.12	9784396.6	A/S WINDSOCK
MANINGRIDA 38324								
J 6491.9077	12	03.	134	14.2	24.	978280.08	9782656.5	A/S GATE
MANNAHILL 45420								
J 6491.9116	32	25.8	140	.5	364.09	979445.75	9794318.9	A/S STRIP
K 6491.1116	32	25.9	140	.7	364.99	979445.64	9794317.8	ROADSIDE
MARALINGA 45501								
J 6491.9100	30	9.8	131	37.4	254.42	979283.88	9792698.5	A/S TERMINAL
MARGARET RIVER 38486								
J 6491.9059	18	37.2	126	52.3	276.71	978496.46	9784820.6	A/S WINDSOCK
K 6491.1059	18	37.8	126	51.7	272.87	978495.36	9784809.5	NEAR HS BM13-5
MARQUA 41927								
J 6491.9035	22	48.9	137	21.1	233.93	978764.93	9787507.3	A/S STORE
K 6600.0008	22	48.9	137	21.1	233.65	978764.91	9787507.1	A/S GARAGE
MARYBOROUGH 41752								
A 5099.9948	25	31.2	152	42.8	10.77	979021.42	9790072.8	A/S HANGAR
J 6591.0148	25	32.5	152	42.0	11.34	979023.17	9790090.4	RS BM BM-13
K 8090.0148	25	31.	152	48.	11.	979021.26	9790071.2	A/S TERMINAL
MEEKATHARRA 42168								
J 6491.9090	26	36.6	118	32.7	517.07	978918.30	9789040.6	A/S NEW TERM
K 6491.1090	26	36.7	118	32.9	517.56	978919.46	9789051.8	A/S AERADIO

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
MELBOURNE 45474						
A 5099.9901	37 47.2	144 53.5	34.72	979979.00	9799652.3	FOOTSCRAY
B 6591.0401	37 47.2	144 53.5	35.	979979.03	9799652.6	FOOTSCRAY
C 6491.0501	37 47.2	144 53.5	34.69	979979.02	9799652.4	FOOTSCRAY
D 6491.0201	37 47.2	144 53.5	35.	979979.01	9799652.4	FOOTSCRAY
E 6591.0101	37 47.2	144 53.5	34.27	979979.18	9799654.1	FOOTSCRAY
F 6491.0401	37 49.9	144 58.5	27.	979986.22	9799724.4	OLD OBSERVATORY
H 5099.9939	37 53.2	145 22.5	377.30	979909.25	c9798954.8	KALLISTA EV37
J 6591.0201	37 43.8	144 53.6	74.41	979962.04	9799482.6	ESSENDON A/S
L 6591.0301	37 43.8	144 53.6	74.	979962.05	9799482.7	ESS. A/S
M 6491.0101	37 43.8	144 53.9	76.65	979961.18	9799474.0	ESS. A/S TERM
N 6491.0301	37 43.8	144 53.9	76.87	979961.16	9799473.8	ESS. A/S TAA
O 7591.0101	37 53.4	145 19.1	*****	979949.00	9799352.7	FERNTREE GULLY
P 6091.0101	37 53.4	145 19.1	185.37	979947.67	9799338.6	FERNTREE CS1
Q 6091.0201	37 53.2	145 20.4	446.52	979894.63	9798808.3	FERNY CREEK CS
R 5491.0101	37 53.4	145 17.3	*****	979964.87	c9799511.0	BRENOCK PARK
S 5491.0201	37 53.2	145 22.5	377.26	979909.18	c9798954.1	KALLISTA GARAGE
T 6592.0201	37 34.3	145 29.3	601.79	979817.15	9798033.7	TOO OBSERVATORY
U 7090.9401	37 58.5	145 5.6	16.40	980001.82	9799880.5	MOORABBIN A/S
V 7213.0101	** ****	*** ****	*****	979945.53	9799317.3	TULL A/S TERM
W 7390.0101	37 43.8	144 53.9	77.1	979961.22	9799474.4	ESS A/S TERM
Y 7090.0101	37 43.8	144 53.9	76.65	979961.14	9799473.6	ESS A/S TERM
Z 8090.0201	** ****	*** ****	*****	979948.17	9799343.8	TULL CUSTOMS
8090.0301	37 30.0	144 45.0	*****	979897.29	9798835.0	MACEDON CS1
8090.0401	37 23.0	144 35.0	1001.	979726.57	9797127.8	MACEDON CS2
MENINGIE 45559						
J 6793.9305	35 41.5	139 21.8	2.15	979791.56	9797777.0	A/S GATE
K 6793.1305	35 41.4	139 21.4	5.14	979790.21	9797763.5	HS WOOLSHED
MERIMBULA 45469						
J 6793.9301	36 54.7	149 54.1	2.10	979939.08	9799252.8	A/S TERMINAL
K 6793.1301	36 53.8	149 54.7	2.24	979938.89	9799250.8	A/S
MERREDIN 45718						
A 5099.9916	31 28.5	118 16.3	316.56	979344.50	9793302.9	OLD CONC. FLOO
J 6491.0116	31 30.1	118 17.5	339.54	979343.03	9793288.2	MP334
MIDDLETON 41821						
J 6491.9033	22 22.6	141 31.3	182.65	978767.48	9787533.4	A/S BM MR2
K 6491.1033	22 21.2	141 32.8	185.89	978763.62	9787494.8	HOTEL BM20-46
MILDURA 45442						
A 5099.9940	34 13.9	142 5.0	53.14	979655.78	9796419.3	A/S ENCLOSURE
J 6491.0140	34 13.9	142 5.0	52.57	979655.86	9796420.1	A/S TERMINAL
K 6491.0240	34 13.9	142 5.0	52.73	979655.88	9796420.3	A/S HANGAR
MILES-CONDAMINE 41760						
J 6491.9026	26 48.7	150 9.7	302.14	978996.23	9789820.8	A/S BM BA51
K 6525.0001	26 48.7	150 9.8	303.27	978995.98	9789818.3	A/S TERMINAL

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
MITCHELL 41867						
J 6491.9025	26 29.4	147 56.4	341.89	978967.38	9789532.4	A/S TERMINAL
K 6491.1025	26 29.4	147 58.2	*****	978969.63	9789555.2	NR MEMORIAL
L 6491.2025	26 29.4	147 57.9	337.77	978969.20	9789550.6	RS BM BC05
MITCHELL RIVER MISSION 38251						
J 6491.9069	15 29.0	141 44.8	6.	978392.98	9783785.7	A/S FUEL DUMP
K 6491.1069	15 28.5	141 44.7	21.62	978392.71	9783783.0	MISSION STORE
MOUNT CURIOUS AIRSTRIP 42174						
J 6793.9309	27 26.2	114 18.1	122.14	979143.47	9791293.2	A/S WINDSOCK
K 6793.1309	27 26.3	114 18.0	120.00	979144.08	9791299.3	A/S TELEGRAPH
MOUNT DAVIES 42069						
J 6491.9083	26 10.5	129 8.5	629.90	978957.65	9789434.7	MINING CAMP
MOUNT GAMBIER 45470						
A 5099.9907	37 50.1	140 46.7	43.54	979993.65	9799799.0	POLICE STORE
J 6491.0107	37 44.7	140 47.1	63.29	979977.22	9799634.7	A/S TERMINAL
K 8090.0107	37 44.7	140 47.1	63.	979976.65	9799629.0	A/S HANGAR
MOUNT ISA 41909						
J 6491.0162	20 40.1	139 29.3	337.	978618.72	9786044.4	A/S TERMINAL
K 6491.9962	20 40.1	139 29.3	336.60	978619.01	9786047.3	A/S NEW FIRE
L 6491.0262	20 44.4	139 28.8	*****	978617.74	9786034.6	RS BM8-7
M 6610.7385	20 40.0	139 29.2	336.21	978618.69	9786044.1	A/S TAA HANGAR
N 8090.0162	20 40.1	139 29.3	337.	978618.65	9786043.7	A/S TERMINAL
MOUNT MAGNET 42187						
A 5099.9921	28 3.7	117 50.8	424.74	979074.71	9790605.9	ROAD BOARD HUT
J 6792.0121	28 6.9	117 50.4	406.51	979071.94	9790578.2	A/S TERMINAL
K 6792.0221	28 7.0	117 50.4	405.52	979071.89	9790577.7	A/S SHED
MOUNT VERNON 42148						
J 6792.9210	24 13.4	118 15.2	398.83	978791.12	9787769.9	A/S WINDSOCK
K 6792.1210	24 13.5	118 15.0	399.53	978790.81	9787767.0	A/S STRIP
L 6792.2210	24 13.8	118 14.3	403.16	978790.86	9787767.3	RS MAG. STN.
MOUNT WILLOUGHBY 41974						
J 6491.9018	27 58.7	134 8.7	278.53	979092.02	9790780.4	A/S WINDSOCK
K 6792.1018	27 57.4	134 8.7	266.37	979093.20	9790791.2	HS BM2615
MUNDIWINDI 42030						
A 5099.9923	23 52.0	120 9.5	569.38	978746.06	9787318.9	HS
J 6792.0123	23 45.8	120 15.3	580.94	978729.59	9787154.2	A/S WINDSOCK
K 6792.0223	23 45.8	120 15.3	580.69	978729.94	9787157.7	A/S ROAD TO PO
L 6792.0323	23 47.9	120 14.4	571.03	978739.44	9787252.7	POWER HS BM ZO-1
MUNGERANIE 41988						
J 6491.9016	28 2.3	138 39.1	53.40	979147.71	9791336.6	A/S
K 6600.0009	28 1.1	138 39.7	57.96	979142.50	9791284.5	HS GARAGE

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NARRABRI 45409								
J 6491.9108	30	19.1	149	49.6	222.99	979311.39	9792974.4	A/S TERMINAL
K 6491.1108	30	19.5	149	47.0	212.82	979313.07	9792991.2	HOTEL PM 3913
L 6491.2108	30	19.9	149	47.5	213.65	979313.48	9792995.4	POWER POLE 5-37
M 8090.1108	30	19.2	149	49.6	223.	979311.79	9792978.4	A/S WINDSOCK
NARRANDERA 45446								
J 6491.9135	34	42.4	146	30.5	145.	979680.92	9796670.4	A/S TERMINAL
K 6491.1135	34	44.5	146	33.3	175.31	979680.57	9796666.6	RS GS EAS 27
L 6491.2135	34	45.8	146	32.3	144.88	979681.64	9796677.3	ROAD JN SM4170
NEWCASTLE 45321								
J 7090.9402	32	48.3	151	50.4	5.09	979582.23	9795682.9	A/S TERMINAL
NEWCASTLE WATERS 38373								
J 6793.9316	17	22.7	133	24.6	210.04	978440.58	9784261.6	A/S HANGAR
K 6793.1316	17	22.4	133	24.6	209.67	978439.52	9784251.0	PO RESIDENCE
NEWRY 38469								
J 6491.9063	16	3.6	129	12.2	100.00	978383.56	9783691.4	A/S SHELTER
NHILL 45461								
J 6793.9304	36	18.7	141	38.8	127.01	979820.56	9798066.9	A/S AERO CLUB
K 6793.1304	36	18.7	141	38.8	127.86	979820.58	9798067.1	A/S HANGAR
L 4905.2000	36	19.8	141	39.1	130.	979823.97	9798101.0	SILOS
NOCCUNDRA 41872								
J 6491.9014	27	49.1	142	35.2	92.28	979134.65	9791206.1	POLICE
K 6525.0002	27	48.6	142	35.8	96.85	979135.23	9791211.9	A/S BM NI-1
NOOKAWARRA 42166								
J 6491.9091	26	14.5	116	50.7	343.95	978952.89	9789386.5	A/S SIGNAL SIGN
NORMANTON 38271								
J 6491.9963	17	41.3	141	4.3	16.92	978517.73	9785033.0	A/S TERMINAL
K 6491.0163	17	41.3	141	4.3	16.9	978517.75	9785033.2	A/S TERM C20
L 6491.0263	17	40.3	141	4.7	9.	978518.84	9785044.1	POLICE QBM70
M 8090.0163	17	41.1	141	4.3	17.0	978517.63	9785032.0	A/S SHED
NORSEMAN 45621								
J 6491.9123	32	12.4	121	45.4	263.34	979416.73	9794027.9	A/S CONCR FLOOR
K 8090.1123	32	12.4	121	45.4	263.	979416.71	9794027.7	A/S TOILETS
NULLARBOR 45510								
J 6491.9120	31	26.5	130	53.7	61.40	979405.75	9793918.2	HS PETROL PUMP
K 6491.1120	31	27.1	130	53.7	60.43	979406.67	9793927.4	ROAD TO HS
NYNGAN 45417								
J 6491.9114	31	33.1	147	11.9	172.47	979431.71	9794178.8	A/S TERMINAL
K 6491.1114	31	32.3	147	12.0	170.54	979434.13	9794203.0	MP SSM4700
L 6525.1114	31	33.4	147	11.1	171.84	979431.53	9794177.0	BRIDGE SSM3173

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OENPELLI 38323						
J 6491.9078	12 19.7	133 3.2	8.40	978318.97	9783045.9	A/S DCA PSM1
ONSLOW 42115						
A 5099.9925	21 39.9	115 6.7	2.95	978773.71	9787594.8	A/S WORKSHOP
J 6500.0125	21 39.9	115 6.7	3.26	978773.80	9787595.7	A/S TERMINAL
K 6792.0225	21 39.9	115 6.7	3.25	978773.83	9787596.0	A/S TERMINAL
L 8090.0125	21 39.9	115 6.6	3.	978773.72	9787594.9	A/S WINDSOCK
OODNADATTA 41975						
A 5099.9936	27 33.2	135 26.4	113.9	979099.86	9790858.4	A/S STORE
J 6491.0136	27 33.4	135 26.2	112.51	979099.94	9790859.2	A/S
K 8090.0136	27 33.4	135 26.1	112.	979100.01	9790859.9	A/S SHED
O.T. DOWNS 38365						
J 6491.9065	16 37.2	135 2.3	188.90	978405.06	9783906.1	A/S
PAPUNYA 41931						
J 6792.9215	23 14.5	131 53.9	617.63	978659.51	9786452.8	A/S WINDSOCK
K 6792.1215	23 16.0	131 53.9	617.62	978659.47	9786452.4	A/S
L 6111.7547	23 8.2	131 56.9	590.56	978682.86	9786686.3	MT WEDGE RD BM
PARKES						
J 8090.0144	33 00.0	148 15.7	371.	*****	9794773.9	ADMIN TELESCOPE
K 8090.0244	33 00.0	148 15.7	371.40	*****	9794774.1	RADIO TELESCOPE
PERTH 45715						
A 5099.9917	31 58.7	115 48.8	4.83	979394.96	9793809.4	UNI GEOL.
B 6491.0617	31 58.7	115 48.8	12.78	979392.84	9793788.1	UNI GEOL. PLAQUE
D 7999.0117	31 43.	116 12.	390.	979417.70	9794037.1	ABSOLUTE
J 6491.0117	31 56.1	115 57.5	14.50	979400.64	9793866.5	A/S TERM
K 6491.0317	31 56.2	115 57.4	15.08	979400.41	9793864.2	A/S HANGAR
L 6091.0117	31 54.2	115 59.2	12.10	979408.59	9793946.0	HAZELMERE CS
M 6091.0217	31 55.1	116 2.7	27.56	979462.57	9794486.2	HELENA CS
N 6491.0417	32 2.9	115 44.3	3.25	979416.70	9794026.2	FREMANTLE PORT
P 7391.0117	31 57.3	116 9.6	115.	979467.19	9794532.4	WEIR CS1
Q 7391.0217	31 59.3	116 7.6	398.2	979412.97	9793990.0	MT GUNGIN CS2
R 6091.0317	31 55.1	116 2.7	26.26	979462.89	9794489.0	HELENA CS2A
S 6491.0217	31 57.3	115 51.2	13.20	979385.91	9793718.7	HOTEL
T 6491.0517	32 2.9	115 44.6	3.20	979414.73	9794006.3	FREMANTLE
U 6500.0117	31 56.1	115 57.5	14.44	979400.69	9793866.8	A/S TERMINAL
V 7391.0317	31 56.1	115 57.4	14.50	979400.37	9793863.7	A/S INT TERM
W 7391.0417	31 58.7	115 48.8	7.80	979394.21	9793801.9	UNI GEOL.
X 7391.0517	31 58.7	115 48.8	8.80	979393.99	9793799.7	UNI PLAQUE
Y 8090.0117	31 55.9	115 57.3	14.	979400.11	9793861.2	A/S HANGAR
Z 8090.0217	31 55.9	115 57.3	14.	979400.20	9793862.1	A/S CATERING
8090.0317	31 57.3	116 9.6	115.	979467.15	9794531.8	WEIR CS1A
PINTUMBA-COORABIE 45512						
J 6491.9119	31 51.4	132 14.7	86.34	979457.21	9794432.8	A/S GATE
K 6491.1119	31 50.9	132 14.5	87.43	979457.69	9794437.6	A/S FENCE

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POEPPELS CORNER 41967								
J 6491.9021	26	0.7	137	57.2	*****	979015.70	9790014.9	A/S
POOLOWANNA-DALHOUSIE 41966								
J 6491.9020	26	10.0	136	42.5	*****	979017.11	9790029.0	A/S
PORT HEDLAND 42108								
A 5099.9926	20	22.6	118	37.8	8.	978645.56	9786312.5	A/S TERMINAL
J 6500.0126	20	22.6	118	37.8	7.19	978645.57	9786313.0	A/S TERMINAL
K 6500.0226	20	18.9	118	34.4	4.	978655.57	9786412.6	WHARF
L 6792.0326	20	22.7	118	37.7	8.02	978645.77	9786315.0	A/S DCA CARPORT
M 6792.0426	20	22.6	118	37.8	7.61	978645.95	9786317.0	A/S FLAGPOLE
N 8090.0126	20	22.7	118	37.7	8.	978645.47	9786312.0	A/S TERMINAL
PORT KEATS MISSION 38449								
J 6793.9314	14	15.5	129	31.9	30.	978323.63	9783092.1	A/S WINDSOCK
K 6793.1314	14	14.3	129	31.2	20.	978326.08	9783116.7	MISSION
PORT LINCOLN 45545								
J 6793.9307	34	36.3	135	52.6	9.06	979723.80	9797099.3	A/S TERMINAL
K 6793.1307	34	36.3	135	52.6	10.52	979723.60	9797097.3	A/S GATE
QUAIRADING 45727								
J 6491.9124	32	0.4	117	24.8	237.70	979418.80	9794048.3	A/S WINDSOCK
K 6491.1124	32	.6	117	23.9	247.35	979417.25	9794032.8	PO
QUILPIE 41864								
A 5099.9958	26	37.0	144	15.6	196.37	979007.82	9789936.4	SPORTS OVAL
J 6491.0158	26	36.8	144	15.3	197.00	979008.29	9789941.1	A/S TERMINAL
QUINYAMBIE-MOORABIE 45401								
J 6491.9104	30	13.3	141	0.4	90.06	979334.06	9793200.6	A/S FENCE
K 6491.1104	30	13.0	140	59.6	86.10	979334.72	9793207.2	HS FROME 1-192
RAWLINNA 45615								
J 6491.9097	31	.8	125	19.8	179.93	979342.32	9793282.7	A/S SHED
RICHMOND 41803								
J 6491.9045	20	42.0	143	6.8	206.37	978615.07	9785991.2	A/S TERMINAL
K 6491.1045	20	43.7	143	8.4	212.72	978615.91	9785999.6	POLICE BM57-33
RINGWOOD 41934								
J 6491.9036	23	50.0	134	57.6	406.11	978745.97	9787317.5	A/S DCA BM1
K 6600.0004	23	50.1	134	57.1	*****	978745.68	9787314.6	HS BM178 MP
ROCKHAMPTON 41730								
A 5099.9949	23	22.7	150	30.7	13.	978870.21	9788560.3	POLICE CELL
J 6591.0149	23	22.7	150	28.6	9.99	978873.51	9788593.4	A/S OLD TAA
K 6499.0149	23	22.5	150	28.5	9.82	978874.20	9788600.3	A/S FIRE
L 7090.0149	23	22.7	150	28.6	10.	978874.40	9788602.3	A/S TERMINAL
M 7390.0149	23	22.8	150	28.6	9.	978874.65	9788604.8	A/S APRON

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isoga165 (mGal)</i>	<i>value Isoga184 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
ROCKHAMPTON DOWNS 38385						
J 6491.9055	18 57.2	135 11.7	225.05	978529.79	9785154.0	A/S WINDSOCK
K 6491.1055	18 57.1	135 11.3	223.95	978529.75	9785153.6	HS FENCE BM90-5
ROEBOURNE 42107						
J 6792.9220	20 45.6	117 9.3	7.78	978677.59	9786633.3	A/S TERMINAL
K 6792.1220	20 46.2	117 9.2	9.75	978678.99	9786647.3	A/S
L 6792.2220	20 46.4	117 8.7	9.63	978679.52	9786662.6	MONUMENT
ROMA 41868						
A 5099.9959	26 34.2	148 46.4	321.61	978979.35	9789652.2	NURSES HOME
J 6491.0159	26 32.7	148 46.7	304.03	978979.50	9789653.7	A/S TERMINAL
ROPER RIVER MISSION 38344						
J 6793.9315	14 44.1	134 44.0	21.52	978383.02	9783686.1	A/S DCA PSM3
K 6708.0314	14 43.7	134 44.0	21.54	978382.38	9783679.7	A/S GATE BMEU14
SANDSTONE 42179						
J 6792.9205	27 58.8	119 17.7	526.72	979049.26	9790351.6	A/S WINDSOCK
K 6792.1205	27 58.9	119 17.6	527.07	979049.93	9790358.3	A/S STRIP
L 6792.2205	27 59.3	119 17.6	531.93	979051.30	9790372.0	PO
SCONE 45310						
J 6491.9112	32 2.2	150 49.9	222.50	979417.09	9794031.8	A/S TERMINAL
K 6491.1112	32 3.1	150 51.9	208.79	979423.57	9794096.6	RS GS EA408
L 6491.2112	32 3.5	150 52.2	208.52	979425.15	9794112.4	SIGN PM230
SERPENTINE LAKES 42089						
J 6792.9202	28 30.4	129 .8	285.56	979088.08	9790740.9	A/S STRIP
K 6792.1202	28 30.0	129 2.1	294.52	979085.27	9790712.9	A/S BM4867
L 6792.2202	28 30.2	129 1.4	294.50	979085.60	9790716.2	A/S NR ROAD
SMITHTON 49005						
J 6491.9142	40 49.8	145 5.0	5.70	980276.05	9802626.5	A/S TERMINAL
K 6491.1142	40 50.7	145 7.3	9.36	980274.98	9802615.8	RAILWAY LINE
SOUTHERN CROSS 45719						
J 6491.9094	31 14.1	119 21.2	347.90	979317.05	9793029.1	A/S BLOCK
ST GEORGE 41888						
J 6491.9010	28 3.0	148 35.7	198.69	979127.67	9791136.2	A/S TERMINAL
K 6491.1010	28 2.4	148 34.9	200.37	979127.95	9791139.0	SHIRE HALL M-15
ST HELENS 49018						
J 6491.9139	41 20.3	148 16.7	45.65	980302.29	9802888.6	A/S TERMINAL
STRAHAN 49025						
J 6491.9136	42 9.0	145 17.3	22.48	980371.69	9803583.8	A/S TERMINAL
STREAKY BAY 45524						
J 6491.9131	32 47.3	134 14.4	29.08	979547.09	9795331.5	A/S GATE
K 6491.1131	32 48.0	134 12.6	11.24	979553.20	9795393.1	SHIRE COUNCIL

<i>BMR station number</i>	<i>Latitude S (°) (')</i>		<i>Longitude E (°) (')</i>		<i>Altitude (m)</i>	<i>Gravity Isogal65 (mGal)</i>	<i>value Isogal84 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
SWINDELL AIRSTRIP 42013								
J 6792.9219	21	6.1	123	26.9	281.98	978626.25	9786120.1	A/S SHED
K 6792.1219	21	6.1	123	27.1	288.58	978624.73	9786104.9	A/S END STRIP
L 6792.2219	21	6.1	123	27.1	290.21	978624.52	9786102.8	A/S
M 6792.0021	21	12.0	123	27.5	293.	978622.57	9786084.1	WAPET GS620
SYDNEY 45331								
A 5099.9905	33	53.5	151	11.4	30.	979685.74	9796718.8	SYDNEY UNI
B 7199.9999	33	53.5	151	11.4	31.	979685.40	9796715.4	OLD ABSOLUTE
C 7999.0105	33	52.	151	12.	*****	979651.51	9796376.3	NEW ABSOLUTE
J 6491.0105	33	56.0	151	10.8	1.5	979698.65	9796848.2	A/S
L 6491.0305	33	52.3	151	15.8	*****	979695.81	9796820.0	ROSE BAY
M 6491.0205	33	55.2	150	59.5	6.	979669.12	9796552.9	BANKSTOWN A/S
N 6091.0105	33	47.7	151	9.5	2.11	979666.91	9796530.6	LANE COVE CS1
O 6091.0205	33	43.0	151	7.2	192.57	979607.92	9795940.6	WAHROONGA CS2
P 6091.0305	33	43.3	151	6.9	207.45	979604.92	9795910.6	WATER RES CS2A
Q 6692.0105	33	56.0	151	10.8	1.5	979698.57	9796847.2	A/S OLD TERM
S 6891.0205	33	56.0	151	10.8	1.50	979698.48	9796846.0	A/S APRON
T 6891.0305	33	56.1	151	11.3	6.37	979699.55	9796856.8	FLIGHT FAC. LTD
U 7090.0105	33	56.3	151	10.0	1.21	979696.71	9796828.4	A/S INT TERM
V 6891.0105	33	56.0	151	10.8	1.54	979698.74	9796848.8	A/S OLD TERM
W 7590.0105	33	56.1	151	10.9	1.5	979698.47	9796846.0	A/S TAA TERM
X 7390.0105	33	56.2	151	11.3	6.	979700.06	9796861.9	A/S TAXIWAY
Y 7391.0105	33	56.1	151	10.9	1.	979699.00	9796851.3	A/S ANA TERM
Z 8090.0105	33	56.1	151	11.2	6.	979699.76	9796858.8	AIR AMBULANCE
8290.0105	33	56.1	151	10.9	1.5	979698.93	9796850.5	ANSETT TERM
8291.0105	33	47.7	151	9.5	4.	979666.25	9796524.0	LANE COVE CS1A
8291.0205	33	47.7	151	9.5	4.	979666.06	9796522.1	LANE COVE CS1B
TAMWORTH 45310								
J 6491.9109	31	5.2	150	50.9	405.24	979325.05	9793110.9	A/S TERMINAL
K 6525.1109	31	5.9	150	54.7	385.33	979329.11	9793151.5	ROAD JN PM2533
L 6525.2109	31	5.4	150	55.9	391.	979326.80	9793128.4	RS
M 5905.0389	31	5.4	150	55.9	390.69	979326.87	9793129.1	RS EA389
TANAMI 38499								
J 6491.9964	19	58.1	129	42.6	436.88	978564.70	9785503.5	A/S BM B0-01
TARCOOLA 45504								
J 6491.9101	30	42.3	134	34.6	120.40	979333.93	9793199.0	A/S WINDSOCK
TENNANT CREEK 38394								
A 5099.9934	19	38.6	134	11.0	375.02	978528.92	9785145.5	A/S POWER
J 6491.0134	19	38.6	134	10.9	374.87	978528.86	9785145.0	A/S
K 6793.0134	19	38.6	134	11.0	375.	978528.94	9785145.8	A/S TERMINAL
TERRY HILLS AIRSTRIP 42026								
J 6793.9311	22	44.0	126	26.6	386.70	978668.80	9786545.3	A/S WINDSOCK

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THARGOMINDAH 41873						
J 6491.9013	27 59.3	143 48.7	130.7	979142.61	9791285.7	A/S FUEL SHED
K 6491.1013	27 59.8	143 49.3	128.61	979141.63	9791275.9	SHIRE HALL QBM
L 8090.1013	27 59.3	143 48.7	130.92	979142.41	9791283.7	A/S TERMINAL
M 8090.2013	27 59.3	143 48.7	131.19	979142.35	9791283.1	A/S COVER
THURSDAY ISLAND (HORN IS) 38202						
J 6691.9001	10 35.5	142 17.8	15.	978244.14	9782298.3	A/S TERM HORN
K 6691.1001	10 35.5	142 17.8	15.	978244.16	9782298.7	A/S TERM HORN
L 6691.2001	10 35.2	142 13.5	5.	978240.64	9782263.3	CUSTOMS THURS
M 6691.3001	10 35.2	142 13.5	3.	978241.04	9782267.3	JETTY THURS IS
N 8090.1001	10 35.5	142 17.8	12.32	978244.66	9782303.5	A/S HANGAR
TIBOOBURRA 41892						
J 6491.9970	29 27.1	142 3.6	171.31	979261.71	9792477.5	A/S TERMINAL
K 6491.0170	29 26.4	142 0.6	179.90	979259.82	9792458.6	SSM 3895
TOP SPRINGS 38361						
J 6491.9064	16 36.7	131 49.2	173.98	978415.31	9784008.5	A/S SIGN
TORRENS CREEK 41805						
J 6491.9046	20 47.4	145 .3	473.67	978571.23	9785569.2	A/S END STRIP
TOWNSVILLE 38296						
A 5099.9951	19 15.6	146 46.3	5.	978624.04	9786097.3	A/S R.A.A.F.
B 6491.0251	19 15.8	146 46.0	5.11	978624.74	9786104.1	A/S R.A.A.F.
C 6499.0151	19 15.7	146 48.9	20.49	978623.99	9786096.9	TECH. SCHOOL
K 6491.0151	19 15.4	146 46.2	5.	978624.05	9786097.4	A/S TERMINAL
L 6091.0151	19 15.2	146 48.7	9.21	978627.18	9786128.4	SCH CS1
M 6091.0251	19 15.6	146 48.2	266.17	978566.67	9785522.9	MONUMENT CS2
N 6591.0151	19 15.4	146 46.2	4.90	978623.96	9786096.7	A/S TERMINAL
O 7090.0151	19 15.4	146 46.2	4.43	978624.01	9786097.0	A/S TERMINAL
P 7090.0251	19 15.4	146 46.2	5.	978624.12	9786098.1	A/S TERMINAL
Q 7390.0151	19 15.4	146 46.2	5.	978624.24	9786099.4	A/S TERMINAL
R 7590.0151	19 15.4	146 46.2	5.	978624.03	9786097.2	A/S TERMINAL
S 8090.0151	19 15.4	146 46.2	5.	978624.19	9786098.7	A/S HANGAR
VAUGHAN AIRSTRIP 38390						
J 6491.9056	19 10.6	130 49.6	295.98	978520.11	9785058.0	A/S BM DE-50
VAUGHAN SPRINGS 41920						
J 6792.9216	22 20.7	130 51.7	612.72	978563.97	9785496.5	A/S WINDSOCK
K 6792.1216	22 20.1	130 51.4	615.68	978561.28	9785469.6	A/S STRIP
L 6792.2216	22 18.2	130 50.9	636.37	978552.44	9785381.2	HS GARAGE
VICTORIA RIVER DOWNS 38360						
A 5099.9931	16 25.2	130 58.6	90.43	978424.38	9784099.3	A/S STORE
J 6491.0131	16 25.2	130 58.6	90.93	978424.26	9784098.1	A/S TANK
WAGGA WAGGA 45457						
A 5099.9906	35 7.5	147 21.8	209.61	979672.56	9796586.8	HIGH SCHOOL
J 6491.0106	35 9.6	147 27.8	212.14	979671.33	9796574.5	A/S TERMINAL

<i>BMR station number</i>	<i>Latitude S (°) (')</i>	<i>Longitude E (°) (')</i>	<i>Altitude (m)</i>	<i>Gravity Isoga165 (mGal)</i>	<i>value Isoga184 ($\mu\text{m s}^{-2}$)</i>	<i>Location (for abbreviations see end)</i>
WAIKERIE 45440						
J 6491.9133	34 11.1	140 1.6	42.82	979654.36	9796405.1	A/S GLIDER CLUB
K 6491.1133	34 10.6	139 59.0	15.	979663.23	9796493.8	SHED
WALGETT 45408						
A 5099.9945	30 1.3	148 6.9	132.80	979319.75	9793058.0	POLICE
J 6491.0145	30 2.0	148 7.2	132.37	979320.71	9793067.6	A/S TERMINAL
K 6491.0245	30 1.3	148 6.9	132.72	979319.58	9793056.3	PO PM5085
WALLAL DOWNS 38490						
J 6792.9218	19 46.5	120 38.5	5.47	978687.96	9786737.3	A/S WINDSOCK
K 6792.1218	19 46.5	120 38.6	5.24	978688.06	9786738.3	A/S STRIP
L 5605.1887	19 46.8	120 38.1	*****	978688.93	9786737.0	HS GATE 18-87
WANAARING 41894						
J 6491.9106	29 42.5	144 10.2	109.18	979294.68	9792807.2	A/S ROAD
K 6491.1106	29 42.1	144 8.9	107.92	979293.47	9792795.1	NR TOWN SSM3430
WARBURTON RANGE MISSION 42066						
J 6491.0169	26 8.1	126 34.9	457.25	978926.20	9789120.0	A/S BM 81-45
K 6491.9969	26 8.0	126 34.7	458.75	978925.76	9789115.6	MISSION STORE
WARRI AIRSTRIP 42045						
J 6792.9212	24 5.3	125 14.2	398.42	978796.74	9787826.3	A/S
K 6206.8334	24 1.5	125 15.9	409.01	978799.60	9787854.9	BM83-34
WARWICK 41781						
J 6491.9007	28 9.0	151 56.6	458.26	979094.59	9790805.5	A/S TERMINAL
K 6491.1007	28 13.0	152 1.9	458.96	979100.92	9790868.8	PO
L 6491.2007	28 12.9	152 1.8	458.48	979100.98	9790869.3	COURT QBM75
M 6491.3007	28 9.0	151 56.6	458.22	979094.61	9790805.7	A/S TERMINAL
WEIPA 28221						
J 6491.9967	12 41.5	141 53.5	11.22	978302.90	9782885.6	A/S STORE
K 6491.0167	12 41.4	141 53.4	11.30	978302.74	9782884.0	A/S FUEL STORE
WHYALLA 45537						
A 5099.9909	33 2.1	137 35.2	14.02	979570.65	9795567.5	POLICE
J 6793.0109	33 3.3	137 31.3	9.76	979573.84	9795599.3	A/S TERMINAL
K 6793.0209	33 3.3	137 31.3	9.48	979573.94	9795600.4	A/S HANGAR
WILCANNIA 45413						
J 6491.9115	31 31.3	143 23.0	94.42	979406.79	9793929.8	A/S FIRE SHED
K 6491.1115	31 33.3	143 22.0	77.73	979414.39	9794005.8	OLD ROAD PM4873
WILLIAM CREEK 41986						
J 6793.9308	28 54.4	136 20.3	73.83	979226.61	9792126.1	HOTEL
K 6793.1308	28 54.5	136 20.3	74.40	979226.38	9792123.8	PMG ENCLOSURE
WILUNA 42060						
A 5099.9922	26 35.8	120 13.3	513.73	978955.19	9789409.5	OLD ROAD BOARD
J 6491.0122	26 38.1	120 13.3	496.90	978952.51	9789382.7	A/S

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WINDIDDA 42062								
J 6491.9087	26	22.8	122	10.5	466.07	978928.08	9789138.6	A/S
WINDORAH 41852								
J 6491.9023	25	24.8	142	39.9	131.71	978942.83	9789286.6	A/S TERMINAL
K 5805.5170	25	25.4	143	2.0	129.62	978944.61	9789304.4	POLICE
L 5805.5249	25	21.3	142	40.5	139.51	978935.11	9789209.4	BM52-1A MR-53
M 8090.1023	25	24.8	142	39.8	132.	978942.95	9789287.8	A/S WINDSOCK
WINNING 42134								
J 6792.9209	23	9.2	114	32.8	76.07	978840.33	9788260.3	A/S FENCE
K 5005.0701	23	9.4	114	32.2	72.73	978841.84	9788275.4	HS VERANDAH
WINTON 41823								
J 6491.9032	22	22.0	143	5.0	191.42	978741.17	9787270.2	A/S FENCE
K 6491.1032	22	23.4	143	2.2	184.74	978745.14	9787309.9	COURT BM53-1
L 6491.2032	22	23.6	143	2.1	182.82	978745.62	9787314.6	HOTEL
WOODGREEN 41924								
J 6491.9039	22	23.9	134	16.5	563.32	978654.18	9786398.9	A/S WINDSOCK
K 6491.1039	22	24.0	134	16.3	562.95	978654.76	9786404.7	A/S STRIP
WOOLTANA 45509								
J 6491.9103	30	25.4	139	26.7	78.95	979350.37	9793363.5	A/S
K 6491.1103	30	25.0	139	25.3	115.86	979345.56	9793315.4	TRACK JN
WOOMERA 45516								
A 5099.9938	31	8.8	136	48.2	165.60	979370.74	9793568.7	A/S
J 6491.0138	31	9.6	136	48.3	166.78	979372.75	9793587.8	A/S NEW TERM
K 8090.0138	31	9.5	136	48.3	167.	979372.71	9793587.4	A/S CONCRETE
WROTHAM PARK-WALSH 38263								
J 6491.9071	16	39.7	143	59.6	*****	978433.53	9784191.3	HS
K 6491.1071	16	40.5	143	54.2	153.52	978434.90	9784205.0	PO FROME CW70
WYNDHAM 38458								
A 5099.9930	15	30.3	128	9.1	5.38	978414.63	9784002.2	A/S STORE
J 6491.0130	15	30.3	128	9.2	5.06	978414.69	9784002.6	A/S TERMINAL
YARRAM 45486								
A 5099.9902	38	34.1	146	40.6	20.14	980022.45	9800086.5	BLACKSMITH SHOP
J 6491.0102	38	34.1	146	45.2	18.83	980021.99	9800081.9	A/S MEMORIAL
K 6491.0202	38	34.1	146	40.6	20.19	980022.68	9800088.8	SWIMMING POOL
YIRRKALA MISSION-GOVE 38323								
J 6491.9968	12	16.6	136	49.4	49.	978281.00	9782666.3	A/S SHED
K 6491.0168	12	16.6	136	49.4	50.	978281.21	9782668.4	A/S ASTROFIX FN1
ZANTHUS 45613								
J 6491.9096	31	2.3	123	34.2	266.75	979298.78	9792847.4	A/S

ABBREVIATIONS USED

ANA	Ansett Airlines
A/S	Airport or airstrip
BM	Bench-mark
BMR	Bureau of Mineral Resources, Geology & Geophysics
c	Approximate value
COURT	Court house
CS	Station of gravity meter calibration range
DCA	Department of Civil Aviation (now Department of Transport)
DOT	Department of Transport
FIRE	Fire station
GS	Gravity station
HS	Homestead
INT	International
JN	Junction
MP	Mile post
MT	Mount
NR	Near
PM	Permanent mark
PO	Post office
POLICE	Police station
PSM	Permanent survey mark
QBM	Queensland bench-mark
RS	Railway station
SSM	State survey mark
TAA	Trans-Australia Airlines
TERM	Passenger terminal
TULL	Melbourne (Tullamarine) Airport
UNI	University
*****	value not known

APPENDIX 2. GRAVITY VALUES OF NATIONAL GRAVITY BASE-STATIONS
- AUSTRALIAN OUTLYING ISLANDS AND ANTARCTIC BASES

<i>BMR station number</i>	<i>Latitude</i>		<i>Longitude</i>		<i>Altitude</i> <i>(m)</i>	<i>Gravity value</i> <i>IGSN 71 datum</i> <i>($\mu\text{m s}^{-2}$)</i>	<i>Location</i>
	(°)	(')	(°)	(')			
CRISTMAS ISLAND (INDIAN OCEAN) 38605							
J 7309.0612	10	25.4	105	39.6	16.0	9 785 075.8	GOVERNMENT HOUSE
K 7392.9501	10	25.1	105	40.5	22.1	9 785 079.0	GOVERNMENT OFFICE
L 7309.0002	10	26.0	105	40.1	195.47	9 784 735.1	ENGINEERING OFFICE
COCOS ISLAND (INDIAN OCEAN) 38726							
J	12	11.	96	50.	3.	9 784 545.4	AIRPORT
LORD HOWE ISLAND (PACIFIC OCEAN) 45319							
J 8290.1091	31	32.5	159	04.6	15.	9 796 710.6	A/S TERMINAL
K 8290.2091	31	32.5	159	04.6	15.	9 796 708.8	A/S GATE ON PATH
L 8290.3091	31	31.5	159	03.5	3.	9 796 641.7	LAGOON WHARF
M 8290.4091	31	31.2	159	04.0	5.	9 796 581.2	BEACH SHED
NORFOLK ISLAND (PACIFIC OCEAN) 41697							
J 8280.1092	29	02.2	167	56.5	110.	9 793 488.0	A/S TERMINAL STEPS
K 8290.2092	29	02.2	167	56.5	110.	9 793 487.0	A/S TERMINAL VERANDAH
L 8290.3092	29	03.6	167	57.1	2.	9 793 715.2	SYDNEY BAY WHARF
M 8290.4092	29	03.5	167	57.3	5.	9 793 701.4	WAR MEMORIAL PLINTH
MACQUARIE ISLAND (PACIFIC OCEAN) 52548							
J 7065.9000	54	30.0	158	57.0		9 806 831.7	SEISMIC PIER
K 7065.9001	54	30.0	158	57.1		9 806 820.4	CAUSTIC SODA STORE
MAWSON BASE (ANTARCTICA) 57072							
A 5615.9000	67	36.2	62	52.2	3.	9 824 679.1	SHEET METAL STORE (GW120)
J 7407.0293	67	36.0	62	52.4	9.	9 824 672.1	SEISMIC PIER
K 7207.0121	67	36.0	62	52.4	9.81	9 824 667.9	PAGEOS STATION
DAVIS BASE (ANTARCTICA) 56987							
B 6905.0020	68	34.7	77	58.1	8.0	9 825 752.2	GRAVITY MARK ON ROCK
C 6905.0021	68	34.6	77	58.1	12.53	9 825 752.2	BALLOON SHACK
D 8007.0000	68	34.8	77	58.6	28.7	9 825 731.2	NEAR TRIG NMS-5
CASEY/WILKES BASE (ANTARCTICA) 56560							
A 6842.0003	66	15.3	110	31.9		9 823 836.3	WILKES OLD SEISMIC HUT
B 6842.0002	66	15.3	110	31.3		9 823 830.8	WILKES NEW SEISMIC HUT
C 6842.0001	66	17.0	110	32.0		9 823 826.9	CASEY, CARPENTERS SHOP
D 6842.0004	66	17.0	110	32.4		9 823 811.5	CASEY, NM/S/104 TRIG

