CONTENTS ENVELOPE 635

TENEMENT: O.E.L. 22 - Caroline - Killanoola.

TENEMENT HOLDER: Alliance Oil Management Pty. Ltd.

ALLIANCE OIL DEVELOPMENT AUSTRALIA N.L.

CAROLINE-KILLANOOLA GRAVITY SURVEY O.E.L. 22 SOUTH AUSTRALIA

by
W. F. Stackler

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W.F. Stackler
Geosurveys of Australia Pty. Ltd.

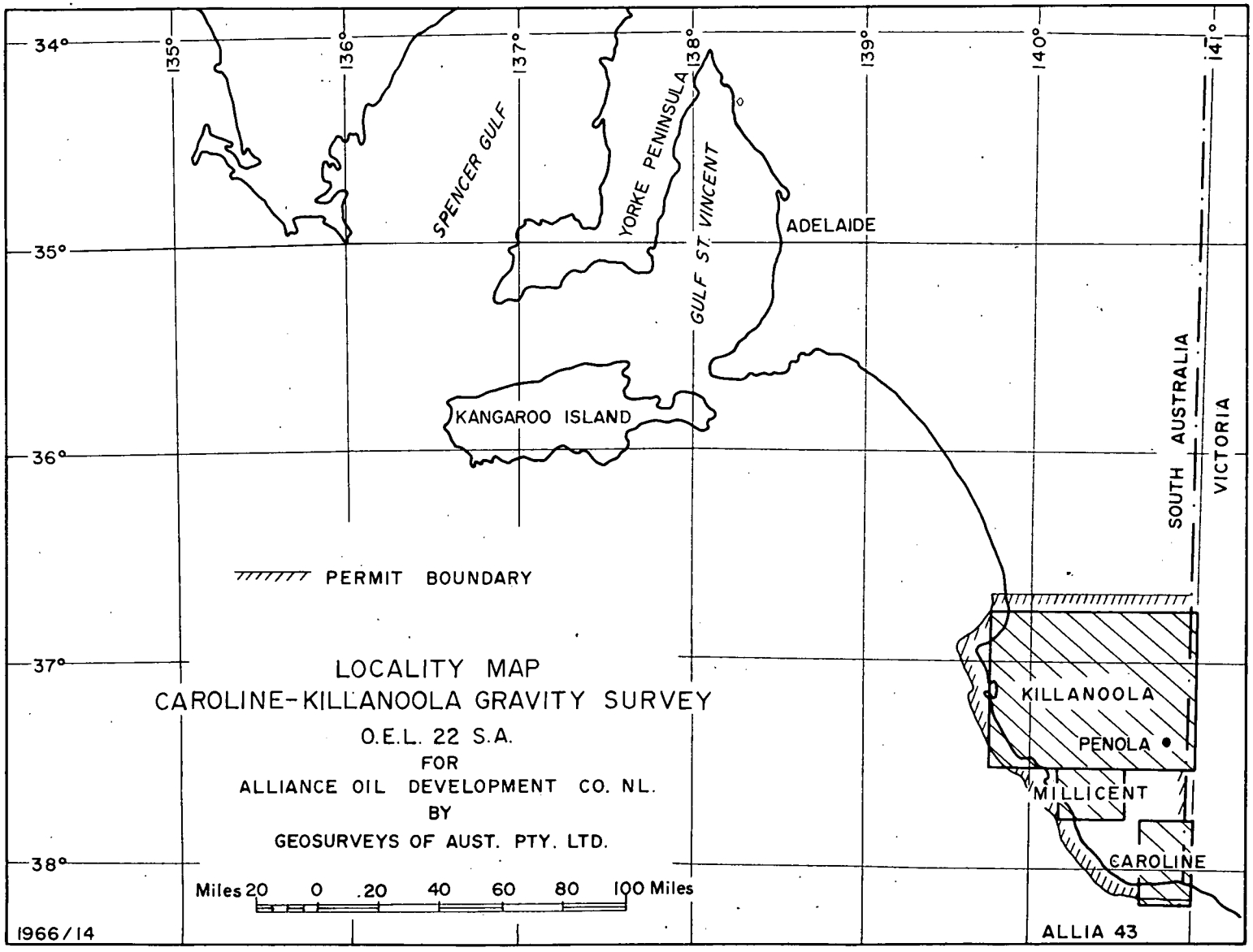
August, 1966

1966/14

TABLE OF CONTENTS

PLANS TO ACCOMPANY REPORT 1966/14

Allia. 25B	1:250,000	Gravity Base Closure Map Caroline-Killanoola and Coleraine Areas.
Allia. 40	1:63,360	Elevation Loop Closure Map Caroline Area.
Allia. 41	1:250,000	Bouguer Anomaly Map, incorporating 1963 Millicent Gravity Survey.
Allia. 42	Horizontal 1:250,000	Selected Bouguer Profiles with associated Aeromagnetic Profiles.
Allia. 45	1:250,000	Elevation Loop Closure Map Killanoola Area.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35°
36°
37°
38°
135°
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138°
139°
140°
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SPENCER GULF
YORKE PENINSULA
GULF ST. VINCENT
ADELAIDE
KANGAROO ISLAND
SOUTH AUSTRALIA
VICTORIA
PERMIT BOUNDARY
KILLANOOLA
PENOLA
MILLICENT
CAROLINE
LOCALITY MAP
CAROLINE-KILLANOOLA GRAVITY SURVEY
O.E.L. 22 S.A.
FOR
ALLIANCE OIL DEVELOPMENT CO. NL.
BY
GEOSURVEYS OF AUST. PTY. LTD.
Miles 20 0 20 40 60 80 100 Miles
1966/14
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ABSTRACT

A gravity survey in parts of O. E. L. 22 was carried out on behalf of Alliance Oil Development Australia N. L., during the period 12th March, 1966 to 1st June, 1966. The survey covered approximately 1,900 square miles in the Killanoola area and approximately 225 square miles in the Caroline area. A total of 1,050 new stations in both areas were established, with a less detailed coverage in the Killanoola area.

The survey in the Killanoola area has revealed a general pattern of gravitational configurations in agreement with the known geology. Also additional new features and associated trends were located within the prospect.

The Caroline area shows principally an association of a maximum and a minimum gravitational anomaly. These and other features are discussed more fully in the report.

I. INTRODUCTION

This semi-detailed Caroline-Killanoola Gravity Survey of O.E.L. 22, South Australia, was conducted during March-June, 1966, by Geosurveys of Australia Pty. Ltd. on behalf of Alliance Oil Development Australia N.L. The report also includes the "Gravity Survey Geltwood Beach Area" conducted for Beach Petroleum N.L. The surveys are tied via Base I (1963) Millicent. The Caroline-Killanoola Gravity Survey is tied, via Base 24, to the "Coleraine Gravity Survey", also conducted by Geosurveys of Australia Pty. Ltd. on behalf of Alliance Oil Development Australia N.L. A report of the survey in the Coleraine area of P.E.P. 54A, Victoria will be provided separately. Details of commencement, closing date etc. of the Caroline-Killanoola Gravity Survey are stated in Appendix 1 of this report.

A total of 1050 new stations (Caroline 283, Killanoola 767) were established. Of these stations, 19 are base stations, Base 1 (1963) Millicent being necessary to tie in the Geltwood Beach surveys. All new stations are subsidized.

The survey area is essentially a subcoastal plain with a minor seaward slope. The greater part of the area lies below 200 feet above sea level. A north-westerly slope away from the volcanic area is also evident. A system of dune ranges parallel with the existing coastline is present but the dunes rarely exceed 100 feet elevation above the interdune flats.

II. GEOLOGY

The Otway Basin is a Mesozoic to Tertiary sedimentary accumulation, representing the landward extension of the continental shelf. In South Australia, it is represented by the Gambier "Sunklands" which is a subbasin province, bounded on the north by the Padthaway Ridge where metamorphic and granitic basement is exposed at the surface or is present at shallow depth. To the east its deeper developments are limited by the uplifted Dundas Tableland and the Normanby Platform (Boutakoff 1963).

Lower Cretaceous (Merino Group), Tertiary (Knight Group, Glenelg Group, Grange Burn "Coquina" and Dorodong Sands) and Pleistocene (Whaler's Bluff Formation) sediments crop out extensively about the eastern margin of the Sunklands east of the Kanawinka cliff-line escarpment. To the west of the escarpment, Tertiary sediments (Knight Group and Glenelg Group) and Whaler's Bluff Formation are exposed in the valleys of the Glenelg River and its major tributaries.

Within the boundaries of South Australia, the Gambier Limestone (Glenelg Group) crops out over a considerable area in the southern half of County Grey. An isolated outcrop of the Knight Group sands (Eocene) is present at Knight's Quarry to the west northwest of Mount Gambier township. Quaternary volcanic craters form Mount Gambier and Mount Schank in a zone of eroded volcanic cones trending northwesterly to Mount Graham. Elsewhere the area is covered superficially by Quaternary marine, paralic, swamp and/or freshwater sedimentary deposits.

The Gambier Sunklands are sub-divisable into at least two additional sub-basins which have not yet been fully defined. To the north, the Beachport-Penola Shelf is dominated by deeper accumulations of somewhat older Mesozoic sediments and these margin the Gambier Trough, in which Tertiary and late Cretaceous sediments attain extreme thicknesses. The Beachport-Penola shelf was structurally high during much of Upper Cretaceous time, and across it, poorly consolidated sands of the Eocene Knight Group rest directly upon well-lithified clastic sediments of the Lower Merino Group, or in places are underlain by a thin wedge of Upper Cretaceous sediments. In the Gambier Trough, the Knight Group is underlain by a thick succession (1,750 feet at Geltwood Beach and 6,500+ feet at Mount Salt No. 1 Well) of poorly consolidated Upper Cretaceous clastic sediments.

Across the Victorian Border, the Planet "Casterton No. 1 Well" situated in the northeastern corner of the Gambier Sunklands, encountered Jurassic sediments unconformably overlying steeply dipping metamorphic

basement. These Jurassic sediments were in turn unconformably overlain by a thick succession of predominantly non-marine shale, sandstone and mudstone of the Lower Cretaceous Merino Group. In this segment of the Beachport-Penola shelf, the thickness of the combined Jurassic and Lower Cretaceous sequence attains at least 8,000 feet. Geophysical evidence suggests that these sediments may attain 11,000 feet in thickness in the north-western portions of the Sunklands.

K.A. Rochow (Gambier Basin Study 1964) recognised the presence of an important unconformity within the Merino Group. Sediments of the Merino Group (lower unit) are truncated by the unconformity and wedge-out against basement in the northern margin of the Gambier Sunklands. Above the unconformity, sediments of the Merino Group (upper unit) dip gently and thicken towards the Mount Gambier Trough. The Merino Group (upper unit) which at Kalangadoo No. 1 Well is 4,271 feet thick, thickened to at least 8,630 feet at Geltwood Beach No. 1 Well in the Gambier Trough. If a comparable thickness of Lower Cretaceous sediments underlies the Upper Cretaceous sequence at Mount Salt No. 1 Well then a depth to basement in the deeper portions of the Gambier Trough could approximate 18,000 feet.

Poorly consolidated, porous sandstones are present within the Merino Group (upper unit) in O.D.N.L. Penola No. 1 well and in the Planet Oil Co.'s Heathfield, Tullich and Casterton wells, all of which were drilled on locations about the northern perimeters of the Otway Basin. Sandstone interbeds of the Merino Group (upper unit) are for the most part impermeable in wells located in the central part of the basin (i.e. Kalangadoo and Geltwood Beach wells). Dellenbach et al (B.M.R. Record 1965/167) suggested that the porous sandstone members encountered in the Merino Group at Planet Tullich Well No. 1 (2974 to 3074 feet and 3725 to 3820 feet) represent near-shore deposits and probably do not extend far basinwards. These sands may have been derived from the granitic rocks of the Padthaway Ridge and it is not unreasonable to expect that similar porous sandstones may be present

within the Merino Group (upper unit), elsewhere along the northern margin of the Otway Basin.

In Planet "Casterton No. 1 Well" and Frome-Broken Hill "Pretty Hill No. 1 Well" (60 miles southeast of Casterton) a thick sequence of porous sandstone is present near the base of the Merino Group. This porous unit appears to be restricted to a narrow zone about the basin margin. Comparable sediments encountered in wells drilled several miles basinward from the above wells, consist of shales with interbeds of tight sandstone. If the basal sandstone units encountered in Casterton No. 1 and Pretty Hill No. 1 are correlative, then it is probable that this porous sandstone unit is also present on the northern flank of the Otway Basin within O.E.L. 22.

In Kalangadoo No. 1 and Geltwood Beach No. 1 wells, the Upper Cretaceous sequence consists predominantly of porous sandstone and includes only a minor proportion of impervious rock. Regional studies suggest that the Upper Cretaceous sequence of the southeastern corner of O.E.L. 22, may include a more substantial proportion of shale and siltstone "caprock". In Eumarella No. 1 Well (72 miles east of Mt. Salt) the Belfast Mudstone and Paaratte Formation consist predominantly of impervious sediments.

III. PREVIOUS GEOPHYSICAL SURVEYS

1. Aeromagnetic and Seismic

Aeromagnetic, refraction and reflection surveys have been conducted over the Gambier Sunklands by the Bureau of Mineral Resources, by the South Australian Mines Department and by geophysical contractors on behalf of the various tenement holders. Seismic reconnaissance surveys were carried out on behalf of General Exploration Co. of Australia Ltd. and by the South Australian Mines Department. Detailed seismic surveys were also carried out by General Exploration Co. of Australia Ltd., in selected areas, in the vicinity of Penola, Robe,

Beachport and Millicent and by Beach Petroleum N. L. near Geltwood Beach.

More recently the South Australian Mines Department conducted a reconnaissance seismic survey to the north-west of Lucindale. This programme was basically a reflection survey but included three short refraction traverses.

During 1964, Alliance Oil Development Australia N. L conducted a reconnaissance seismic survey in the eastern part of O. E. L. 22, consisting of two reflection traverses, totalling 47 miles, and two refraction traverses totalling 70 miles (1964, Penola Seismic Survey).

An experimental "vibroseis" survey in selected "difficult" areas was carried out by the Bureau of Mineral Resources.

2. Gravity

During 1964 a reconnaissance gravity survey of the South Australian part of the Gambier Sunklands was carried out by the South Australian Department of Mines. In 1957 Frome-Broken Hill Pty. Ltd. conducted a detailed survey in the extreme southeastern corner of O. E. L. 22. In 1963, Beach Petroleum N. L. conducted a detailed gravity survey of the Geltwood Beach area and in 1964 Alliance Oil Development Australia N. L. conducted a semi-detailed gravity survey between Penola and Mount Gambier.

IV. OBJECTIVE OF SURVEY

The survey was designed to establish a semi-detailed gravity coverage over the Caroline and Killanoola areas, being parts of O.E. L. 22, to aid interpretation and evaluation in regard to its potential for petroleum accumulation. It was hoped to define the major structural elements and indications of sedimentary variations within the area.

In selected areas the coverage of new stations was such than an adequate Bouguer Anomaly pattern could be established. In other areas it was planned to incorporate earlier survey data from the join study of the Victorian and South Australian Department of Mines (1965). To avoid diminution of accuracy of the present surveys, the Bouguer Anomaly map has been firstly produced independent of the previous surveys (except for ties to some relocated stations) and a later map will tie into the above joint survey. This precaution is necessary as the present survey was optically levelled with horizontal control using the recently gridded County Plans for the Killanoola area and an accurately controlled Army Survey Corps. map for the Caroline area. For the former surveys, vertical control was mainly by barometer and using less accurately controlled base maps. In some instances, the previous horizontal control involves errors measured in miles by latitude. Therefore earlier surveys must be viewed as regional reconnaissances only.

The gravity features, known before the present survey, mainly reflected configurations on or in basement due to the wide station and traverse spacings. In contrast, the primary objective of the present survey was to increase the density of gravity control in order to more accurately delineate these configurations in the Killanoola and Caroline area and with the possibility for demarking separate structural embayments of sediments which may provide targets for stratigraphic drilling or for follow up seismic traverses.

V. PROCEDURE OF SURVEY

1. Vertical Control

The vertical control of all stations in the present survey was determined by optical levelling, using theodolites. Elevations were tied to bench marks of the South Australian Railways and Engineering and Water Supply Departments. Elevations tied to South Australian Department of Lands bench marks had to be retied to the other bench marks due to this survey not being complete. All elevations are referred to Mean

Sea Level, Port Adelaide. A list of the bench marks is attached as Appendix 4.

The accuracy of vertical control was maintained by loop closures or double run method. The required accuracy of $0.5\sqrt{m}$ feet where "m" is the length in miles of the traverse, was easily maintained. The average loop misclosure was ± 0.7 feet and the greatest misclose was 2.8 feet (Elevation Loop Closure Maps Allia. 40 and 45). It is estimated that the accuracy for single stations approximates ± 0.5 feet (0.03 milligals) or better.

2. Horizontal Control

It was necessary, in order to make use of the best available information, to use two different Base Maps for the Caroline and Killanoola areas. In the Caroline area, Royal Australian Survey Corps compilation sheets at a scale of 1:59,000, but photo-reduced to 1 inch to 1 mile, have been employed. For the Killanoola area the 1965 editions of County Maps were available and have been used. These County Maps incorporate the latest Tellurometer traverses and are therefore far more reliable than the previous issue.

The procedure for horizontal control was to accept the map positions of positively identifiable stations (i.e. stations on road or fence junctions etc.) and to locate the interlying stations by bearing and distance measurements obtained by theodolite with compass attachment and tacheometric techniques.

It is considered that a horizontal positioning accuracy of $\pm$ 200 feet is achieved, being within the probable accuracy of the base maps used.

3. Gravity

(a) Tie to National Network

Pendulum Station No. 7, located at the Police Station, Mount

Gambier, South Australia, provides a link with the National Network. Its present valid observed gravity value is 979,993.65 milligals. The station is directly tied into the project as shown on the Gravity Base Closure Map (Allia. 25A).

(b) Calibration of Meters

Calibration runs were conducted over the official calibration range between B.M.R. Stations, ACS 1 (Kensington Gardens) and ACS 2 (Norton Summit) using gravimeters World Wide No. 32, Worden 215 and Canadian Sharpe 147. The meter factors of these gravimeters reveal only a slight and insignificant change against former values, but the latest determinations in March and April 1966 have been used.

Two La Coste and Romberg gravimeters (viz. G37 and G39) having meter factors dependent on the latitude, were also run over the Adelaide Calibration Range at different times. These established gravity differences between Kensington Gardens and Norton Summit ranging from 62.61 to 62.66 milligals. The valid gravity difference between these two ACS stations is 62.61 milligals. In consequence the calibration factors for the two La Coste Romberg instruments as supplied by the factory could be accepted. These factors have been employed (after latitudinal correction) for the Mt. Gambier area. All calibration factors used during the survey are shown in Appendix 1.

(c) Base Network

The gravity Base Closure Map (Allia. 25A) also includes the Base grid of the Coleraine survey, the results of which are reported separately. From Pendulum Station No. 7, Mount Gambier Police Station, twenty three new bases have been established, and tied via 9 loops. Base 19, however, is linked only by an open leg

against Base 18. Its corresponding gravity difference is secured by 7 independent readings varying between 7.60 and 7.65 milligals. Average misclosure of the loops is 0.03 milligals. A maximum misclosure of 0.07 milligals is shown on the loop northwest of Penola. All gravity differences have been secured by runs and reruns involving at least three independent observations. Most of these differences involve more than three or up to 14 independent gravity differences as between Pendulum Station No. 7, Mount Gambier and Base 2. The gravity difference between Pendulum station 7, Mount Gambier and Base 1 Millicent (1963) is actually an adjusted value observed from a former survey. Millicent Base 1 is the main base of a base station grid used for the Geltwood Beach-Millicent survey. All Base Stations have monumented bench marks set out in accordance with B.M.R. requirements. All details of the base-closure survey are shown on the map and in Appendix 2.

(d) Accuracy

Instrumental drift was held under close control by ties to bases which were generally completed within a time limit of 2 hours for the Worden, World Wide and Canadian Sharpe instruments and 4 hours for the La Coste Romberg instruments. Drift adjustments were made by calculation, assuming drift to be linear between these times.

(e) Corrections applied to Observed Gravity

(i) Latitude Corrections

Latitude correction lines were drawn for every 5 milligals on the work maps using Lambert, W.D. and Darling, F.W.'s "Table for Values of Theoretical Gravity on the International Ellipsoid" (1931). The latitude correction for each station was scaled off.

(ii) Elevation Corrections

A combined elevation correction factor (Free-air and Bouguer) of 0.06300 milligals/foot was used. This represents a useful average density of the sediments between surface and Mean Sea Level of 2.43.

(f) Accuracy of Bouguer Anomaly Values

As previously indicated the accuracy is:-

Vertical control	=	±0.5 ft.	0.03 mgls.
Horizontal control	=	±200 ft.	0.04 mgls.
Gravity readings	=		0.02 mgls.

Therefore the summary error is:-

$(0.03^2 + 0.04^2 + 0.03^2)^{1/2} = \pm 0.05$ milligals

These values are strictly estimates and only magnitude of anticipated errors.

VI. DISCUSSION OF RESULTS

Results are presented in the form of a Bouguer Anomaly Map (Allia.41), and Selected Bouguer Profiles (Allia.42). The present survey is linked with the former gravity surveys Geltwood Beach - Millicent area, conducted for Beach Petroleum N.L. Data of the latter surveys has been recalculated to a common datum with the present survey both in relation to gravity and elevation.

Existing gravitational features established by former surveys of South Australian Mines Department and Namco International Inc. in and around the area are not incorporated on the map. However, a total of 30 stations of these surveys have been re-located and re-observed and are shown on the Bouguer Anomaly Map and on the Table of Principal Facts of Relocated Stations (Appendix 3).

By comparing the Bouguer Anomaly values provided by the re-located and re-observed stations, it may be possible to adjust elevation and

latitude corrections of the former surveys according to the new values. South Australian Mines Department stations are plotted, (because of lack of better horizontal control) against the superseded South Australian 4 miles to 1 inch map. Discrepancies in horizontal control compared against the modern County Maps are in places 1 mile and greater and therefore latitude corrections must be reconsidered. For regional purpose and after such adjustment, it should be possible ti incorporate general features of the former surveys in to the present Bouguer maps.

1. Regional Gravitational Elements of the Area

The Killanoola and Caroline areas are separated by a SE to NW trending gravitational minimum. This minimum, according to former surveys, is well known (with its continuation into Victoria west of Casterton) as the "Penola Gravity Trough". Part of this minimum is covered by the present survey. Cross section A-B of the Selected Bouguer Profiles (Allia, 42) passes through a very pronounced gravity minimum. Its regional magnitude is almost 40 milligals.

Further to the west the minimum effect disappears and is truncated by a northerly regional increase. The northwesterly part of the cross-section E-F indicates this increase satisfactorily. The total extent of the regional gradient is not attained within the present survey area, but according to the Mines Department results, the gravity change from the lowest values of the minimum, located west of Penola, to the vicinity of Kingston, is 56 milligals. The "flank" of the gravity increase lying west of Avenue has a maximal gradient of 3 milligals per mile, or 19 Eötvös.

Gravitational configurations in the Caroline area are most subdued. The values in gravity increase between Mount Gambier and Fort MacDonnell only by 6 milligals.

2. Localised Anomalies

The main anomalies to be discussed below are indicated by numbers on the Bouguer Anomaly Map (Allia.41) and on the Selected Bouguer Profiles (Allia.42).

(a) Killanoola Area

(i) Feature 1a and 1b

These two loci of gravity minima are situated to the north of Lake Hawdon and south of Avenue. They form part of the "Robe Gravity Trough" extending E.N.E. from the vicinity of Guchen Bay. A more detailed survey would not change this regional feature by any significant amount. The two minima are linked by the eastwesterly axis, but a connection to the "Penola Gravity Trough" mentioned above, is unlikely. The northern aspect of this minimum "trough" is a locus of generally steep gravity gradient approximating the known geological boundary of the Gambier Sunklands in this situation (Padthaway Ridge). The gradient locally exceeds 5 milligals per mile or 31 Eötvös. The southern border of Feature 1a and 1b is less pronounced. In the extreme east it is distorted by a pronounced subcircular gravity maximum numbered Feature 2.

(ii) Feature 2

Feature 2 is an isolated circular gravity maximum with steep flank gradients averaging about 3.5 milligals/per mile or 22 Eötvös. At least eleven contours are closed off. The Cross section Profiles C-D and E-F intersect at its apex and demonstrate the isolated character of the maximum.

(iii) Feature 3a, 3b, 3c, 3d and 3e

These features form a broad association of elongated

maxima (3a, 3b and 3c) and minima (3d and 3e) restricted to the northeast submargin of the Gambier Basin. The respective axes trend generally NE-SW or NW-SE.

The relatively steep marginal gradients associated with most of these anomalies suggest shallowing basement and generally this is borne out by the accentuating magnetic profile anomalies (see Allia. 42).

The gravitational magnitude of these structures with closing contours range from 5 to 15 milligals. The southern extension of maximum structure 3a shows a substructure, unfortunately only proven by two stations (2610 and 2611). These stations are carefully checked. The reality of the sub-structure is strengthened by comparing the gravity with magnetic results. On Cross section Profile C-D, station 2610 around which the structure occurs, is indicated, and the offset magnetic profile shows a similar structure in the same general area. The fact of the magnetic indication being offset is not disturbing. Magnetic effects are generally of deeper origin and also the station spacing in gravity and flight-traverse spacing in magnetic, being of one mile and more, can be too wide for detail. For example in the Caroline Area, the Mt. Schank Caldera does not affect the aeromagnetic contours at all, as flight traverses are on either side of this geological feature.

(iv) Feature 4

The regional character of the axis of the "Fenola Gravity Trough" in Feature 4 has been discussed earlier. This Fenola gravity minimum forms a major regional feature. Its axial trend approximates SE-NW and as such parallels the major trend of the Gambier sub-basin.

(b) Caroline Area

The area is one of broad gravity feature of low relief. It is in marked contrast to the northern province previously described. A gentle build-up in gravity values toward the south coast is modified into an association of relatively lower and higher values extending generally ESE-WNW.

The gravitational regional element in the Caroline area is a maximum axis of smooth build parallel to the Tartwaup Fault. Its central part is indicated in the present survey slightly south of Mount Gambier. The broad feature of the southern flank is undisturbed and well developed parallel to the coastline in the south of the survey. In its deeper part, a maximum and a minimum structure are inter-related as indicated on the Bouguer Anomaly Map. The Selected Bouguer Profiles V-W and X-Y clearly show these structures in cross-section (Allia, 42).

The maximum anomaly has in its southwesterly boundary, indications of a secondary maximum feature. An axial connection with the main maximum is possible.

The minimum lying directly east of Mt. Schank is subcircular with a secondary minimum trend NNW past the Mount Gambier volcanic caldera.

VII. INTERPRETATION

The Caroline and Killanoola Surveys cover respectively the southern and northern parts of the South Australian portion of the Gambier Sunklands, sub-basin of the Otway Basin. The northern or Killanoola Survey area overlaps the known or inferred margin of the principal basin development.

Interpretation of the gravity results is complicated by existing reverse symmetry between gravity and aeromagnetic profiles. One possible

cause of this would be a density contrast between Cretaceous (and younger) sediments (2.4 or less) and Lower Mesozoic (or older) sediments (2.65 or greater). Another factor to be considered is the possible infra-basement density contrast caused by granitic intrusions (density 2.6 or less) into metamorphosed Lower Palaeozoic sediments (greater than 2.7).

The map "Selected Bouguer Profiles" (Allia.42) has additional interpretational remarks in comparison with the aeromagnetic profiles.

(a) Killanoola Area

In the Killanoola Area anomalous gravity configuration generally intensifies to the east. Regional gradients in this more northerly zone approach/and/or exceed 5 milligals per mile indicating and confirming the general impression of shallowing basement. Limited exploration drilling in the area has demonstrated a thick succession of poorly sorted shaley sands and sandy shales of Mesozoic age existing in the general Penola-Beachport-Robe zone confronting this area of steepened gravity gradient. Prominent gravitational "troughs" are developed in a west-south-west to east-north-east zone through Robe ("Robe Gravity ⑯ Trough") and a south-northwest trend passing between Penola and Kalangadoo (Penola Gravity Trough - ④). These minima zones tend to parallel the major basin margins but only in the Cape Jaffa to Lucindale Zone do the anomalies appear to present shrinking structure of the basin proper. A major structural break in the form of steep monoclining and/or zonal faulting is predicted in the general Cape Jaffa- Lucindale Zone and this is assumed to extend seaward towards the continental shelf. This observation is also born out by the aeromagnetic results.

Anomalies lying generally northeast of the "Penola Gravity Trough" tend to conform to a diagonal pattern, viz. northeast-southwest and northwest-southeast. These appear to relate to older crustal developments and agree with earlier predictions that the major anomaly in

this zone relates to bedrock.

Lying approximately 10 miles south-southwest of Lucindale, a prominent gravity maxima (②) reveals well developed subcircular form. This anomaly lies near the projected junction of the "Robe and Penola Gravity Troughs". In that the anomaly is more than 6 miles in diameter and has smooth form, it also is presumed to relate to excessive mass within bedrock or at the bedrock interface. Generally it would appear that this northerly survey area lies within a province of intermediate depth, Middle Mesozoic sedimentary accumulation. Geological information gives no indications of deeper Upper Cretaceous-Tertiary section in this general region and the main gravity effect (Density Contrasts) in consequence, is presumed to lie at greater depths than the Cretaceous.

(b) Caroline Area

The southern or Caroline Survey Area covers portion of the deep Gambier Trough beyond the Beachport-Kalangadoo hingeline. Previous drilling has revealed greatly thickened Upper Cretaceous to Tertiary sedimentary deposition within this zone, which has the form of a deeply recessive structural trough. Practically unconsolidated sediments infill this area to depths of more than 10,000 feet overlying similarly large thicknesses of Middle Mesozoic sedimentary section, (Mt. Salt No. 1 Well) as an extension to that accrueing at shallower depths in the Killanoola Survey Area.

Presumably the relatively high gravity values recorded in this area of greatly deepened sedimentation relate to regional gravity influences in the approach to the edge of the Australian Continent. The gradient in this zone has gravity increasing seaward and thereby masking the effect of the bracket basin. The local coast is believed to be one of Atlantic rift-type junction with the oceanic subcrust and as such, the

increase in gravity values in the direction of the ocean is quite normal. A general nosing of gravitational maximum, trends through the Mount Gambier volcanic caldera zone, and has a possible relationship to the Knight Fault. The elongation approximates that of the known fissuring in this situation viz. west-north-west. A gravity maximum and minimum association occurs immediately east of Mt. Schank. The subcircular maximum represents a local culmination of about four milligals. The anomaly has a diameter of approximately 4 to 5 miles. Its width would suggest a relatively deep influence which presumably relates to a Mesozoic or earlier interface but without relationship to basement. For this reason both anomalies are considered to have important structural significance.

VIII. CONCLUSIONS AND RECOMMENDATIONS

The survey has defined a pattern of gravitational anomalies which are related to similar or reversed aeromagnetic features. Such anomalies may provide targets for detailing by seismic methods or sites for stratigraphic test wells. If such a test well were completed on a suitable anomaly the additional information obtained would allow a revision of the present interpretation.

IX. ACKNOWLEDGEMENTS

Appreciation is expressed to Messrs. R.C. Sprigg and R.B. Wilson for helpful comments, particularly in relation to geological interpretation. Mr. A. von Sanden supervised the reduction of data and compilation of plans.

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NAMCO INTERNATIONAL INC. 1964. Final Report Kalangadoo Gravity Survey for Alliance Oil Development N.L.

OIL DEVELOPMENT N.L., 1961. Completion Report Penola No.1 Well South Australia.

OIL DEVELOPMENT N.L., 1962. Completion Report Mt. Salt No.1 Well South Australia.

ROCHOW, K.A., 1964. Gambier Basin Study.

SOUTH AUSTRALIAN DEPARTMENT OF MINES. Aeromagnetic Map of Total Intensity, Scale 1:63,360.
Sheets: Kingston, Lucindale
Naracoorte
Robe, Conmurra, Straun
Beachport, Kennion, Penola
Gambier, Northumberland

APPENDIX 1

GENERAL DATA

STATISTICS

Operator:

Alliance Oil Development Australia N.L.,
100 Collins Street,
MELBOURNE, C.1., Victoria.

Contractor:

Geosurveys of Australia Pty. Ltd.,
710 Da Costa Building,
68 Grenfell Street,
ADELAIDE, S.A.

Locality:

The gravity (Killanoola area) survey covered parts of O.E.L. 22 S.A. in detail (Caroline area) and in reconnaissance. See Locality Map Allia. 43.

Commencement Date:

Caroline Area	Metering	12th March, 1966.
	Surveying	12th March, 1966.
Killanoola Area	Metering	12th March, 1966.
	Surveying	22nd March, 1966.

Close off Date for Field Work:

Caroline Area	Metering	10th April, 1966.
	Surveying	15th April, 1966.
Killanoola Area	Metering	1st June, 1966.
	Surveying	1st June, 1966.

(With some additional re-runs and ties to Bench Marks in June and July.)

Total Hours Worked:

Caroline Area	Metering	122 hours
	Surveying	198 hours
Killanoola Area	Metering	360 hours
	Surveying	1012 hours

Field Personnel:

Party Chief	P. Brunt
Chief Meter Operator	H. Reith
Meter Operator	J. Radus
Meter Operator	A. Bauer
Meter Operator	C. Thomson
Surveyors	P. Brunt
Surveyors	A. Bauer
Surveyors	D. Owen
Six Rodmen	

EQUIPMENT

Gravity Meters:

1 only	World Wide 32 Scale Division Value 0.10056 milligals/scale division
1 only	Worden No. 215 Scale Division Value 0.09448 milligals/scale division
1 only	Canadian Sharpe No. 147 Scale Division Value 0.10585 milligals/scale division
1 only	LaCoste and Romberg G37 Scale Division Value (for the total area) 1.04815 milligals/scale division
1 only	LaCoste and Romberg G39 Scale Division Value (for the total area) 1.04235 milligals/scale division

Survey Equipment:

1 only	Wild T1A theodolite
1 only	Wild T1 theodolite
1 only	Askania Theodolite (Type Tu 360^{9})

Vehicles:

5 only	Toyota (4 x 4) Landcruisers
1 only	Holden Utility
2 only	Four Berth Caravans

STATISTICS OF SURVEY

Total Number of Stations Established:

Caroline Area

Bases		
New		3
Pendulum Base		1
	Total	4
Relocated Stations		
Namco International Inc. (Bouguer)		1
Relocated stations S.A. Mines Dept. (Bouguer)		7
Relocated stations S.A. Mines Dept. (Only Observed Gravity)		3
	Total	11
Field Stations	Total	268

Total Number of Miles Traversed:

Metering	147½ miles
Surveying	212 miles

Time Lost:

Metering		Nil
Surveying	Vehicle	3 days 1 hour
	Weather	3 days 8 hours

Killanoola Area

Total Number of Stations Established:

Bases		
New		14
Relocated Base		1
	Total	15
Relocated Stations		
Namco International Inc. (Bouguer)		3
Relocated stations S.A. Mines Dept. (Bouguer)		12
Relocated stations S.A. Mines Dept. (Only Observed Gravity)		4
	Total	19
Field Stations	Total	733

Total Number of Miles Traversed:

Metering	744 miles
Surveying	1121½ miles

Time Lost:

Metering	Vehicle	6½ hours
	Instrument	3 hours
Surveying	Vehicle	1 day 7 hours
	Weather	15 days 1 hour
	Rerun	15 days 3 hours
	Instrument	3 hours

APPENDIX 2

TABLE OF PRINCIPAL FACTS

PROSPECT: Caroline-Killanoola Gravity Survey

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
1	331,450	389,000	144.0	979,994,78	+11.95	Caroline Area
2	326,850	374,850	97.0	980,003,00	+13.91	Caroline Area
3	318,150	384,150	114.5	980,005,93	+11.62	Caroline Area
4	388,300	383,925	203.8	979,933,57	- 4.67	Killanoola Area
8	408,700	385,850	188.9	979,922,05	- 2.57	Killanoola Area
9	424,700	379,850	193.5	979,928,02	+15.13	Killanoola Area
10	392,200	365,050	179.0	979,924,50	-12.51	Killanoola Area
12	406,025	345,065	149.5	979,917,99	-10.89	Killanoola Area
13	414,550	368,300	171.6	979,930,94	+ 9.48	Killanoola Area
14	426,700	350,550	130.2	979,917,11	+ 1.78	Killanoola Area
15	393,260	333,780	101.6	979,951,18	+10.19	Killanoola Area
16	412,600	321,650	76.7	979,925,75	- 2.91	Killanoola Area
17	442,900	373,150	173.7	979,911,73	+10.65	Killanoola Area
18	424,300	311,200	34.7	979,915,80	- 7.06	Killanoola Area
19	416,350	300,650	25.2	979,923,42	- 5.65	Killanoola Area
20	444,850	303,350	39.3	979,919,58	+11.76	Killanoola Area
21	442,350	325,100	76.4	979,907,51	+ 0.06	Killanoola Area
P.S. No.7	334,700	378,750	144.73	979,993,65	+13.10	B.M.R. Pendulum Station No.7 at Mt. Gambier S.A.
B.1 Millicent	362,300	336,350	41.0	979,980,80	+13.79	Reoccupied Beach Petroleum Base of Millicent 1963 Survey

APPENDIX 3

TABLE OF PRINCIPAL FACTS OF RELOCATED STATIONS

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
Caroline Area						
Namco 141	333,100	393,350	152.4	979,991,02	+ 9.87	Namco
G12	333,850	387,700	160.3	979,991,26	+11.12	Dept. of Mines
GN8	327,300	380,000	122.2	979,998,52	+11.28	Dept. of Mines
GR3	313,000	395,000	80.0	980,013,06	+12.87	Dept. of Mines
PM7	326,750	392,650	135.4	980,000,90	+14.13	Dept. of Mines
G37	326,550	374,850	92.0	980,003,38	+13.76	Dept. of Mines
G52	312,000	371,850	37.6	980,019,18	+15 .66	Dept. of Mines
GN36	309,950	396,850	51.5	980,019,00	+14.80	Dept. of Mines
GN10			-	979,999,55	-	Dept. of Mines
GN25			-	980,009,18	-	Dept. of Mines
H2			-	979,986,22	-	Dept. of Mines

TABLE OF PRINCIPAL FACTS OF RELOCATED STATIONS

034

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
Killanoola Area						
Namco 694	431,700	317,350	69.1	979,906,87	- 8.50	Namco
Namco 659	422,400	324,800	77.6	979,919,99	- 1.60	Namco
Namco 320	392,100	362,300	172.3	979,923,64	-13.86	Namco
K45	440,150	361,350	142.9	979,900,67	- 4.27	Mines Dept.
RC11	427,900	394,800	289.8	979,918,32	+13.78	Mines Dept.
Base B	389,050	383,950	203.7	979,933,55	- 4.18	Mines Dept.
H51	388,300	383,800	203.1	979,933,61	- 4.67	Mines Dept.
M32	423,400	379,850	189.6	979,926,77	+12.77	Mines Dept.
M34	425,650	379,350	230.5	979,925,24	+15.31	Mines Dept.
BB51	424,200	311,150	35.9	979,915,68	- 7.19	Mines Dept.
K115	444,550	303,450	38.7	979,919,36	+11.28	Mines Dept.
R21	438,700	283,950	32.3	979,932,75	+20.18	Mines Dept.
R25	435,200	283,000	46.1	979,928,75	+14.65	Mines Dept.
K90	442,250	325,100	77.1	979,907,38	- 0.05	Mines Dept.
LB2	455,050	367,250	150.7	979,905,37	+11.54	Mines Dept.
BB46			-	979,922,23	-	
BB41			-	979,928.21	-	
R17			-	979,928,43	-	
K12			-	979,900,32	-	

APPENDIX 4

LIST OF BENCH MARKS USED

ENGINEERING AND WATER SUPPLY	
B.M. Number	Height above MSL (feet)
507	78.3
509	78.7
535	92.4
554	88.7
557	91.4
612	80.8
791	69.2
793	71.2
819	67.0
828	74.0
893	134.3
899	144.9
901	147.3
903	149.2
904	153.3
906	153.8
907	160.2
982	67.9
1060	177.5
1062	179.4

LIST OF BENCH MARKS USED

S.A. RAILWAYS	
B.M. Number	Height above MSL (feet)
238	237.4
241	179.6
245	151.6
246	169.1
248	142.6
250	176.4
251	178.1
252	174.3
253	174.1
254	175.4
257	178.6
259	182.5
261	94.6
267	84.4
271	75.9
281	44.0

TABLE OF PRINCIPAL FACTS

CAROLINE AREA

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer** (milligals)	Remarks
1	330,920	370,270	112.8	979,999.58	+ 14.43	
2	330,940	371,310	136.7	979,997.90	+ 14.27	
3	330,960	372,400	124.4	979,999.25	+ 14.84	
4	330,960	373,250	117.7	979,999.43	+ 14.60	
5	330,950	374,190	121.4	979,999.05	+ 14.46	
6	330,960	375,070	128.3	979,998.74	+ 14.57	
7	330,970	376,000	133.3	979,998.24	+ 14.40	
8	330,960	376,560	160.6	979,996.20	+ 14.08	
9	332,000	377,430	141.5	979,996.88	+ 14.28	
10	331,740	378,450	154.0	979,996.36	+ 14.35	
11	331,500	379,480	143.0	979,997.41	+ 14.55	
12	331,040	380,140	140.9	979,997.87	+ 14.53	
13	331,020	381,120	131.2	979,998.79	+ 14.83	
14	331,080	382,040	129.2	979,998.39	+ 14.32	
15	332,030	382,430	124.4	979,997.90	+ 14.20	
16	332,800	382,730	136.7	979,995.93	+ 13.60	
17	333,650	383,050	139.3	979,994.34	+ 12.79	
18	334,660	383,500	120.6	979,994.06	+ 12.04	
19	335,400	383,800	193.6	979,987.83	+ 10.95	
20	335,120	384,500	140.0	979,991.88	+ 11.43	
EWS BM	331,820	370,750	150.0	979,996.59	+ 14.39	Sec. 121 HD Blanche

** Density used = 2.43 gms/cc
Elevation correction factor = 0.063 mgls/ft

038

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
21X	334,930	385,060	153.9	979,991.21	+ 11.48	
22	334,380	385,650	149.3	979,992.13	+ 11.72	
23	334,000	386,460	143.8	979,992.71	+ 11.69	
24	-	-	-	979,994.68	-	
25	332,630	385,790	135.3	-	-	
26	333,090	384,620	175.6	979,991.96	+ 12.29	
27	332,240	384,240	131.3	979,996.43	+ 13.36	
28	331,060	383,670	126.1	979,997.97	+ 13.71	
29	331,080	382,980	128.2	979,998.09	+ 13.98	
30	331,080	384,620	137.5	979,996.78	+ 13.25	
31	331,070	385,460	134.2	979,996.71	+ 12.98	
32	-	-	-	979,995.79	-	
33	332,230	386,780	136.3	979,995.00	+ 12.22	
34	-	-	-	979,993.36	-	
35	-	-	-	979,995.13	-	
36	331,860	387,700	143.4	979,994.63	+ 12.04	
37	331,100	388,250	128.6	979,996.49	+ 12.41	
38	331,050	387,200	132.2	979,996.48	+ 12.62	
39	331,080	386,570	146.6	979,995.60	+ 12.67	
40	330,090	385,440	127.7	979,997.69	+ 12.85	
41	329,240	385,430	140.2	979,996.86	+ 12.20	
42	329,270	384,600	120.8	979,998.18	+ 12.31	
43	329,260	383,680	125.6	979,997.89	+ 12.31	
44	330,120	383,680	124.9	979,998.16	+ 13.16	
45	329,250	382,800	132.6	979,997.73	+ 12.59	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
46X	329,230	381,940	126.7	979,998.33	+ 12.80	
47	329,200	376,570	125.4	979,999.57	+ 13.94	
48	329,220	377,580	130.1	979,999.08	+ 13.77	
49	329,200	378,620	160.1	979,996.70	+ 13.27	
50	329,220	379,420	227.4	979,991.83	+ 12.66	
51	329,230	380,720	118.1	979,999.43	+ 13.35	
52	330,100	381,940	123.2	979,999.02	+ 13.88	
53	329,300	386,450	122.6	979,998.20	+ 12.44	
54	329,250	387,240	125.8	979,998.05	+ 12.50	
55	330,230	387,240	132.0	979,997.05	+ 12.57	
56	329,270	388,120	137.0	979,997.12	+ 12.28	
57	329,250	389,000	135.7	979,997.11	+ 12.17	
58	330,050	389,000	137.9	979,996.41	+ 12.16	
59	332,100	389,000	135.6	979,994.77	+ 11.86	
60	332,950	389,000	154.8	979,992.36	+ 11.26	
61	333,720	389,000	155.2	979,991.41	+ 10.88	
62	334,780	388,920	153.3	979,990.49	+ 10.61	
63	335,100	388,120	187.9	979,987.77	+ 10.29	
64	335,440	387,250	152.3	979,990.14	+ 10.67	
65	335,730	386,450	156.5	979,989.59	+ 10.61	
66	336,150	385,550	203.6	979,985.98	+ 10.27	
67	-	-	-	979,988.16	-	
68	336,650	384,310	201.4	979,985.42	+ 9.91	
69	337,000	383,370	195.7	979,985.15	+ 9.55	
70	337,370	382,430	215.7	979,983.22	+ 9.16	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
71X	337,700	381,650	187.1	979,984.94	+ 9.30	
72	338,030	380,750	162.6	979,986.14	+ 9.21	
73	335,450	388,930	162.4	979,988.87	+ 10.02	
74	335,430	389,750	171.1	979,988.08	+ 9.76	
75	335,450	390,720	189.1	979,986.50	+ 9.35	
76	335,480	391,780	161.4	979,988.16	+ 9.29	
77	335,560	392,730	175.4	979,986.84	+ 8.89	
78	333,050	394,000	150.9	979,991.19	+ 9.93	
79	333,650	395,700	175.5	979,988.44	+ 9.14	
80	333,040	395,500	172.6	979,989.40	+ 9.47	
81	332,280	395,580	162.9	979,991.34	+ 10.25	
82	331,400	395,630	156.8	979,992.87	+ 10.78	
83	330,490	395,740	148.9	979,995.00	+ 11.74	
84	329,480	395,930	152.0	979,995.81	+ 12.03	
85	329,500	397,000	151.2	979,994.92	+ 11.10	
86	329,160	395,490	151.7	979,996.79	+ 12.77	
87	329.480	394,460	145.5	979,996.74	+ 12.54	
88	329,070	395,950	148.4	979,996.77	+ 12.45	
89	327,990	396,380	149.9	979,997.45	+ 12.46	
90	327,130	396,960	143.9	979,997.64	+ 11.65	
91	327,100	396,200	145.7	979,998.37	+ 12.49	
92	327,140	395,300	138.6	979,999.08	+ 12.76	
93	327,150	394,400	137.1	979,999.61	+ 13.20	
94	332,050	393,200	152.2	979,993.11	+ 11.18	
95	331,260	393,130	150.9	979,994.31	+ 11.75	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
96X	330,200	393,180	146.5	979,995.50	+ 11.88	
97	329,380	393,650	143.6	979,996.35	+ 11.97	
98	328,550	393,570	144.1	979,997.16	+ 12.21	
99	327,940	393,630	139.4	979,998.51	+ 12.82	
100	327,150	393,670	136.5	979,999.94	+ 13.49	
101	331,950	389,950	165.7	979,992.32	+ 11.20	
102	332,420	390,900	154.5	979,992.26	+ 10.74	
103	332,860	391,860	149.5	979,991.89	+ 10.39	
104	331,500	390,950	144.2	979,994.21	+ 11.43	
105	-	-	-	-	-	
106	329,350	391,910	143.6	979,996.79	+ 12.40	
107	329,400	392,800	139.2	979,996.83	+ 12.16	
108	327,100	392,440	144.4	979,999.54	+ 13.58	
109	327,070	391,740	130.6	980,000.53	+ 13.68	
110	327,050	390,730	129.2	980,000.13	+ 13.19	
111	-	-	-	980,000.14	-	
112	327,480	389,000	134.5	979,998.71	+ 12.41	
113	328,480	389,000	138.0	979,997.65	+ 12.26	
114	327,500	388,150	125.2	979,999.11	+ 12.25	
115	327,480	387,200	133.0	979,998.21	+ 11.83	
116	328,380	387,200	141.0	979,997.11	+ 11.85	
117	327,510	386,370	133.9	979,997.90	+ 11.58	
118	327,520	385,460	132.7	979,997.61	+ 11.22	
119	328,300	385,460	120.3	979,998.36	+ 11.76	
120	327.500	384,580	115.4	979,998.63	+ 11.15	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
121X	327,560	383,710	127.1	979,997.96	+ 11.23	
122	328,400	383,670	120.8	979,998.30	+ 11.80	
123	327,550	382,860	118.4	979,998.40	+ 11.12	
124	327,510	381,970	109.1	979,998.99	+ 11.11	
125	328,360	381,970	120.8	979,998.55	+ 12.02	
126	327.500	381,080	231.2	979,990.53	+ 10.35	
127	326.930	380,000	120.0	979,998.60	+ 10.96	
128	326,930	378,760	120.2	979,998.89	+ 11.28	
129	326,930	378,260	118.8	979,999.15	+ 11.46	
130	326,920	377,570	184.4	979,994.57	+ 11.00	
131	326,890	376,620	171.4	979,996.33	+ 11.93	
132	326,890	375,660	102.5	980,001.87	+ 13.13	
133	326,850	373,920	91.2	980,003.89	+ 14.44	
134	325,200	380,240	108.8	980,000.86	+ 11.29	
135	325,200	380,930	111.1	979,999.57	+ 10.15	
136	325,180	381,950	111.7	979,999.43	+ 10.04	
137	325,870	381,940	135.3	979,997.46	+ 10.05	
138	325,120	382,820	114.4	979,999.27	+ 9.98	
139	325,040	383,670	183.7	979,994.30	+ 9.33	
140	326,340	383,670	118.9	979,998.67	+ 10.56	
141	326,950	383,680	117.1	979,998.73	+ 10.95	
142	325,600	384,560	118.5	979,999.01	+ 10.33	
143	325,500	385,490	116.1	979,999.56	+ 10.67	
144	326,470	385,500	121.8	979,998.80	+ 10.96	
145	324,560	385,420	125.6	979,999.38	+ 10.42	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals	Remarks
146X	323,890	386,100	115.0	980,000.93	+ 10.82	
147	323,880	387,100	116.9	980,001.48	+ 11.44	
148	323,930	388,130	114.4	980,002.61	+ 12.47	
149	324,660	387,880	123.9	980,000.90	+ 11.88	
150	326,100	387,400	115.0	980,000.66	+ 12.13	
151	325,780	386,900	111.6	980,000.67	+ 11.70	
152	326,930	387,180	116.1	979,999.89	+ 12.02	
153	326,200	388,250	143.6	979,998.99	+ 12.32	
154	326,030	389,000	121.5	980,001.11	+ 12.92	
155	326,070	389,550	123.4	980,001.13	+ 13.10	
156	325,880	390,600	125.5	980,001.99	+ 13.94	
157	325,480	391,240	127.8	980,003.40	+ 15.20	
158	326,140	392,010	128.6	980,002.43	+ 14.77	
159	325,570	393,740	135.6	980,002.50	+ 14.87	
160	325,660	394,780	134.2	980,001.70	+ 14.05	
161	325,700	395,650	136.2	980,000.76	+ 13.27	
162	325,380	396,500	152.4	979,999.13	+ 12.39	
163	324,750	393,740	131.2	980,003.78	+ 15.29	
164	323,790	393,700	124.0	980,005.38	+ 15.74	
165	324,050	394,340	129.6	980,004.04	+ 14.94	
166	322,600	393,580	132.1	980,005.46	+ 15.48	
167	321,660	393,650	125.9	980,006.60	+ 15.52	
168	321,000	393,700	128.5	980,006.69	+ 15.33	
169	320,300	393,800	113.5	980,007.72	+ 14.89	
170	319,990	394,620	106.6	980,007.93	+ 14.45	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
171X	320,050	395,570	141.1	980,003.85	+ 12.59	
172	320,400	396,640	129.1	980,003.84	+ 12.04	
173	317,620	396,900	86.4	980,008.80	+ 12.31	
174	320,300	393,020	122.0	980,007.66	+ 15.37	
175	320,230	392,230	112.4	980,008.60	+ 15.64	
176	320,180	391,040	112.6	980,008.29	+ 15.32	
177	320,440	390,150	114.5	980,007.11	+ 14.43	
178	320,370	389,280	166.7	980,002.82	+ 13.38	
179	320,180	388,200	217.9	979,998.55	+ 12.24	
180	320,150	387,220	104.5	980,006.41	+ 12.93	**
181	321,170	387,420	170.1	980,000.39	+ 11.76	
182	322,250	387,730	105.2	980,004.19	+ 12.26	
183	322,800	388,020	111.8	980,003.35	+ 12.23	
184	324,540	389,340	111.3	980,003.13	+ 13.21	
185	324,950	390,000	112.4	980,003.91	+ 14.40	
186	325,180	390,820	125.4	980,003.14	+ 14.57	
187	324,240	392,450	131.9	980,004.64	+ 15.81	
188	-	-	-	980,008.40	-	
189	322,130	391,250	108.9	980,007.85	+ 16.05	
190	323,350	391,340	122.3	980,006.60	+ 16.54	
191	324,150	391,500	117.2	980,005.81	+ 15.99	
192	324,970	391,600	122.6	980,004.71	+ 15.82	
193	322,200	390,730	104.8	980,007.16	+ 15.14	
194	322,210	389,550	110.7	980,005.54	+ 13.92	
195	322,200	388,730	103.8	980,004.97	+ 12.89	

** (Tie Value 980,006.47 mgls)

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
196X	319,340	390,820	181.9	980,002.73	+ 13.51	
197	318,540	390,380	119.3	980,007.56	+ 13.84	
198	319,400	393,850	109.4	980,008.12	+ 14.36	
199	318,570	394,320	105.4	980,008.11	+ 13.52	
200	317,730	394,820	111.7	980,007.52	+ 12.72	
201	317,600	396,050	97.8	980,008.11	+ 12.34	
202	318,160	393,330	118.8	980,007.88	+ 13.86	
203	318,300	392,300	180.8	980,003.42	+ 13.38	
204	318,200	391,520	239.8	979,998.61	+ 12.22	
205	318,070	390,630	130.2	980,006.89	+ 13.51	
206	-	-	-	980,006.87	-	
207	317,130	389,030	110.7	980,008.73	+ 13.43	
208	316,320	388,550	142.1	980,006.67	+ 12.79	
209	311,880	372,700	36.9	980,019.35	+ 15.68	
210	312,020	371,750	36.8	980,019.31	+ 15.76	
211	312,000	373,630	36.5	980,019.13	+ 15.55	
212	312,130	374,540	34.6	980,018.85	+ 15.21	
213	312,240	375,340	31.5	980,018.80	+ 15.05	
214	311,310	375,180	34.7	980,019.81	+ 15.60	
215	311,450	376,150	33.6	980,019.60	+ 15.40	
216	311,540	377,000	29.1	980,019.79	+ 15.39	
217	311,660	377,980	31.0	980,019.43	+ 15.23	
218	311,860	379,180	25.5	980,019.78	+ 15.36	
219	311,950	380,210	30.8	980,018.71	+ 14.71	
220	312,920	380,390	45.4	980,016.36	+ 13.97	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
221X	312,930	381,300	47.6	980,016.09	+ 13.83	
222	312,550	382,230	40.0	980,017.46	+ 14.46	
223	-	-	-	980,016.88	-	
224	-	-	-	980,015.79	-	
225	311,930	384,610	63.8	980,016.06	+ 14.11	
226	-	-	-	980,016.72	-	
227	-	-	-	980,016.33	-	
228	-	-	-	980,016.35	-	
229	-	-	-	-	-	
230	310,330	375,050	27.9	980,021.67	+ 16.29	
231	309,570	375,600	23.8	980,022.61	+ 16.45	
232	309,040	376,350	19.9	980,023.15	+ 16.36	
233	308,500	376,570	16.9	980,024.37	+ 16.98	
234	307,830	376,560	19.7	980,024.60	+ 16.91	
235	307,670	377,480	18.8	980,024.77	+ 16.93	
236	308,300	378,100	17.6	980,024.40	+ 16.89	
237	308,880	378,760	19.3	980,023.66	+ 16.70	
238	309,120	379,590	19.8	980,023.11	+ 16.35	
239	-	-	-	980,023.12	-	
240	308,880	381,540	17.5	980,023.07	+ 15.99	
241	309,450	382,570	21.1	980,021.98	+ 15.55	
242	309,520	383,550	19.8	980,021.95	+ 15.48	
243	309,730	384,400	21.8	980,021.63	+ 15.42	
244	310,450	384,940	29.6	980,019.95	+ 14.77	
245	314,000	380,570	52.4	980,015.08	+ 13.90	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
246X	310,950	380,370	17.8	980,021.19	+ 15.63	
247	310,240	380,730	17.6	980,021.86	+ 15.79	
248	309,440	380,950	15.3	980,022.88	+ 16.07	
249	317,100	384,330	63.0	980,010.71	+ 12.41	*
250	316,150	384,430	76.6	980,010.64	+ 12.56	**
251	315,010	384,450	63.7	980,012.78	+ 13.06	***
252	313,850	384,500	52.4	980,014.52	+ 13.20	
253	312,920	384,560	52.2	980,015.59	+ 13.61	
254	315,650	380,280	70.9	980,011.44	+ 12.61	
255	324,170	381,990	110.1	980,000.09	+ 9.87	
256	323,330	382,000	178.4	979,995.81	+ 9.28	
257	323,470	383,080	143.2	979,998.39	+ 9.74	
258	324,200	384,880	212.0	979,992.85	+ 9.06	
259	323,800	383,920	108.4	980,000.47	+ 9.87	
260	322,280	384,050	114.6	980,001.61	+ 10.31	
261	321,260	384,490	161.5	979,999.52	+ 10.43	
262	320,300	384,000	86.2	980,005.93	+ 11.40	
263	-	-	-	980,006.96	-	
264	-	-	-	980,006.86	-	
265	321,960	385,200	158.8	979,999.12	+ 10.36	
266	322,900	385,500	185.9	979,996.00	+ 9.65	
267	320,310	385,160	145.1	980,001.90	+ 11.08	
268	320,060	386,070	189.7	979,999.60	+ 11.41	
269	319,300	396,960	113.4	980,005.53	+ 11.97	
270	316,730	396,550	76.5	980,009.92	+ 12.19	

* (Tie Value 980,010.73 mgls)
** (Tie Value 980,010.69 mgls)
***(Tie Value 980,012.82 mgls)

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
271X	316,250	395,600	85.3	980,010.34	+ 12.79	
272	315,000	395,250	103.8	980,009.86	+ 12.60	
273	313,990	395,400	102.3	980,011.20	+ 13.11	
274	309,420	384,790	11.3	980,022.54	+ 15.46	Terrain +0.01
275	309,130	385,940	13.0	980,022.65	+ 15.49	Terrain +0.01
276	308,950	386,530	15.5	980,022.47	+ 15.32	Terrain +0.01
277	308,440	387,620	11.4	980,023.31	+ 15.53	
278	308,470	388,720	11.9	980,023.02	+ 15.29	
279	308,620	389,400	17.1	980,022.78	+ 15.50	Terrain +0.01
280	308,530	390,650	12.9	980,022.95	+ 15.32	
281	308,370	391,240	12.1	980,023.24	+ 15.49	Terrain +0.03
282	308,040	392,480	12.3	980,023.40	+ 15.37	
283	307,980	393,340	12.6	980,023.31	+ 15.27	Terrain +0.01
284	308,050	394,300	12.2	980,023.19	+ 15.19	Terrain +0.01
285	307,900	395,050	12.5	980,023.12	+ 15.01	
286	307,840	395,930	12.7	980,023.17	+ 15.02	

049

TABLE OF PRINCIPAL FACTS

KILLANOOLA AREA

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer** (milligals)	Remarks
2001Z	388,200	385,430	207.3	979,933.99	- 4.12	
2002	387,200	387,000	213.7	979,934.53	- 3.88	
2003	386,700	388,530	216.0	979,935.30	- 3.35	
2004	384,780	390,320	219.3	979,935.79	- 4.02	
2005	-	-	-	979,935.98	-	Peg Missing
2006	388,320	389,500	219.9	979,935.38	- 1.87	
2007	387,860	391,370	221.3	979,935.87	- 1.61	
2008	387,130	393,020	229.8	979,935.58	- 1.92	
2009	385,940	394,320	237.9	979,935.49	- 2.34	
2010	385,170	395,940	243.2	979,935.88	- 2.16	
2011	384,430	397,440	243.8	979,936.33	- 2.21	
2012	386,400	397,460	236.0	979,936.81	- 0.85	
2013	388,160	397,440	246.3	979,935.80	+ 0.10	
2014	390,000	397,500	246.9	979,934.47	+ 0.07	
2015	391,740	397,550	253.3	979,932.16	- 0.58	
2016	393,580	397,530	253.4	979,931.68	+ 0.28	
2017	393,150	395,380	246.7	979,931.69	- 0.42	
2018	392,430	393,640	232.4	979,932.95	- 0.58	
2019	391,800	392,150	215.4	979,934.54	- 0.50	
2020	391,650	390,760	215.2	979,934.35	- 0.80	

** Density used = 2.43 gms/cc
Elevation correction factor = 0.063 mgls/ft

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	050 Remarks
2021Z	391,830	389,360	210.3	979,934.26	- 1.10	
2022	390,140	389,250	212.5	979,935.11	- 1.32	
2023	393,600	389,970	208.7	979,933.26	- 0.94	
2024	-	-	-	979,933.21	-	Peg Missing
2025	395,010	390,740	204.0	979,932.31	- 1.17	
2026	394,760	389,440	204.3	979,932.09	- 1.54	
2027	394,350	387,900	201.3	979,932.20	- 1.92	
2028	396,970	389,160	201.3	979,930.57	- 1.69	
2029	398,000	389,900	202.2	979,929.22	- 2.23	
2030	400,040	391,120	207.3	979,928.00	- 1.66	
2031	400,270	389,480	200.1	979,927.05	- 2.90	
2032	400,440	387,430	189.1	979,926.57	- 3.97	
2033	402,250	386,940	192.9	979,924.75	- 4.24	
2034	402,550	385,260	185.5	979,924.91	- 4.33	
2035	401,570	384,460	191.5	979,925.35	- 4.21	
2036	400,640	385,380	187.8	979,926.31	- 4.16	
2037	399,000	384,570	192.6	979,927.64	- 3.70	
2038	397,200	384,630	193.2	979,929.45	- 3.13	
2039	397,000	386,130	190.1	979,930.35	- 2.58	
2040	396,940	387,570	194.5	979,930.22	- 2.47	
2041	397,830	383,000	186.9	979,929.03	- 3.48	
2042	398,130	381,860	185.3	979,928.87	- 3.54	
2043	398,820	380,000	183.9	979,929.34	- 2.66	
2044	401,160	380,030	182.7	979,927.98	- 2.43	
2045	403,100	380,020	180.4	979,926.61	- 2.54	

051

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2046Z	402,890	382,300	182.0	979,925.26	- 3.95	
2047	396,870	379,880	183.8	979,930.51	- 2.91	
2048	395,150	379,870	186.1	979,931.43	- 3.08	
2049	393,240	380,000	187.2	979,932.17	- 3.63	
2050	391,350	380,020	196.1	979,931.81	- 4.79	
2051	390,130	380,030	191.2	979,932.43	- 5.32	
2052	404,880	380,010	178.5	979,924.83	- 3.15	
2053	406,620	379,960	176.8	979,922.97	- 3.91	
2054	408,570	380,000	176.4	979,921.33	- 4.14	
2055	410,640	380,020	175.3	979,919.63	- 4.47	
2056	409,580	382,270	182.0	979,919.94	- 4.40	
2057	408,970	383,930	182.1	979,921.03	- 3.84	
2058	407,990	387,450	194.4	979,923.74	- 1.07	
2059	406,360	388,520	204.4	979,924.82	- 0.50	
2060	405,240	389,860	209.3	979,926.07	+ 0.24	
2061	404,920	391,520	207.8	979,928.98	+ 2.82	
2062	405,180	393,350	244.2	979,930.69	+ 6.99	
2063	404,910	395,100	280.0	979,931.87	+ 10.24	
2064	404,720	396,360	337.7	979,928.73	+ 10.59	
2065	406,200	393,200	261.0	979,929.70	+ 7.80	
2066	407,510	393,930	353.0	979,922.77	+ 7.61	
2067	410,060	393,970	325.4	979,919.56	+ 4.49	
2068	411,640	394,300	329.2	979,917.96	+ 4.24	
2069	408,700	392,500	301.5	979,921.37	+ 3.81	
2070	410,320	391,120	238.6	979,922.61	+ 2.28	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2071Z	411,910	390,130	246.2	979,918.60	- 0.17	
2072	411,520	378,050	174.6	979,920.15	- 3.32	
2073	412,300	376,250	172.6	979,921.36	- 1.68	
2074	412,990	374,580	167.6	979,922.63	- 0.25	
2075	413,540	372,710	170.1	979,925.08	+ 2.76	
2076	414,630	371,400	166.6	979,925.85	+ 4.09	
2077	414,580	369,780	166.1	979,928.76	+ 6.96	
2078	-	-	-	-	-	
2079	412,950	367,800	166.3	979,930.22	+ 7.27	
2080	410,960	368,380	175.5	979,929.27	+ 5.47	
2081	408,780	369,630	171.2	979,929.83	+ 4.20	
2082	408,570	371,280	170.9	979,930.77	+ 4.97	
2083	410,430	371,580	169.3	979,930.52	+ 5.92	
2084	411,940	372,160	167.9	979,927.67	+ 4.08	
2085	411,750	373,640	168.3	979,925.35	+ 1.64	
2086	410,720	374,250	170.2	979,926.17	+ 1.85	
2087	408,250	373,140	169.9	979,930.08	+ 4.06	
2088	408,160	374,900	171.2	979,928.42	+ 2.33	
2089	407,930	376,650	174.1	979,926.00	- 0.08	
2090	407,700	378,300	174.3	979,923.86	- 2.37	
2091	409,730	377,500	174.3	979,922.51	- 2.28	
2092	406,140	375,280	172.3	979,929.54	+ 2.04	
2093	404,470	375,060	171.7	979,930.00	+ 1.30	
2094	404,900	376,900	174.1	979,928.66	+ 0.38	
2095	405,540	378,450	177.4	979,926.19	- 1.41	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2096Z	401,620	378,630	184.0	979,928.63	- 1.35	
2097	402,370	376,900	179.4	979,929.59	- 0.16	
2098	403,100	375,360	176.4	979,930.01	+ 0.62	
2099	403,300	373,780	175.6	979,929.92	+ 0.61	
2100	402,380	372,270	178.9	979,928.80	- 0.95	
2101	401,860	370,350	178.3	979,927.47	- 2.69	
2102	394,700	378,930	187.6	979,931.56	- 3.13	
2103	396,440	378,180	183.1	979,931.49	- 2.25	
2104	398,020	377,310	182.3	979,931.10	- 1.58	
2105	398,950	376,370	181.3	979,930.72	- 1.35	
2106	399,990	375,330	178.4	979,930.37	- 1.13	
2107	400,230	373,620	178.4	979,929.77	- 1.55	
2108	400,720	372,100	177.9	979,928.77	- 2.25	
2109	-	-	-	-	-	
2110	409,030	367,680	169.1	979,927.82	+ 2.21	
2111	408,450	366,420	171.5	979,925.97	+ 0.09	
2112	408,480	364,530	166.2	979,925.60	- 0.56	
2113	408,700	362,560	165.5	979,926.15	+ 0.11	
2114	406,800	366,530	171.5	979,926.36	- 0.67	
2115	406,060	367,690	172.5	979,926.76	- 0.73	
2116	404,560	367,970	175.5	979,926.48	- 1.90	
2117	404,580	369,350	172.0	979,927.97	- 0.65	
2118	391,870	369,460	185.9	979,927.70	- 9.12	
2119	390,230	369,550	187.8	979,928.43	- 9.45	
2120	388,360	369,730	190.0	979,929.61	- 9.44	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2121Z	387,970	368,560	191.7	979,929.32	- 9.89	
2122	387,720	366,850	185.2	979,929.38	-10.45	
2123	386,160	366,350	187.7	979,931.47	- 9.28	
2124	385,860	365,000	186.3	979,932.01	- 9.05	
2125	384,750	364,490	188.1	979,934.51	- 7.34	
2126	384,800	362,330	180.5	979,935.96	- 6.23	
2127	392,340	352,280	139.1	979,928.34	-11.04	
2128	390,530	352,290	141.6	979,932.57	- 7.94	
2129	388,880	352,100	141.9	979,937.04	- 4.62	
2130	387,890	351,380	141.0	979,940.17	- 2.27	
2131	387,890	349,640	135.3	979,943.05	+ 0.27	
2132	387,900	347,840	128.7	979,946.12	+ 2.98	
2133	387,190	346,420	124.7	979,949.56	+ 5.64	
2134	386,800	344,820	117.8	979,952.53	+ 7.90	
2135	387,690	343,460	113.4	979,953.35	+ 9.06	
2136	388,850	342,150	114.2	979,953.39	+10.02	
2137	390,050	340,920	114.1	979,953.41	+10.87	
2138	391,200	339,700	112.7	979,952.98	+11.20	
2139	392,530	338,090	113.8	979,951.38	+10.61	
2140	393,760	338,680	116.3	979,948.18	+ 8.46	
2141	395,600	339,530	115.9	979,939.83	+ 1.40	
2142	396,800	340,550	116.8	979,934.77	- 2.78	
2143	396,780	342,550	121.4	979,931.93	- 5.35	
2144	396,850	344,530	126.1	979,929.11	- 7.85	
2145	398,660	344,530	139.9	979,924.23	-10.52	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2146Z	400,360	344,530	132.7	979,922.08	- 11.91	
2147	402,080	344,530	129.8	979,920.39	- 12.51	
2148	403,850	344,530	129.6	979,919.43	- 12.27	
2149	405,730	344,530	127.7	979,919.43	- 11.03	
2150	404,520	345,600	129.7	979,918.98	- 12.25	
2151	403,330	346,460	130.1	979,918.91	- 13.12	
2152	401,630	347,120	133.2	979,918.98	- 14.06	
2153	400,360	347,940	132.6	979,919.43	- 14.60	
2154	399,000	349,080	132.9	979,919.92	- 15.09	
2155	397,740	349,980	136.8	979,920.25	- 15.40	
2156	396,090	350,570	136.0	979,922.26	- 14.61	
2157	394,400	351,350	136.0	979,924.85	- 13.23	
2158	393,100	351,960	139.7	979,926.81	- 11.98	
2159	393,670	369,750	184.6	979,927.59	- 8.04	
2160	395,400	370,300	182.4	979,927.88	- 6.63	
2161	397,750	370,470	178.8	979,927.92	- 5.18	
2162	399,230	370,330	178.5	979,927.75	- 4.25	
2163	400,930	370,030	174.3	979,927.59	- 3.49	
2164	406,300	347,270	129.5	979,919.75	- 10.19	
2165	405,900	348,890	130.8	979,919.54	- 10.65	
2166	405,660	350,650	136.2	979,919.74	- 10.27	
2167	404,490	351,890	139.1	979,919.22	- 11.50	
2168	403,380	353,180	144.5	979,918.53	- 12.58	
2169	402,190	353,830	144.5	979,917.84	- 14.15	
2170	401,620	355,510	151.5	979,918.43	- 13.53	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2171Z	400,630	357,000	153.6	979,918.77	- 13.76	
2172	399,660	358,400	158.2	979,919.21	- 13.72	
2173	398,790	360,250	162.4	979,920.04	- 13.32	
2174	397,800	361,700	165.0	979,921.13	- 12.77	
2175	396,550	362,300	167.2	979,922.25	- 12.41	
2176	394,940	363,300	171.0	979,922.78	- 12.79	
2177	393,500	364,260	175.5	979,923.55	- 12.77	
2178	396,570	370,050	179.5	979,927.58	- 6.29	
2179	396,530	368,180	178.0	979,926.52	- 7.48	
2180	396,640	366,370	174.1	979,925.46	- 8.67	
2181	396,630	364,340	172.2	979,924.19	- 10.12	
2182	400,600	349,490	134.3	979,918.41	- 15.34	
2183	400,600	351,250	136.9	979,917.70	- 15.90	
2184	400,580	352,840	141.3	979,917.44	- 15.89	
2185	402,100	353,220	142.2	979,917.89	- 14.27	
2186	405,740	336,030	107.2	979,921.20	- 10.50	
2187	404,360	336,600	103.4	979,922.98	- 9.96	
2188	403,650	335,130	95.6	979,925.04	- 8.90	
2189	403,330	334,050	93.9	979,926.14	- 8.10	
2190	402,780	332,180	92.6	979,927.80	- 6.91	
2191	402,280	330,630	91.9	979,929.24	- 5.87	
2192	401,950	329,690	96.7	979,929.60	- 5.45	
2193	400,430	330,580	94.1	979,931.91	- 4.41	
2194	398,800	331,010	96.3	979,934.80	- 2.57	
2195	397,130	331,750	101.6	979,938.96	+ 0.71	

057

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2196Z	395,620	332,420	104.5	979,943.15	+ 4.03	
2197	393,950	333,500	100.5	979,949.12	+ 8.58	
2198	392,900	335,650	105.7	979,951.89	+ 10.91	
2199	419,830	382,220	187.9	979,922.37	+ 5.64	
2200	419,850	383,970	206.5	979,919.46	+ 3.92	
2201	419,650	385,730	240.6	979,916.05	+ 2.50	
2202	419,040	387,160	257.0	979,915.16	+ 2.19	
2203	-	-	-	979,918.66	-	Peg Missing
2204	422,530	387,110	243.8	979,920.57	+ 9.35	
2205	423,860	387,060	264.2	979,919.62	+ 10.58	
2206	422,750	390,560	281.7	979,926.71	+ 18.01	
2207	421,000	390,720	279.0	979,926.57	+ 16.44	
2208	418,920	390,640	281.2	979,910.96	+ 9.41	
2209	417,830	389,400	274.1	979,915.52	+ 2.79	
2210	417,400	390,600	290.1	979,917.17	+ 5.10	
2211	418,530	388,280	243.6	979,917.40	+ 3.20	
2212	398,790	362,570	168.4	979,922.66	- 10.33	
2213	400,530	362,570	163.7	979,923.40	- 8.63	
2214	402,270	362,570	161.6	979,924.04	- 6.85	
2215	404,960	362,570	166.1	979,924.95	- 3.73	
2216	-	-	-	979,933.23	-	Peg Missing
2217	-	-	-	979,937.71	-	Peg Missing
2218	-	-	-	979,940.95	-	Peg Missing
2219	411,300	382,800	179.4	979,919.52	- 3.84	
2220	412,750	381,570	177.0	979,918.97	- 3.50	

058

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2221Z	414,450	381,150	176.7	979,918.28	- 2.98	
2222	416,320	380,730	173.7	979,918.04	- 2.12	
2223	-	-	-	979,918.55	-	Peg Missing
2224	423,380	374,850	180.1	979,918.19	+ 3.57	
2225	421,950	375,210	167.4	979,918.66	+ 2.21	
2226	420,700	374,330	171.3	979,918.61	+ 1.50	
2227	419,450	373,420	169.7	979,919.69	+ 1.58	
2228	418,500	372,140	167.5	979,921.58	+ 2.64	
2229	417,840	370,410	163.7	979,923.80	+ 4.16	
2230	416,900	369,280	163.9	979,925.77	+ 5.50	
2231	416,170	368,050	169.0	979,928.30	+ 7.84	
2232	416,590	366,100	161.7	979,929.01	+ 8.38	
2233	416,820	372,730	166.9	979,922.16	+ 2.08	
2234	414,960	372,870	167.1	979,923.32	+ 1.82	
2235	413,250	377,960	174.7	979,919.47	- 2.78	
2236	413,040	379,570	174.2	979,919.01	- 3.43	
2237	411,750	380,000	175.4	979,919.30	- 3.98	
2238	413,550	380,140	175.2	979,918.87	- 3.13	
2239	414,970	380,000	173.7	979,918.84	- 2.26	
2240	416,350	380,000	173.4	979,918.45	- 1.69	
2241	416,340	378,270	171.5	979,919.05	- 1.21	
2242	416,340	376,600	163.9	979,919.46	- 1.25	
2243	416,380	374,800	167.6	979,920.28	- 0.17	
2244	416,420	373,290	166.4	979,921.73	+ 1.22	
2245	418,490	374,200	166.9	979,919.69	+ 0.71	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2246Z	418,080	376,240	166.5	979,919.12	- 0.17	
2247	-	-	-	979,919.01	-	Peg Missing
2248	418,120	379,150	172.4	979,919.05	+ 0.14	
2249	430,870	334,080	90.8	979,910.66	- 4.08	
2250	429,240	332,560	86.0	979,911.24	- 4.98	
2251	428,030	331,750	96.7	979,913.42	- 3.00	
2252	-	-	-	979,919.20	-	Peg Missing
2253	-	-	-	979,922.56	-	Peg Missing
2254	-	-	-	979,927.80	-	Peg Missing
2255	421,450	330,810	87.7	979,928.84	+ 7.18	
2256	419,680	330,820	89.2	979,927.39	+ 4.56	
2257	419,180	329,080	84.7	979,926.25	+ 2.74	
2258	419,000	327,450	83.2	979,924.35	+ 0.63	
2259	423,090	332,550	130.4	979,923.58	+ 5.76	
2260	423,350	334,300	103.1	979,921.22	+ 1.87	
2261	423,530	336,280	96.3	979,916.53	- 3.14	
2262	423,930	337,780	100.4	979,913.14	- 5.98	
2263	424,350	339,450	101.4	979,912.12	- 6.64	
2264	424,700	340,980	105.2	979,912.19	- 6.15	
2265	425,170	342,720	117.2	979,911.77	- 5.47	
2266	-	-	-	979,912.96	-	Peg Missing
2267	-	-	-	979,912.17	-	Peg Missing
2268	411,880	286,680	8.5	979,928.51	- 4.70	
2269	412,860	287,590	21.4	979,926.43	- 5.27	
2270	413,300	289,000	15.3	979,926.71	- 5.09	

060

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2271Z	413,650	290,680	28.3	979,925.19	- 5.52	
2272	414,080	292,170	42.5	979,923.78	- 5.75	
2273	413,960	293,860	26.7	979,925.79	- 4.83	
2274	414,160	295,570	26.5	979,925.91	- 4.60	
2275	413,970	296,840	22.9	979,927.15	- 3.75	
2276	414,650	298,230	19.8	979,925.65	- 4.95	
2277	415,550	299,600	21.5	979,924.47	- 5.40	
2278	416,720	301,100	49.4	979,921.38	- 5.90	
2279	417,610	302,200	28.3	979,922.34	- 5.64	
2280	418,670	303,520	25.8	979,922.16	- 5.25	
2281	419,560	304,830	24.7	979,921.68	- 5.16	
2282	420,300	306,600	26.2	979,921.09	- 5.15	
2283	421,460	308,000	24.9	979,920.07	- 5.40	
2284	422,600	309,280	27.9	979,918.47	- 6.01	
2285	423,620	310,440	31.3	979,916.94	- 6.64	
2286	425,260	312,200	51.2	979,913.45	- 7.67	
2287	426,400	313,550	102.1	979,908.13	- 8.98	
2288	427,470	315,050	84.7	979,908.24	- 9.23	
2289	428,060	316,820	67.4	979,909.25	- 8.90	
2290A	429,300	317,500	68.6	979,907.53	- 9.65	
2291	431,310	317,300	70.1	979,906.94	- 8.74	
2292	431,850	318,470	73.0	979,906.56	- 8.59	
2293	431,940	319,850	72.6	979,905.88	- 9.21	
2294	433,270	320,900	76.6	979,905.38	- 8.47	
2295	435,000	321,470	84.8	979,904.28	- 7.84	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2296Z	436,560	321,890	74.6	979,904.73	- 6.93	
2297	437,690	323,100	74.2	979,904.61	- 6.27	
2298	437,670	323,870	74.7	979,905.50	- 4.35	
2299	439,580	322,210	73.1	979,905.47	- 4.15	
2300	439,540	320,780	71.8	979,906.22	- 3.49	
2301	424,830	351,170	131.9	979,915.27	- 1.32	
2302	423,250	351,770	139.5	979,914.60	- 2.61	
2303	422,150	353,250	141.3	979,912.22	- 5.66	
2304	420,520	353,720	142.1	979,912.33	- 6.68	
2305	418,920	354,610	149.1	979,912.12	- 7.64	
2306	417,150	355,380	149.5	979,913.53	- 7.43	
2307	415,430	355,580	150.3	979,915.19	- 6.96	
2308	414,640	356,780	155.4	979,918.14	- 4.24	
2309	413,850	358,650	158.9	979,921.76	- 0.98	
2310	-	-	-	979,924.73	-	Peg Missing
2311	411,630	361,050	159.4	979,925.60	+ 1.27	
2312	412,060	362,500	162.8	979,924.89	+ 1.09	
2313	413,850	362,470	162.3	979,923.61	+ 1.05	
2314	415,720	362,450	198.9	979,921.46	+ 2.52	
2315	-	-	-	979,923.38	-	Peg Missing
2316	416,460	363,870	162.3	979,925.29	+ 4.59	
2317	416,540	365,650	162.6	979,928.66	+ 8.05	
2318	416,410	367,420	163.3	979,928.71	+ 8.04	
2319	411,300	319,750	72.1	979,926.38	- 3.49	
2320	409,500	320,330	82.6	979,927.18	- 3.31	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2321Z	407,800	320,980	77.2	979,929.45	- 2.62	
2322	406,030	321,620	76.5	979,931.18	- 2.22	
2323	404,030	322,510	73.7	979,932.38	- 2.62	
2324	402,760	323,080	78.7	979,933.18	- 2.41	
2325	401,340	324,020	88.0	979,933.38	- 2.63	
2326	400,000	324,650	75.5	979,935.69	- 2.09	
2327	398,550	325,700	78.1	979,937.27	- 1.39	
2328	397,000	326,680	79.1	979,940.29	+ 0.57	
2329	395,380	327,520	82.1	979,944.35	+ 3.68	
2330	401,300	328,290	92.5	979,931.77	- 4.03	
2331	399,350	328,300	85.4	979,934.85	- 2.77	
2332	403,640	329,000	91.1	979,928.15	- 6.06	
2333	404,940	328,880	87.2	979,927.24	- 6.30	
2334	406,800	327,760	85.5	979,926.21	- 6.06	
2335	408,330	326,760	83.6	979,926.03	- 5.26	
2336	409,740	326,120	81.7	979,926.24	- 4.16	
2337	411,250	325,180	81.1	979,926.65	- 2.68	
2338	412,730	324,460	79.7	979,926.01	- 2.40	
2339	414,760	323,880	78.1	979,924.70	- 2.33	
2340	410,470	343,820	128.4	979,920.33	- 6.67	
2341	410,500	341,950	123.6	979,919.28	- 7.99	
2342	410,500	340,080	120.1	979,918.45	- 9.04	
2343	410,470	338,160	114.5	979,918.29	- 9.58	
2344	410,500	336,180	101.8	979,919.44	- 9.19	
2345	410,860	334,870	95.9	979,920.16	- 8.59	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2346Z	410,370	333,500	92.1	979,920.77	- 8.57	
2347	410,370	331,230	88.7	979,921.77	- 7.74	
2348	410,490	329,520	85.7	979,923.53	- 6.11	
2349	410,440	327,710	85.2	979,925.16	- 4.52	
2350	414,260	320,710	96.6	979,922.57	- 3.64	
2351	415,910	320,150	85.0	979,921.80	- 3.94	
2352	417,820	320,010	89.6	979,920.66	- 3.45	
2353	419,860	319,550	74.9	979,920.89	- 2.69	
2354	421,730	319,050	72.0	979,919.83	- 2.60	
2355	423,340	318,900	105.8	979,914.96	- 4.15	
2356	425,300	318,420	104.0	979,911.07	- 6.76	
2357	427,070	317,920	98.5	979,906.65	- 10.28	
2358	411,160	366,220	167.7	979,926.74	+ 2.62	
2359	411,660	364,360	166.7	979,925.60	+ 1.75	
2360	410,060	362,530	160.9	979,925.79	+ 0.44	
2361	-	-	-	979,926.35	-	Peg Missing
2362	-	-	-	979,926.21	-	Peg Missing
2363	414,600	354,820	148.1	979,915.96	- 6.94	
2364	414,600	352,920	147.3	979,916.83	- 6.12	
2365	414,600	350,990	138.4	979,919.06	- 4.39	
2366	414,620	349,160	133.9	979,920.29	- 3.43	
2367	414,600	347,380	128.3	979,920.76	- 3.31	
2368	414,610	345,450	125.7	979,920.81	- 3.42	
2369	414,650	343,370	122.9	979,920.20	- 4.20	
2370	407,430	349,050	134.3	979,920.53	- 8.31	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2371Z	408,680	350,780	136.9	979,921.54	- 6.29	
2372	409,780	352,180	140.2	979,920.77	- 6.08	
2373	410,860	353,600	143.5	979,919.90	- 5.99	
2374	412,050	355,110	149.3	979,919.58	- 5.07	
2375	412,850	356,580	152.7	979,920.37	- 3.51	
2376	414,150	357,700	156.8	979,920.70	- 2.14	
2377	412,750	357,700	154.0	979,922.15	- 1.70	
2378	411,000	357,570	156.7	979,923.56	- 1.40	
2379	407,080	357,710	158.4	979,922.23	- 5.38	
2380	440,760	325,500	77.5	979,906.46	- 2.04	
2381	439,240	326,110	88.9	979,904.67	- 4.20	
2382	437,430	326,100	92.6	979,903.81	- 6.11	
2383	437,340	324,420	74.2	979,904.68	- 6.46	
2384	435,900	325,320	75.0	979,904.65	- 7.47	
2385	434,250	326,020	77.5	979,904.96	- 8.21	
2386	432,700	326,450	76.0	979,906.19	- 8.16	
2387	433,070	328,220	82.0	979,906.32	- 7.39	
2388	433,950	329,190	103.8	979,904.52	- 7.23	
2389	431,650	326,150	75.8	979,907.15	- 7.97	
2390	431,640	324,500	75.5	979,906.39	- 8.78	
2391	431,640	322,830	74.2	979,906.05	- 9.18	
2392	432,000	320,990	74.8	979,905.72	- 9.18	
2393	429,950	326,890	76.6	979,909.00	- 7.25	
2394	428,540	327,580	78.2	979,912.40	- 4.79	
2395	427,150	328,650	79.0	979,917.39	- 0.76	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2396Z	425,790	329,950	80.6	979,921.69	+ 2.65	
2397	424,150	329,160	81.1	979,924.41	+ 4.27	
2398	422,950	328,900	81.2	979,925.32	+ 4.32	
2399	421,140	327,580	80.9	979,924.71	+ 2.40	
2400	418,830	326,230	82.4	979,923.61	- 0.28	
2401	409,000	357,730	166.3	979,922.53	- 3.24	
2402	405,300	357,730	153.9	979,921.98	- 7.17	
2403	416,040	359,240	157.4	979,920.52	- 0.74	
2404	417,440	360,120	155.3	979,921.60	+ 1.20	
2405	419,310	359,950	151.2	979,918.85	- 0.51	
2406	420,850	359,200	153.6	979,913.77	- 4.35	
2407	422,500	358,920	152.9	979,913.59	- 3.33	
2408	448,180	330,930	83.0	979,909.51	+ 6.60	
2409	446,660	331,350	86.0	979,909.63	+ 5.82	
2410	444,930	331,860	85.0	979,910.82	+ 5.73	
2411	443,180	332,320	86.0	979,912.57	+ 6.29	
2412	441,550	332,720	87.0	979,913.13	+ 5.76	
2413	441,640	331,380	107.3	979,909.34	+ 3.32	
2414	443,500	330,110	82.1	979,908.99	+ 2.71	
2415	443,940	329,010	81.3	979,907.83	+ 1.83	
2416	444,040	327,650	79.6	979,907.95	+ 1.91	
2417	445,240	327,680	80.0	979,908.06	+ 2.92	
2418	442,340	327,700	81.2	979,906.91	- 0.23	
2419	441,490	327,700	80.2	979,906.27	- 1.65	
2420	447,410	326,600	107.5	979,906.50	+ 4.62	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2421Z	447,260	328,370	106.4	979,907.16	+ 5.10	
2422	447,350	329,780	82.4	979,908.76	+ 5.22	
2423	426,360	354,210	144.7	979,910.63	- 4.07	
2424	425,500	356,000	143.2	979,908.69	- 6.71	
2425	424,660	357,670	147.7	979,909.18	- 6.60	
2426	423,440	359,400	153.2	979,912.37	- 3.88	
2427	422,590	360,930	152.1	979,917.28	+ 0.32	
2428	421,060	362,520	165.4	979,921.52	+ 4.34	
2429	-	-	-	979,925.69	-	Peg Missing
2430	419,640	364,280	157.9	979,927.06	+ 8.35	
2431	418,050	365,440	163.2	979,927.25	+ 7.75	
2432	421,890	350,720	135.9	979,915.90	- 2.51	
2433	421,540	348,690	125.6	979,916.41	- 2.89	
2434	421,150	347,000	121.6	979,917.03	- 2.82	
2435	422,840	345,780	125.1	979,915.87	- 2.52	
2436	424,680	345,330	114.1	979,914.60	- 3.19	
2437	426,560	344,660	116.7	979,912.19	- 4.04	
2438	428,360	344,180	110.0	979,911.22	- 4.19	
2439	430,000	343,350	108.2	979,911.48	- 2.86	
2440	420,780	345,190	124.0	979,917.29	- 2.65	
2441	420,320	343,080	116.7	979,916.65	- 4.06	
2442	419,930	341,550	106.7	979,918.59	- 3.04	
2443	419,400	339,680	107.3	979,918.78	- 3.17	
2444	419,250	338,100	165.8	979,915.21	- 3.16	
2445	419,930	336,450	100.5	979,921.22	- 0.88	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2446Z	420,100	334,690	94.1	979,924.03	+ 1.79	
2447	420,600	333,260	125.1	979,923.92	+ 4.00	
2448	419,930	331,440	87.1	979,927.73	+ 4.89	
2449	428,850	320,270	76.2	979,907.62	- 9.48	
2450	429,630	321,820	75.3	979,907.12	- 9.44	
2451	426,600	379,990	191.5	979,929.23	+ 17.59	
2452	428,440	380,300	204.1	979,927.79	+ 18.23	
2453	429,750	380,910	211.1	979,928.64	+ 20.43	
2454	432,060	376,510	166.3	979,921.13	+ 11.82	
2455	432,150	378,500	197.5	979,922.29	+ 15.01	
2456	431,550	380,380	291.3	979,923.87	+ 22.06	
2457	432,080	380,020	239.0	979,927.40	+ 22.66	
2458	432,140	381,980	222.0	979,928.82	+ 23.03	
2459	432,140	383,820	225.4	979,926.20	+ 20.62	
2460	432,150	385,680	243.3	979,923.91	+ 19.47	
2461	432,350	387,070	247.8	979,923.13	+ 19.12	
2462	430,740	386,890	274.4	979,921.80	+ 18.33	
2463	428,920	387,120	245.9	979,923.56	+ 16.99	
2464	427,000	387,100	236.1	979,922.92	+ 14.34	
2465	432,170	389,990	268.3	979,921.97	+ 19.11	
2466	432,200	390,870	274.6	979,920.35	+ 17.93	
2467	432,200	392,870	281.4	979,914.10	+ 12.10	
2468	432,250	394,650	293.7	979,910.54	+ 9.34	
2469	434,210	387,020	253.8	979,922.06	+ 19.77	
2470	436,000	387,020	265.0	979,922.19	+ 21.87	

068

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2471Z	437,700	387,020	281.1	979,916.37	+ 18.29	
2472	439,130	387,750	272.1	979,911.38	+ 13.72	
2473	440,850	387,770	275.2	979,905.35	+ 9.11	
2474	442,320	386,660	279.9	979,901.53	+ 6.66	
2475	425,670	378,480	171.3	979,927.59	+ 14.02	
2476	425,830	376,430	164.1	979,923.25	+ 9.31	
2477	426,060	374,750	161.9	979,920.36	+ 6.46	
2478	426,240	372,990	161.3	979,920.40	+ 6.58	
2479	426,100	371,220	163.1	979,919.87	+ 6.07	
2480	442,000	379,880	243.0	979,905.84	+ 8.49	
2481	443,800	379,910	247.9	979,903.55	+ 7.75	
2482	445,700	379,900	241.0	979,903.38	+ 8.46	
2483	447,580	379,850	243.8	979,903.39	+ 10.02	
2484	448,890	379,100	240.7	979,904.29	+ 11.64	
2485	450,210	378,340	239.6	979,903.57	+ 11.84	
2486	452,040	378,330	241.3	979,901.00	+ 10.69	
2487	453,470	377,500	246.9	979,898.74	+ 9.80	
2488	454,350	376,200	238.7	979,898.25	+ 9.45	
2489	454,270	378,280	255.1	979,896.66	+ 8.78	
2490	454,170	379,890	263.0	979,896.01	+ 8.58	
2491	455,880	379,020	268.1	979,894.36	+ 8.46	
2492	458,130	378,990	287.6	979,890.06	+ 7.00	
2493	458,010	377,110	271.1	979,891.29	+ 7.16	
2494	457,930	375,950	255.7	979,893.50	+ 8.32	
2495	456,130	375,990	251.5	979,895.13	+ 8.37	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2496Z	454,720	374,440	297.9	979,894.07	+ 9.25	
2497	454,540	372,680	337.2	979,892.32	+ 9.82	
2498	454,750	370,890	174.8	979,903.08	+ 10.52	
2499	454,030	369,140	157.9	979,905.61	+ 11.51	
2500	427,050	369,860	157.9	979,919.69	+ 6.27	
2501	427,660	368,400	156.2	979,919.57	+ 6.49	
2502	428,080	367,010	170.3	979,916.10	+ 4.23	
2503	427,360	365,480	149.8	979,917.27	+ 3.57	
2504	427,700	363,800	152.8	979,912.14	- 1.14	
2505	426,930	362,600	161.8	979,909.67	- 3.58	
2506	427,150	361,690	152.2	979,906.57	- 7.13	
2507	429,450	360,950	164.6	979,901.11	- 10.12	
2508	431,040	360,490	184.5	979,898.82	- 10.05	
2509	432,080	358,960	140.5	979,903.09	- 7.80	
2510	425,440	362,180	161.7	979,911.05	- 3.26	
2511	423,800	362,550	149.8	979,920.32	+ 4.08	
2512	432,030	374,520	162.0	979,920.34	+ 10.73	
2513	432,000	372,750	160.6	979,918.93	+ 9.24	
2514	431,980	370,880	159.9	979,916.48	+ 6.71	
2515	431,940	369,120	160.2	979,914.99	+ 5.21	
2516	431,950	367,650	162.2	979,911.42	+ 1.77	
2517	433,850	368,400	160.9	979,912.21	+ 3.86	
2518	434,550	366,850	149.2	979,908.44	- 0.14	
2519	434,560	365,380	143.8	979,906.17	- 2.75	
2520	434,230	363,260	143.2	979,902.45	- 6.73	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2521Z	434,600	362,610	155.2	979,899.54	- 8.60	
2522	424,730	370,630	169.0	979,919.73	+ 5.38	
2523	425,140	369,080	160.2	979,920.22	+ 5.56	
2524	424,880	367,180	158.9	979,920.00	+ 5.09	
2525	423,660	366,500	163.6	979,921.62	+ 6.16	
2526	422,720	365,180	157.9	979,924.77	+ 8.24	
2527	422,570	363,430	150.8	979,925.34	+ 8.25	
2528	427,830	371,340	160.6	979,920.46	+ 7.77	
2529	429,620	371,650	160.2	979,919.41	+ 7.98	
2530	431,370	372,060	160.5	979,917.80	+ 7.66	
2531	441,400	366,600	150.7	979,908.61	+ 5.02	
2532	443,180	366,080	151.3	979,908.15	+ 5.88	
2533	444,900	365,950	150.4	979,910.36	+ 9.24	
2534	446,480	366,000	149.8	979,910.15	+ 10.11	
2535	446,500	367,780	151.1	979,911.58	+ 11.61	
2536	446,460	369,600	152.8	979,912.38	+ 12.51	
2537	446,440	371,580	159.2	979,909.10	+ 9.61	
2538	446,300	364,290	141.8	979,908.16	+ 7.49	
2539	447,250	363,050	138.0	979,905.89	+ 5.66	
2540	447,040	361,400	139.7	979,905.55	+ 5.27	
2541	446,700	359,670	136.8	979,905.51	+ 4.83	
2542	446,900	358,670	142.5	979,903.61	+ 3.39	
2543	443,540	359,340	137.0	979,900.79	- 2.13	
2544	436,620	362,130	156.1	979,900.90	- 5.76	
2545	444,200	305,480	44.2	979,917.31	+ 9.33	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2546Z	445,820	305,350	41.4	979,919.56	+ 12.53	
2547	447,440	305,420	47.7	979,921.43	+ 15.97	
2548	449,300	305,580	47.9	979,923.07	+ 18.91	
2549	451,090	305,550	47.6	979,927.60	+ 24.75	
2550	451,340	306,340	72.0	979,927.43	+ 26.28	
2551	451,650	308,070	59.7	979,925.36	+ 23.64	
2552	450,000	308,530	72.1	979,923.22	+ 21.11	
2553	448,370	308,700	72.7	979,918.94	+ 15.68	
2554	446,550	308,720	77.4	979,916.06	+ 11.79	
2555	444,900	308,680	60.7	979,917.14	+ 10.65	
2556	443,070	309,000	58.7	979,915.28	+ 7.36	
2557	441,960	306,100	45.4	979,913.85	+ 4.33	
2558	440,290	306,540	43.6	979,911.63	+ 0.82	
2559	439,130	305,400	35.0	979,910.28	- 1.95	
2560	437,700	304,280	28.1	979,909.65	- 3.98	
2561	436,350	303,020	26.2	979,909.23	- 5.47	
2562	438,500	307,130	46.0	979,910.66	- 1.32	
2563	436,800	306,990	37.2	979,910.30	- 3.41	
2564	435,030	307,150	43.5	979,909.95	- 4.65	
2565	433,250	307,400	34.4	979,910.13	- 6.30	
2566	431,850	308,480	38.4	979,909.68	- 7.55	
2567	431,500	307,230	30.9	979,910.18	- 7.76	
2568	431,500	305,550	26.8	979,910.30	- 7.86	
2569	430,250	306,330	29.7	979,910.12	- 8.75	
2570	429,160	307,800	30.6	979,910.17	- 9.45	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2571Z	427,900	309,310	33.3	979,910.73	- 9.62	
2572	426,830	310,520	36.4	979,911.91	- 9.04	
2573	432,490	316,840	76.7	979,906.31	- 8.11	
2574	434,000	316,180	105.0	979,904.65	- 6.89	
2575A	435,680	315,740	81.7	979,907.53	- 4.29	
2576	437,050	314,480	98.7	979,907.70	- 2.03	
2577	438,740	314,440	71.5	979,910.91	+ 0.62	
2578	440,100	314,120	77.8	979,911.23	+ 2.37	
2579	441,850	313,010	71.6	979,912.80	+ 4.80	
2580	443,550	312,640	78.1	979,912.86	+ 6.48	
2581	445,760	302,000	24.5	979,923.35	+ 15.24	
2582	446,300	300,070	27.7	979,924.80	+ 17.30	
2583	444,830	300,390	18.2	979,924.88	+ 15.73	
2584	443,240	300,720	18.6	979,921.17	+ 10.89	
2585	441,690	299,990	33.5	979,918.79	+ 8.35	
2586	440,500	298,290	18.1	979,919.12	+ 6.90	
2587	439,400	297,250	20.2	979,916.03	+ 3.15	
2588	439,080	295,700	25.3	979,918.28	+ 5.52	
2589	438,750	293,830	28.1	979,921.11	+ 8.31	
2590	438,440	291,990	29.5	979,925.32	+ 12.39	
2591	438,270	290,130	37.1	979,927.28	+ 14.72	
2592	438,230	288,780	33.6	979,929.31	+ 16.54	
2593	437,900	287,000	32.3	979,932.61	+ 19.54	
2594	438,420	285,410	38.9	979,931.68	+ 19.39	
2595	438,600	283,890	35.3	979,932.62	+ 20.39	*

* Tie 979,932.68 mgls.

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2596Z	451,350	309,990	62.1	979,922.70	+ 20.88	
2597	450,610	311,480	117.2	979,918.38	+ 19.52	
2598	449,860	312,860	134.9	979,917.08	+ 18.79	
2599	447,440	325,020	79.0	979,909.36	+ 5.72	
2600	439,540	319,030	76.1	979,907.06	- 2.39	
2600A	446,600	323,300	70.9	979,910.37	+ 5.64	
2601	440,890	318,200	69.5	979,908.38	- 0.49	
2602	441,270	319,210	70.3	979,907.80	- 0.77	
2603	427,120	352,280	134.7	979,916.91	+ 2.17	
2604	428,160	353,370	134.5	979,914.19	+ 0.17	
2605	429,380	354,230	136.4	979,910.49	- 2.60	
2606	430,650	355,300	135.3	979,908.90	- 3.33	
2607	432,060	356,250	136.1	979,907.17	- 4.01	
2608	433,180	356,990	137.8	979,905.76	- 4.51	
2609	434,600	356,480	137.8	979,904.34	- 4.91	
2610	428,160	350,180	139.5	979,919.87	+ 6.16	
2611	430,050	349,710	125.2	979,915.43	+ 2.17	
2612	431,740	349,250	124.7	979,915.28	+ 3.19	
2613	433,680	348,760	121.6	979,917.12	+ 6.23	
2614	435,580	348,180	117.8	979,918.87	+ 9.10	
2615	437,280	347,680	115.7	979,918.21	+ 9.50	
2616	438,900	347,260	114.6	979,916.87	+ 9.31	
2617	440,200	346,870	113.5	979,917.08	+ 10.37	
2618	441,740	346,450	135.0	979,915.71	+ 11.47	
2619	443,650	345,930	160.3	979,912.38	+ 11.07	
2620	445,020	345,520	111.0	979,914.58	+ 11.12	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2621Z	447,050	344,990	110.9	979,913.76	+ 11.75	
2622	448,630	344,510	110.6	979,912.83	+ 11.95	
2623	450,430	344,650	113.2	979,910.17	+ 10.76	
2624	451,720	344,130	109.8	979,909.44	+ 10.71	
2625	451,250	342,310	90.9	979,911.00	+ 10.77	
2626	450,230	340,680	95.5	979,911.24	+ 10.60	
2627	449,540	339,050	94.9	979,911.72	+ 10.55	
2628	448,780	337,650	95.4	979,911.63	+ 9.90	
2629	448,300	336,200	101.0	979,909.96	+ 8.28	
2630	446,690	335,380	96.7	979,910.86	+ 7.73	
2631	442,480	338,200	119.5	979,910.14	+ 5.47	
2632	443,380	339,550	102.7	979,913.22	+ 8.11	
2633	444,250	341,220	101.3	979,917.40	+ 12.82	
2634	445,000	342,530	102.9	979,920.14	+ 16.18	
2635	445,700	344,120	104.9	979,915.75	+ 12.40	
2636	444,900	346,850	114.4	979,913.80	+ 10.49	
2637	444,580	348,570	123.3	979,914.83	+ 11.83	
2638	444,280	350,150	124.1	979,912.09	+ 8.94	
2639	444,000	351,750	129.7	979,907.28	+ 4.29	
2640	443,620	353,600	128.1	979,903.63	+ 0.23	
2641	443,520	355,220	167.0	979,898.20	- 2.83	
2642	443,620	357,050	137.2	979,899.45	- 3.41	
2643	443,550	358,720	134.6	979,900.32	- 3.39	
2644	420,200	379,950	170.3	979,922.26	+ 4.69	
2645	421,710	379,650	170.4	979,925.42	+ 9.00	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2646Z	423,360	379,360	171.5	979,926.84	+ 11.64	
2647	433,000	342,220	128.1	979,911.68	+ 0.77	
2648	431,100	342,800	105.3	979,912.26	- 1.46	
2649	429,990	341,560	104.5	979,913.11	- 1.47	
2650	429,920	339,580	96.4	979,914.62	- 0.52	
2651	429,780	338,130	94.3	979,913.85	- 1.49	
2652	429,050	336,690	114.1	979,910.56	- 4.05	
2653	428,270	335,140	90.7	979,911.53	- 5.11	
2654	428,350	336,330	91.6	979,911.78	- 4.71	
2655	427,050	336,740	93.4	979,911.77	- 5.59	
2656	425,550	337,080	94.8	979,912.33	- 6.02	
2657	435,330	330,780	83.6	979,906.57	- 5.42	
2658	436,220	331,780	84.7	979,908.10	- 3.21	
2659	437,380	333,100	101.9	979,910.43	+ 1.00	
2660	438,580	333,500	87.5	979,912.92	+ 3.48	
2661	445,710	321,800	70.6	979,909.71	+ 4.32	
2662	444,820	320,450	64.9	979,909.71	+ 3.36	
2663	443,600	319,490	69.7	979,908.90	+ 1.96	
2664	442,630	322,800	72.5	979,907.14	- 0.33	
2665	444,230	322,800	71.8	979,908.98	+ 2.64	
2666	446,450	321,150	69.1	979,911.02	+ 6.03	
2667	446,420	319,350	67.4	979,911.89	+ 6.83	
2668	446,430	318,390	66.8	979,911.64	+ 6.60	
2669	446,400	316,860	66.0	979,912.16	+ 7.02	
2670	446,420	315,100	65.7	979,912.05	+ 6.93	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2671Z	448,600	318,290	78.7	979,915.89	+ 13.13	
2672	448,050	323,480	71.1	979,911.71	+ 8.03	
2673	448,500	321,710	68.3	979,913.98	+ 10.44	
2674	448,550	319,950	67.4	979,917.23	+ 13.68	
2675	449,040	316,400	68.8	979,917.80	+ 14.70	
2676	449,050	315,090	70.1	979,919.33	+ 16.36	
2677	450,640	316,170	64.4	979,919.26	+ 17.06	
2678	452,100	315,860	63.5	979,917.93	+ 16.71	
2679	451,850	317,740	65.5	979,917.37	+ 16.10	
2680	450,070	318,180	66.3	979,919.02	+ 16.50	
2681	444,780	318,020	70.4	979,910.28	+ 4.27	
2682	440,700	322,850	73.1	979,906.21	- 2.59	
2683	436,350	320,500	72.4	979,905.58	- 6.33	
2684	435,500	313,620	66.2	979,909.45	- 3.43	
2685	434,380	313,160	70.5	979,908.28	- 5.14	
2686	434,720	311,210	109.0	979,905.60	- 5.10	
2687	434,700	309,430	50.4	979,909.70	- 4.70	
2688	434,660	307,470	40.6	979,910.15	- 4.88	
2689	441,500	301,750	18.0	979,914.37	+ 2.83	
2690	439,380	301,760	21.0	979,910.05	- 2.83	
2691	437,680	302,040	23.1	979,909.26	- 4.69	
2692A	418,000	300,200	24.8	979,920.77	- 7.15	
2693	419,690	300,280	22.1	979,919.43	- 7.48	
2694	421,370	299,040	21.3	979,917.23	- 8.45	
2695	422,810	298,480	22.9	979,914.82	- 9.72	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2696Z	424,000	297,460	19.9	979,913.41	- 11.48	
2697	430,000	323,650	80.1	979,907.09	- 8.90	
2698	430,080	325,300	76.6	979,907.84	- 8.31	
2699	430,600	328,350	77.4	979,909.27	- 6.50	
2700	430,850	329,600	96.4	979,907.89	- 6.49	
2701	431,150	331,360	85.6	979,908.66	- 6.20	
2702	430,800	332,780	88.3	979,909.96	- 5.01	
2703	422,780	326,500	80.3	979,921.50	+ 0.33	
2704	422,400	324,830	77.6	979,919.99	- 1.60	Also Namco 659
2705	422,080	323,000	78.6	979,919.59	- 2.17	
2706	421,870	321,350	183.5	979,911.74	- 3.55	
2707	423,230	323,820	77.1	979,918.32	- 2.69	
2708	410,940	313,860	33.7	979,929.11	- 3.46	
2709	411,140	312,070	28.7	979,929.57	- 3.12	
2710	411,410	310,300	26.2	979,929.71	- 2.93	
2711	411,760	308,680	26.8	979,929.91	- 2.45	
2712	412,150	306,850	25.7	979,930.44	- 1.67	
2713	412,400	304,820	26.2	979,931.30	- 0.58	
2714	414,250	304,160	26.9	979,927.88	- 2.64	
2715	416,000	303,660	26.0	979,925.00	- 4.30	
2716	417,940	303,030	28.1	979,922.49	- 5.28	
2717	-	-	-	-	-	
2718	424,770	296,460	18.5	979,912.54	- 10.86	
2719	426,480	295,570	20.7	979,910.97	- 11.08	
2720	428,030	294,690	23.8	979,910.22	- 10.48	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2721Z	429,400	293,610	29.6	979,910.68	- 8.69	
2722	436,280	288,040	56.6	979,928.78	+16.11	
2723	434,930	289,090	42.8	979,927.69	+13.15	
2724	433,600	290,240	47.1	979,924.31	+ 9.04	
2725	432,180	291,380	40.7	979,917.55	+ 0.87	
2726	431,230	293,390	33.6	979,913.27	- 4.55	
2727	418,100	313,740	41.7	979,922.11	- 4.80	
2728	418,300	315,700	59.2	979,921.40	- 4.28	
2729	418,430	317,450	66.7	979,921.32	- 3.82	
2730	418,990	319,000	70.9	979,921.44	- 3.06	
2731	424,280	323,830	77.3	979,916.48	- 3.78	
2732	425,550	324,620	77.9	979,914.69	- 4.65	
2733	425,620	326,550	78.9	979,917.28	- 1.96	
2734	425,720	328,230	81.4	979,919.91	+ 0.89	
2735	440,280	329,450	81.4	979,906.92	- 1.69	
2736	438,550	329,880	81.7	979,906.94	- 2.88	
2737	436,800	330,360	93.9	979,906.06	- 4.24	
2738	436,630	338,780	90.2	979,913.72	+ 3.04	
2739	435,400	337,130	89.3	979,914.99	+ 3.36	
2740	435,330	336,020	85.5	979,914.26	+ 2.31	
2741	435,100	334,380	93.0	979,911.81	+ 0.21	
2742	428,020	325,450	77.3	979,910.84	- 6.77	
2743	426,650	325,500	77.7	979,913.48	- 5.08	
2744	442,800	319,300	70.9	979,908.53	+ 1.12	
2745	437,310	315,980	136.0	979,904.13	- 3.06	

079

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
2746Z	436,950	317,980	81.5	979,906.51	- 4.39	
2747	438,700	317,430	69.7	979,908.18	- 2.28	
348	436,510	283,210	40.9	979,931.15	+ 17.67	Telephone Pole
405	433,310	283,010	50.4	979,924.71	+ 9.04	Telephone Pole
469	429,200	283,080	52.2	979,913.98	- 4.03	Telephone Pole
3E18	425,050	284,350	20.7	979,912.19	- 10.81	Telephone Pole
3E44	422,540	284,280	21.1	979,913.79	- 10.94	Telephone Pole
M47/R3	413,280	284,180	8.2	979,924.83	- 7.35	Mile Post
513	427,180	282,920	31.6	979,911.59	- 9.14	Telephone Pole

080

TABLE OF PRINCIPAL FACTS

PROSPECT: Caroline-Killanoola Gravity Survey

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
1	331,450	389,000	144.0	979,994,78	+11.95	Caroline Area
2	326,850	374,850	97.0	980,003,00	+13.91	Caroline Area
3	318,150	384,150	114.5	980,005,93	+11.62	Caroline Area
4	388,300	383,925	203.8	979,933,57	- 4.67	Killanoola Area
8	408,700	385,850	188.9	979,922,05	- 2.57	Killanoola Area
9	424,700	379,850	193.5	979,928,02	+15.13	Killanoola Area
10	392,200	365,050	179.0	979,924,50	-12.51	Killanoola Area
12	406,025	345,065	149.5	979,917,99	-10.89	Killanoola Area
13	414,550	368,300	171.6	979,930,94	+ 9.48	Killanoola Area
14	426,700	350,550	130.2	979,917,11	+ 1.78	Killanoola Area
15	393,260	333,780	101.6	979,951,18	+10.19	Killanoola Area
16	412,600	321,650	76.7	979,925,75	- 2.91	Killanoola Area
17	442,900	373,150	173.7	979,911,73	+10.65	Killanoola Area
18	424,300	311,200	34.7	979,915,80	- 7.06	Killanoola Area
19	416,350	300,650	25.2	979,923,42	- 5.65	Killanoola Area
20	444,850	303,350	39.3	979,919,58	+11.76	Killanoola Area
21	442,350	325,100	76.4	979,907,51	+ 0.06	Killanoola Area
P.S. No.7	334,700	378,750	144.73	979,993,65	+13.10	B.M.R. Pendulum Station No.7 at Mt. Gambier S.A.
B.1 Millicent	362,300	336,350	41.0	979,980,80	+13.79	Reoccupied Beach Petroleum Base of Millicent 1963 Survey

081

TABLE OF PRINCIPAL FACTS

OF

RELOCATED STATIONS

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
Caroline Area						
Namco 141	333,100	393,350	152.4	979,991,02	+ 9.87	Namco
G12	333,850	387,700	160.3	979,991,26	+11.12	Dept. of Mines
GN8	327,300	380,000	122.2	979,998,52	+11.28	Dept. of Mines
GR3	313,000	395,000	80.0	980,013,06	+12.87	Dept. of Mines
PM7	326,750	392,650	135.4	980,000,90	+14.13	Dept. of Mines
G37	326,550	374,850	92.0	980,003,38	+13.76	Dept. of Mines
G52	312,000	371,850	37.6	980,019,18	+15 .66	Dept. of Mines
GN36	309,950	396,850	51.5	980,019,00	+14.80	Dept. of Mines
GN10			-	979,999,55	-	Dept. of Mines
GN25			-	980,009,18	-	Dept. of Mines
H2			-	979,986,22	-	Dept. of Mines

TABLE OF PRINCIPAL FACTS OF RELOCATED STATIONS

082

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
Killanoola Area						
Namco 694	431,700	317,350	69.1	979,906,87	- 8.50	Namco
Namco 659	422,400	324,800	77.6	979,919,99	- 1.60	Namco
Namco 320	392,100	362,300	172.3	979,923,64	-13.86	Namco
K45	440,150	361,350	142.9	979,900,67	- 4.27	Mines Dept.
RC11	427,900	394,800	289.8	979,918,32	+13.78	Mines Dept.
Base B	389,050	383,950	203.7	979,933,55	- 4.18	Mines Dept.
H51	388,300	383,800	203.1	979,933,61	- 4.67	Mines Dept.
M32	423,400	379,850	189.6	979,926,77	+12.77	Mines Dept.
M34	425,650	379,350	230.5	979,925,24	+15.31	Mines Dept.
BB51	424,200	311,150	35.9	979,915,68	- 7.19	Mines Dept.
K115	444,550	303,450	38.7	979,919,36	+11.28	Mines Dept.
R21	438,700	283,950	32.3	979,932,75	+20.18	Mines Dept.
R25	435,200	283,000	46.1	979,928,75	+14.65	Mines Dept.
K90	442,250	325,100	77.1	979,907,38	- 0.05	Mines Dept.
LB2	455,050	367,250	150.7	979,905,37	+11.54	Mines Dept.
BB46			-	979,922,23	-	
BB41			-	979,928.21	-	
R17			-	979,928,43	-	
K12			-	979,900,32	-	

TABLE OF PRINCIPAL FACTS

RECALCULATED* NAMCO

"KALANGADOO GRAVITY SURVEY"

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer** (milligals)	Remarks
	37°18·77'	140°53·02'				
1	397,420	388,620	205.4	979,928.97	- 2.70	
2	396,800	388,480	203.1	979,929.48	- 2.77	
3	396,080	388,180	202.5	979,930.42	- 2.39	
4	395,100	387,820	202.1	979,931.40	- 2.11	
5	394,180	387,550	204.2	979,932.43	- 1.63	
6	393,450	387,270	203.5	979,933.09	- 1.52	
7	392,550	386,940	208.0	979,933.55	- 1.42	
8	391,460	386,540	199.0	979,934.53	- 1.78	
9	390,680	386,120	210.5	979,933.94	- 2.21	
10	389,850	385,750	208.0	979,934.17	- 2.73	
11	388,950	385,320	205.1	979,934.26	- 3.49	
12	388,220	384,940	203.2	979,934.33	- 4.05	
13	387,390	384,360	208.3	979,933.88	- 4.77	
14	386,520	384,040	206.2	979,933.91	- 5.47	
15	385,850	383,550	208.3	979,933.66	- 6.08	
16	385,050	383,060	207.6	979,933.75	- 6.59	
17	384,290	382,700	211.6	979,933.42	- 7.22	
18	383,420	382,200	211.6	979,933.65	- 7.59	
19	382,580	381,640	211.6	979,934.01	- 7.84	
20	381,680	381,130	212.7	979,934.43	- 7.97	

* Using as datum Pendulum Station No.7 Mt. Gambier with revised value (1965).

** Density used = 2.43 gms/cc
Elevation correction factor = 0.063 mgls/ft.

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
21	380,780	380,550	204.6	979,934.79	- 8.82	
22	380,110	380,240	209.8	979,935.60	- 8.13	
23	379,400	379,830	211.3	979,936.14	- 8.03	
24	378,390	379,230	215.0	979,936.31	- 8.34	
25	377,830	378,860	213.5	979,937.11	- 8.04	
26	376,900	378,230	212.9	979,938.06	- 7.81	
27	376,350	377,900	214.5	979,938.71	- 7.45	
28	375,580	377,360	213.0	979,939.59	- 7.14	
29	374,880	376,820	217.9	979,940.10	- 6.84	
30	374,180	376,400	218.7	979,941.30	- 6.07	
31	373,370	375,930	220.8	979,942.27	- 5.57	
32	372,550	375,380	223.9	979,943.53	- 4.68	
33	371,750	374,940	222.4	979,945.37	- 3.48	
34	370,900	374,420	225.7	979,946.63	- 2.61	
35	370,130	373,960	223.1	979,948.12	- 1.87	
36	369,320	373,420	224.9	979,949.29	- 1.14	
37	368,480	373,030	223.9	979,950.99	- 0.10	
38	367,680	372,630	227.9	979,952.43	+ 1.03	
39	366,800	372,230	230.0	979,954.04	+ 2.13	
40	366,230	371,930	227.6	979,956.06	+ 3.62	
41	365,480	371,600	228.0	979,957.73	+ 4.74	
42	364,800	371,130	231.8	979,959.49	+ 6.23	
43	364,030	370,880	234.1	979,961.58	+ 7.95	
44	363,200	370,480	233.3	979,962.96	+ 8.70	
45	362,380	370,000	235.2	979,963.72	+ 8.98	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
46	361,560	369,600	229.6	979,964.55	+ 8.86	
47	360,820	369,140	241.9	979,963.97	+ 8.53	
48	360,100	368,640	240.3	979,964.53	+ 8.47	
49	359,380	368,150	240.2	979,964.76	+ 8.15	
50	358,530	367,520	243.0	979,964.84	+ 7.80	
51	357,800	367,080	240.2	979,965.66	+ 7.91	
52	356,930	366,580	233.4	979,966.62	+ 7.82	
53	356,140	366,050	236.0	979,967.08	+ 7.88	
54	355,300	365,500	239.3	979,967.27	+ 7.68	
55	354,800	365,080	238.4	979,967.55	+ 7.51	
56	354,090	364,590	241.8	979,967.71	+ 7.40	
57	353,420	364,120	238.2	979,968.61	+ 7.62	
58	352,580	363,590	226.5	979,970.43	+ 8.09	
59	351,720	363,100	222.6	979,971.43	+ 8.20	
60	350,940	362,790	218.0	979,973.00	+ 8.92	
61	350,100	362,450	236.7	979,972.90	+ 9.39	
62	349,300	362,020	239.9	979,973.89	+ 10.02	
63	348,580	361,680	238.5	979,974.76	+ 10.33	
64	347,750	361,280	244.6	979,975.26	+ 10.62	
65	347,020	360,990	200.9	979,978.95	+ 11.01	
66	346,200	360,780	204.3	979,979.29	+ 11.01	
67	345,380	360,500	157.6	979,983.20	+ 11.36	
68	344,800	360,200	167.6	979,983.13	+ 11.46	
69	343,930	359,930	146.0	979,985.34	+ 11.68	
70	343,120	359,780	130.3	979,987.15	+ 11.93	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
71	342,280	359,550	101.8	979,989.71	+ 12.09	
72	341,350	359,320	100.8	979,990.77	+ 12.43	
73	340,430	359,220	114.9	979,991.03	+ 12.93	
74	339,650	358,990	108.2	979,992.43	+ 13.33	
75	338,650	358,760	98.3	979,993.70	+ 13.24	
76	337,880	358,370	86.8	979,995.09	+ 13.34	
77	336,980	358,020	79.4	979,996.42	+ 13.57	
78	336,130	357,500	76.0	979,997.23	+ 13.55	
79	335,250	357,080	74.1	979,998.30	+ 13.86	
80	334,320	356,700	69.0	979,999.68	+ 14.26	
81	333,500	356,250	68.5	980,000.66	+ 14.61	
82	332,660	355,680	67.7	980,002.02	+ 15.34	
83	332,000	355,230	64.9	980,003.25	+ 15.89	
84	331,300	354,780	62.3	980,004.30	+ 16.27	
85	330,560	354,150	69.3	980,004.24	+ 16.14	
86	329,830	353,760	63.6	980,004.83	+ 15.86	
87	329,170	353,100	71.2	980,004.59	+ 15.60	
88	328,470	352,570	76.7	980,004.54	+ 15.39	
89	327,780	352,150	109.5	980,002.22	+ 14.66	
90	327,050	351,660	63.3	980,005.85	+ 14.84	
91	326,150	351,140	116.7	980,001.83	+ 13.55	
92	325,600	350,600	58.6	980,006.43	+ 14.10	
93	324,870	350,030	93.2	980,004.23	+ 13.55	
94	324,120	349,450	51.3	980,007.76	+ 13.91	
95	350,400	345,300	80.6	979,989.19	+ 12.48	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
96	344,530	350,800	80.0	979,989.89	+ 12.55	
97	343,700	351,180	80.3	979,990.49	+ 12.58	
98	342,900	351,540	80.7	979,991.03	+ 12.57	
99	342,040	351,920	80.9	979,991.72	+ 12.65	
100	341,280	352,300	78.6	979,992.65	+ 12.86	
101	340,420	352,690	77.4	979,993.54	+ 13.08	
102	339,640	353,070	76.8	979,994.44	+ 13.36	
103	338,820	353,440	76.9	979,995.32	+ 13.65	
104	338,000	353,830	74.6	979,996.29	+ 13.91	
105	337,200	354,180	71.9	979,997.06	+ 13.91	
106	336,350	354,560	69.5	979,997.93	+ 14.00	
107	335,560	354,960	70.7	979,998.67	+ 14.25	
108	334,730	355,340	69.7	979,999.49	+ 14.41	
109	333,880	355,750	65.5	980,000.64	+ 14.67	
110	333,090	356,100	68.1	980,001.14	+ 14.76	
111	332,350	356,480	67.9	980,001.72	+ 14.80	
112	331,630	356,850	61.9	980,002.80	+ 14.98	
113	330,720	357,380	58.3	980,003.96	+ 15.27	
114	330,100	357,680	58.9	980,004.40	+ 15.30	
115	329,300	358,180	60.8	980,004.47	+ 14.87	
116	328,420	358,690	62.0	980,004.70	+ 14.55	
117	327,500	359,190	62.4	980,005.14	+ 14.33	
118	326,750	359,630	64.7	980,005.57	+ 14.39	
119	325,760	360,100	63.4	980,006.20	+ 14.23	
120	325,000	360,500	58.8	980,007.04	+ 14.22	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
121	324,260	360,950	60.4	980,007.38	+ 14.15	
122	323,430	361,460	59.4	980,007.89	+ 14.01	
123	322,480	361,930	61.5	980,008.24	+ 13.79	
124	321,560	362,450	67.9	980,008.30	+ 13.63	
125	320,780	362,880	68.6	980,008.85	+ 13.64	
126	320,040	363,310	63.8	980,009.60	+ 13.58	
127	319,270	363,720	68.8	980,009.97	+ 13.70	
128	318,490	364,130	71.1	980,010.46	+ 13.78	
129	317,300	364,160	59.5	980,012.13	+ 13.84	
130	316,790	364,540	66.1	980,012.28	+ 14.01	
131	316,630	365,160	59.5	980,012.85	+ 14.07	
132	315,870	365,510	59.4	980,013.67	+ 14.33	
133	315,030	365,980	60.4	980,014.41	+ 14.51	
134	314,300	366,340	50.6	980,015.59	+ 14.53	
135	313,520	366,840	50.1	980,016.24	+ 14.60	
136	312,750	367,180	45.6	980,017.62	+ 15.13	
137	311,840	367,710	38.5	980,018.73	+ 15.16	
138	311,120	368,230	39.6	980,019.84	+ 15.36	
139	310,240	368,700	30.9	980,021.03	+ 15.80	
140	309,750	369,170	26.7	980,021.90	+ 16.07	
141	333,100	393,350	152.5	979,991.10	+ 9.97	*
142	334,040	393,400	151.5	979,989.80	+ 9.26	
143	334,940	393,390	164.1	979,987.79	+ 8.70	
144	335,680	393,450	176.7	979,986.18	+ 8.43	
145	336,500	393,750	192.5	979,984.48	+ 8.34	

* Reoccupied by Geosurveys 1965

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
146	337,260	393,570	212.2	979,982.56	+ 8.21	
147	337,960	392,880	210.5	979,982.46	+ 8.50	
148	338,530	392,330	209.3	979,982.27	+ 8.68	
149	339,020	392,180	213.5	979,981.36	+ 8.38	
150	340,020	392,650	217.0	979,980.43	+ 8.40	
151	340,950	392,960	219.5	979,979.41	+ 8.19	
152	341,450	392,230	221.3	979,979.24	+ 8.51	
153	342,160	391,520	222.4	979,978.89	+ 8.73	
154	342,560	390,640	224.8	979,978.51	+ 8.80	
155	342,940	389,960	227.0	979,978.39	+ 9.09	
156	343,370	389,230	222.5	979,978.38	+ 9.10	
157	343,850	388,630	221.4	979,978.04	+ 9.05	
158	344,660	388,630	223.7	979,976.99	+ 8.72	
159	345,550	388,530	227.4	979,975.90	+ 8.57	
160	346,380	388,720	234.8	979,974.42	+ 8.14	
161	347,180	389,050	232.4	979,973.73	+ 7.85	
162	347,880	389,580	236.3	979,972.85	+ 7.71	
163	348,800	389,580	241.5	979,971.86	+ 7.68	
164	349,700	389,690	233.8	979,971.87	+ 7.90	
165	350,380	390,390	235.0	979,971.57	+ 8.16	
166	351,360	390,690	230.0	979,971.43	+ 8.38	
167	352,120	391,190	231.2	979,970.47	+ 8.03	
168	352,920	391,450	232.1	979,969.14	+ 7.32	
169	353,680	391,940	233.6	979,967.47	+ 6.31	
170	354,440	392,470	234.1	979,965.99	+ 5.38	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
171	354,800	393,210	238.5	979,964.87	+ 4.82	
172	355,120	393,950	240.4	979,962.62	+ 2.91	
173	355,490	394,690	238.9	979,962.30	+ 2.76	
174	355,920	395,540	241.9	979,960.71	+ 1.66	
175	356,290	396,110	238.7	979,959.90	+ 0.89	
176	357,150	396,140	233.9	979,959.10	+ 0.42	
177	357,990	396,300	232.1	979,957.92	- 0.30	
178	358,880	396,330	231.1	979,956.78	- 0.83	
179	359,780	396,240	231.0	979,955.64	- 1.34	
180	360,520	396,290	226.3	979,954.58	- 2.13	
181	361,270	396,220	223.5	979,953.81	- 2.53	
182	362,140	395,810	226.4	979,952.34	- 3.20	
183	362,600	395,380	221.8	979,951.51	- 3.98	
184	363,540	395,160	223.4	979,950.17	- 4.52	
185	364,420	395,100	222.0	979,948.96	- 5.20	
186	365,300	394,980	227.8	979,948.01	- 5.18	
187	366,050	394,700	231.7	979,946.76	- 5.60	
188	366,680	394,510	229.5	979,945.87	- 6.20	
189	352,680	356,700	284.4	979,968.79	+ 10.19	
190	353,280	356,600	252.7	979,969.90	+ 9.74	
191	354,220	356,680	236.7	979,970.20	+ 9.65	
192	355,050	356,680	236.1	979,969.72	+ 9.75	
193	356,000	356,630	227.6	979,970.06	+ 10.25	
194	357,020	356,620	234.5	979,969.06	+ 10.43	
195	358,080	355,940	274.1	979,965.81	+ 10.43	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
196	358,690	355,550	269.8	979,965.90	+ 10.70	
197	359,090	355,060	270.0	979,965.91	+ 10.99	
198	359,860	354,720	277.0	979,964.97	+ 10.07	
199	360,510	354,100	270.6	979,965.39	+ 11.57	
200	361,120	353,480	271.8	979,965.41	+ 12.09	
201	361,920	353,200	280.4	979,963.86	+ 11.66	
202	362,780	352,860	309.1	979,960.94	+ 11.16	
203	363,620	353,050	295.4	979,960.10	+ 10.04	
204	364,430	353,550	289.2	979,958.84	+ 9.01	
205	365,210	353,550	280.1	979,958.25	+ 8.40	
206	366,030	353,130	289.5	979,957.14	+ 8.45	
207	366,720	352,490	297.4	979,955.53	+ 7.86	
208	367,220	351,900	273.9	979,956.24	+ 7.46	
209	367,950	351,390	271.7	979,955.20	+ 6.78	
210	368,480	350,750	229.8	979,957.25	+ 6.58	
211	368,980	350,140	210.4	979,958.51	+ 6.98	
212	369,650	349,700	218.7	979,957.43	+ 6.91	
213	370,480	349,320	193.6	979,957.81	+ 6.29	
214	371,060	348,910	180.2	979,958.61	+ 6.67	
215	371,800	348,330	181.8	979,958.12	+ 6.78	
216	372,800	348,180	161.9	979,958.90	+ 7.04	
217	373,650	348,090	146.3	979,958.74	+ 6.50	
218	374,540	348,350	140.4	979,957.89	+ 5.90	
219	375,090	348,980	140.8	979,956.87	+ 5.30	
220	375,550	349,600	144.8	979,955.93	+ 4.88	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
221	375,880	350,300	146.1	979,955.53	+ 4.79	
222	376,550	350,690	146.6	979,955.02	+ 4.81	
223	377,360	351,160	152.2	979,954.13	+ 4.88	
224	377,900	351,680	152.1	979,953.55	+ 4.65	
225	378,590	352,030	153.3	979,952.92	+ 4.61	
226	379,380	352,390	155.9	979,952.03	+ 4.44	
227	380,290	352,600	153.6	979,951.82	+ 4.76	
228	381,110	352,750	151.2	979,951.28	+ 4.68	
229	381,740	352,140	148.2	979,951.07	+ 4.70	
230	382,480	351,700	149.9	979,950.48	+ 4.76	
231	382,750	352,400	151.7	979,949.68	+ 4.26	
232	383,420	352,520	149.9	979,948.95	+ 3.91	
233	384,300	352,310	146.1	979,947.38	+ 2.71	
234	385,320	352,280	146.5	979,945.42	+ 1.51	
235	386,510	352,280	145.0	979,943.20	+ 0.06	
236	387,330	352,200	144.0	979,941.09	- 2.55	
237	388,290	352,140	143.3	979,938.98	- 3.03	
238	389,230	352,150	143.1	979,936.84	- 4.52	
239	390,020	352,310	142.4	979,934.55	- 6.30	
240	390,920	352,400	142.3	979,932.29	- 7.89	
241	391,800	352,420	141.7	979,929.83	- 9.75	
242	392,680	352,170	140.6	979,928.03	- 10.99	
243	393,550	351,750	139.7	979,926.40	- 12.08	
244	394,400	351,380	139.4	979,925.01	- 12.86	*
245	-	-	-	-	-	

* Same location as Geos. Stn. No.2157

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
246	-	-	-	-	-	
247	-	-	-	-	-	
248	345,780	349,900	79.5	979,988.94	+ 12.51	
249	346,640	349,840	82.5	979,988.37	+ 12.75	
250	347,530	349,820	84.6	979,987.90	+ 13.06	
251	348,250	349,820	85.9	979,987.30	+ 13.05	
252	348,690	348,850	82.5	979,987.29	+ 13.15	
253	349,300	348,270	82.4	979,986.80	+ 13.07	
254	350,160	347,850	81.4	979,986.26	+ 13.12	
255	350,780	347,550	82.0	979,985.70	+ 13.03	
256	351,600	348,340	85.8	979,985.11	+ 13.27	
257	352,150	349,010	87.8	979,984.64	+ 13.31	
258	352,860	349,580	123.2	979,981.53	+ 12.93	
259	353,480	349,870	90.8	979,983.57	+ 13.35	
260	354,080	349,750	140.4	979,981.02	+ 14.34	
261	354,320	350,680	222.1	979,973.17	+ 11.82	
262	354,550	351,420	312.5	979,966.34	+ 10.87	
263	355,200	352,000	316.4	979,965.95	+ 11.17	
264	355,820	352,400	244.7	979,970.06	+ 11.22	
265	356,300	353,010	280.3	979,967.13	+ 10.85	
266	356,530	353,750	292.6	979,965.87	+ 10.55	
267	356,500	354,500	261.3	979,967.84	+ 10.53	
268	356,570	355,290	217.8	979,970.65	+ 10.65	
269	357,200	355,300	256.7	979,967.79	+ 10.69	
270	357,820	355,290	329.0	979,962.15	+ 10.06	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
271	357,850	356,720	247.7	979,967.11	+ 9.91	
272	358,510	357,410	232.3	979,967.27	+ 9.55	
273	359,120	357,850	250.4	979,965.30	+ 9.18	
274	359,700	358,380	278.7	979,962.49	+ 8.55	
275	360,560	358,720	283.9	979,961.71	+ 8.75	
276	361,340	358,790	298.1	979,959.79	+ 8.27	
277	362,240	359,240	257.3	979,961.21	+ 7.73	
278	362,930	359,730	243.5	979,960.96	+ 7.12	
279	363,320	360,370	228.8	979,961.22	+ 6.77	
280	363,870	360,950	226.3	979,960.76	+ 6.54	
281	364,570	361,520	227.5	979,959.89	+ 6.26	
282	365,350	362,090	228.3	979,959.18	+ 6.15	
283	366,090	362,380	225.5	979,958.58	+ 5.90	
284	367,040	362,400	223.6	979,957.78	+ 5.68	
285	367,750	362,330	217.5	979,957.09	+ 5.17	
286	368,450	362,360	216.2	979,956.29	+ 4.73	
287	369,000	363,000	214.0	979,956.15	+ 4.83	
288	369,550	363,580	212.9	979,955.81	+ 4.78	
289	370,000	364,240	216.7	979,954.96	+ 4.50	
290	370,600	365,080	214.1	979,954.77	+ 4.57	
291	371,130	365,950	217.5	979,954.06	+ 4.46	
292	371,750	366,680	219.8	979,952.28	+ 3.27	
293	372,300	367,380	217.2	979,951.17	+ 2.37	
294	373,000	368,100	215.2	979,949.93	+ 1.49	
295	374,190	368,450	214.3	979,948.55	+ 0.90	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
296	375,090	368,180	215.7	979,947.89	+ 0.97	
297	375,900	368,180	218.7	979,946.68	+ 0.51	
298	376,780	368,140	216.2	979,945.75	+ 0.04	
299	377,870	368,100	210.0	979,944.42	- 0.89	
300	378,730	368,000	206.1	979,942.76	- 2.20	
301	378,720	367,080	205.4	979,943.51	- 1.49	
302	378,730	366,220	203.8	979,944.56	- 0.54	
303	378,740	365,290	201.4	979,945.51	+ 0.27	
304	378,740	364,360	197.0	979,946.69	+ 1.18	
305	378,780	363,350	193.4	979,947.55	+ 1.85	
306	378,780	362,250	192.2	979,948.55	+ 2.78	
307	379,920	362,250	190.7	979,947.21	+ 2.17	
308	380,720	362,230	188.6	979,945.35	+ 0.74	
309	381,760	362,240	187.7	979,943.17	- 0.73	
310	382,810	362,220	184.9	979,940.87	- 2.48	
311	383,810	362,260	185.0	979,938.57	- 4.05	
312	384,780	362,340	183.1	979,936.17	- 5.85	*
313	385,640	362,280	182.1	979,935.95	- 7.55	
314	386,520	362,280	180.3	979,931.90	- 9.06	
315	387,450	362,280	180.3	979,930.10	- 10.21	
316	388,500	362,340	179.8	979,928.44	- 11.14	
317	389,320	362,300	178.7	979,926.97	- 12.10	
318	390,150	362,300	178.6	979,925.66	- 12.82	
319	391,020	362,280	177.2	979,924.60	- 13.32	
320	392,100	362,300	176.1	979,923.77	- 13.49	**

* Same location as Geos. Stn. No.2126

** Reoccupied by Geosurveys 1965

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
321	378,710	371,650	211.7	979,939.99	- 4.64	
322	379,550	371,850	210.2	979,938.88	- 5.21	
323	380,400	371,950	209.5	979,937.95	- 5.59	
324	381,310	371,980	209.9	979,936.86	- 5.99	
325	381,830	372,600	210.1	979,935.91	- 6.55	
326	382,540	373,030	209.3	979,934.92	- 7.09	
327	383,350	373,300	208.0	979,934.14	- 7.39	
328	383,920	373,820	207.5	979,933.48	- 7.68	
329	384,550	374,550	206.9	979,932.93	- 7.82	
330	385,040	375,220	205.5	979,932.70	- 7.78	
331	385,920	375,150	200.9	979,932.28	- 7.86	
332	386,850	375,160	198.4	979,931.86	- 7.77	
333	387,650	375,440	197.4	979,931.55	- 7.56	
334	388,450	375,630	196.1	979,931.25	- 7.38	
335	389,330	375,630	197.5	979,931.01	- 6.89	
336	390,220	375,720	196.0	979,931.04	- 6.34	
337	390,920	375,750	194.3	979,931.23	- 5.76	
338	339,250	367,450	166.0	979,990.53	+ 14.76	
339	339,940	367,980	251.3	979,984.02	+ 14.11	
340	340,750	368,200	242.5	979,983.59	+ 13.71	
341	341,500	368,360	286.8	979,979.76	+ 13.21	
342	342,400	368,560	240.4	979,981.57	+ 12.74	
343	342,470	369,270	206.8	979,983.56	+ 12.65	
344	342,570	370,000	195.3	979,984.14	+ 12.59	
345	342,630	370,650	173.2	979,985.80	+ 12.90	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
346	343,430	370,670	242.0	979,980.33	+ 12.34	
347	344,100	370,680	188.9	979,982.99	+ 12.14	
348	344,130	371,630	189.7	979,982.90	+ 12.10	
349	344,120	372,550	201.0	979,982.26	+ 12.17	
350	344,760	372,550	185.7	979,982.22	+ 11.66	
351	345,440	372,600	200.5	979,980.25	+ 11.15	
352	345,640	373,460	199.6	979,979.57	+ 10.52	
353	346,340	373,700	207.5	979,978.04	+ 10.01	
354	347,300	373,640	211.1	979,976.72	+ 9.60	
355	347,910	373,560	223.6	979,975.04	+ 9.17	
356	347,850	373,800	223.3	979,974.48	+ 9.24	
357	349,650	373,990	224.8	979,973.86	+ 9.29	
358	350,460	374,000	235.5	979,972.61	+ 9.30	
359	351,520	374,250	236.4	979,971.95	+ 9.44	
360	352,370	374,220	237.1	979,971.01	+ 9.14	
361	353,320	373,930	237.3	979,970.31	+ 9.15	
362	354,140	373,930	236.0	979,969.76	+ 9.12	
363	354,780	373,930	238.7	979,969.35	+ 9.34	Also Namco 510
364	355,030	374,600	236.1	979,969.52	+ 9.48	
365	355,660	375,150	237.8	979,968.99	+ 9.53	
366	356,320	375,850	254.5	979,969.20	+ 11.28	
367	357,000	376,020	251.1	979,967.18	+ 9.52	
368	357,880	375,790	251.2	979,968.29	+ 11.28	
369	358,970	375,800	264.7	979,966.39	+ 11.01	
370	359,710	376,080	257.9	979,965.60	+ 10.32	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
371	360,530	376,030	231.6	979,964.29	+ 7.95	
372	361,480	376,010	238.1	979,961.91	+ 6.67	
373	362,180	376,200	233.9	979,960.67	+ 5.66	
374	362,900	376,410	238.4	979,958.32	+ 4.13	
375	363,840	376,230	235.2	979,956.78	+ 3.05	
376	364,530	375,570	235.5	979,955.30	+ 2.11	
377	365,300	375,500	230.1	979,954.14	+ 1.14	
378	366,250	375,500	233.0	979,952.49	+ 0.35	
379	366,880	376,300	228.5	979,951.24	- 0.71	
380	367,400	377,040	224.1	979,950.69	- 1.15	
381	368,000	377,720	225.6	979,948.52	- 2.83	
382	368,560	378,440	216.9	979,948.06	- 3.41	
383	368,800	379,340	222.6	979,947.25	- 3.71	
384	368,800	380,190	238.3	979,944.88	- 5.07	
385	369,690	380,000	217.6	979,945.18	- 5.45	
386	370,550	380,010	222.1	979,943.44	- 6.27	
387	371,350	379,940	223.1	979,942.07	- 7.03	
388	372,240	379,990	212.3	979,941.76	- 7.39	
389	372,890	379,990	214.7	979,940.60	- 7.93	
390	373,820	379,990	218.9	979,939.17	- 8.46	
391	374,550	380,000	210.1	979,939.11	- 8.55	
392	375,490	379,950	206.7	979,938.62	- 8.57	
393	376,550	379,950	207.3	979,937.91	- 8.55	
394	377,260	379,960	216.0	979,937.24	- 8.17	
395	378,150	379,990	214.7	979,936.63	- 8.21	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
396	378,990	379,940	212.6	979,936.34	- 8.06	
397	339,180	380,140	166.1	979,985.38	+ 9.57	
398	339,920	380,530	177.6	979,984.11	+ 9.54	
399	340,520	381,000	164.0	979,984.58	+ 9.59	
400	341,230	381,330	189.2	979,982.22	+ 9.31	
401	342,040	381,480	189.3	979,981.42	+ 9.11	
402	342,890	381,600	223.6	979,977.98	+ 8.43	
403	343,800	381,760	211.1	979,977.99	+ 8.29	
404	344,650	381,980	217.1	979,976.67	+ 8.01	
405	345,420	382,500	217.5	979,976.48	+ 8.38	
406	346,070	382,950	220.2	979,975.69	+ 8.22	
407	346,710	383,240	224.8	979,975.06	+ 8.36	
408	347,600	383,420	235.9	979,973.71	+ 8.34	
409	348,430	383,710	235.8	979,972.88	+ 8.10	
410	349,420	383,730	240.0	979,971.56	+ 7.75	
411	350,230	383,810	237.9	979,970.77	+ 7.44	
412	350,880	383,860	242.0	979,969.75	+ 7.14	
413	351,660	383,870	234.8	979,969.46	+ 6.94	
414	352,440	383,880	236.3	979,968.83	+ 6.97	
415	353,110	383,620	231.3	979,968.99	+ 7.29	
416	354,060	384,070	233.9	979,968.65	+ 7.78	
417	354,700	384,620	233.8	979,968.68	+ 8.27	
418	355,580	384,760	233.2	979,968.70	+ 8.86	
419	-	-	-	-	-	
420	356,310	384,640	238.7	979,967.44	+ 8.48	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
421	357,080	384,810	238.0	979,965.21	+ 6.77	
422	357,990	384,930	237.0	979,964.21	+ 6.37	
423	358,840	385,350	250.4	979,962.07	+ 5.70	
424	359,850	385,440	242.1	979,961.00	+ 4.80	
425	360,600	385,390	238.8	979,959.65	+ 3.81	
426	361,500	385,280	239.8	979,958.04	+ 2.89	
427	362,480	385,330	235.8	979,956.43	+ 1.74	
428	363,170	385,620	243.3	979,954.03	+ 0.32	
429	363,990	385,770	243.7	979,952.10	- 0.99	
430	364,900	385,860	251.5	979,949.45	- 2.51	
431	365,750	385,990	233.0	979,948.85	- 3.66	
432	366,600	386,270	256.8	979,945.31	- 5.07	
433	367,290	386,830	247.4	979,944.91	- 5.54	
434	367,380	387,720	241.8	979,944.98	- 5.78	
435	367,470	388,590	237.0	979,945.78	- 5.25	
436	368,190	389,090	218.2	979,945.93	- 5.77	
437	368,720	389,850	232.1	979,943.66	- 6.78	
438	369,460	390,220	234.1	979,942.47	- 7.32	
439	370,230	390,500	236.5	979,941.15	- 7.95	
440	371,040	390,650	232.0	979,940.36	- 8.42	
441	372,100	391,290	230.0	979,939.39	- 8.77	
442	372,800	392,090	231.4	979,938.66	- 8.94	
443	373,630	391,990	230.2	979,937.85	- 9.21	
444	374,500	392,090	228.2	979,937.40	- 9.18	
445	375,300	392,090	231.3	979,936.53	- 9.30	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
446	376,200	392,180	239.3	979,935.36	- 9.34	
447	377,090	392,180	223.0	979,936.33	- 8.79	
448	377,830	392,180	229.0	979,935.39	- 8.80	
449	378,540	391,340	233.1	979,935.15	- 8.28	
450	378,540	390,360	230.0	979,935.52	- 8.10	
451	378,480	389,220	228.7	979,935.66	- 8.07	
452	378,540	388,510	228.6	979,935.22	- 8.48	
453	378,540	387,450	223.8	979,935.53	- 8.45	
454	378,550	386,720	229.2	979,935.14	- 8.49	
455	378,590	385,600	226.2	979,934.98	- 8.83	
456	378,590	384,880	217.4	979,935.86	- 8.50	
457	378,600	383,820	215.0	979,935.72	- 8.78	
458	378,620	383,090	217.6	979,935.52	- 8.81	
459	378,620	381,980	211.4	979,936.04	- 8.67	
460	378,640	380,990	211.5	979,936.18	- 8.52	
461	378,640	380,000	212.7	979,936.34	- 8.28	
462	378,650	379,060	215.3	979,936.24	- 8.20	
463	378,630	378,240	213.2	979,936.80	- 7.77	
464	378,690	377,480	214.4	979,937.22	- 7.27	
465	378,690	376,680	211.5	979,937.69	- 6.97	
466	378,690	375,700	211.3	979,937.92	- 6.74	
467	378,680	374,830	210.3	979,938.18	- 6.54	
468	378,700	373,870	210.2	979,938.55	- 6.18	
469	378,680	372,990	209.8	979,938.95	- 5.79	
470	378,700	372,020	208.2	979,939.62	- 5.22	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
471	378,720	371,010	209.6	979,940.61	- 4.13	
472	378,720	370,150	208.8	979,941.18	- 3.61	
473	378,740	369,150	207.6	979,941.92	- 2.93	
474	378,740	368,480	206.7	979,942.45	- 2.45	
475	378,420	361,050	191.8	979,949.70	+ 3.62	
476	378,100	360,100	191.4	979,950.31	+ 4.00	
477	377,800	359,200	187.4	979,951.00	+ 4.25	
478	378,780	359,180	185.9	979,950.36	+ 4.19	
479	-	-	-	-	-	
480	378,760	358,510	183.5	979,950.57	+ 4.25	
481	378,750	357,850	179.2	979,950.91	+ 4.32	
482	378,790	357,100	174.4	979,951.19	+ 4.30	
483	378,780	356,210	168.6	979,951.54	+ 4.28	
484	378,760	355,540	163.9	979,951.89	+ 4.34	
485	378,760	354,560	163.0	979,951.98	+ 4.37	
486	378,750	353,820	158.7	979,952.29	+ 4.41	
487	378,730	353,000	152.8	979,952.69	+ 4.44	
488	-	-	-	-	-	
489	-	-	-	-	-	
490	365,060	357,510	225.1	979,970.66	+ 10.00	
491	354,980	358,280	236.1	979,969.43	+ 9.40	
492	355,030	359,080	249.0	979,968.17	+ 8.98	
493	355,000	359,950	251.0	979,967.17	+ 8.09	
494	355,000	360,790	267.1	979,967.59	+ 9.53	
495	355,120	361,700	275.0	979,964.69	+ 7.22	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
496	355,080	362,580	270.4	979,964.90	+ 7.10	
497	355,030	363,580	279.0	979,964.43	+ 7.15	
498	354,980	364,300	251.0	979,966.37	+ 7.27	
499	354,580	364,990	244.1	979,967.37	+ 7.57	
500	354,550	366,080	245.8	979,967.48	+ 7.77	
501	354,670	366,960	239.1	979,968.37	+ 8.31	
502	354,880	367,740	241.5	979,968.44	+ 8.68	
503	354,740	368,410	243.3	979,968.70	+ 8.95	
504	354,790	369,450	237.9	979,969.25	+ 9.19	
505	354,820	369,980	237.2	979,969.18	+ 9.09	
506	354,780	371,040	237.9	979,969.09	+ 9.02	
507	354,800	371,540	237.1	979,969.00	+ 8.90	
508	354,740	372,570	237.7	979,968.97	+ 8.86	
509	354,650	373,160	237.0	979,969.28	+ 9.07	
510	354,790	373,940	238.7	979,969.35	+ 9.34	Also Namco 363
511	354,450	374,780	239.8	979,969.69	+ 9.51	
512	354,450	375,590	237.8	979,969.84	+ 9.53	
513	354,520	376,560	237.4	979,970.05	+ 9.76	
514	354,460	377,420	237.1	979,970.43	+ 10.08	
515	353,890	378,180	238.6	979,970.67	+ 10.00	
516	353,320	378,800	235.2	979,971.08	+ 9.80	
517	352,500	379,410	242.8	979,970.55	+ 9.14	
518	352,990	380,020	239.3	979,969.86	+ 8.58	
519	352,880	380,890	237.3	979,969.38	+ 7.89	
520	352,690	381,930	234.5	979,969.32	+ 7.52	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
521	352,590	382,570	236.8	979,968.99	+ 7.25	
522	352,310	382,590	238.3	979,968.91	+ 7.07	
523	351,920	384,350	237.1	979,969.09	+ 6.93	
524	351,560	385,020	238.6	979,969.18	+ 6.82	
525	351,420	385,940	235.2	979,969.56	+ 6.90	
526	351,290	386,900	233.9	979,970.01	+ 7.20	
527	351,120	387,600	235.1	979,970.34	+ 7.46	
528	350,820	388,600	234.6	979,970.92	+ 7.78	
529	350,930	389,610	234.3	979,971.26	+ 8.19	
530	376,930	360,030	193.2	979,951.19	+ 4.12	
531	375,880	359,780	197.0	979,951.54	+ 4.00	
532	374,980	359,750	196.5	979,951.97	+ 3.76	
533	374,100	359,680	198.8	979,952.14	+ 3.48	
534	373,320	359,680	202.1	979,952.35	+ 3.34	
535	372,290	359,460	203.9	979,952.55	+ 2.94	
536	371,430	359,440	205.4	979,953.01	+ 2.90	
537	371,490	358,810	205.3	979,953.24	+ 3.13	
538	371,030	358,240	202.9	979,953.43	+ 2.87	
539	370,590	357,580	201.8	979,954.15	+ 3.22	
540	370,040	356,740	202.5	979,954.71	+ 3.42	
541	369,270	357,060	204.8	979,955.45	+ 3.75	
542	368,290	357,280	212.0	979,956.00	+ 4.09	
543	367,400	357,000	235.0	979,955.58	+ 4.48	
544	366,900	356,100	438.3	979,943.99	+ 5.31	
545	366,400	355,340	545.7	979,938.72	+ 6.45	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
546	365,930	354,770	386.1	979,950.32	+ 7.65	
547	365,320	354,020	347.0	979,953.75	+ 8.17	
Mt. Gambier Pendulum Station No. 7	334,700	378,750	144.73	979,993.65	+ 13.10	Revised value (1965)

TABLE OF PRINCIPAL FACTS

COLERAINE AREA

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer** (milligals)	Remarks
1001Y	354,300	481,310	435.0	979,962.62	+ 14.77	
1002	354,850	480,350	560.9	979,952.43	+ 12.91	
1003	355,990	479,080	625.1	979,945.74	+ 11.07	
1004	357,230	477,790	637.9	979,944.24	+ 11.25	
1005	358,250	476,320	650.4	979,943.26	+ 11.78	
1006	359,380	474,910	651.3	979,943.99	+ 13.34	
1007	360,480	473,530	666.4	979,944.64	+ 15.72	
1008	361,500	472,020	658.1	979,944.71	+ 15.99	
1009	362,080	470,380	618.4	979,947.75	+ 16.95	Terrain +0.01
1010	362,600	468,820	362.9	979,962.01	+ 15.45	
1011	362,850	467,300	284.0	979,968.55	+ 17.20	
1012	363,570	465,730	271.9	979,967.99	+ 16.41	
1013	363,800	463,970	253.3	979,967.63	+ 15.01	
1014	363,570	462,170	243.9	979,967.30	+ 13.92	
1015	364,000	460,610	292.6	979,964.44	+ 14.43	
1016	364,990	459,180	449.0	979,953.68	+ 14.21	
1017	365,060	457,530	432.5	979,958.30	+ 17.84	
1018	365,570	455,800	324.1	979,966.86	+ 19.96	Terrain +0.02
1019	365,370	454,100	254.7	979,970.39	+ 18.97	
1020Y	365,200	452,530	605.5	979,946.93	+ 17.50	Terrain +0.01

** Density used = 2.43 gms/cc
Elevation correction factor = 0.063 mgls/ft

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
1021Y	366,240	451,210	645.9	979,945.49	+ 19.27	
1022	367,430	449,970	638.4	979,948.16	+ 22.34	Terrain +0.01
1023	368,350	448,220	486.7	979,961.65	+ 26.92	
1024	369,770	447,330	560.0	979,954.23	+ 25.17	Terrain +0.01
1025	370,500	445,830	318.0	979,968.52	+ 24.74	
1026	370,700	443,950	508.4	979,954.10	+ 22.49	Terrain +0.01
1027	372,850	443,360	243.2	979,969.97	+ 23.19	
1028	374,630	442,460	219.5	979,968.38	+ 21.37	
1029	375,920	441,940	259.0	979,963.05	+ 19.47	
1030	375,500	442,100	206.3	979,969.18	+ 21.96	
1031	374,260	439,340	194.0	979,973.78	+ 24.92	
1032	372,630	439,180	196.3	979,974.99	+ 25.12	
1033	372,070	437,500	169.6	979,979.16	+ 27.20	Terrain +0.01
1034	370,550	437,270	178.2	979,979.14	+ 26.66	
1035	370,460	436,060	348.8	979,969.33	+ 27.50	
1036	370,240	434,530	440.9	979,960.05	+ 23.87	
1037	370,550	432,370	458.8	979,954.66	+ 19.82	
1038	370,800	430,300	472.2	979,950.90	+ 17.13	
1039	368,570	451,030	442.7	979,960.49	+ 23.14	
1040	368,780	452,870	437.6	979,958.90	+ 21.32	Terrain +0.01
1041	369,700	454,500	604.0	979,944.95	+ 18.56	Terrain +0.01
1042	371,400	455,090	746.0	979,932.28	+ 16.10	Terrain +0.02
1043	373,000	455,760	860.8	979,921.32	+ 13.57	
1044	374,420	457,000	999.0	979,910.90	+ 12.84	
1045	364,420	454,630	402.3	979,961.41	+ 18.61	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
1046Y	362,800	454,000	278.8	979,971.13	+ 19.42	
1047	361,780	454,000	189.6	979,977.72	+ 19.62	
1048	361,850	455,700	275.0	979,971.84	+ 19.26	Terrain +0.07
1049	361,000	457,330	220.2	979,975.71	+ 19.06	Terrain +0.03
1050	359,950	457,930	208.4	979,976.72	+ 18.53	
1051	358,800	458,000	380.2	979,965.09	+ 16.90	Terrain +0.01
1052	358,950	459,760	449.4	979,958.60	+ 14.88	Terrain +0.02
1053	358,060	461,240	542.0	979,950.13	+ 11.59	
1054	358,850	462,940	659.3	979,941.93	+ 11.37	
1055	358,900	464,490	648.9	979,944.61	+ 13.42	
1056	360,700	465,590	642.5	979,944.27	+ 14.00	
1057	360,130	467,540	613.1	979,946.15	+ 13.64	
1058	354,750	464,320	231.9	979,979.37	+ 18.98	
1059	354,400	466,230	283.9	979,977.51	+ 20.16	Terrain +0.02
1060	354,150	467,850	599.2	979,953.64	+ 15.93	
1061	354,700	468,850	598.1	979,951.90	+ 14.53	Terrain +0.03
1062	-	-	-	979,951.56	-	Re-established on Peg 3.
1063	356,380	470,620	636.8	979,946.54	+ 12.84	
1064	357,070	472,160	549.1	979,949.74	+ 11.00	
1065	358,950	472,800	636.6	979,944.28	+ 12.39	
1066	360,630	476,200	648.8	979,947.09	+ 17.17	
1067	361,850	477,580	659.0	979,946.36	+ 18.00	
1068	363,180	478,810	664.0	979,948.24	+ 21.07	
1069	340,100	450,120	523.1	979,967.92	+ 15.25	
1070	353,820	479,760	533.7	979,954.31	+ 12.32	Terrain +0.02

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
1071Y	353,920	478,170	593.7	979,949.26	+ 11.12	
1072	354,750	476,600	606.5	979,947.74	+ 10.99	
1073	354,480	474,750	581.2	979,951.65	+ 13.09	
1074	354,140	472,920	593.3	979,950.53	+ 12.48	
1075	353,150	471,750	421.0	979,964.56	+ 14.99	Terrain +0.01
1076	353,050	470,500	600.0	979,954.58	+ 16.18	
1077	359,900	469,150	531.4	979,950.48	+ 12.65	Terrain +0.01
1078	362,940	442,940	144.7	979,988.01	+ 27.89	
1079	364,430	443,990	206.4	979,991.81	+ 36.60	
1080	364,000	445,800	251.6	979,983.41	+ 30.82	Terrain +0.03
1081	363,150	447,380	468.8	979,963.14	+ 23.64	Terrain +0.01
1082	364,170	448,770	574.7	979,949.13	+ 17.03	Terrain +0.01
1083	363,700	450,150	399.5	979,958.70	+ 15.20	Terrain +0.02
1084	363,140	451,690	242.0	979,972.97	+ 19.20	
1085	362,240	452,630	226.1	979,974.74	+ 19.30	Terrain +0.01
1086	361,150	443,090	154.9	979,986.28	+ 20.50	**
1087	359,830	443,650	243.4	979,980.95	+ 24.81	
1088	358,540	445,050	153.8	979,987.87	+ 25.19	
1089	357,060	446,100	156.8	979,987.96	+ 24.40	
1090	355,600	447,360	160.0	979,989.09	+ 24.67	
1091	354,050	448,260	186.8	979,990.01	+ 26.19	Terrain +0.03
1092	352,940	448,290	239.0	979,992.53	+ 31.19	
1093	351,500	449,450	363.0	979,988.29	+ 33.75	Terrain +0.02
1094	350.200	450,180	506.1	979,978.53	+ 32.07	
1095	349,460	451,670	543.2	979,974.16	+ 29.52	Terrain +0.01

** (Tie Value 979,986.24 mgls)

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
1096Y	348,920	452,970	244.6	979,992.96	+ 29.12	
1097	348,800	450,250	543.3	979,976.07	+ 30.96	
1098	348,300	448,340	524.6	979,977.06	+ 30.37	
1099	348,370	446,500	523.5	979,976.74	+ 29.96	
1100	348,550	444,780	412.5	979,981.98	+ 28.40	
1101	350,170	444,370	430.8	979,983.87	+ 32.63	
1102	351,870	443,610	504.6	979,979.59	+ 34.20	
1103	353,840	443,700	386.3	979,983.38	+ 31.98	Terrain +0.01
1104	355,500	443,250	335.8	979,979.11	+ 25.70	Terrain +0.01
1105	357,320	443,370	217.9	979,983.01	+ 23.49	
1106	350,300	453,850	246.6	979,989.71	+ 26.99	
1107	351,130	455,180	249.7	979,986.20	+ 24.30	Terrain +0.03
1108	352,400	456,540	402.3	979,971.81	+ 20.43	Terrain +0.02
1109	354,200	457,100	561.5	979,956.06	+ 16.00	Terrain +0.02
1110	355,220	457,350	584.4	979,953.54	+ 15.66	Terrain +0.01
1111	356,600	456,250	528.6	979,956.92	+ 16.47	
1112	358,150	456,200	493.5	979,958.07	+ 16.55	Terrain +0.01
1113	359,450	454,890	207.7	979,977.54	+ 18.95	Terrain +0.02
1114	359,610	453,320	197.7	979,978.76	+ 19.63	
1115	355,240	459,420	535.0	979,955.65	+ 14.66	
1116	354,130	460,300	581.9	979,952.36	+ 13.52	Terrain +0.01
1117	353,110	462,100	549.8	979,958.19	+ 16.67	Terrain +0.01
1118	352,000	462,960	580.1	979,958.40	+ 17.97	
1119	350,760	464,200	591.6	979,955.88	+ 15.27	
1120	348,850	464,900	593.8	979,952.75	+ 10.91	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
1121Y	347,550	466,300	601.1	979,949.40	+ 7.07	
1122	346,850	466,720	600.9	979,948.57	+ 5.75	
1123	360,700	441,850	170.2	979,982.23	+ 22.14	Terrain +0.01
1124	360,420	440,420	193.5	979,978.85	+ 19.98	
1125	360,050	439,240	450.6	979,960.68	+ 17.77	
1126	359,440	437,740	417.6	979,961.64	+ 16.22	
1127	358,080	437,220	335.6	979,965.10	+ 13.53	Terrain +0.01
1128	356,900	436,380	412.2	979,959.08	+ 11.43	
1129	355,370	435,050	495.1	979,951.65	+ 8.13	
1130	347,060	468,800	329.0	979,968.66	+ 8.85	
1131	346,740	470,480	343.6	979,968.68	+ 9.59	
1132	345,660	471,670	334.6	979,970.70	+ 10.25	Terrain +0.01
1133	345,450	472,920	385.8	979,967.58	+ 10.23	
1134	344,930	474,260	447.5	979,962.51	+ 8.56	Terrain +0.03
1135	346,040	451,650	359.5	979,982.71	+ 24.05	Terrain +0.03
1136	350,230	470,420	477.3	979,961.24	+ 13.10	Terrain +0.02
1137	351,270	471,940	331.6	979,971.86	+ 15.26	
1138	343,300	450,740	486.2	979,971.57	+ 18.90	
1139	338,840	451,120	410.2	979,976.32	+ 15.65	
1140	339,450	452,650	442.2	979,972.91	+ 14.70	
1141	340,760	454,020	487.2	979,967.84	+ 13.39	
1142	342,040	455,270	550.2	979,960.90	+ 11.32	
1143	343,950	455,650	566.3	979,959.84	+ 12.71	
1144	339,870	457,040	513.7	979,964.13	+ 10.76	
1145	340,370	458,800	537.6	979,960.89	+ 9.37	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
1146Y	341,300	459,740	541.1	979,958.25	+ 7.61	
1147	339,440	460,040	527.3	979,962.15	+ 9.20	
1148	338,950	461,940	462.8	979,966.97	+ 9.73	
1149	337,550	461,100	469.0	979,967.98	+ 10.16	
1150	336,230	460,500	511.1	979,965.48	+ 9.31	
1151	340,780	462,430	566.3	979,956.55	+ 7.14	
1152	338,180	463,820	486.3	979,965.25	+ 8.94	
1153	337,480	465,390	524.2	979,963.76	+ 9.35	
1154	339,450	465,800	498.7	979,963.89	+ 9.30	
1155	340,940	465,440	558.9	979,956.83	+ 7.06	
1156	342,800	464,830	456.5	979,959.27	+ 4.42	
1157	344,760	465,130	384.7	979,962.44	+ 4.46	Terrain +0.01
1158	346,030	465,910	573.4	979,949.52	+ 4.34	
1159	341,450	448,900	519.2	979,968.64	+ 16.72	
1160	343,250	447,070	546.5	979,967.33	+ 18.42	
1161	343,900	445,540	557.0	979,973.48	+ 25.63	
1162	344,170	444,450	535.6	979,968.21	+ 19.21	
1163	344,700	442,570	548.0	979,968.20	+ 20.47	
1164	344,980	440,700	504.2	979,970.39	+ 19.98	
1165	345,050	439,540	583.0	979,970.81	+ 25.49	
1166	345,730	444,390	506.0	979,970.94	+ 20.95	
1167	346,840	444,700	503.3	979,972.47	+ 23.37	
1168	344,650	460,000	345.6	979,969.90	+ 9.06	
1169	346,230	461,050	382.0	979,967.24	+ 10.13	
1170	347,150	461,500	516.4	979,957.78	+ 9.80	

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
1171Y	348,200	460,030	418.6	979,968.18	+ 14.83	Terrain +0.02
1172	348,930	458,890	286.2	979,980.92	+ 19.72	Terrain +0.01
Peg 3	354,440	469,300	597.4	979,952.87	+ 15.29	

TABLE OF PRINCIPAL FACTS

GRAVITY BASE STATIONS

COLERAINE GRAVITY SURVEY

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
5	364,010	441,430	136.2	979,988.02	+ 28.14	Casterton
6	358,350	469,150	396.3	979,961.36	+ 13.88	3 m, SSE of Coleraine
7	347,020	452,180	304.0	979,987.00	+ 25.51	Marino
24	344,000	405,000	-	979,982.00	-	Not surveyed Gravity Tie only

TABLE OF PRINCIPAL FACTS

OF

RELOCATED STATIONS

COLERAINE GRAVITY SURVEY

Sta. Base	Latitude N (yds)	Longitude E (yds)	Elev. feet	Observed Gravity (milligals)	Bouguer (milligals)	Remarks
Base V	377,600	441,200	255.5	979,959.60	+ 16.99	Frome-Broken Hill Survey
BH W644	378,890	440,560	324.4	979,955.55	+ 18.22	"
BH1 W649	387,220	439,875	711.9	979,922.26	+ 15.26	"
BH W650	388,590	439,210	713.1	979,920.66	+ 14.72	"
BH W651	389,430	437,640	546.9	979,930.78	+ 14.97	"
BH W652	391,110	437,700	639.7	979,918.06	+ 9.29	"

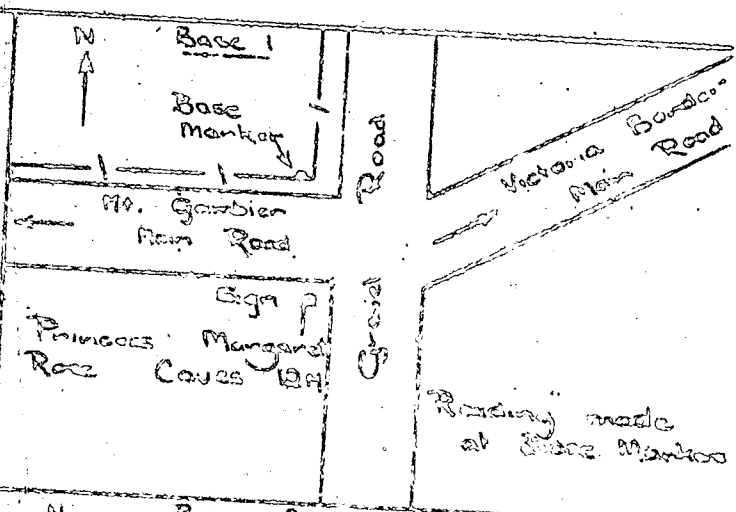
PERMANENT GRAVITY BASE STATIONS

PROSPECT: Caroline-Killanoola Gravity Survey

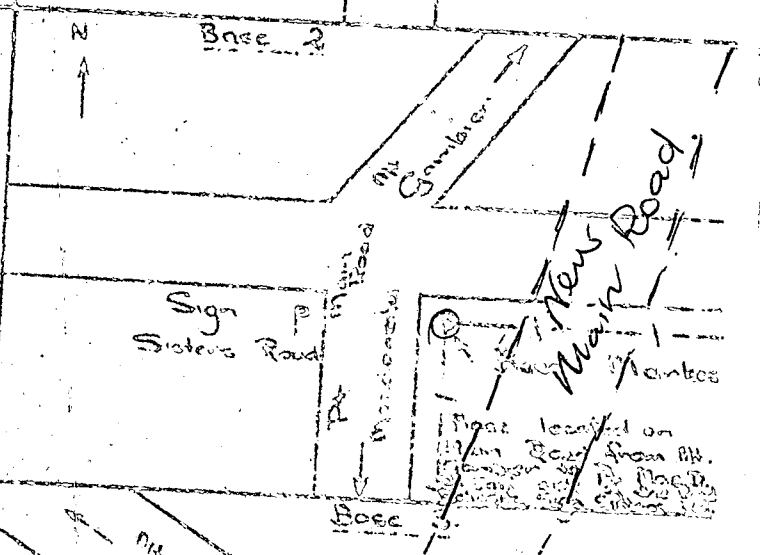
Client: Alliance Oil Development Australia N.L.

A. Caroline Area

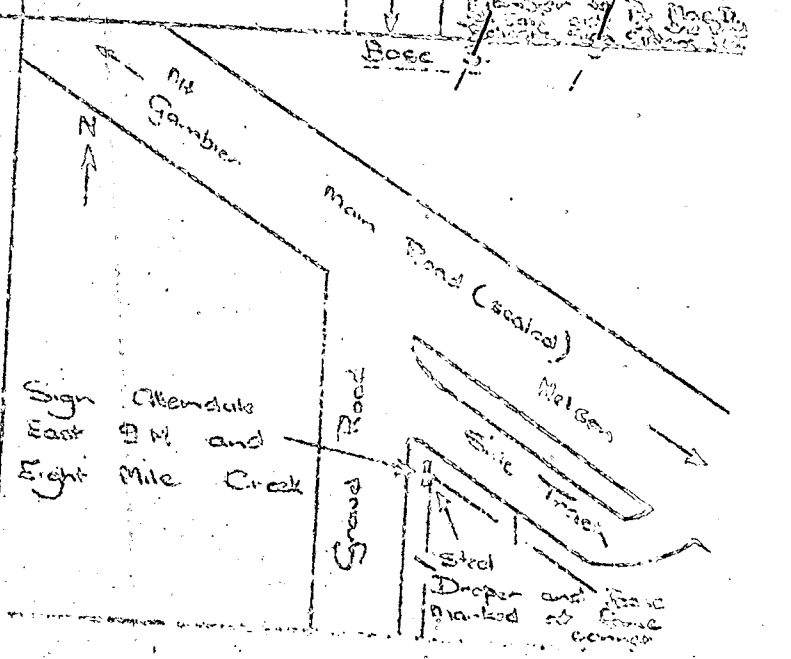
Station Number:	Base 1
Latitude N (yds)	331,450
Longitude E (yds)	389,000
Elevation (feet)	144.0
Observed Gravity (milligals)	979,994.78



Station Number	Base 2
Latitude N (yds)	326,850
Longitude E (yds)	374,850
Elevation (feet)	97.0
Observed Gravity (milligals)	980,003.09



Station Number	Base 3
Latitude N (yds)	318,150
Longitude E (yds)	384,150
Elevation (feet)	114.5
Observed Gravity (milligals)	980,005.93



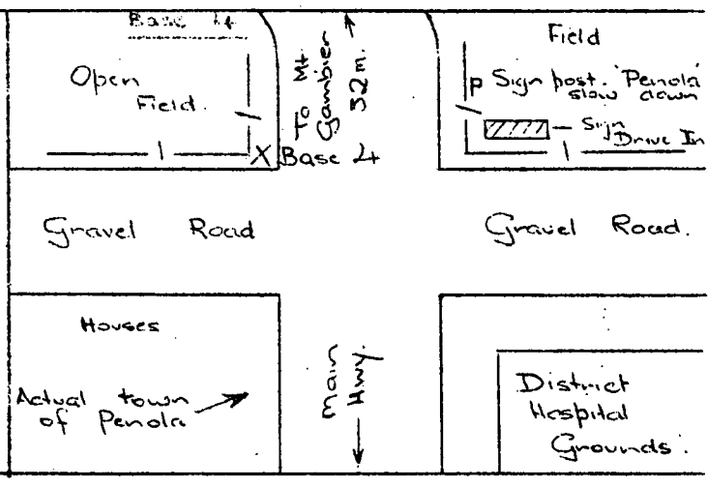
PERMANENT GRAVITY BASE STATIONS

PROSPECT: Caroline-Killanoola Gravity Survey

Client: Alliance Oil Development Australia N.L.

B. Killanoola Area

Station Number	Base 4
Latitude N (yds)	388,300
Longitude E (yds)	383,925
Elevation (feet)	203.8
Observed Gravity (milligals)	979,933.57



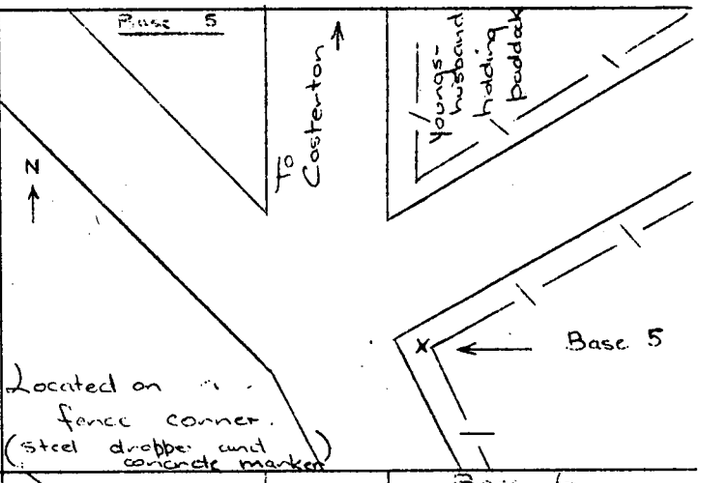
PERMANENT GRAVITY BASE STATIONS

PROSPECT: Coleraine Gravity Survey

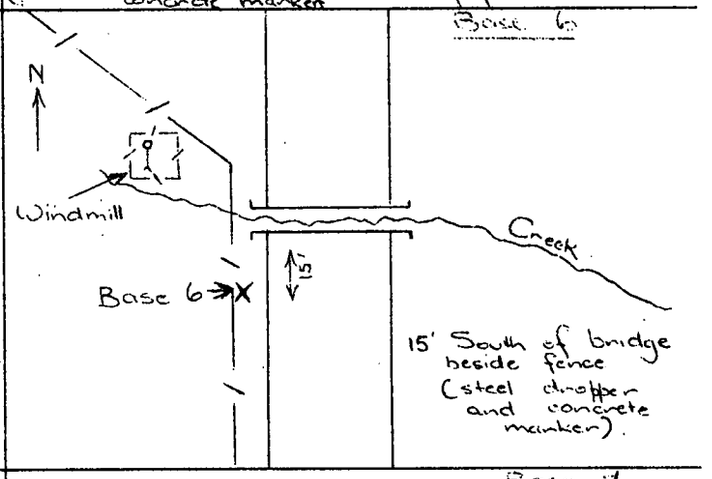
Client: Alliance Oil Development Australia N.L.

120

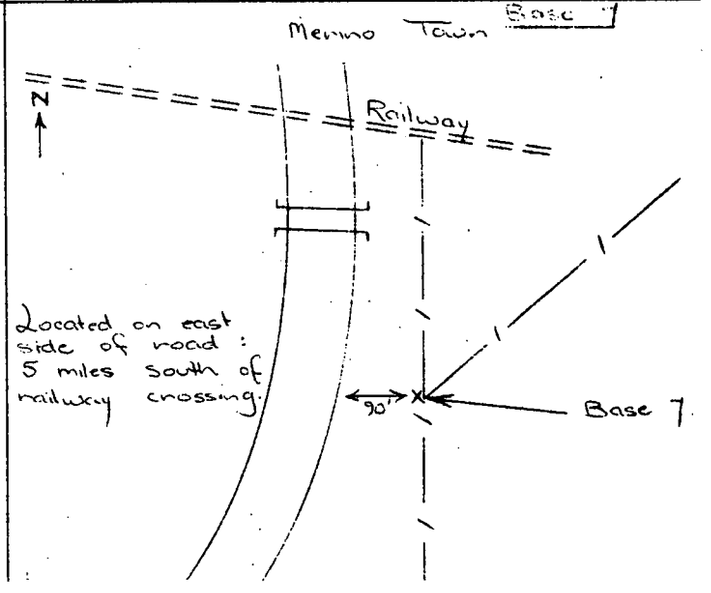
Station Number:	Base 5
Latitude N (yds)	364,010
Longitude E (yds)	441,430
Elevation (feet)	136.2
Observed Gravity (milligals)	979,988.02



Station Number	Base 6
Latitude N (yds)	358,350
Longitude E (yds)	469,150
Elevation (feet	396.3
Observed Gravity (milligals)	979,961.36



Station Number	Base 7
Latitude N (yds)	347,020
Longitude E (yds)	452,180
Elevation (feet)	304.0
Observed Gravity (milligals)	979,987.00



PERMANENT GRAVITY BASE STATIONS

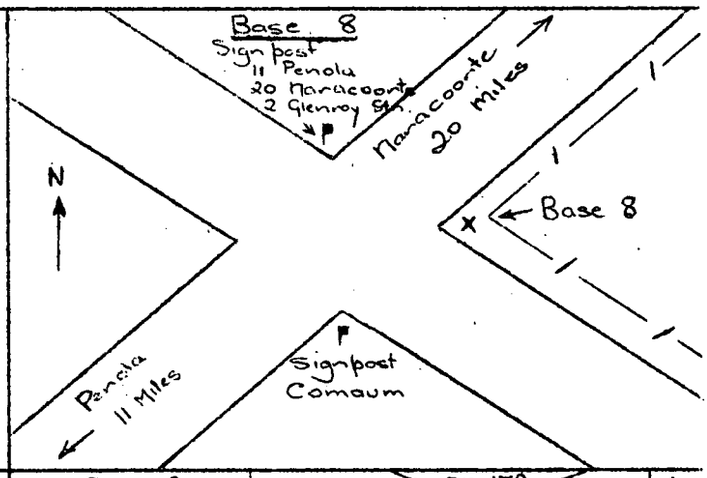
PROSPECT: Caroline-Killanoola Gravity Survey

Client: Alliance Oil Development Australia N.L.

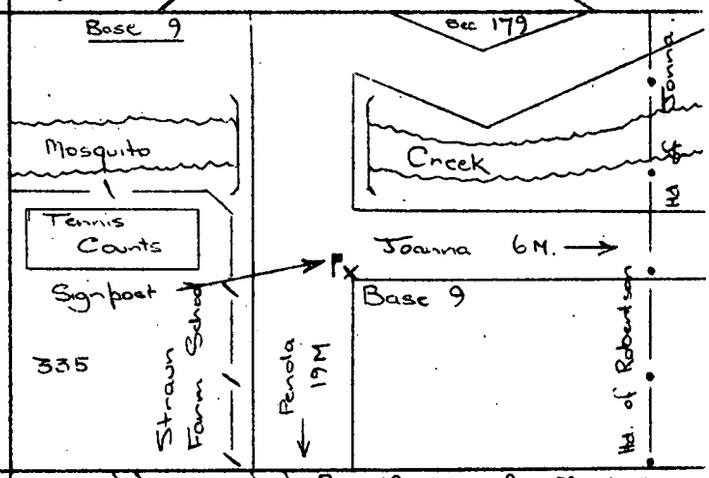
121

B. Killanoola Area

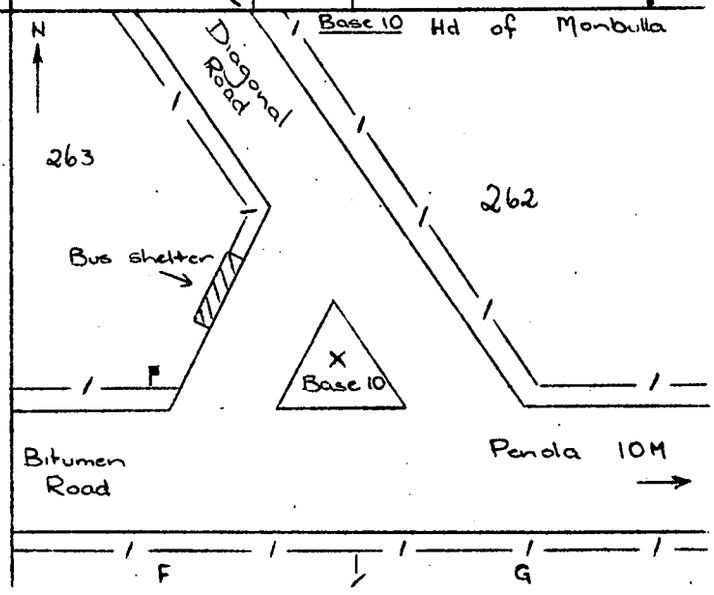
Station Number	Base 8
Latitude N (yds)	408,700
Longitude E (yds)	385,850
Elevation (feet)	188.9
Observed Gravity (milligals)	979,922.05



Station Number	Base 9
Latitude N (yds)	424,700
Longitude E (yds)	379,850
Elevation (feet)	193.5
Observed Gravity (milligals)	979,928.02



Station Number	Base 10
Latitude N (yds)	392,200
Longitude E (yds)	365,050
Elevation (feet)	179.0
Observed Gravity (milligals)	979,924.50



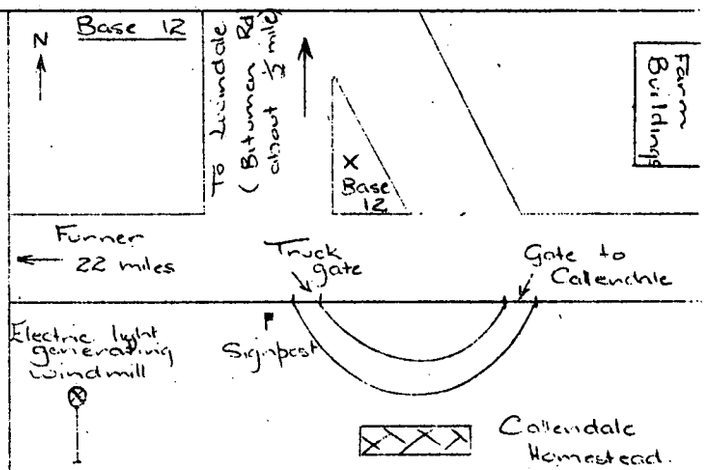
PERMANENT GRAVITY BASE STATIONS

PROSPECT: Caroline-Killanoola Gravity Survey

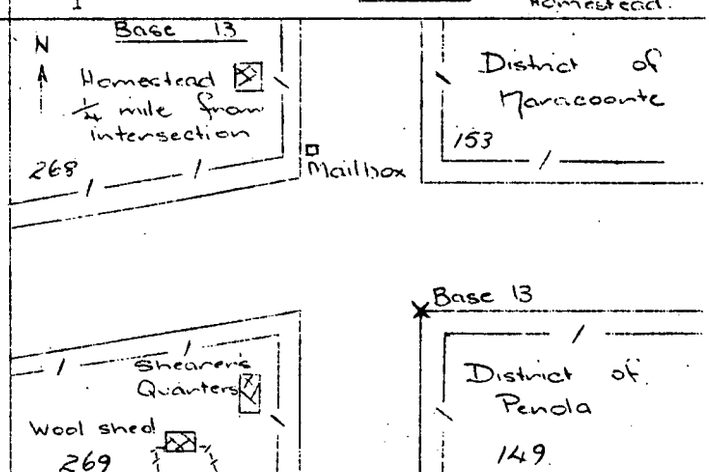
Client: Alliance Oil Development Australia N.L.

B. Killanoola Area

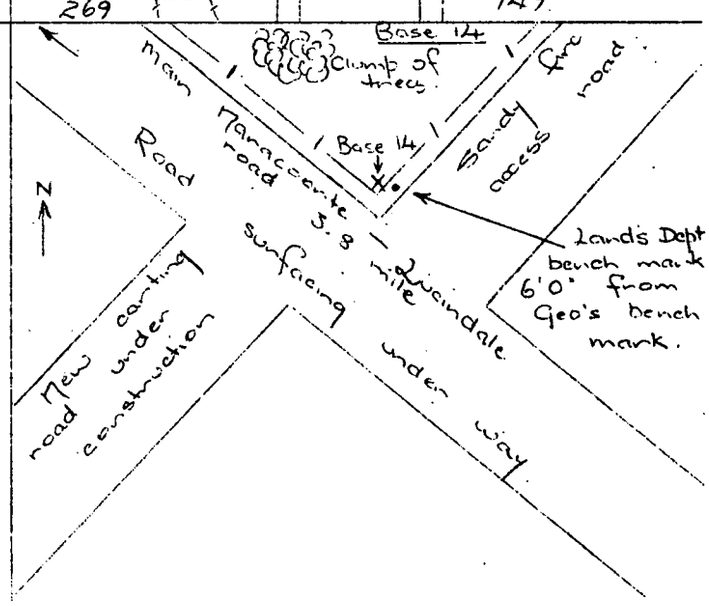
Station Number	Base 12
Latitude N (yds)	406,025
Longitude E (yds)	345,065
Elevation (feet)	149.5
Observed Gravity (milligals)	979,917.99



Station Number	Base 13
Latitude N (yds)	414,550
Longitude E (yds)	368,300
Elevation (feet)	171.6
Observed Gravity (milligals)	979,930.94



Station Number	Base 14
Latitude N (yds)	426,700
Longitude E (yds)	350,550
Elevation (feet)	130.2
Observed Gravity (milligals)	979,917.11

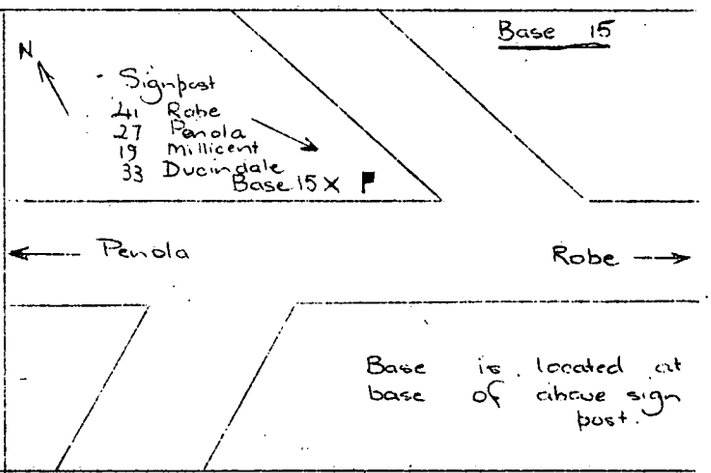


PROSPECT: Caroline-Killanoola Gravity Survey Client: Alliance Oil Development Australia N.L.

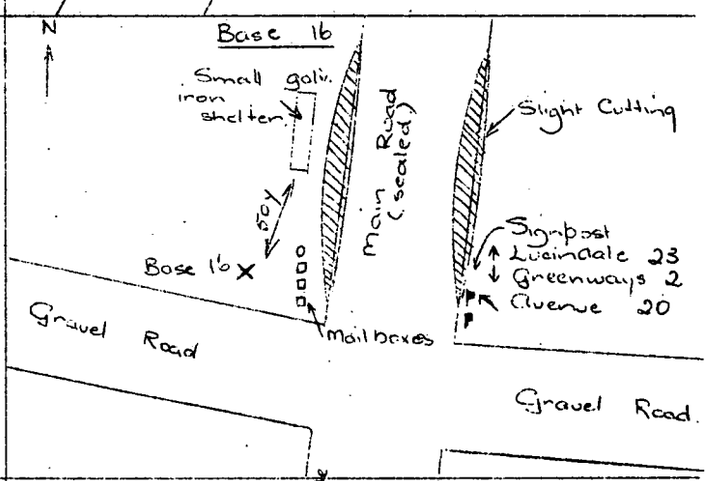
123

B. Killanoola Area

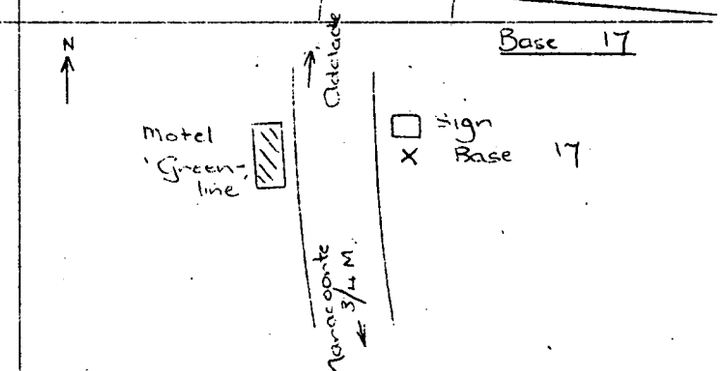
Station Number	Base 15
Latitude N (yds)	393,260
Longitude E (yds)	333,780
Elevation (feet)	101.6
Observed Gravity (milligals)	979,951.18



Station Number	Base 16
Latitude N (yds)	412,600
Longitude E (yds)	321,650
Elevation (feet)	76.7
Observed Gravity (milligals)	979,925.75



Station Number	Base 17
Latitude N (yds)	442,900
Longitude E (yds)	373,150
Elevation (feet)	173.7
Observed Gravity (milligals)	979,911.73



Base 17 Located 75 yards north of Motel 'Greenline' at base of sign (roads visit Manaccante Caves. Tours daily)

Concrete block and steel dropper.

PERMANENT GRAVITY BASE STATIONS

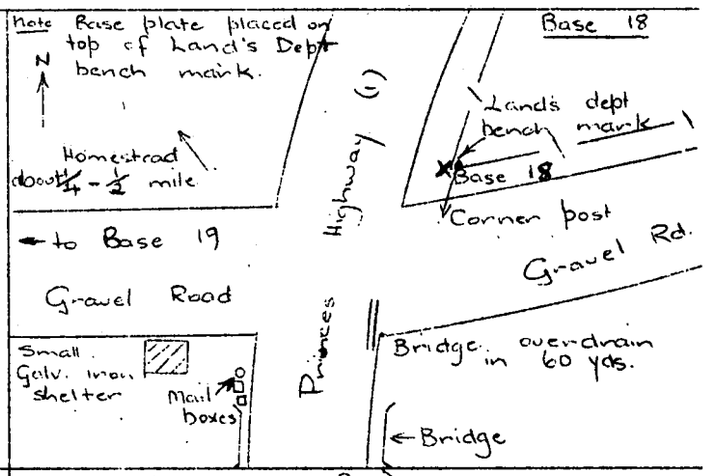
PROSPECT: Caroline-Killanoola Gravity Survey

Client: Alliance Oil Development Australia N.L.

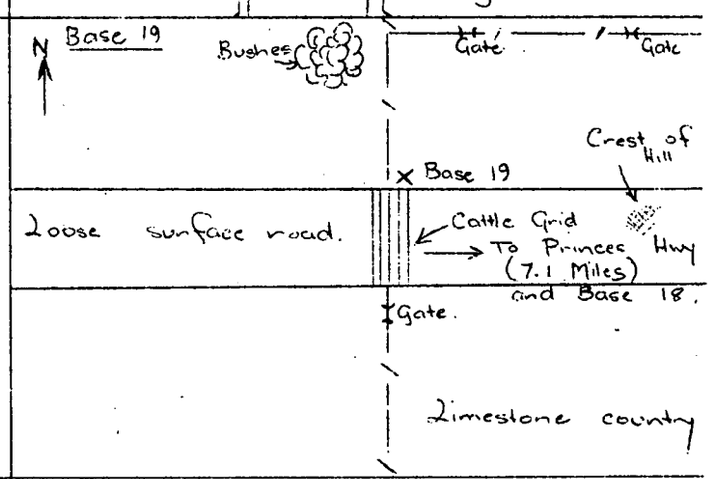
124

B. Killanoola Area

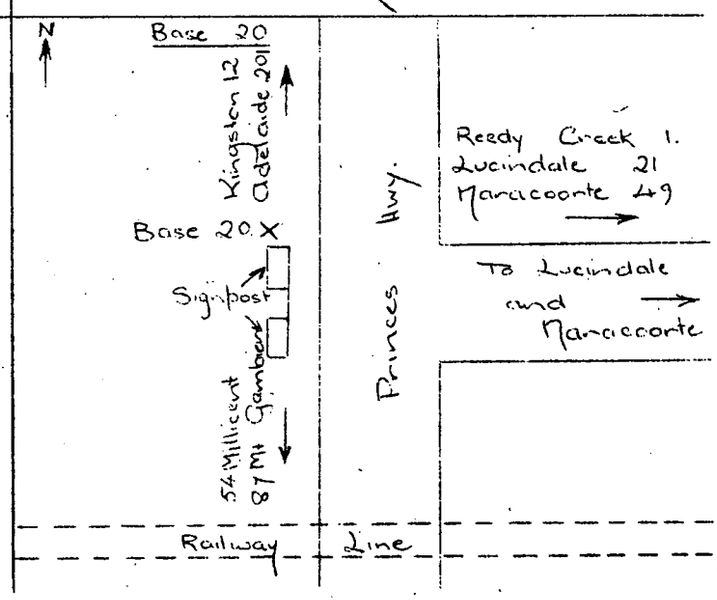
Station Number	Base 18
Latitude N (yds)	424,300
Longitude E (yds)	311,200
Elevation (feet)	34.7
Observed Gravity (milligals)	979,915.80



Station Number	Base 19
Latitude N (yds)	416,350
Longitude E (yds)	300,650
Elevation (feet)	25.2
Observed Gravity (milligals)	979,923.42



Station Number	Base 20
Latitude N (yds)	444,850
Longitude E (yds)	303,350
Elevation (feet)	39.3
Observed Gravity (milligals)	979,907.51



PERMANENT GRAVITY BASE STATIONS

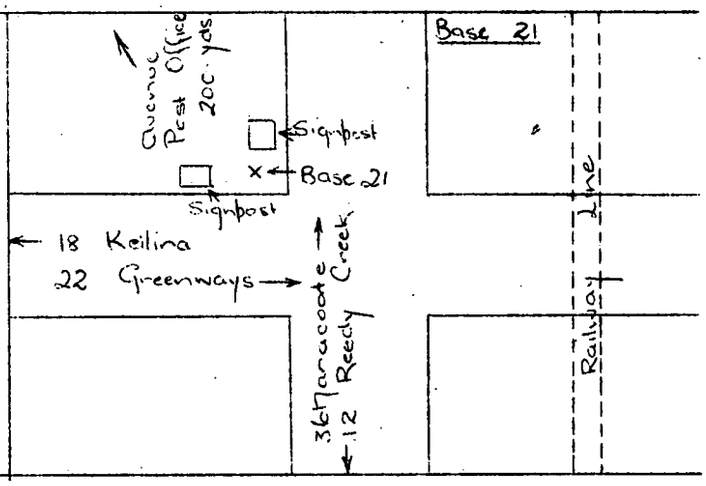
PROSPECT: Caroline-Killanoola Gravity Survey

Client: Alliance Oil Development Australia N.L.

B. Killanoola Area

125

Station Number	Base 21
Latitude N (yds)	442,350
Longitude E (yds)	325,100
Elevation (feet)	76.4
Observed Gravity (milligals)	979,907.51

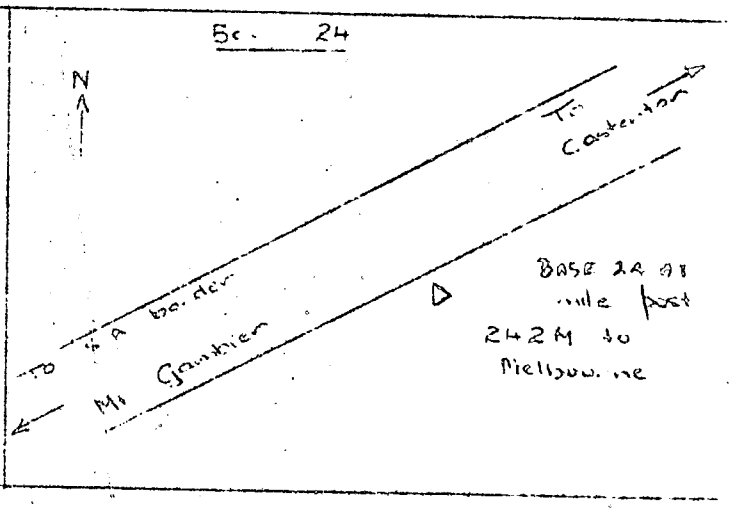


PERMANENT GRAVITY BASE STATIONS

PROSPECT: Coleraine Gravity Survey

Client: Alliance Oil Development Australia N.L.

Station Number	Base 24
Latitude N (yds)	344,000
Longitude E (yds)	405,000
Elevation (feet)	-
Observed Gravity (milligals)	979,982.00



BOUGUER ANOMALY MAP

1966 CAROLINE – KILLANOOLA GRAVITY SURVEY

INCORPORATING

PREVIOUS MILLICENT GRAVITY SURVEY

and

1964 KALANGADOO GRAVITY SURVEY

OEL 22 SA

for

ALLIANCE OIL DEVELOPMENT AUSTRALIA N.L.

by

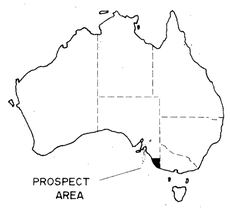
GEOSURVEYS of AUSTRALIA Pty. Ltd.

ENV 635-1

Allia. 41.B.

1966/14

LOCALITY



LEGEND

- Selected Gravity Field Station 2610
- Monumented Gravity Base Station 810
- Profile Location A 2136 — 813 — 2472 B
- Contour Interval 1 Milligal
- Surface Density Used 2·43 gms/cc
- Elevation Correction Factor 0·063 mgls/ft
- Railway Line
- Exploratory Well
- Elevation Datum MSL Pt. Adelaide S.A.
- Gravitational Maximum Trend
- Gravitational Minimum Trend
- Gravitational Maximum Anomaly
- Gravitational Minimum Anomaly

AVERAGE ACCURACY OF DATA

	(Namco), (Geos)
Bouguer Gravity	∓·008, ∓0·05 mgls.
Geographical Position	∓ 200, ∓200 Feet
Elevation	∓0·9, ∓0·5 Feet

SCALE 1 : 250,000

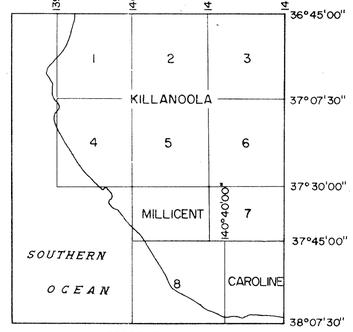
MILES 2 1 0 2 4 6 8 10 12 14 16

10,000 5,000 0 10,000 20,000 YARDS

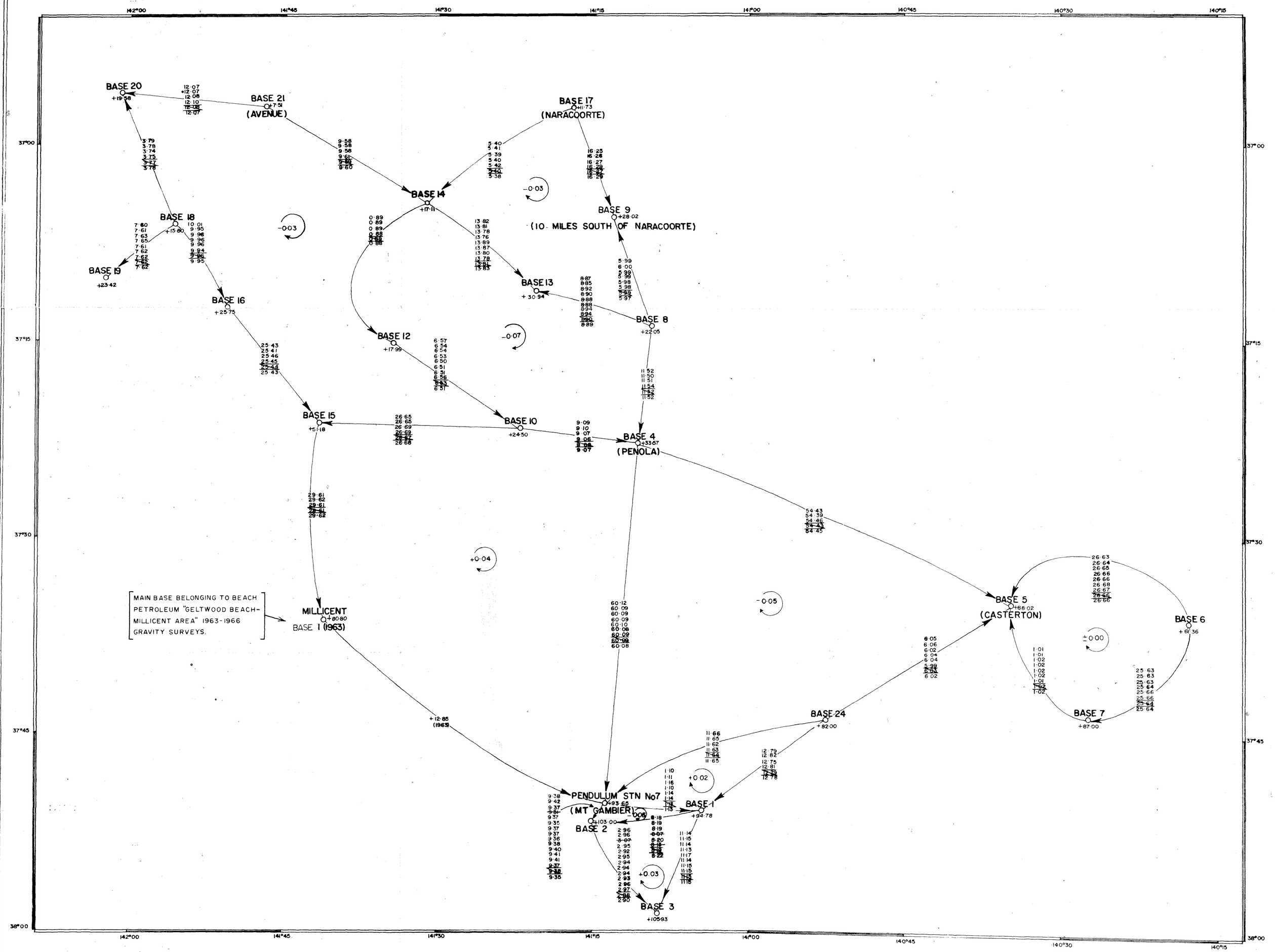
PROJECTION: Transverse Mercator
ZONE 6: Central Meridian 141°00'00"
FIGURE OF EARTH: Clarke 1858

Vertical Control by Optical Levelling — Horizontal Control by Tacheometric Techniques

Observed Gravity Values based on BMR Pendulum Station No.7. Mt. Gambier (979,993·65 Milligals May 1 st. 1965 Isogal Value)



Key to 1:63,360 Gravity Sheets



REFERENCE

BASE 2
O
+103·00
ADJUSTED OBSERVED GRAVITY (WITH 979,900·00 MILLIGALS SUBTRACTED FROM ALL VALUES)

BASE 2 (2·96 / 2·96 / 2·97 / 2·96 / 2·96) → O BASE 3
ALL INDEPENDENT VALUES WITH NON ADJUSTED MEAN VALUE BETWEEN TWO BASES, SHOWING DIRECTION OF GRAVITY INCREASE WITH ADJUSTED VALUE BELOW

±0·00
DIRECTION AND VALUE OF LOOP MISCLOSURE PRIOR TO ADJUSTMENT

SCALE FACTOR FOR ——

WORLD WIDE 32	0·10055 Mgls/sd
WORDEN 215	0·09455 Mgls/sd
LACOSTE & ROMBERG G37 }	VARIABLE
LACOSTE & ROMBERG G39 }	

(NOTE ALL VALUES IN MILLIGALS)

NOTE: NO BASE 11, 22, 23. ESTABLISHED.

SCALE
1:250,000
2 1 0 2 4 6 8 10 12 14
MILES

CAROLINE - KILLANOOLA & COLERAINE AREAS

GRAVITY BASE CLOSURE MAP

PORTION OF O.EL 22 S.A. & P.E.P. 54A VIC.

FOR

ALLIANCE OIL DEVELOPMENT Co. N.L.

BY

GEOSURVEYS OF AUST. PTY LTD.

1966/14

ENV 635-2

ALLIA 25 B

140°40'
370,000
140°45'
380,000
140°50'
390,000
140°55'
141°00'
37°45'
340,000
37°50'
330,000
37°55'
320,000
38° 00'
310,000
38°05'
300,000
38°7'30"
141°00'

B.M. △312
162·6 X72
-7·3
+9·3
193·6 X10
+49·7
-54·2
143·8 X23
162·4 X73
+13·0
175·4 X77
153·3
X67
+9·3
-0·1
±0·0
X17 139·3
-10·1
175·6 X26
+40·3
+8·4
X25 135·3
+6·7
+24·7
+0·1
24·5
150·9 X78
+24·6
175·5 X79
-22·2
B.M. 121
+10·6
160·6 X8
-31·4
-49·5
-0·2
BASE 1
X14 -3·0
129·2
X28 +8·2
126·1
X31 -1·9
134·2
X38 -3·6
132·2
X37
128·6
-0·2
+7·3
-24·5
-35·2
+0·6
+0·5
X47 125·4
+1·1
X46 -1·2
126·7
X43 +14·5
125·6
X41 -14·5
140·2
X54 +9·8
125·8
X57
135·7
X97 -7·6
143·6
X85
151·2
+34·2
X133 BASE 2
91·2
-18·1
X124 +17·5
109·1
X121 -5·0
127·1
X118 +0·3
132·7
X115 -0·8
133·0
X112
134·5
+9·9
144·4 X108
+1·8
TIE Pt. A
+22·5
143·9 X90
TIE Pt. B
+22·0
X143 116·1
X150 115·0
-12·5
127·8 X97
122·6 X92
+16·8
+13·6
135·6 X159
-16·9
X162 152·4
108·8 Misc X134 ±0·0
-2·8
+2·9
X136 111·7
-25·3
108·4 X259
+6·7
X146 -0·5
115·0
X148 114·4
X256 178·4
-59·9
+82·0
-74·5
TIE Pt. C
X182 105·2
-3·8
X189 108·9
+0·7
X164 124·0
X165 129·6
+5·6
TIE Pt. D
-85·4
+7·8
X176 112·6
+1·0
X169 113·5
+26·0
-22·0
TIE Pt. F
-27·2
TIE Pt. E
+22·1
BASE 3
114·5
+28·0
86·4 X173
70·9 X254
+25·5
Misc ±0·2
-25·3
X220 45·4
+11·0
TIE Pt. G
+57·8
+74·0
X210 Misc ±0·0
36·8 +2·1
34·7 X214
-2·1
+10·4
-24·6
-34·6
-0·4
-0·5
+14·6
X213 21·8
-1·4
TIE Pt. FENCE POST
-0·9
X234 19·7
-8·6
X286 12·7

LOCALITY

LEGEND

(+)-24·6 ..... Unadjusted Elevation Difference

Direction of Elevation Difference

∓0·2 ..... Direction and Value of Loop Misclosure

Line Double Run

NOTE ALL LOOPS HAVE BEEN ADJUSTED TO 0·0 Feet MISCLOSE

SCALE 1:63,360

0 1 2 3 4 5 6 7 8 yards x1000

0 1 2 3 4 miles

PROJECTION Transverse Mercator
ZONE 6 Central Meridian 141°00'
FIGURE OF EARTH Clarke 1858

ELEVATION LOOP CLOSURE MAP (FEET)

CAROLINE-KILLANOOLA GRAVITY SURVEY

(CAROLINE AREA)

Portion of OEL 22 SA
for
ALLIANCE OIL DEVELOPMENT Co N.L.
by
GEOSURVEYS of AUST. PTY. LTD.

ENV 635-3

1966/14

Allia. 40

BOUGUER ANOMALY MAP

CAROLINE - KILLANOOLA GRAVITY SURVEY

INCORPORATING

1963 MILLICENT GRAVITY SURVEY

OEL 22 SA

for

ALLIANCE OIL DEVELOPMENT Cº NL.

by

GEOSURVEYS of AUSTRALIA Pty.Ltd.

SUPERSEDED

ENV 635-4

Allia. 41.

1966/14

LEGEND

Selected Gravity Field Station	2610	Gravitational Maximum Trend	+
Monumented Gravity Base Station	B10	Gravitational Minimum Trend	−
Profile Location	A 2136 — B13 — B 2472	Gravitational Maximum Anomaly	⊕
Contour Interval	1 Milligal	Gravitational Minimum Anomaly	⊖
Surface Density Used	2·43 gms/cc		
Density Correction Factor	0·063 mgls/ft	AVERAGE ACCURACY OF DATA	
Railway Line		Gravity	±0·02 mgls.
Exploratory Well		Latitude	±0·04 mgls.
Elevation Datum	MSL Pt Adelaide S.A.	Elevation	±0·03 mgls.

LOCALITY

PROSPECT AREA

SCALE 1 : 250,000

MILES 2 1 0 2 4 6 8 10 12 14 16

10,000 5,000 0 10,000 20,000 YARDS

PROJECTION · Transverse Mercator

ZONE 6 · Central Meridian 141°00'00"

FIGURE OF EARTH · Clarke 1858

Observed Gravity Values based on BMR Pendulum Station No.7. Mt. Gambier (979,993·65 Milligals May 1st. 1965 Isogals Value)

1 KILLANOOLA 2 3 4 5 6 MILLICENT CAROLINE SOUTHERN OCEAN

BOUGUER ANOMALY MAP

1966 CAROLINE–KILLANOOLA GRAVITY SURVEY

INCORPORATING

PREVIOUS MILLICENT GRAVITY SURVEY

OEL 22 SA

for

ALLIANCE OIL DEVELOPMENT AUSTRALIA N.L.

by

GEOSURVEYS of AUSTRALIA Pty.Ltd.

ENV 635-5

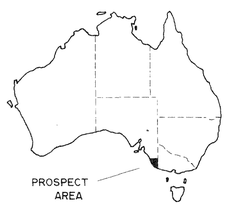
Allia. 41.

1966/14

LEGEND

Selected Gravity Field Station	2610 ○	Gravitational Maximum Trend	+
Monumented Gravity Base Station	B10 ●	Gravitational Minimum Trend	−
Profile Location	A 2136 ○–+ 813 ●–+ 2472 ○ B	Gravitational Maximum Anomaly	+
Contour Interval	1 Milligal	Gravitational Minimum Anomaly	−
Surface Density Used	2·43 gms/cc		
Elevation Correction Factor	0·063 mgls/ft	AVERAGE ACCURACY OF DATA	
Railway Line		Bouguer Gravity	∓0·05 mgls.
Exploratory Well	⊗	Geographical Position	∓200 Feet
Elevation Datum	MSL Pt Adelaide S.A.	Elevation	∓0·5 Feet

LOCALITY



SCALE 1 : 250,000

MILES 2 1 0 2 4 6 8 10 12 14 16

10,000 5,000 0 10,000 20,000 YARDS

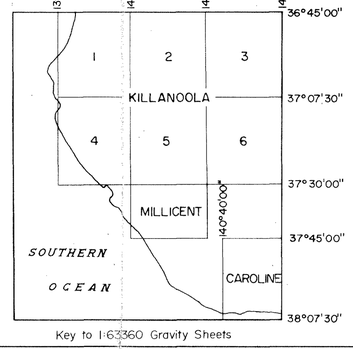
PROJECTION · Transverse Mercator

ZONE 6 · Central Meridian 141°00'00"

FIGURE OF EARTH · Clarke 1858

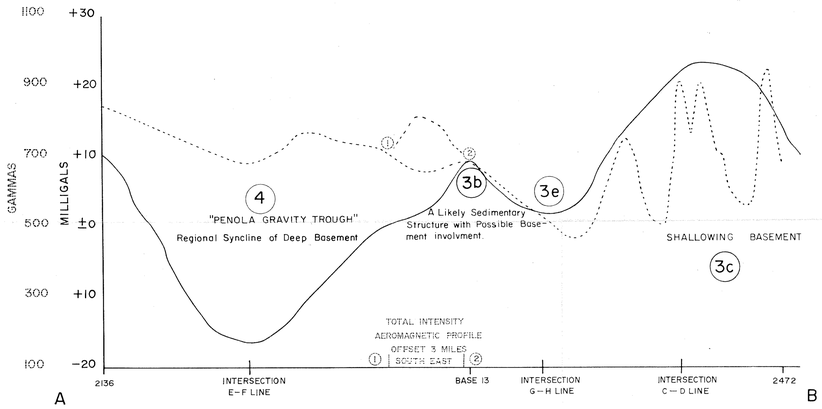
Vertical Control by Optical Levelling — Horizontal Control by Tacheometric Techniques

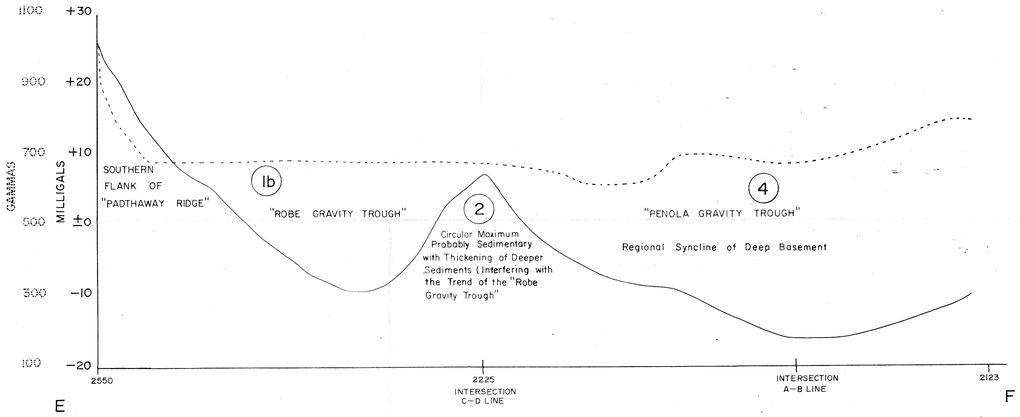
Observed Gravity Values based on BMR Pendulum Station No.7. Mt.Gambier (979,993·65 Milligals May 1st. 1965 Isogal Value)

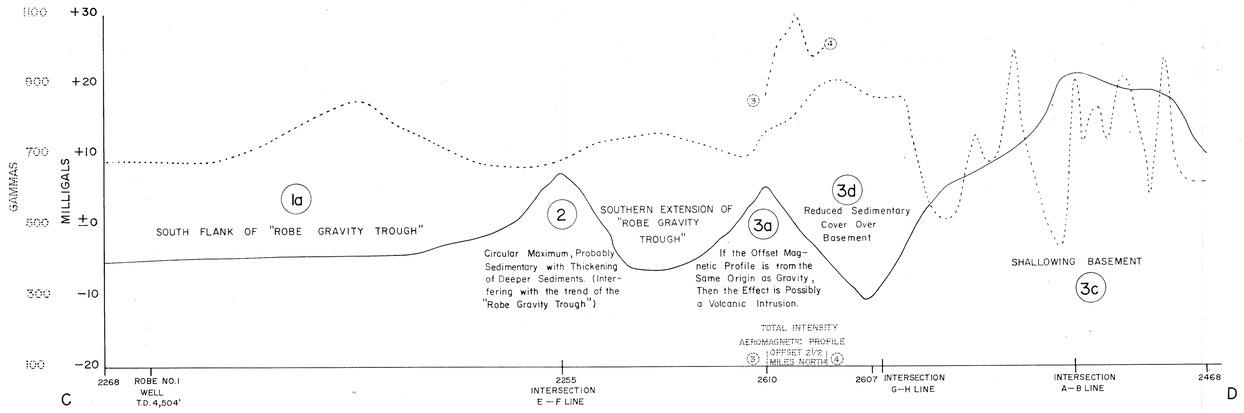


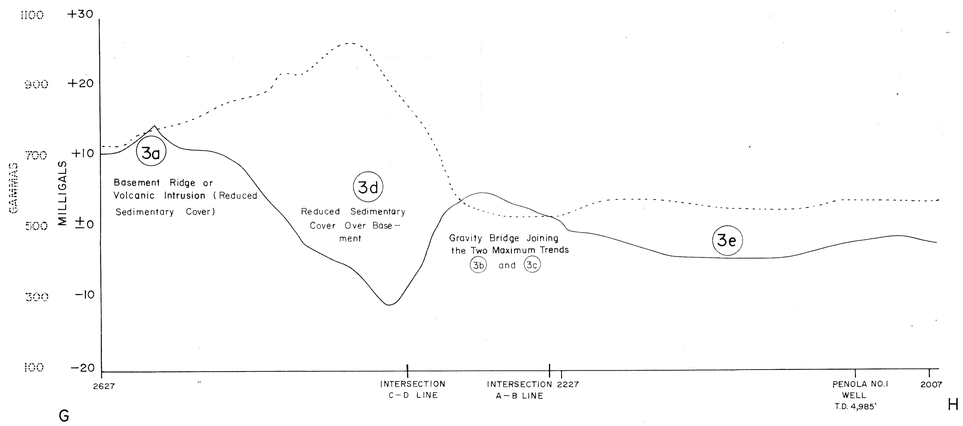
Key to 1:63360 Gravity Sheets

KILLANOOLA AREA

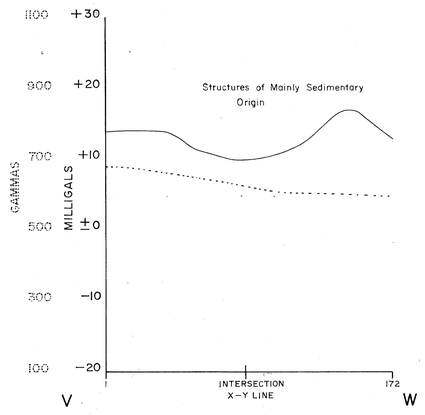


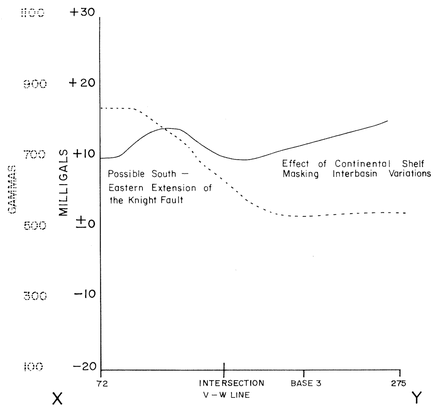






CAROLINE AREA





LEGEND

Bouguer Anomaly Profiles

Total Intensity Aeromagnetic Profiles

T.D. Total Depth of Well

(1b) Anomaly Discussed in Report

Note: For further information see "Discussion of Results" in report. All data on the profiles are calculated to the same level as the Bouguer Anomaly Map.

SELECTED BOUGUER PROFILES

WITH ASSOCIATED AEROMAGNETIC PROFILES

CAROLINE − KILLANOOLA GRAVITY SURVEY

O.E.L. 22 S.A.

FOR

ALLIANCE OIL DEVELOPMENT CO. NL.

BY

GEOSURVEYS OF AUSTRALIA PTY. LTD.

HORIZONTAL SCALE

Miles 5 0 5 10 Miles

1966/14

ENV 635-6

Allia 42

250,000 yards E 26 27 28 29 300,000 31 32 33 34 35 36 37 38 39 400,000 410,000 yards E

470,000 yardsN

46 45 44 43 42 41 400,000 39 38 37

36°45'00" 37°00'00" 37°15'00" 37°30'00"

139°30'00" 139°45'00" 140°00'00" 140°15'00" 140°30'00" 140°45'00" 141°00'00"

LACEPEDE BAY

GUICHEN BAY

Lake Hawdon North

Lake Hawdon South

Lake Robe

Lake Eliza

Lake St Clair

Lake George

SOUTH AUSTRALIA VICTORIA

37.65 37°10 37°20

misc ±00

ESSC ±02

LOCALITY

PROSPECT AREA

LEGEND

(+)-24.6 Unadjusted Elevation Difference

Direction of Elevation Difference

(+02) Direction and Value of Loop Misclosure

Lines Double Run

NOTE ALL LOOPS HAVE BEEN ADJUSTED TO 0.0 Feet MISCLOSE
ALL VALUES ARE IN FEET

SCALE 1:250,000

MILES 2 1 0 2 4 6 8 10 12 14 16

10,000 5,000 0 10,000 20,000 YARDS

PROJECTION Transverse Mercator
ZONE 6 Central Meridian 141°00'00"
FIGURE OF EARTH Clarke 1858

139°45'00"	140°10'00"	140°35'00"	141°00'00"	
	1	2	3	36°45'00"
				37°07'30"
	4	5	6	37°30'00"

ELEVATION LOOP CLOSURE MAP

CAROLINE KILLANOOLA GRAVITY SURVEY

KILLANOOLA AREA

PORTION OF OEL 22 SA

FOR

ALLIANCE OIL DEVLOPMENT Cº. NL.

BY

GEOSURVEYS of AUSTRALIA Pty. Ltd.

1966/14

ENV 635-7

Allia 45