

NEW HOLLAND MINING NL

**EL 28/87
GRANVILLE HARBOUR, TASMANIA**

**ANNUAL REPORT
YEAR 2**

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SUMMARY

An infill gravity survey of about 50 sqkm in the Granville Harbour area has permitted improved boundary definition of the northern margin of the Heemskirk Granite, and enhanced the prospectivity for replacement-style tin-base metal mineralisation within its aureole. An infill aeromagnetic survey is proposed, coupled with more detailed 3-D gravity interpretation, to aid in drill-siteselection.

Most of the tenement is to be relinquished on Year 3 renewal.

1. INTRODUCTION

1.1 Tenement details

Exploration licence 28/87 was granted to New Holland Mining NL on December 12th, 1987. The Company is sole owner and manager. The tenement (Figure 1) comprises 34 sqkm of State Forest and timber reserves, 13 sqkm of private land, and 88 sqkm of Crown land. About 1 sqkm of tin mining leases is excluded.

1.2 Exploration aims

The company's main aim is to assess the underexplored northern part of the licence near Granville Harbour for tin-base metal replacement mineralisation of the Renison Bell type. It was recognised from a Year 1 assessment of prospectivity (Cromer, 1988) that the potential for undiscovered economic mineralisation elsewhere on the tenement and within the Heemskirk Granite was low.

2. WORK COMPLETED IN YEAR 2

2.1 Infill Gravity Survey

New Holland's Year 2 exploration has involved an infill gravity survey and preliminary 2-D interpretation of some 50 sqkm in the Granville Harbour area. Scintrex was engaged to do the survey, which involved 133 stations and was carried out between November 20th and December 1st, 1989. Full survey details, station locations and a preliminary 2-D interpretation by D. E. Leaman are included here as Appendix 1.

3. DISCUSSION

The gravity survey has enabled the northern, buried margin of the Heemskirk Granite to be defined with reasonable precision. Parts of this zone are irregular, lie within a few hundred metres of the surface, are associated with anomalous magnetic signatures, and are known to host subeconomic base metal mineralisation in places. The work now requires more detailed 3-D interpretation to further define the granite margin. Extant magnetic coverage needs to be improved to assist in this regard and to help define drilling targets.

Accordingly, it is proposed to relinquish most of the tenement on Year 3 renewal.

4. PROPOSED FUTURE EXPLORATION

It is proposed in Year 3 of the reduced-area licence to

- (a) carry out an infill aeromagnetic survey of about 160 line kilometres in the Granville Harbour area, and
- (b) use this new data to assist in a detailed 3-D gravity interpretation of the northern margins of the Heemskirk Granite.

It is hoped that this work will directly delineate drilling targets.

5. REFERENCE

- CROMER, W. C. 1988. EL28/87. Year 1 Annual Report. *Unpublished Report. New Holland Mining NL*

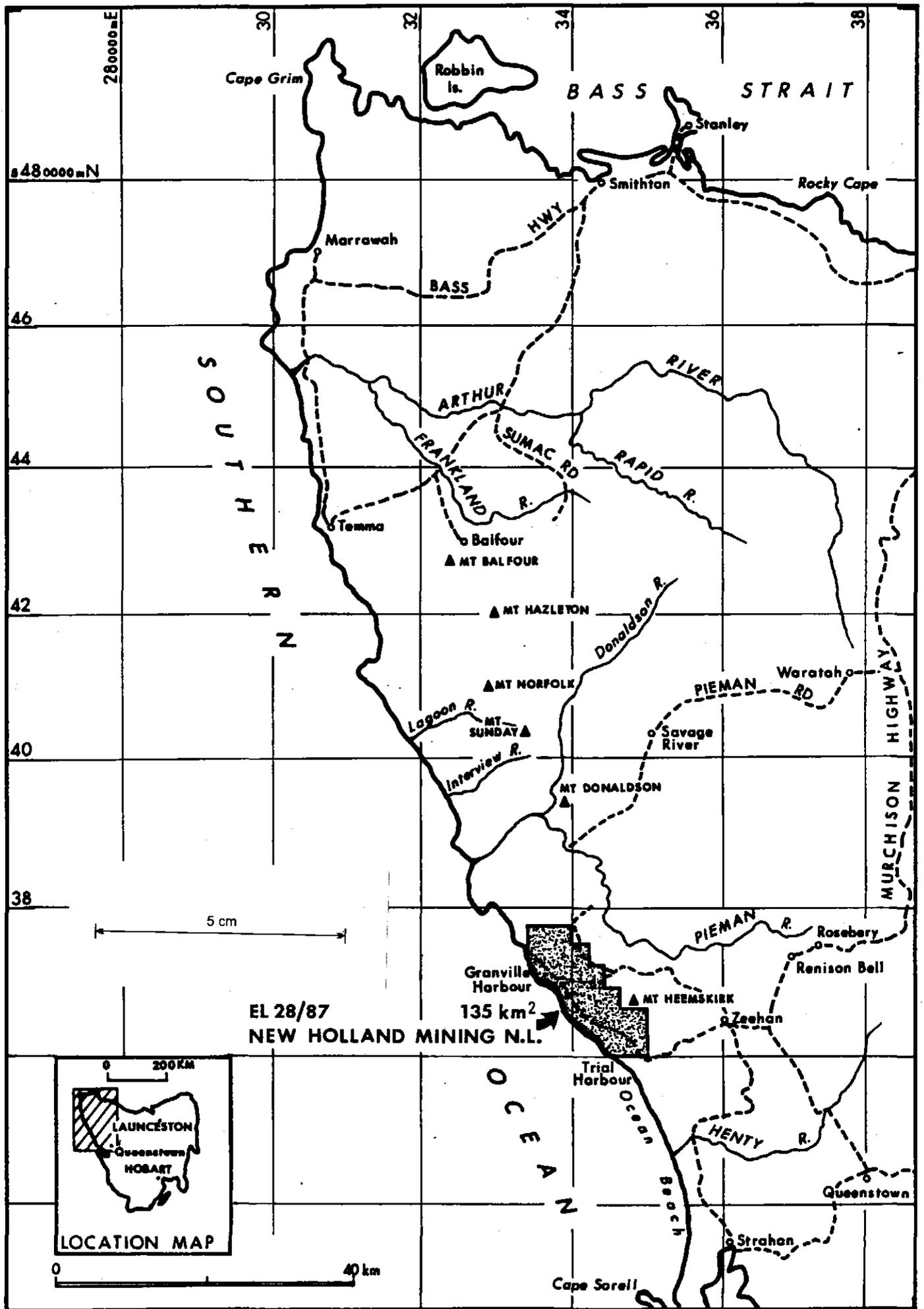


Figure 1. Location map, EL28/87.

Appendix 1
EL 28/87 GRANVILLE HARBOUR
GRAVITY SURVEY

DR. D. E. LEAMAN

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LEAMAN GEOPHYSICS

Survey Review, Specification, Reduction, Interpretation
Wide Experience Most Methods
Specialties:- Gravity, Magnetic, Seismic Methods

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EL 28/87 GRANVILLE HARBOUR

GRAVITY SURVEY

for

NEW HOLLAND MINING N.L.

by

Dr. D.E. Leaman

December 1989

GRANVHAR

SUMMARY

Review of regional geophysical data in the region of Granville Harbour on the northern side of the Heemskirk Granite in western Tasmania indicated that the margin of the granite might be structured with facets which offered sites for mineralisation. Infill gravity and magnetic surveys were recommended in order to confirm these implications and suggest the location of granite cupolas and irregularities which, in western Tasmania, are usually associated with mineralisation.

This report describes the infill gravity survey undertaken in fulfillment of these recommendations.

Although the gravity coverage remains uneven due to access and vegetation problems there is now little doubt that the coarser regional survey had drawn attention to real anomalies on the north face of the granite. While much of the granite margin is regular and dips steeply northward, one section is ribbed and bulbous. This zone can now be defined with reasonable precision. Within this zone the form of the granite is irregular and the granite lies within a few hundred metres of the surface. The Precambrian rocks exposed, or which underlie a cover of Tertiary sedimentary and volcanic rocks, lie within the metamorphic aureole of the granite.

While extant magnetic coverage is far from ideal and little is yet known of the content of the Precambrian units the north western extension of the bulbous rib appears to be closely associated with anomalous magnetic responses and pyrrhotite; both indicators of mineralised sites.

INTRODUCTION

Review of extant regional gravity and magnetic data in the Granville Harbour region undertaken by Leaman (1988b) indicated that the area north of Granville Harbour might be highly prospective.

Previous exploration, although limited due to access problems and the presence of Tertiary cover, had encountered mineral associations consistent with the properties and responses inferred from the regional data. Previous workers had considered this area too difficult and, without the regional indicators provided by the potential field surveys, had no sense of where to probe next.

The regional data indicated that at least part of the northern margin of the Heemskirk Granite might shelve irregularly. Such sites are commonly intensely mineralised. The inferred location of the marginal shelf corresponded approximately in location to the magnetic anomalies and other indicators.

Since the association of observations and responses formed a strong localised pattern which might lead to target definition some more detailed work was recommended. Since both gravity and magnetic data sets offered only first order cover some gravity infill and more detailed magnetic survey was suggested.

This report describes the infill gravity survey undertaken near Granville Harbour on the northern side of the Heemskirk Granite in part fulfillment of these recommendations.

GRAVITY SURVEY

The survey was undertaken between November 20 and December 1, 1989 by P. Brown of Scintrex using a new electronic stabilised gravity meter (Scintrex Autograv).

State tie for the survey was station 8451.9011 with observed value of 9.8029800 m/sec/sec (Richardson and Dix, 1986). This station is located at the junction of the Zeehan and Murchison Highways and at my request was observed at the start and finish of each working day. A local base was also established within the survey area (station 2 in table) and this was occupied between two and four times in each day. It is possible to establish the stability and drift of the meter from these observations.

The meter drifted consistently downward with a total variation of 1.9 mGal during the survey. Within any given day the adjustment was 0.1 to 0.2 mGal. These results indicate that it would be a most unwise practice to follow the maker's recommendations and assume that the absolute value could be carried without rigorous cross ties to base nets. The precision of all observations after loop and drift corrections was about 0.01 mGal.

133 stations were observed wherever vehicular transport or vegetation allowed hand carriage of the equipment. Some gaps in coverage persist due to access problems (see Map 1).

Station positions were identified using the most recent aerial photography and 1:25000 topographic maps. Positions are considered to have been estimated to within 20 to 50 metres in most cases.

Elevations were barometrically determined. The methods of Leaman (1984) were specified but the looping and ties actually observed were not ideal; few operators are used to the rigour of the methods requested and rarely obtain sufficient information to resolve all problems unambiguously. The field barometer was supported by a base barometer.

The base barometer was located near station #2 and automatically recorded every five minutes. Analysis, however, indicates - as described by Leaman (1984) - that the variations were out of phase and amplitude when compared with the roving barometer. The irregular shifts and pressure patterns has limited the use of the base record. The variable coastal climate and hilly terrain accounts for these problems which were foreseen. The tight, looping specification was designed to minimise any errors and allow full use of the roving barometer alone should that prove necessary.

After establishment of tie points and a net of reliable values

or control points other station heights were estimated. All the methods outlined by Leaman (1984) were required and used. Temperature and wind conditions varied greatly and a range of correction factors was used. It is likely that elevations above 50 m are only estimated within 2 or 2.5 m unless at a controlled position or close to one. The best estimates are believed to be within 1 to 1.5 m of true height.

The limitations of the survey thus defined amount to a precision envelope of 0.4 to 0.5 mGal for the reduced Bouguer anomalies. Correlations with Mines Department data reveal that most matched positions agree within this margin. This is a good result since the Mines Department surveys carry a similar reliability.

Terrain corrections to Hammer Zone M were also calculated.

The corrected data, prior to reduction, are listed in Table 1.

Reduced data are listed in Table 2.

SURVEY RESULTS

Values of the raw Bouguer anomalies calculated at 2.67 t/cu m have not been plotted. These are dominated by the effects of the continental margin, ocean basin and the Heemskirk Granite and are not obviously meaningful at the scale of this study.

The data have, therefore, been transformed into true residuals in the manner of Leaman (1988a) and Leaman and Richardson (1989). This process utilises a model for the mantle and the ocean basins (water) and subtracts these effects from the data. The resulting values reflect only the effects of upper crustal and near surface geology. Any long wavelength bias is removed without the distortion of filtering or filter assumptions.

The residual Bouguer anomalies are shown in Map 1.

Map 1 incorporates all data available in the region. Data from this infill survey is labelled by a dot and station number while regional Mines Department data is marked by a cross. All data have been consistently corrected and converted to residuals.

Map 1 may be compared directly with Figure 4 of Leaman (1988b). There is a small difference in absolute terms of about 2 mGal between the maps since the new version allows for the ocean water and the earlier version did not. This is a scalar offset since the variation from this source across the map is less than 0.4 mGal.

Map 1 confirms the implications of the coarser spaced regional survey. It does, however, show the impact of the exposed rib of granite near Granville Harbour as well as establishing the presence of two north-south marginal spines and a broad shelf south of Duck Creek.

The rib is located at about 336500 mE near 5370500 mN and the spines at 337500 and 338500 mE at about 5371500 mN. The shelf effect is centred near 337000 mE, 5372500 mN although the outline of the anomaly is irregular and extends to the northwest and northeast from this locus. This suggests that the spines continue.

The remainder of the granite margin is not anomalous.

INTERPRETATION

A basic interpretation of this survey and the data compilation has been attempted. This was designed to provide an improved view of the nature of the granite margin and the likely depth of features upon it. Simple 2D methods have been used and while these provide reasonable estimates of the basic contact can not be expected to provide precise estimates where the margin is ribbed or stepped. 3D methods are required in such cases but such work is not recommended until magnetic data of equivalent resolution is available. Both methods may then be focussed to determine targets.

Three profiles have been modelled across the northern part of the licence, from the granite to north of Duck Creek.

The results of analysis are shown in Figures 1, 2 and 3.

Line 1 is located near the coast and slightly west of the ribs and shelf anomaly. It transects the irregular roof exposure at Granville Harbour. Figure 1 shows that the granite dips irregularly away from the exposure. The 2D modelling cannot reproduce the nuances of shape implied but does suggest a complex margin never much shallower than 1 km.

Line 2, however, which extends across the principal anomalies, yields an exaggerated version of the irregular contact form. The granite is shown to be much shallower, shelf-like in places and rarely more than 1 km deep (Figure 2).

Line 3 presents what may be termed the typical granite margin. This line is located east of the disturbed gravity field where the gradients are regular. This profile (Figure 3) may be compared with Figures 1 and 2 to stress the differences.

Experience elsewhere has shown that Tasmanian granitoids generate thermal changes, impose mineralisation, and have an effective aureole some 600 to 900 m in width or radial influence from the granite margin. There is no reason to presume otherwise here and thus little of the margin or aureole lies within prospective range outside the zones marked in Figures 1 and 2. These sites should be explored in detail.

REFERENCES

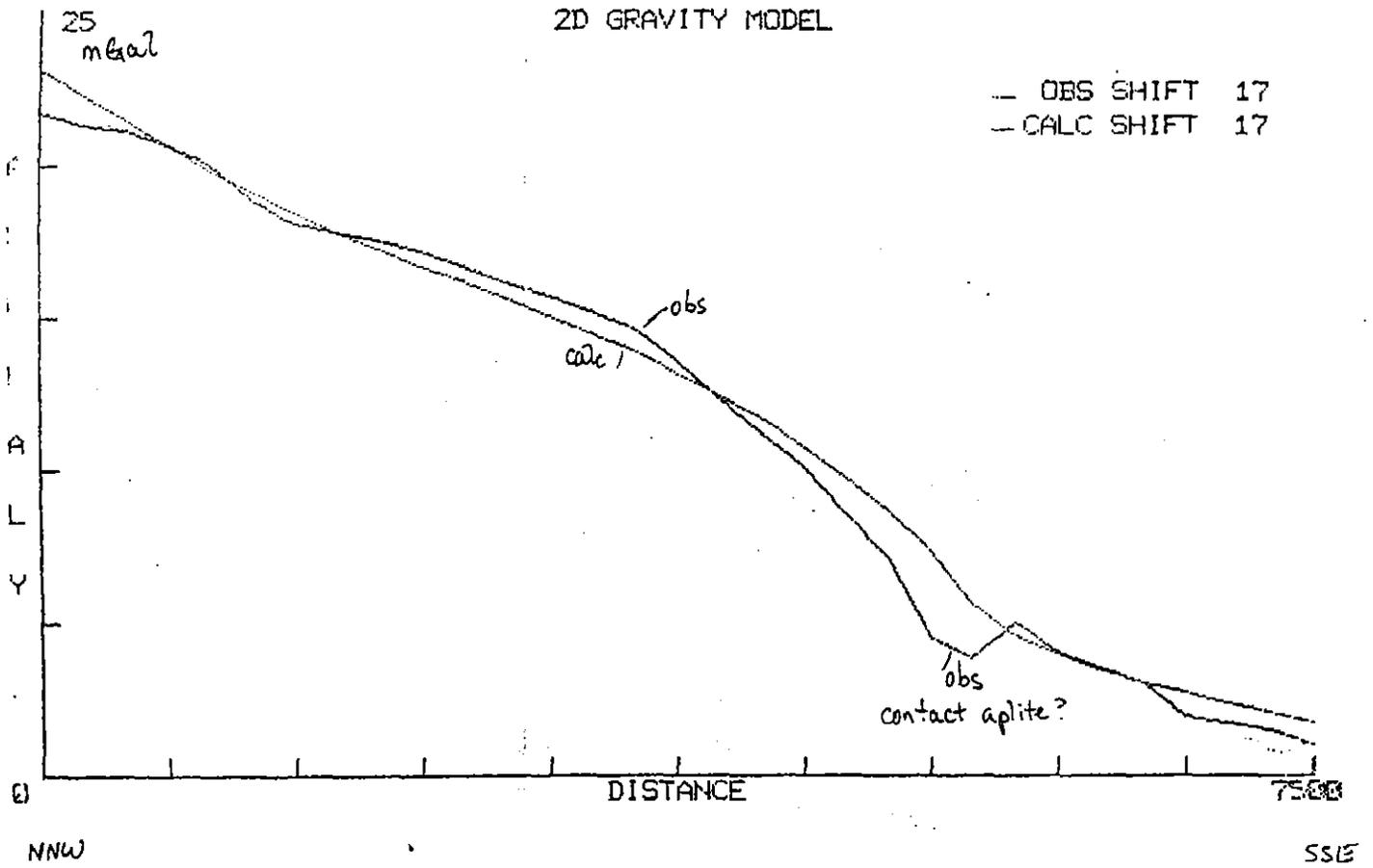
- Leaman, D.E., 1984. Notes on Microbarometer Elevation Determinations. *Exploration Geophysics*, 15, 53-59.
- Leaman, D.E., 1988a. Mantle-88. Regional gravity field, Tasmania Mt Read Volcanics Project Report, Dep. Mines Tasm.
- Leaman, D.E., 1988b. Regional geophysical review. EL 28/87 Granville Harbour. Report by Leaman Geophysics for New Holland Mining NL. Oct. 1988.
- Leaman, D.E., and Richardson, R.G., 1989. Production of a Residual Gravity Field Map for Tasmania and some implications. *Exploration Geophysics*, 20, 181-184.
- Richardson, R.G., and Dix, M.J., 1986. West Coast gravity tie stations (Revision 1). Unpub. Rep. Dep. Mines Tasm., 1986/79.

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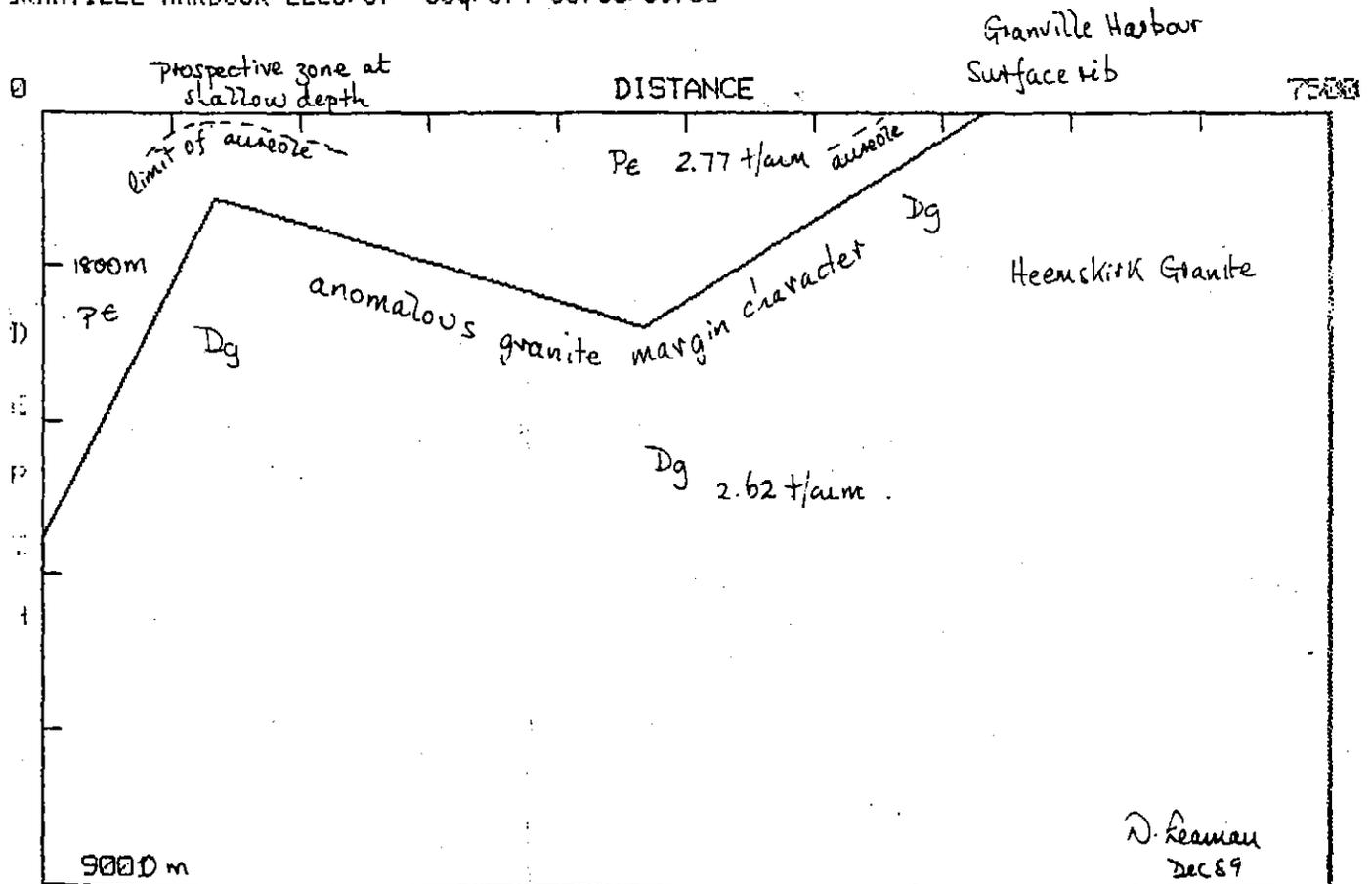
LINE PARAMETERS - ORIGIN, LIMIT, INCR : 0 7500

250

525016



GRANVILLE HARBOUR EL28/87 330/374-33750/36765



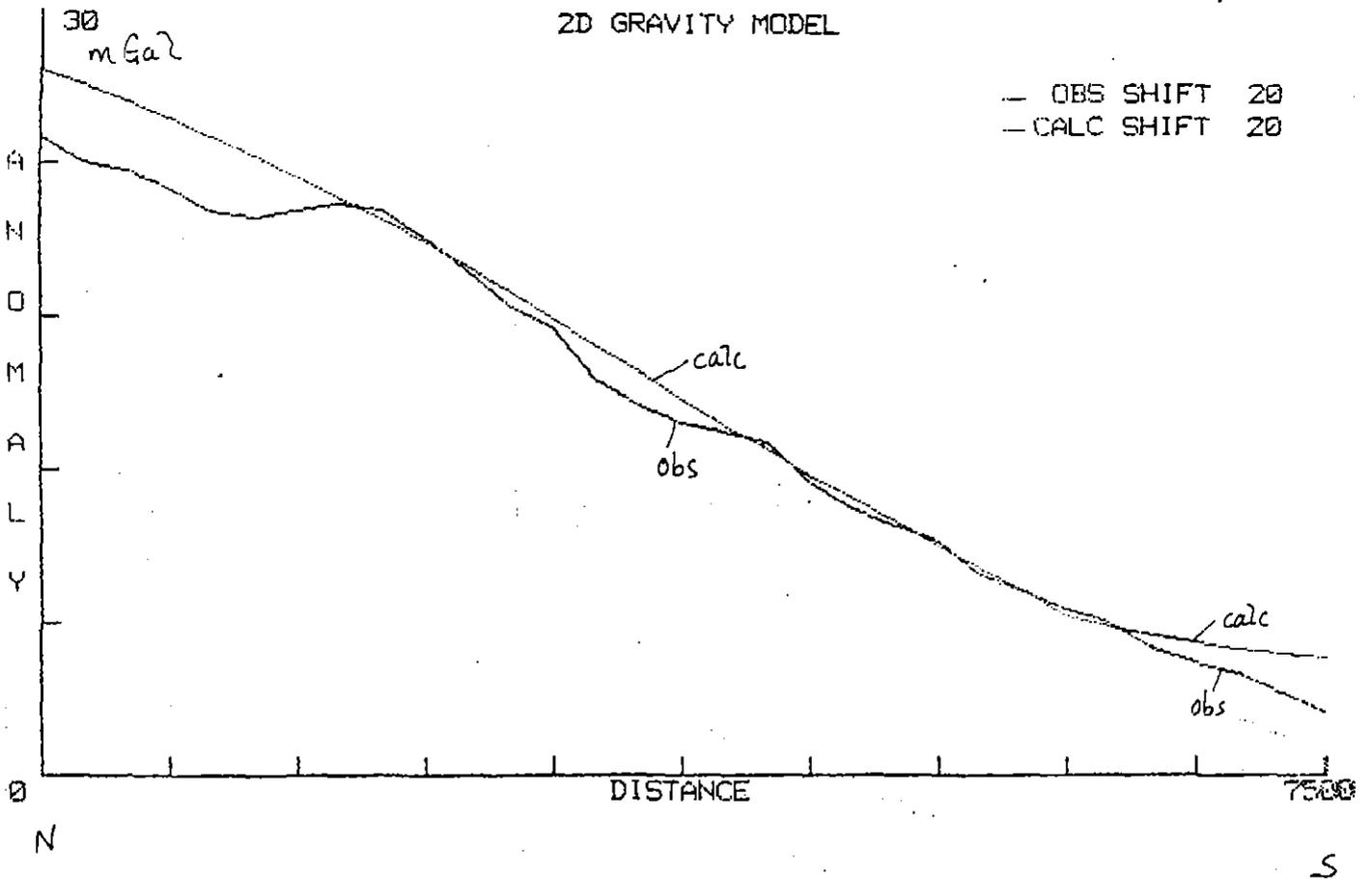
2D GRAVITY PROFILE INTERPRETATION LINE 1 EL 28/87
GRANVILLE HARBOUR 334000/5374000-337500/5368450

FIGURE 1

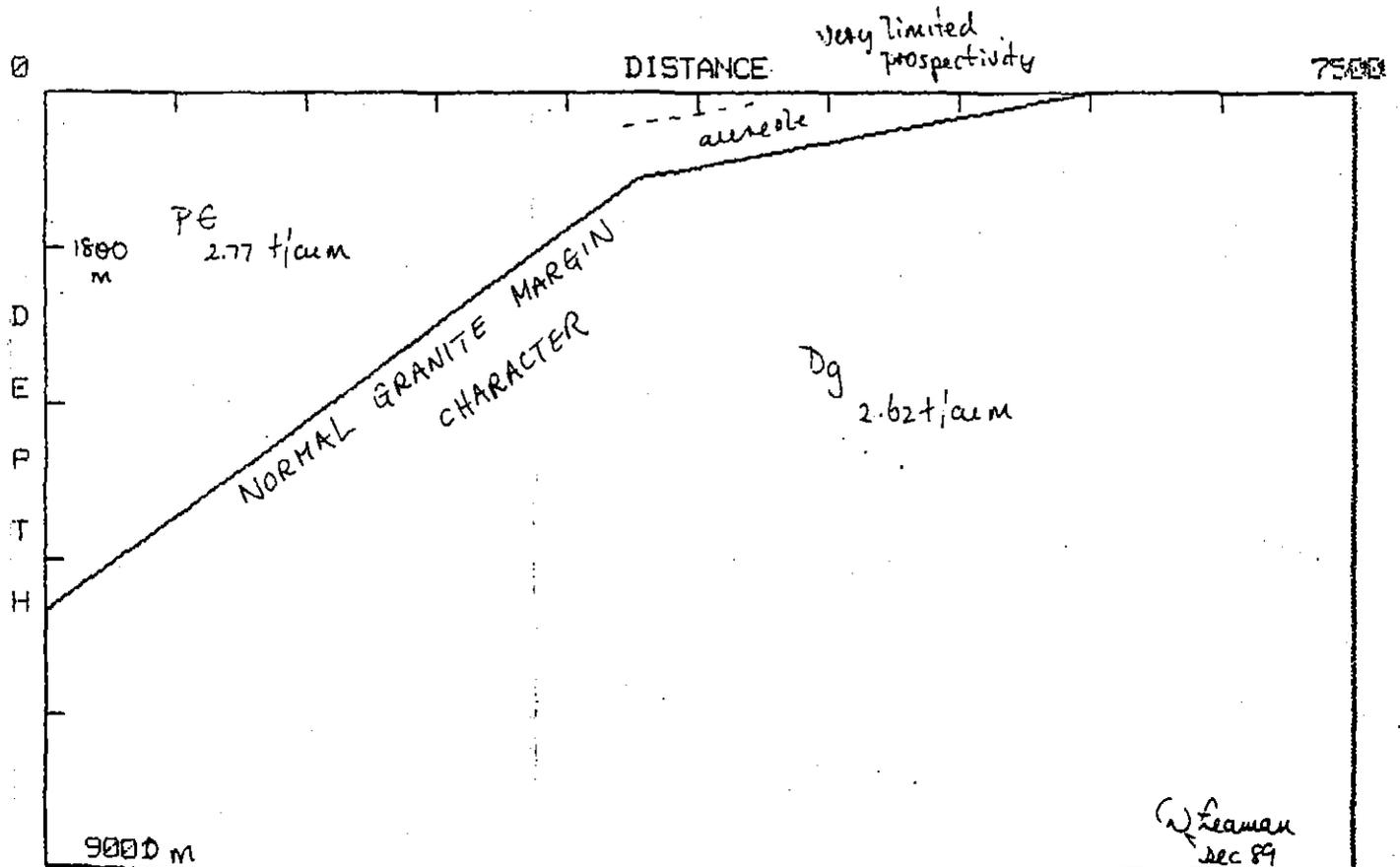
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LINE PARAMETERS - ORIGIN, LIMIT, INCR : 0 7500 250

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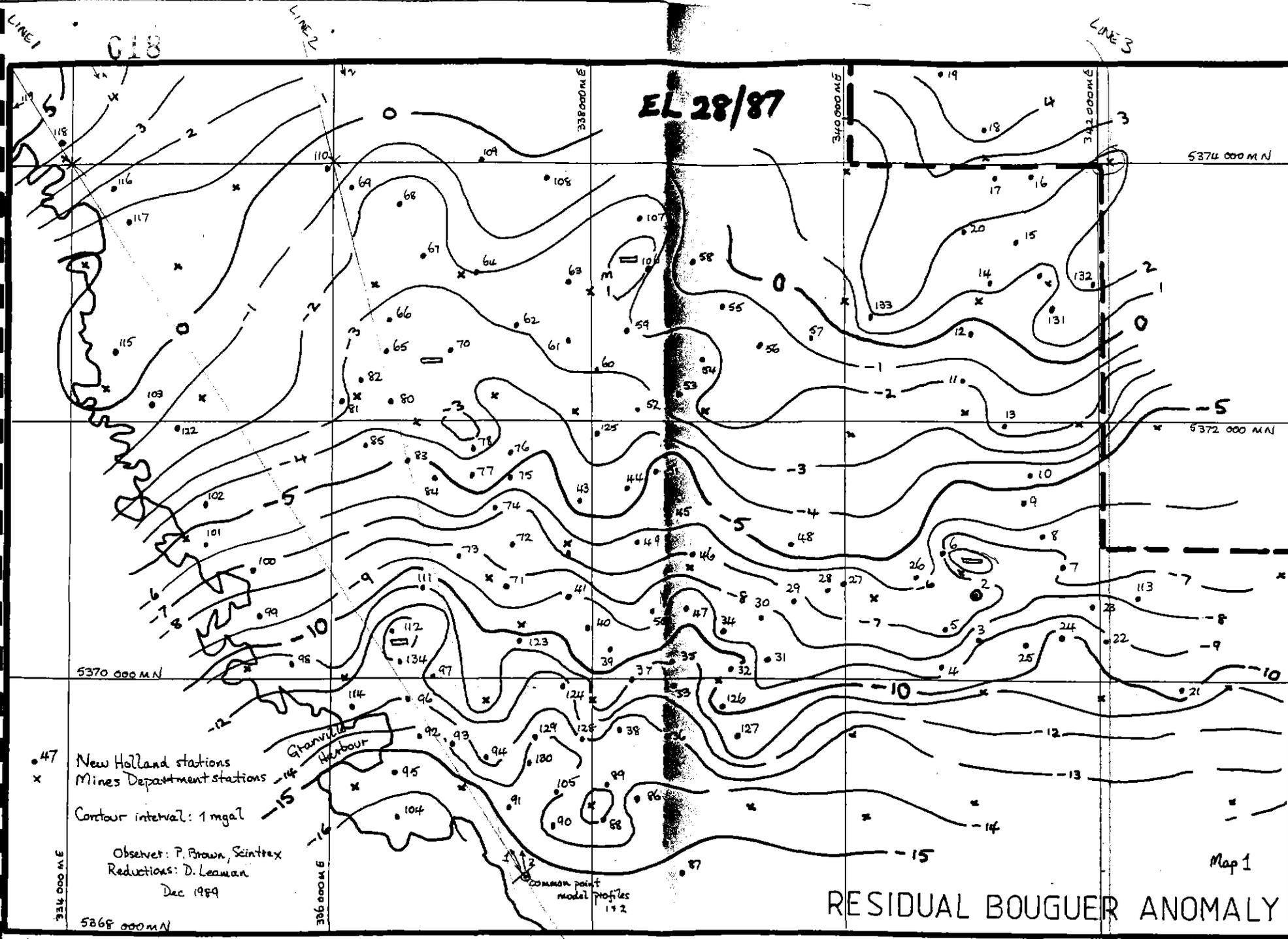
GRANVILLE HARBOUR EL28/87 342E 374-3675



2D GRAVITY PROFILE INTERPRETATION LINE 3 EL 28/87
GRANVILLE HARBOUR 342000/5374000-342000/5367500

FIGURE 3

525019



LINE 1

G18

LINE 2

LINE 3

EL 28/87

5374 000 M N

5372 000 M N

5370 000 M N

5368 000 M N

• 47
x
New Holland stations
Mines Department stations

Contour interval: 1 mgal

Observer: P. Brown, Scintrex
Reductions: D. Leaman
Dec 1989

common point
model profiles
1 + 2

RESIDUAL BOUGUER ANOMALY

Map 1

TABLE 1

GRAVITY DATA

Table lists

Station number

Grid coordinates

Elevation estimate

Corrected meter reading (after loop and drift correction) in
terms of a difference from the state tie (described in
header line)

Terrain correction

GRAVITY DATA

GRANVILLE HARBOUR INFILL SURVEY 1989

988298.00 8451.9811 1.00000 110 10189

0	1	1	1	1	1	8997			
1	2	341020	5370700	130.00	24.49	0.10			
2	3	341020	5370320	110.00	26.47	0.10			
3	4	340730	5370120	115.00	26.97	0.12			
4	5	340760	5370420	108.00	29.74	0.09			
5	6	340730	5371000	113.00	28.10	0.09			
6	7	341710	5370900	144.00	21.17	0.11			
7	8	341560	5371140	139.00	22.30	0.10			
8	9	341400	5371400	122.00	26.28	0.09			
9	10	341460	5371590	120.00	27.21	0.09			
10	11	340930	5372330	114.00	30.79	0.09			
11	12	340960	5372690	119.00	31.16	0.10			
12	13	341230	5372000	124.00	29.46	0.09			
13	14	341140	5373090	125.00	31.54	0.08			
14	15	341350	5373440	128.00	29.69	0.09			
15	16	341480	5373900	130.00	30.16	0.10			
16	17	341220	5373940	127.00	30.71	0.11			
17	18	341100	5374300	130.00	31.36	0.13			
18	19	340750	5374740	127.00	32.30	0.11			
19	20	340950	5373500	143.00	27.30	0.13			
20	21	342600	5369930	109.00	9.33	0.16			
21	22	342040	5370310	162.00	15.06	0.15			
22	23	341940	5370570	150.00	18.10	0.12			
23	24	341700	5370330	144.00	17.56	0.13			
24	25	341430	5370310	132.00	21.11	0.14			
25	26	340530	5370820	102.00	31.76	0.10			
26	27	339930	5370780	95.00	33.03	0.12			
27	28	339840	5370700	104.00	30.71	0.12			
28	29	339600	5370620	95.00	32.62	0.13			
29	30	339320	5370480	98.00	31.34	0.16			
30	31	339400	5370130	96.00	31.53	0.22			
31	32	339100	5370100	88.00	32.05	0.18			
32	33	338600	5369950	118.00	25.04	0.17			
33	34	339040	5370380	94.00	31.75	0.21			
34	35	338650	5370130	115.00	26.12	0.19			
35	36	338550	5369560	98.00	28.02	0.23			
36	37	338300	5370000	124.00	23.80	0.22			
37	38	338200	5369600	100.00	28.10	0.20			
38	39	338120	5370250	90.00	32.81	0.21			
39	40	337950	5370420	105.00	30.32	0.17			
40	41	337800	5370650	123.00	26.51	0.15			
41	42	337800	5370950	104.00	33.02	0.18			
42	43	337900	5371300	130.00	28.85	0.13			
43	44	338200	5371500	111.00	32.72	0.11			
44	45	338500	5371270	112.00	31.20	0.11			
45	46	338800	5370960	103.00	31.92	0.13			
46	47	338750	5370540	132.00	23.41	0.17			
47	48	339450	5371020	108.00	32.43	0.24			
48	49	338400	5371040	106.00	32.16	0.18			
49	50	338460	5370520	121.00	27.25	0.26			
50	51	338490	5371600	133.00	26.65	0.13			
51	52	338380	5372000	133.00	28.21	0.16			

52	53	338690	5372200	130.00	29.20	0.14
53	54	338880	5372400	146.00	25.72	0.19
54	55	339000	5372900	146.00	26.64	0.12
55	56	339320	5372320	138.00	27.96	0.09
56	57	339740	5372640	122.00	31.61	0.08
57	58	338780	5373260	152.00	26.06	0.29
58	59	338240	5372900	141.00	27.39	0.28
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60	61	337800	5372630	134.00	29.21	0.22
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66	67	336680	5373290	106.00	34.75	0.28
67	68	336510	5373660	104.00	34.24	0.25
68	69	336120	5373810	68.00	42.99	0.22
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71	72	337390	5371040	95.00	34.38	0.20
72	73	336970	5370960	75.00	37.78	0.16
73	74	337230	5371320	76.00	37.75	0.15
74	75	337360	5371550	90.00	36.55	0.13
75	76	337340	5371750	101.00	34.75	0.17
76	77	337040	5371570	95.00	36.83	0.12
77	78	337105	5371790	103.00	36.65	0.12
78	79	336590	5371900	72.00	42.26	0.18
79	80	336420	5372150	110.00	34.96	0.13
80	81	336070	5372180	116.00	34.71	0.29
81	82	336200	5372310	117.00	34.63	0.25
82	83	336560	5371700	101.00	34.94	0.23
83	84	336780	5371580	110.00	32.78	0.31
84	85	336250	5371820	88.00	38.54	0.36
85	86	338370	5369070	82.00	30.16	0.32
86	87	338730	5368520	71.00	32.30	0.30
87	88	338100	5368920	68.00	35.61	0.18
88	89	338130	5369180	72.00	35.52	0.28
89	90	337710	5368850	46.00	39.39	0.13
90	91	337360	5369000	20.00	44.18	0.13
91	92	336680	5369520	4.00	46.98	0.16
92	93	336910	5369500	13.00	45.91	0.21
93	94	337180	5369390	45.00	40.31	0.29
94	95	336470	5369270	3.00	47.44	0.12
95	96	336580	5369820	2.00	48.48	0.21
96	97	336730	5370020	60.00	39.52	0.38
97	98	335680	5370120	4.00	50.82	0.09
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99	100	335400	5370840	1.00	54.60	0.08
100	101	335020	5371060	5.00	56.12	0.07
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126	127	339160	5369550	97.00	30.01	0.17
127	128	337920	5369520	73.00	33.60	0.33
128	129	337570	5369560	62.00	35.00	0.29
129	130	337530	5369350	34.00	40.56	0.23
130	131	341630	5372900	132.00	29.85	0.09
131	132	341950	5373070	138.00	28.37	0.09
132	133	340190	5373830	124.00	32.32	0.08
133	134	336550	5370120	5.00	48.39	0.28

TABLE 2

REDUCED GRAVITY DATA

Reduction density 2.67 t/cu m

LEAMAN GEOPHYSICS GRAVITY REDUCTION

GRANVILLE HARBOUR INFILL SURVEY 1989

BASE VALUE	BASE NUMBER	METER	CAL DATE	SCALE	DENSITY	ELEV DATUM
980298.00	8451.9011	110	10189	1.0000	2.67	0.00

NUMBER	EASTING	NORTHING	HEIGHT	OBS GRAY	THEO GRAY	CORR	BOUG ANOM
8997.0002	341020.0	5370780.0	130.00	980322.49	980341.14	0.18	7.02
8997.0003	341020.0	5370320.0	110.00	980324.47	980341.44	0.18	4.84
8997.0004	340730.0	5370120.0	115.00	980324.97	980341.60	0.12	6.11
8997.0005	340760.0	5370420.0	100.00	980327.74	980341.36	0.09	7.72
8997.0006	340730.0	5371000.0	113.00	980326.10	980340.89	0.09	7.53
8997.0007	341710.0	5370900.0	144.00	980319.17	980340.99	0.11	6.62
8997.0008	341560.0	5371140.0	139.00	980320.38	980340.79	0.10	7.03
8997.0009	341400.0	5371400.0	122.00	980324.28	980340.58	0.09	7.79
8997.0010	341460.0	5371590.0	120.00	980325.21	980340.43	0.09	8.48
8997.0011	340930.0	5372330.0	114.00	980328.79	980339.82	0.09	11.48
8997.0012	340960.0	5372690.0	119.00	980329.16	980339.53	0.10	13.14
8997.0013	341230.0	5372000.0	124.00	980327.46	980340.09	0.09	11.25
8997.0014	341140.0	5373090.0	125.00	980329.54	980339.21	0.08	15.00
8997.0015	341350.0	5373440.0	128.00	980327.69	980338.93	0.09	14.03
8997.0016	341480.0	5373900.0	130.00	980328.16	980338.56	0.10	15.27
8997.0017	341220.0	5373940.0	127.00	980328.71	980338.52	0.11	15.28
8997.0018	341100.0	5374300.0	130.00	980329.36	980338.23	0.13	16.83
8997.0019	340750.0	5374740.0	127.00	980330.30	980337.87	0.11	17.52
8997.0020	340950.0	5373500.0	143.00	980325.38	980338.88	0.13	14.76
8997.0021	342600.0	5369990.0	189.00	980307.33	980341.79	0.16	2.88
8997.0022	342040.0	5370310.0	162.00	980313.06	980341.47	0.15	3.61
8997.0023	341940.0	5370570.0	150.00	980316.18	980341.26	0.12	4.55
8997.0024	341700.0	5370330.0	144.00	980315.56	980341.45	0.13	2.57
8997.0025	341430.0	5370310.0	132.00	980319.11	980341.46	0.14	3.76
8997.0026	340530.0	5370820.0	102.00	980329.76	980341.03	0.10	8.89
8997.0027	339930.0	5370780.0	95.00	980331.03	980341.05	0.12	8.78
8997.0028	339840.0	5370700.0	104.00	980328.71	980341.12	0.12	8.17
8997.0029	339600.0	5370620.0	95.00	980330.62	980341.17	0.13	8.26
8997.0030	339320.0	5370480.0	90.00	980329.34	980341.28	0.16	7.49
8997.0031	339400.0	5370130.0	96.00	980329.53	980341.57	0.22	7.07
8997.0032	339100.0	5370100.0	88.00	980330.05	980341.59	0.18	5.95
8997.0033	338600.0	5369950.0	118.00	980323.04	980341.70	0.17	4.72
8997.0034	339040.0	5370380.0	94.00	980329.75	980341.36	0.21	7.09
8997.0035	338650.0	5370130.0	115.00	980324.12	980341.55	0.19	5.38
8997.0036	338550.0	5369560.0	98.00	980326.02	980342.01	0.23	3.52
8997.0037	338300.0	5370000.0	124.00	980321.88	980341.65	0.22	4.84
8997.0038	338200.0	5369600.0	100.00	980326.10	980341.97	0.20	4.00
8997.0039	338120.0	5370250.0	90.00	980330.81	980341.45	0.21	7.28
8997.0040	337950.0	5370420.0	105.00	980328.32	980341.31	0.17	7.84
8997.0041	337800.0	5370650.0	123.00	980324.51	980341.12	0.15	7.74
8997.0042	337600.0	5370950.0	104.00	980331.02	980340.88	0.18	10.78
8997.0043	337900.0	5371380.0	130.00	980326.85	980340.53	0.13	12.02
8997.0044	338280.0	5371500.0	111.00	980330.72	980340.44	0.11	12.22
8997.0045	338580.0	5371270.0	112.00	980329.20	980340.63	0.11	10.71
8997.0046	338800.0	5370960.0	103.00	980329.92	980340.89	0.13	9.42
8997.0047	338750.0	5370540.0	132.00	980321.41	980341.22	0.17	6.32
8997.0048	339450.0	5371020.0	108.00	980330.43	980340.85	0.24	11.06
8997.0049	338400.0	5371040.0	106.00	980330.16	980340.81	0.18	10.38

NUMBER	EASTING	NORTHING	HEIGHT	OBS GRAV	THEO GRAV	CORR	BOUG ANOM
8997.0050	338460.0	5370520.0	121.00	980325.25	980341.23	0.26	8.08
8997.0051	338490.0	5371600.0	133.00	980324.65	980340.36	0.13	10.58
8997.0052	338330.0	5372080.0	133.00	980326.21	980339.97	0.16	12.56
8997.0053	338690.0	5372200.0	130.00	980327.20	980339.86	0.14	13.03
8997.0054	338880.0	5372400.0	146.00	980323.72	980339.73	0.19	12.90
8997.0055	339000.0	5372900.0	146.00	980324.64	980339.32	0.12	14.15
8997.0056	339320.0	5372320.0	138.00	980325.96	980339.80	0.09	13.40
8997.0057	339740.0	5372640.0	122.00	980329.61	980339.55	0.08	14.14
8997.0058	338780.0	5373260.0	152.00	980324.06	980339.03	0.29	15.22
8997.0059	338240.0	5372900.0	141.00	980325.39	980339.31	0.28	14.09
8997.0060	338030.0	5372400.0	131.00	980327.23	980339.71	0.24	13.53
8997.0061	337800.0	5372630.0	134.00	980327.21	980339.52	0.22	14.27
8997.0062	337390.0	5372700.0	132.00	980327.35	980339.46	0.26	14.12
8997.0063	337810.0	5373080.0	127.00	980328.02	980339.16	0.23	14.07
8997.0064	337070.0	5373130.0	133.00	980327.93	980339.10	0.23	15.22
8997.0065	336410.0	5372540.0	110.00	980331.93	980339.57	0.29	14.29
8997.0066	336420.0	5372780.0	100.00	980334.25	980339.37	0.23	14.76
8997.0067	336680.0	5373290.0	106.00	980332.75	980338.97	0.28	14.91
8997.0068	336510.0	5373660.0	104.00	980332.24	980338.66	0.25	14.28
8997.0069	336120.0	5373810.0	68.00	980340.99	980338.54	0.22	16.05
8997.0070	336910.0	5372570.0	132.00	980329.22	980339.55	0.24	15.87
8997.0071	337330.0	5370730.0	123.00	980326.31	980341.05	0.19	9.65
8997.0072	337390.0	5371040.0	95.00	980332.38	980340.80	0.20	10.47
8997.0073	336970.0	5370960.0	75.00	980335.78	980340.85	0.16	9.84
8997.0074	337230.0	5371320.0	76.00	980335.75	980340.57	0.15	10.28
8997.0075	337360.0	5371550.0	90.00	980334.55	980340.38	0.13	12.00
8997.0076	337340.0	5371750.0	101.00	980332.75	980340.22	0.17	12.57
8997.0077	337040.0	5371570.0	95.00	980334.83	980340.36	0.12	13.27
8997.0078	337105.0	5371790.0	103.00	980334.65	980340.19	0.12	14.84
8997.0079	336590.0	5371900.0	72.00	980340.26	980340.09	0.18	14.52
8997.0080	336420.0	5372150.0	110.00	980332.96	980339.88	0.13	14.84
8997.0081	336070.0	5372180.0	116.00	980332.71	980339.85	0.29	15.97
8997.0082	336280.0	5372310.0	117.00	980332.63	980339.75	0.25	16.15
8997.0083	336560.0	5371700.0	101.00	980332.94	980340.25	0.23	12.79
8997.0084	336780.0	5371580.0	110.00	980330.78	980340.35	0.31	12.38
8997.0085	336250.0	5371820.0	88.00	980336.54	980340.15	0.36	14.06
8997.0086	338370.0	5369070.0	82.00	980328.16	980342.40	0.32	2.21
8997.0087	338730.0	5368520.0	71.00	980330.30	980342.85	0.30	1.71
8997.0088	338100.0	5368920.0	68.00	980333.61	980342.52	0.18	4.65
8997.0089	338130.0	5369180.0	72.00	980333.52	980342.31	0.28	5.65
8997.0090	337710.0	5368850.0	46.00	980337.39	980342.57	0.13	4.00
8997.0091	337360.0	5369000.0	20.00	980342.18	980342.44	0.13	3.80
8997.0092	336680.0	5369520.0	4.00	980344.98	980342.01	0.16	3.92
8997.0093	336910.0	5369500.0	13.00	980343.91	980342.03	0.21	4.65
8997.0094	337180.0	5369390.0	45.00	980338.31	980342.12	0.29	5.33
8997.0095	336470.0	5369270.0	3.00	980345.44	980342.21	0.12	3.94
8997.0096	336580.0	5369020.0	2.00	980346.48	980341.77	0.21	5.32
8997.0097	336730.0	5370020.0	60.00	980337.52	980341.61	0.38	8.09
8997.0098	335680.0	5370120.0	4.00	980348.82	980341.51	0.09	8.19
8997.0099	335450.0	5370500.0	4.00	980351.30	980341.20	0.08	10.97
8997.0100	335400.0	5370840.0	1.00	980352.60	980340.92	0.08	11.96
8997.0101	335020.0	5371060.0	5.00	980354.12	980340.74	0.07	14.44
8997.0102	335000.0	5371350.0	4.00	980355.59	980340.50	0.07	15.95
8997.0103	334600.0	5372160.0	26.00	980354.67	980339.84	0.08	20.02

NUMBER	EASTING	NORTHING	HEIGHT	OBS GRAV	THEO GRAV	CORR	BOUG ANOM
8997.0104	336520.0	5368930.0	5.00	980343.75	980342.48	0.13	2.38
8997.0105	337730.0	5369120.0	49.00	980356.91	980342.35	0.16	4.36
8997.0106	338300.0	5373210.0	130.00	980325.41	980339.06	0.10	12.02
8997.0107	338370.0	5373580.0	110.00	980330.14	980338.76	0.10	13.11
8997.0108	337620.0	5373900.0	107.00	980333.55	980338.49	0.16	16.27
8997.0109	337120.0	5374000.0	83.00	980338.44	980338.40	0.13	16.49
8997.0110	335940.0	5373940.0	71.00	980342.09	980338.43	0.21	17.84
8997.0111	336700.0	5370690.0	41.00	980339.91	980341.07	0.31	7.22
8997.0112	336470.0	5370360.0	25.00	980341.74	980341.33	0.21	5.54
8997.0113	342200.0	5370640.0	159.00	980314.75	980341.21	0.10	4.92
8997.0114	336160.0	5369770.0	4.00	980347.74	980341.80	0.10	6.83
8997.0115	334330.0	5372550.0	11.00	980358.56	980339.52	0.15	21.35
8997.0116	334320.0	5373810.0	2.00	980359.34	980338.50	0.08	21.31
8997.0117	334410.0	5373540.0	10.00	980357.18	980338.72	0.08	20.50
8997.0118	333930.0	5374170.0	8.00	980361.88	980338.20	0.08	25.33
8997.0119	333430.0	5374440.0	5.00	980362.82	980337.98	0.08	25.91
8997.0120	333920.0	5375450.0	20.00	980357.78	980337.17	0.07	24.61
8997.0121	333890.0	5375830.0	28.00	980356.42	980336.86	0.07	25.13
8997.0122	334790.0	5371960.0	23.00	980353.73	980340.01	0.07	18.32
8997.0123	337430.0	5370900.0	102.00	980326.20	980340.91	0.23	5.58
8997.0124	337750.0	5369940.0	68.00	980332.75	980341.69	0.17	4.61
8997.0125	338020.0	5371900.0	128.00	980328.10	980340.11	0.19	13.35
8997.0126	339050.0	5369800.0	100.00	980327.78	980341.83	0.16	5.78
8997.0127	339160.0	5369550.0	97.00	980328.01	980342.03	0.17	5.23
8997.0128	337920.0	5369520.0	73.00	980331.60	980342.03	0.33	4.26
8997.0129	337570.0	5369560.0	62.00	980333.00	980341.99	0.29	3.49
8997.0130	337530.0	5369350.0	34.00	980338.56	980342.16	0.23	3.32
8997.0131	341630.0	5372900.0	132.00	980327.85	980339.37	0.09	14.53
8997.0132	341950.0	5373070.0	138.00	980326.37	980339.24	0.09	14.37
8997.0133	340190.0	5373830.0	124.00	980330.32	980338.60	0.08	16.20
8997.0134	336550.0	5370120.0	5.00	980346.39	980341.52	0.28	6.13

Report submitted on behalf of
Leaman Geophysics
by

D. Leaman

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M.Aus.I.M.M., M.M.I.C.A

14/12/89