FINAL REPORT

EXPLORATION LICENCE 8102

"Corporal Creek"

28th May, 1993 to 24th October, 1997

Licensee:	Ashton Mining Limited
Operator:	Ashton Mining Limited
Sheet Reference:	1:250,000 Mount Drummond (SE53-12) 1:250,000 Ranken (SE 53-16)
Submitted to:	Department of Mines and Energy, Darwin
Copies to:	Ashton Mining Limited - Perth Office Ashton Mining Library

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BELMONT WA 6104

January, 1998
Report Number: 52180

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SUMMARY

During the period 28th May, 1993 to 24th October, 1997, Ashton Mining Limited, on behalf of the Australian Diamond Exploration Joint Venture (ADE JV), carried out an exploration programme over Exploration Licence 8102. This report provides details of work undertaken on the licence from the date of grant through to the surrender of the title in October 1997.

Work undertaken by the ADE Joint venture included data review, reconnaissance and follow-up sampling, as well as reinterpretation of aeromagnetic data covering titles held by Ashton at Carrara. A total of twenty-four stream and one loam sample was collected during the life of the licence, with all samples being dispatched to Ashton's Perth laboratory for routine diamond and indicator analysis. Only two samples reported positive, both containing a single microdiamond. All other samples reported negative results.

Reinterpretation of an aeromagnetic survey, previously flown over the Carrara region, was undertaken, resulting in five anomalies being selected for further investigation. Modelling of the magnetics however downgraded the targets and no further work was undertaken in the field.

No additional work has been carried out within EL 8102 between the current anniversary date of 28th May 1997, to the surrender of the licence on the 24th October, 1997. Exploration expenditure for the term of the licence amounts to $ 72,837.

1.0 INTRODUCTION

This report details exploration activities carried out by Ashton Mining over Exploration Licence 8102 during the period 28th May 1993 to 24th October, 1997. Ashton Mining Limited is manager of the licence on behalf of the Australian Diamond Exploration Joint Venture (ADEJV). Parties to the ADE Joint Venture are Ashton Mining Limited and Aberfoyle Resources Limited.

Exploration Licence 8102 was granted to Aberfoyle Resources Limited on the 28th May, 1993 for a period of six years. The licence, originally covered an area of 346 blocks, but was partially relinquished to 173 blocks in 1995, 87 blocks in 1996, and again in 1997 to 44 blocks. Surrender of this title by the ADE Joint Venture took effect from the 24th October, 1997. The tenement was located on the Mount Drummond (SE53-12) and Ranken (SE53-16) 1:250,000 map sheets. A location map showing the original and final extent of the licence area is shown in Figure 1.

A statement of expenditure is included in this report.

2.0 DIAMOND EXPLORATION

2.1 Data Review

Prior to commencing field work, a comprehensive data review of previous exploration and open file results in the tenement area was undertaken. This highlighted areas that had not been adequately explored. Proposed sample locations were selected and plotted in the office on the Carrara 1:100,000 map sheet.

Mon Dec 15 17:10:41 1997

18°00'
137°00'
137°30'
18°00'
136°30'
138°00'
BOXER
BENMARA
CLEANSKIN
Fish Hole Creek
18°30'
18° 43'
137° 25'
18° 44'
137° 40'
137° 45'
18° 49'
18° 52'
EL 8102
MITTIEBAH
MITCHIEBO
19°00'
19° 05'
137° 41'
KILOMETRES
0 10 20 30 40 50
1 : 1,000,000

FINAL EXTENT OF LICENCE

ORIGINAL EXTENT OF LICENCE

ASHTON MINING LIMITED
A.D.E. JOINT VENTURE

EXPLORATION LICENCE 8102
FINAL REPORT
FIGURE 1
LOCATION MAP

JANUARY, 1998

d:\drawings\licences\figure_1\archive\8102_f1.dgn

2.2 Sampling Programme

Following review of available data, reconnaissance sampling was implemented in the first year of tenure, with eleven stream samples being collected. All samples were forwarded to Ashton's Perth laboratory for microdiamond and indicator mineral analysis. Processing of these samples was undertaken in the following reporting period, with two samples reportmg single microdiamonds.

As the positive samples were located in unrelated drainages, and no conventional indicator minerals were identified, additional follow-up sampling was undertaken in the second year. Thirteen follow-up stream samples were collected. Laboratory processing was undertaken in the following reporting period, with all samples reporting negative.

In the fourth year of tenure, a two bag loam sample was collected from within EL 8102, as part of work undertaken on neighbouring licence EL 8101. Processing of this sample returned a negative result.

Sample locations are shown on Plan 1. A listing of samples is provided in Appendix 1.

2.3 Sampling Method

Sampling was completed using helicopters as they are the most practical mode of transport with the ease of access and navigation. The area was scanned for prospective trap sites, with the best quality heavy mineral trap, in the vicinity of the pre-selected site, being chosen for sampling.

Once a suitable site was located, approximately 40kg of gravel was gathered, sieved and the minus 4mm fraction collected in calico bags for laboratory examination. This fraction generally weighs between 25 and 30kg and is usually contained within two bags. The bags were sent to Ashton's Perth laboratory for diamond and indicator analysis.

2.4 Laboratory Procedure

The samples were processed by the Ashton Mining Limited Laboratory in Perth, where they were concentrated by Wilfley Table and heavy liquid separation techniques.

The heavy liquid used was tetrabromethane with a specific gravity of 2.96. The concentrates were then screened into various size fractions, further concentrated by magnetic and electrostatic separation techniques and a comprehensive grain by grain examination carried out on the minus 1.0mm plus 0.425mm fractions.

2.5 Geophysics

Reinterpretation of the aeromagnetic survey over Carrara Range Els 8101 and 8102 was designed to locate areas for further sampling. Initial analysis involved visually scanning the individual profiles. From the profile lines, five dipole anomalies were chosen for further analysis within EL 8102 (see Plan 1 for anomaly locations). With the use of MAGMOD, a Geosoft 2D modelling package, each anomaly was modelled to calculate the parameters of a probable source for the anomalies. Appendix 2 contains the modelled profiles. Four of the anomalies were found to have shallow plate sources and were

deemed of no interest. The fifth target, GMCR17, thought to be of possible kimberlitic origin, was selected for follow-up sampling and possible drill testing, however reassessment of the data by Ashton's inhouse geophysicist revealed that this target was also found to have a shallow plate like source and the anomaly was downgraded. No field programme was carried out over this anomaly.

The aeromagnetic data used for the interpretation was flown previously by Ashton Mining. The flight line direction was north-south with a 300 metre line interval. A flight line diagram is included as Figure 2. Interpretation was based on the profiles and residual gridded data. Figure 3 contains the stack profiles of the residual data. The residual data was obtained by running an averaging filter of width 500 metres over the individual profiles. A grid was also generated from the residual data and is presented as an image in Figure 4.

3.0 EXPLORATION EXPENDITURE

Exploration expenditure for the life of the licence amounted to $ 72,837. A detailed breakdown of final expenditure is given in Appendix 3.

4.0 CONCLUSIONS

Ashton's target for exploration within EL 8102 was diamond bearing kimberlitic intrusives. Reconnaissance samples collected in the first year of tenure produced two positive results containing microdiamonds, however no indicator minerals were recovered, downgrading the prospectivity of the licence. Follow-up sampling also failed

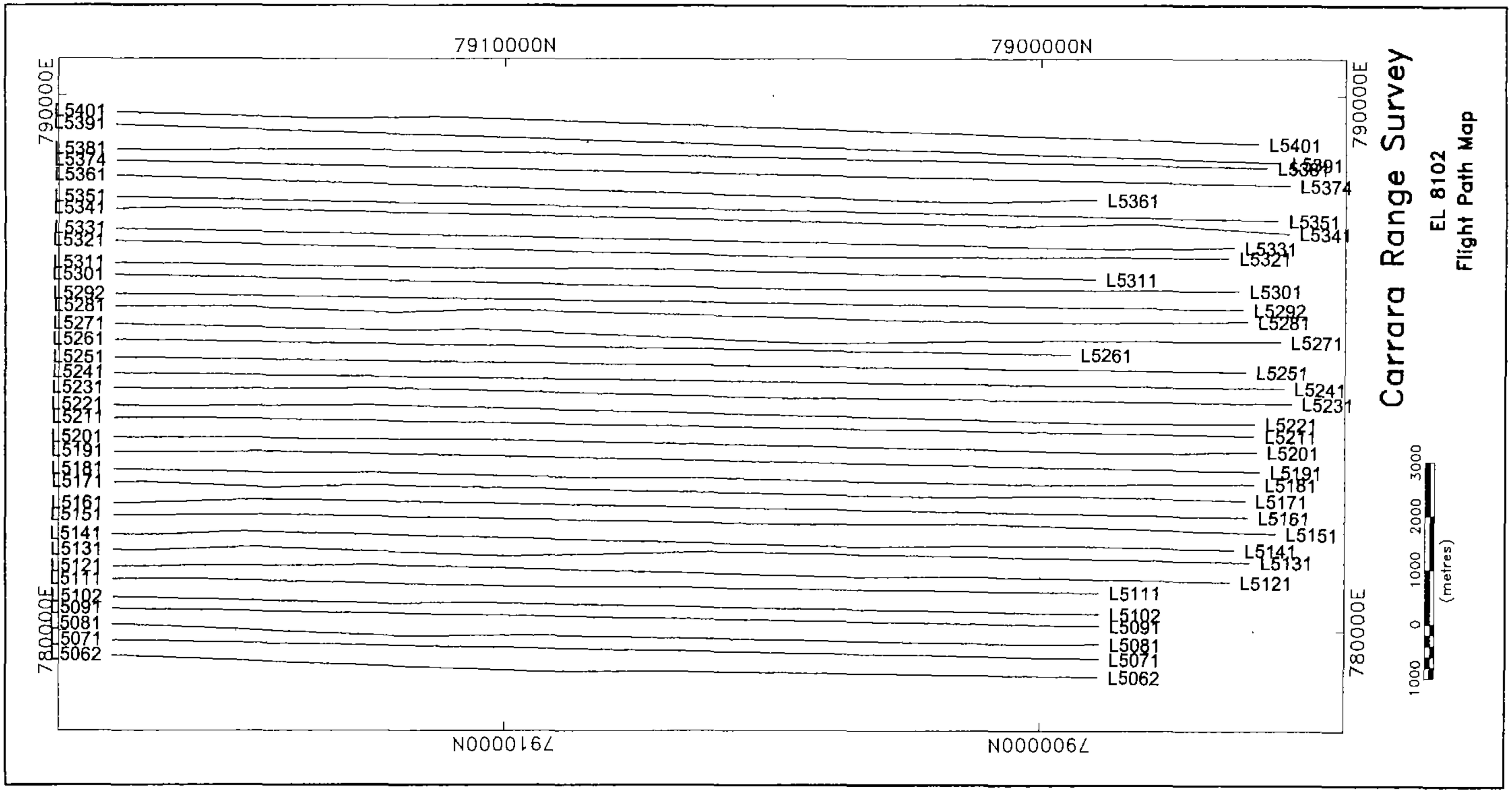
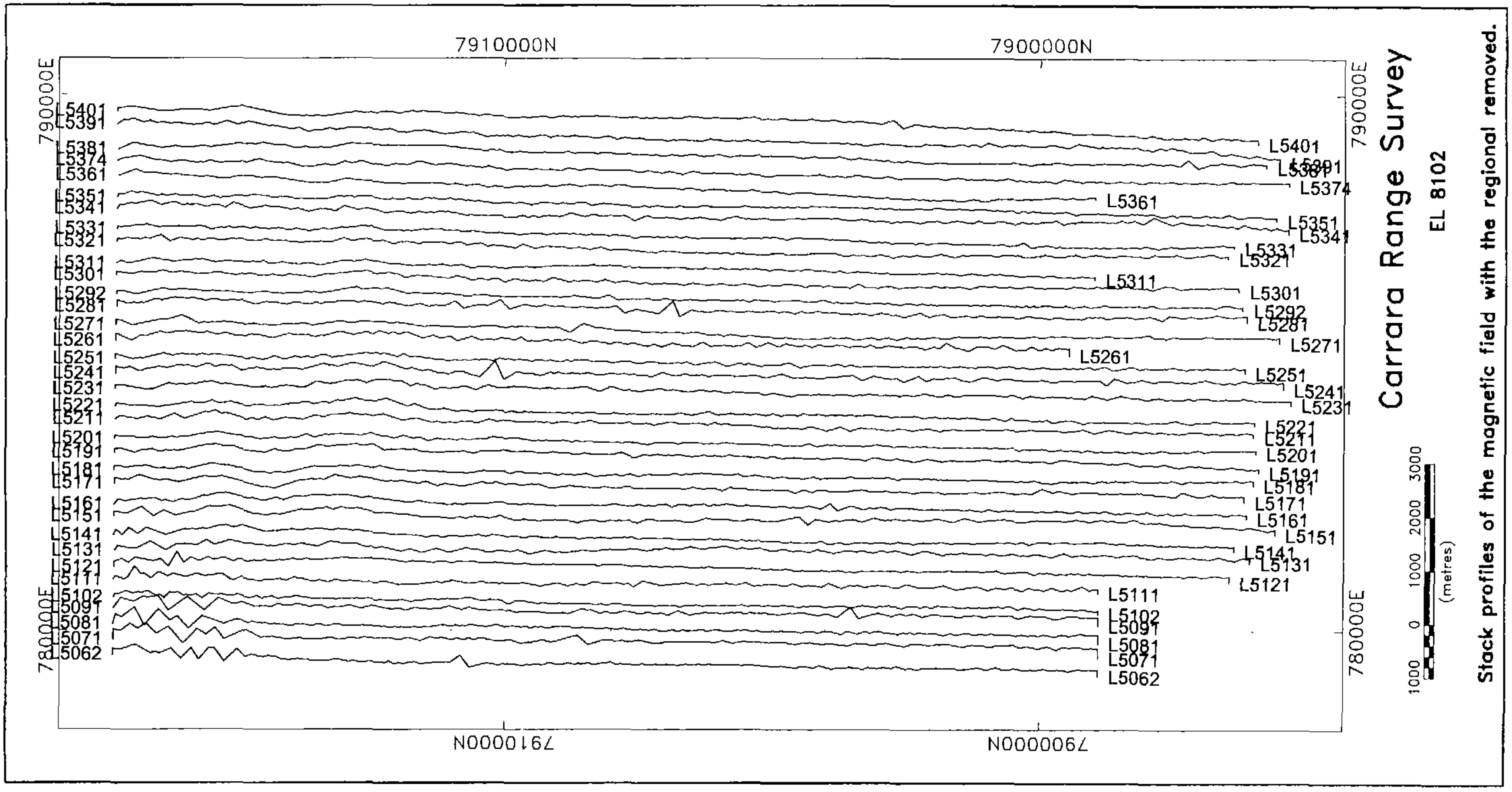

7910000N
7900000N
790000E
780000E
L5401
L5391
L5381
L5374
L5361
L5351
L5341
L5331
L5321
L5311
L5301
L5292
L5281
L5271
L5261
L5251
L5241
L5231
L5221
L5211
L5201
L5191
L5181
L5171
L5161
L5151
L5141
L5131
L5121
L5111
L5102
L5091
L5081
L5071
L5062
Carrara Range Survey
EL 8102
Flight Path Map
3000
2000
1000
0
1000
(metres)

Figure 2.


7910000N
7900000N
7900000E
7800000E
Carrara Range Survey
EL 8102
Stack profiles of the magnetic field with the regional removed.
1000 0 1000 2000 3000
(metres)
L5401
L5391
L5381
L5374
L5361
L5351
L5341
L5331
L5321
L5311
L5301
L5292
L5281
L5271
L5261
L5251
L5241
L5231
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L5201
L5191
L5181
L5171
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L5111
L5102
L5091
L5081
L5071
L5062

Figure 3.

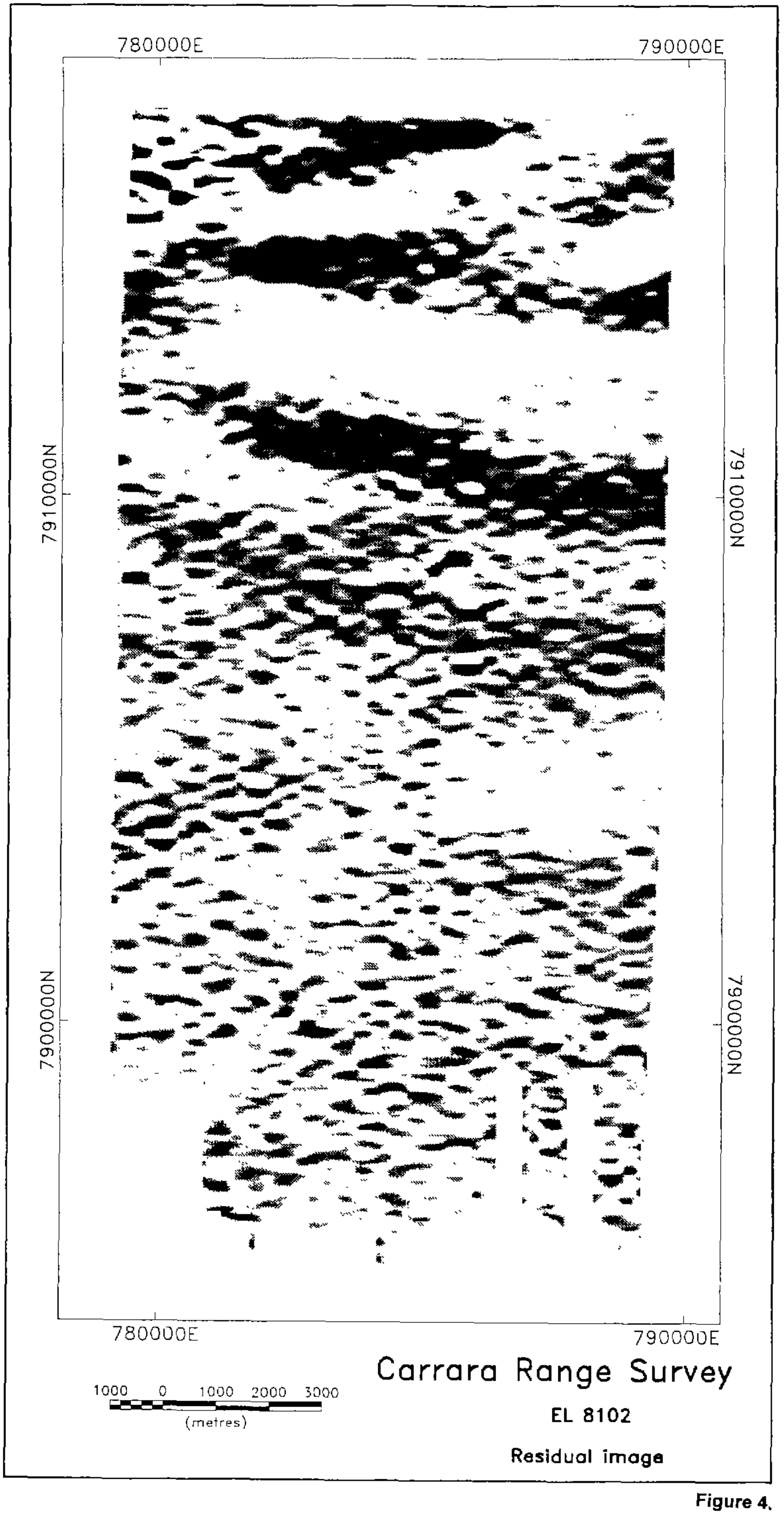

780000E
790000E
7910000N
7900000N
Carrara Range Survey
EL 8102
Residual image
1000 0 1000 2000 3000
(metres)

Figure 4.

to produce any positive results. Re-assessment of the aeromagnetic data was unsuccessful in identifying kimberlitic sources for further diamond exploration. As a result, the Manager recommended EL 8102 for surrender.

5.0 REFERENCES

Reddicliffe, T. H. (June 1994) Annual report, Exploration Licence 8102, 28th May, 1993 to 27th May, 1994. Ashton Mining Limited. Report No. 50898.

Reddicliffe, T. H. (June 1995) Annual report, Exploration Licence 8102, 28th May, 1994 to 27th May, 1995. Ashton Mining Limited. Report No. 51126.

Ong, N. (August 1995) Relinquishment report, Exploration Licence 8102, 28th May, 1993 to 27th May, 1995. Ashton Mining Limited. Report No. 51159.

Rogers, T. (June 1996) Annual report, Exploration Licence 8102, 28th May, 1995 to 27th May, 1996. Ashton Mining Limited. Report No. 51365.

Rogers, T. (August 1996) Relinquishment report, Exploration Licence 8102, "Corporal Creek", 28th May, 1993 to 27th May, 1996. Ashton Mining Limited. Report No. 51426.

Thompson, B.J. (June1997) Annual report, Exploration Licence 8102, "Corporal Creek", 28th May, 1996 to 27th May, 1997. Ashton Mining Limited. Report No. 52097.

Kammermann, M. (August 1997) Partial relinquishment report, Exploration Licence 8102, "Corporal Creek", 28th May, 1993 to 27th May, 1997. Ashton Mining Limited. Report No. 52127.

APPENDIX 1

Sample Results

Sample Results for EL 8102

Final Report for the period 28/05/93 to 24/10/97

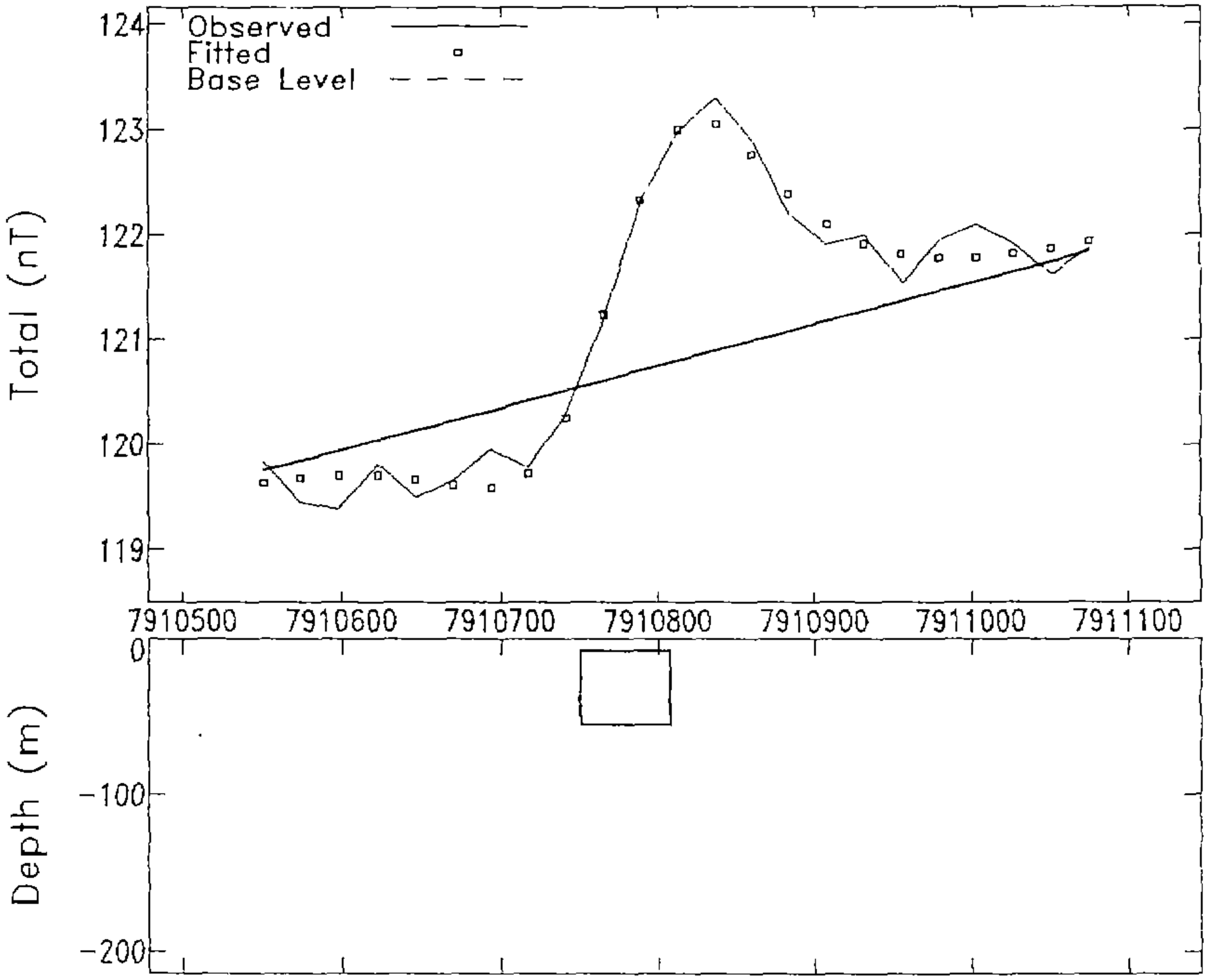
Sample	SampleType	Result	Diamond			
			Micro	Macro	Chromite	Other
MDR 3800	G	NEG	-	-	-	-
MDR 3801	G	NEG	-	-	-	-
MDR 3802	G	NEG	-	-	-	-
MDR 3803	G	NEG	-	-	-	-
MDR 3804	G	NEG	-	-	-	-
MDR 3805	G	POS	1	-	-	-
MDR 3807	G	NEG	-	-	-	-
MDR 3809	G	NEG	-	-	-	-
MDR 3811	G	NEG	-	-	-	-
MDR 3829	G	POS	1	-	-	-
MDR 3830	G	NEG	-	-	-	-
MDR 3854	G	NEG	-	-	-	-
MDR 3855	G	NEG	-	-	-	-
MDR 3856	G	NEG	-	-	-	-
MDR 3857	G	NEG	-	-	-	-
MDR 3858	G	NEG	-	-	-	-
MDR 3859	G	NEG	-	-	-	-
MDR 3860	G	NEG	-	-	-	-
MDR 3861	G	NEG	-	-	-	-
MDR 3862	G	NEG	-	-	-	-
MDR 3863	G	NEG	-	-	-	-
MDR 3864	G	NEG	-	-	-	-
MDR 3865	G	NEG	-	-	-	-
MDR 3866	G	NEG	-	-	-	-
96075-001	L	NEG	-	-	-	-

G = Gravel L = Loam

APPENDIX 2

Profiles

Carrara Range
GMCR04



MODEL PARAMETERS:

Model Type		Tabular2
Depth	L	7.64 m
Half Width	F	28.5 m
Half Length	X	26.0 m
Offset	X	0 m
Dip	X	90 deg
Thickness	F	48.0 m
Susceptibility	F	0.000335 emu
Remnance Ratio	X	0
Remnance Incl	X	0 deg
Remnance Decl	X	0 deg
Main Position	F	7910779 m
Cross Position	X	779271.3 m
Base Level	F	120.6637 nT
Base Slope	F	.0039812 nT/m
Base Curvature	X	0 nT/m2

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

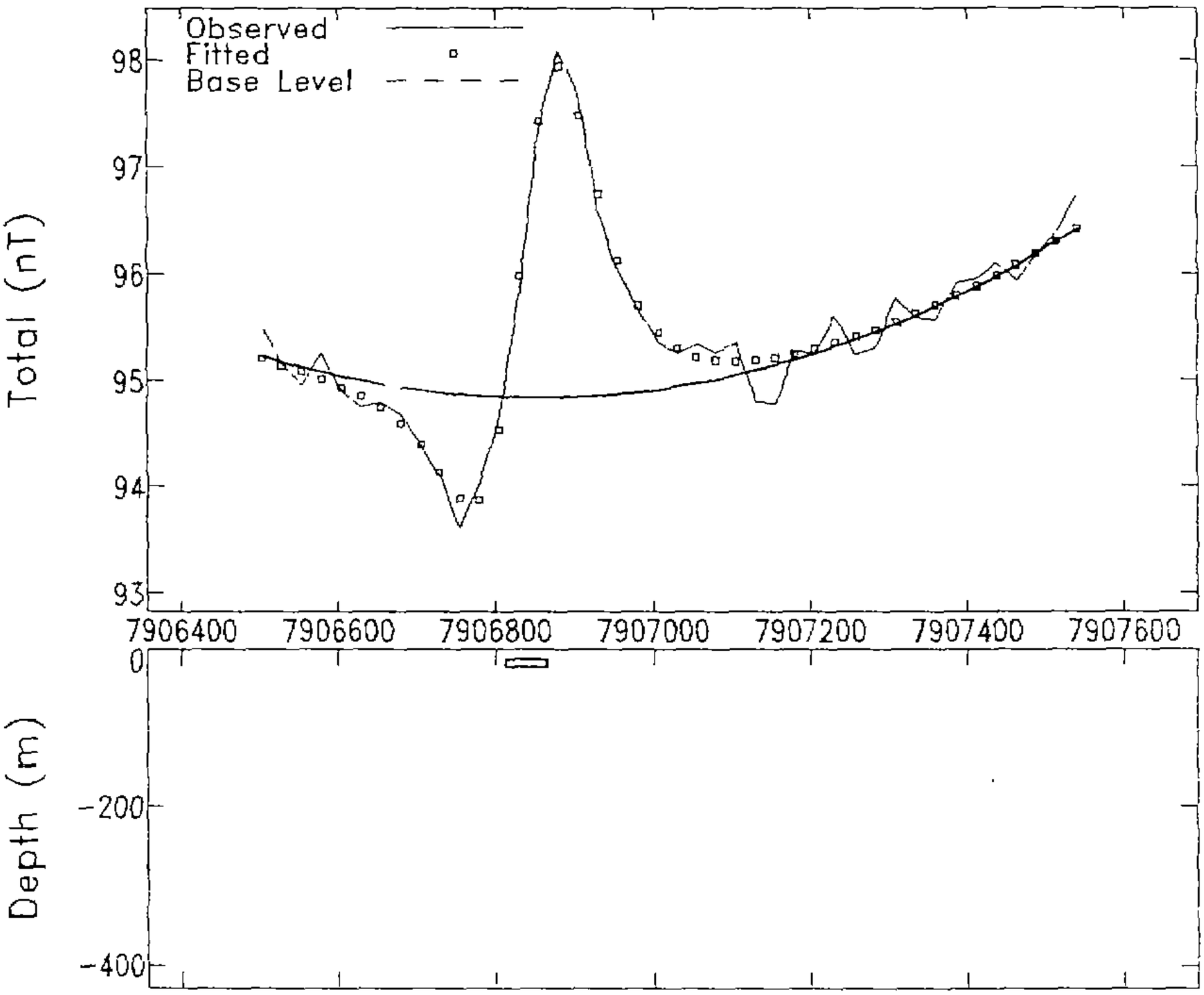
Field Strength	50000 nT
Inclination	-50 deg
Declination	5 deg

COORDINATES:

Sensor Height	80 m
Strike Perp	0 deg
Line Direction	1 deg
Main Direction	0 deg
Main Offset	
Cross Direction	90 deg
Cross Offset	

Geosoft MAGMOD-3 Modeling Result

Carrara Range
GMCR05



MODEL PARAMETERS:

Model Type		Tabular2
Depth	L	12.4 m
Half Width	F	26.0 m
Half Length	X	20.0 m
Offset	X	0 m
Dip	X	90 deg
Thickness	L	9.13 m
Susceptibility	F	0.00243 emu
Remnance Ratio	X	0
Remnance Incl	X	0 deg
Remnance Decl	X	0 deg
Main Position	F	7906839 m
Cross Position	X	785869.9 m
Base Level	F	94.83432 nT
Base Slope	F	-.0000931 nT/m
Base Curvature	X	.0000033 nT/m2

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

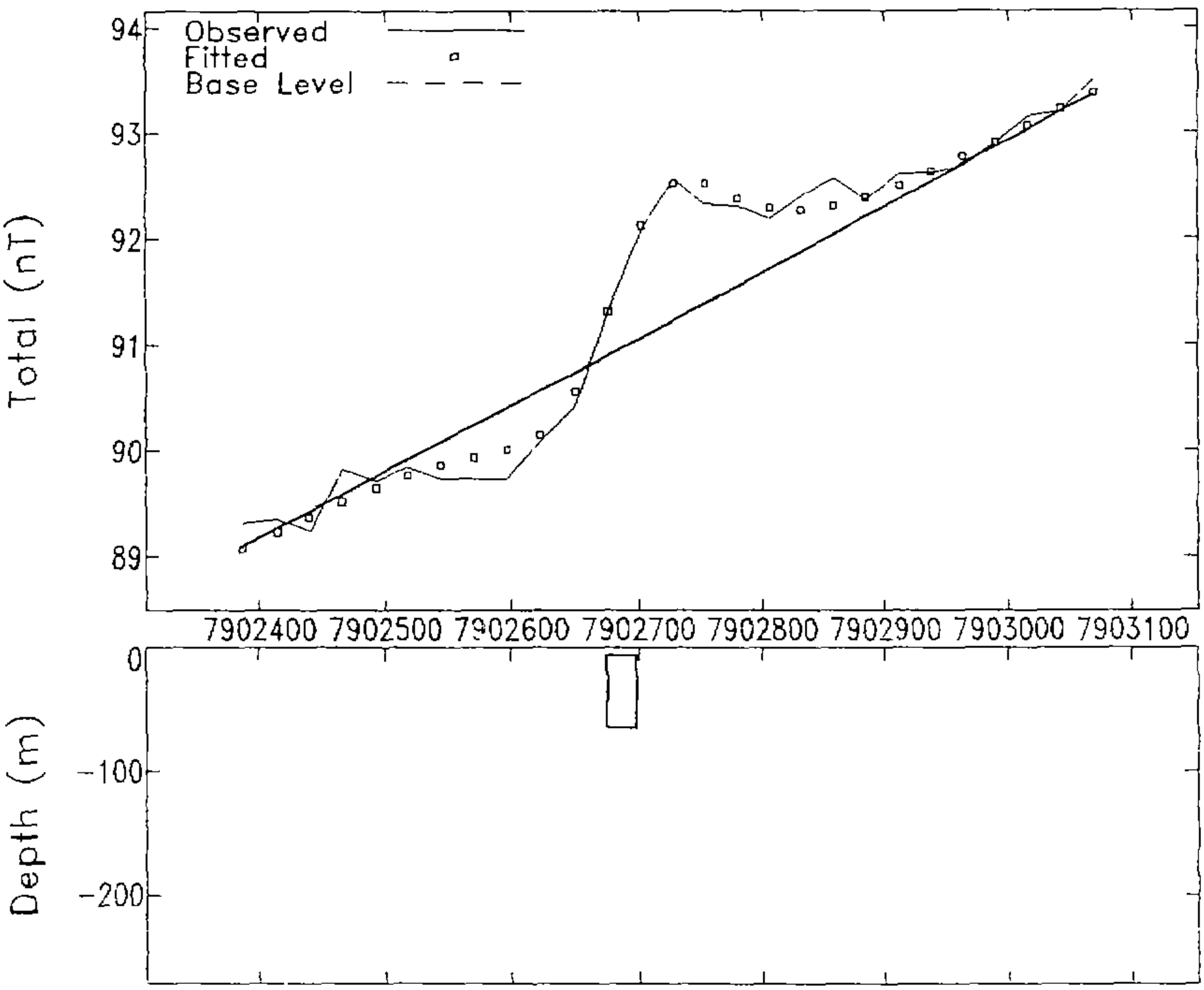
Field Strength	50000 nT
Inclination	-50 deg
Declination	5 deg

COORDINATES:

Sensor Height	80 m
Strike Perp	0 deg
Line Direction	1 deg
Main Direction	0 deg
Main Offset	
Cross Direction	90 deg
Cross Offset	

Geosoft MAGMOD-3 Modeling Result

Carrara Range
GMCR06



MODEL PARAMETERS:

Model Type		Tabular2
Depth	L	5.89 m
Half Width	L	11.7 m
Half Length	X	20.0 m
Offset	X	0 m
Dip	X	90 deg
Thickness	F	58.8 m
Susceptibility	F	0.000493 emu
Remnance Ratio	X	0
Remnance Incl	X	0 deg
Remnance Decl	X	0 deg
Main Position	F	7902687 m
Cross Position	X	789392.6 m
Base Level	F	90.96857 nT
Base Slope	F	.0062433 nT/m
Base Curvature	X	0 nT/m2

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

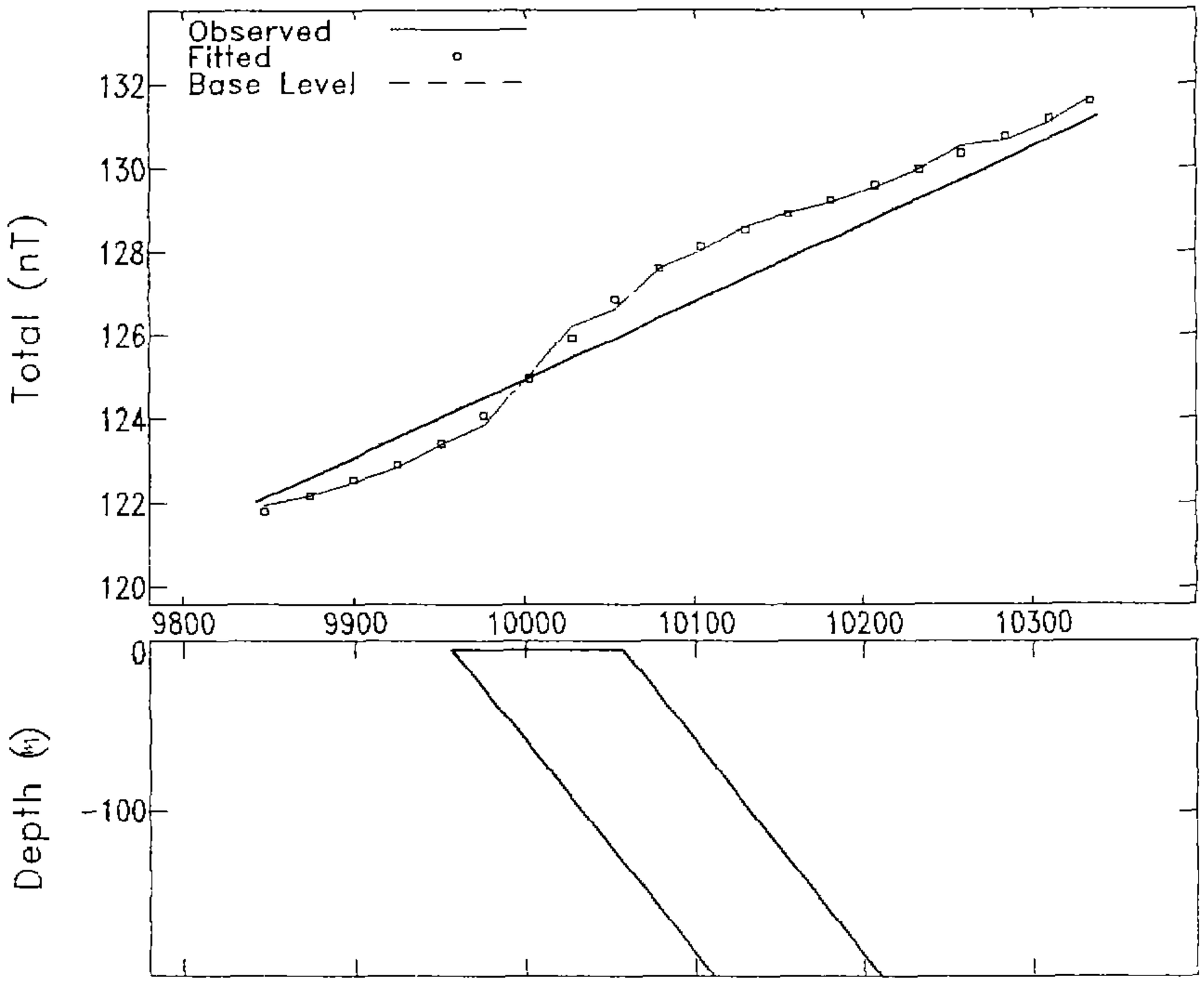
Field Strength	50000 nT
Inclination	-50 deg
Declination	5 deg

COORDINATES:

Sensor Height	80 m
Strike Perp	0 deg
Line Direction	3 deg
Main Direction	0 deg
Main Offset	
Cross Direction	90 deg
Cross Offset	

Geosoft MAGMOD-3 Modeling Result

Carrara Range
GMCR17



MODEL PARAMETERS:

Model Type		Tabular2
Depth	F	4.86 m
Half Width	F	50.0 m
Half Length	X	65.0 m
Offset	X	0
Dip	F	51 deg
Thickness	F	4871 m
Susceptibility	F	.0000413 emu
Remnance Ratio	X	0 m
Remnance Incl	X	0 deg
Remnance Decl	X	0 deg
Main Position	F	10007.11 m
Cross Position	X	-4013.381 m
Base Level	F	125.0752 nT
Base Slope	F	.0185137 nT/
Base Curvature	X	0 nT/2

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

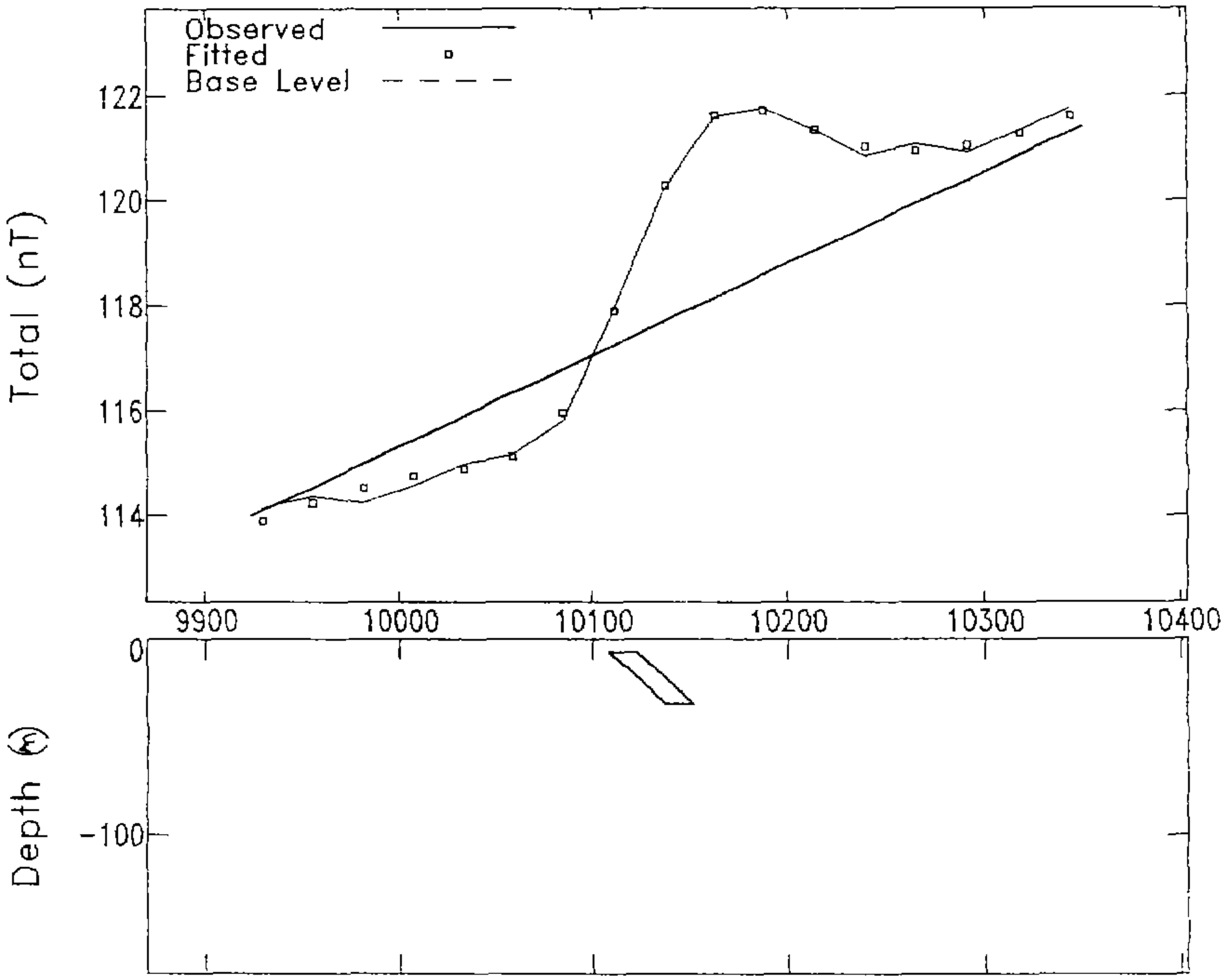
Field Strength	50000 nT
Inclination	-50 deg
Declination	5 deg

COORDINATES:

Sensor Height	80 m
Strike Perp	0 deg
Line Direction	2 deg
Main Direction	0 deg
Main Offset	7900000 m
Cross Direction	90 deg
Cross Offset	790000 m

Geosoft MAGMOD-3 Modeling Result

Carrara Range
GMCR18



MODEL PARAMETERS:

Model Type		Tabular2
Depth	L	6.70 m
Half Width	L	7.11 m
Half Length	X	30.0 m
Offset	X	0
Dip	F	42 deg
Thickness	F	26.3 m
Susceptibility	F	0.00245 emu
Remnance Ratio	X	0
Remnance Incl	X	0 deg
Remnance Decl	X	0 deg
Main Position	F	10115.11 m
Cross Position	X	-5304.033 m
Base Level	F	117.326 nT
Base Slope	F	.0173865 nT/
Base Curvature	X	0 nT/2

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

Field Strength	50000 nT
Inclination	-50 deg
Declination	5 deg

COORDINATES:

Sensor Height	80 m
Strike Perp	0 deg
Line Direction	1 deg
Main Direction	0 deg
Main Offset	7900000 m
Cross Direction	90 deg
Cross Offset	790000 m

Geosoft MAGMOD-3 Modeling Result

APPENDIX 3

Statement of Expenditure

STATEMENT OF EXPENDITURE

EXPLORATION LICENCE 8102

Final Report

For the period
28th May, 1993 to 24th October, 1997

Geoscientist/Professional Staff	9,562
Field Support/Office Staff	12,906
Other Contractors	1,346
Travel/Accommodation/Meals	3,434
Field Supplies	5,924
Equipment	6,487
Vehicles	3,977
Freight/Storage	1,289
Helicopter Charter	8,191
Geophysics	1,294
Laboratory	5,986
Drafting/Computing	1,909
Data Acquisition/Research	107
Sub-Total	66,216
Overheads	6.621
Total:	**$ 72,837**

760,000mE 770,000mE 780,000mE 790,000mE

7,930,000mN 7,920,000mN 7,910,000mN 7,900,000mN 7,890,000mN

18°43' 137°26' 18°44' 137°30' 18°49' 137°25' 18°52' 137°40' 137°45' 18°59' 137°41' 19°01' 19°05'

MDR3809 MDR3811 GMCR04 MDR3801 GMCR18 GMCR17 MDR3803 MDR3865 MDR3800 GMCR05 MDR3864 MDR3802 MDR3863 MDR3829 GMCR06 MDR3830 MDR3855 MDR3805 MDR3804 MDR3866 MDR3854 MDR3807 MDR3859 MDR3862 MDR3858 MDR3860 96075-001 MDR3861 MDR3856 MDR3857

E.L. 8102
final

LEGEND

- Sample - not yet processed
- Sample - negative
- Sample - chromite positive
- Sample - diamond positive
- Sample - other indicators
- Geochemical sample location
- Drill hole location
- Airborne magnetic anomaly

KILOMETRES
0 1 2 3 4 5 6 7 8 9 10
1 : 100,000

CR98/310

ASHTON MINING LIMITED

A.D.E. JOINT VENTURE

EXPLORATION LICENCE 8102
FINAL REPORT
SAMPLE LOCATIONS
MAGNETIC ANOMALY LOCATION

PLAN 1

Geologist :	Date : JANUARY, 1998	Report No :
Drafted : M.F.Ariotti	Revised :	Drawing No :

Thu Dec 18 13:24:07 1997

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