

**CR 8480**

**ANNUAL REPORT  
FOR MONGALA PROJECT TENEMENTS, NT  
PERIOD ENDING 11 NOVEMBER 1995  
ELs 7448, 7449 and 7450**

**I R BROWN**

**NOVEMBER 1995**

**Sheet Reference:**

<b>Wallhallow</b>	<b>SE 53-7</b>
<b>Bauhinia Downs</b>	<b>SE 53-3</b>

**Tenements are is held by:**

**BHP MINERALS PTY LTD  
Level 3  
3 Plain Street  
EAST PERTH WA 6004**

**CR 95 / 891 ]**

## CONTENTS

	<u>Page No.</u>
1. INTRODUCTION	1
1.1 Location and Access	1
1.2 Tenement Status	1
1.3 Previous Work	2
1.4 Rehabilitation	3
2. GEOLOGY	3
3. GEOPHYSICS	
3.1 TEM Soundings	4
4. PROPOSED DRILLING	5
5. CONCLUSIONS AND RECOMMENDATIONS	5
6. REFERENCES	6

### List of Appendices

1. Expenditure Statements
2. Geophysical Data
3. Proposed Work Programs and Expenditures

## SUMMARY

The Mongala Project Tenements are considered to be prospective for Pb-Zn mineralisation in the covered Proterozoic stratigraphy.

Work performed by BHP consisted of TEM soundings and drill hole planning.

A total of 33 TEM soundings has been completed in the vicinity of other soundings from 1993-94 over the Mongala and Bloodwood Faults. Two basement conductive horizons, both of 23  $\Omega$ m, have been recognised as drill targets. These are situated east of the Bloodwood Fault, and between the Mongala and Bloodwood Faults respectively.

**List of Figures**

	<b><u>Title</u></b>	<b><u>Scale</u></b>	<b><u>Drawing No.</u></b>
1.	Location Map	1:2,500,000	A4-5777

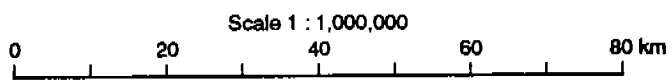
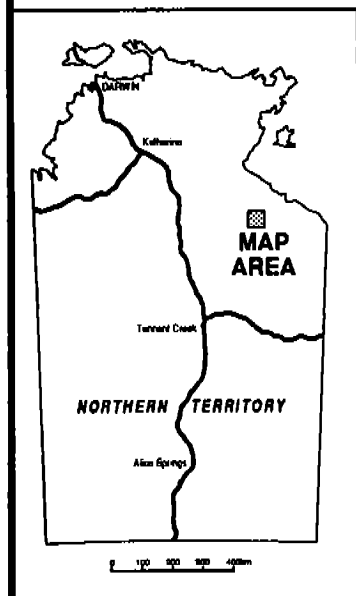
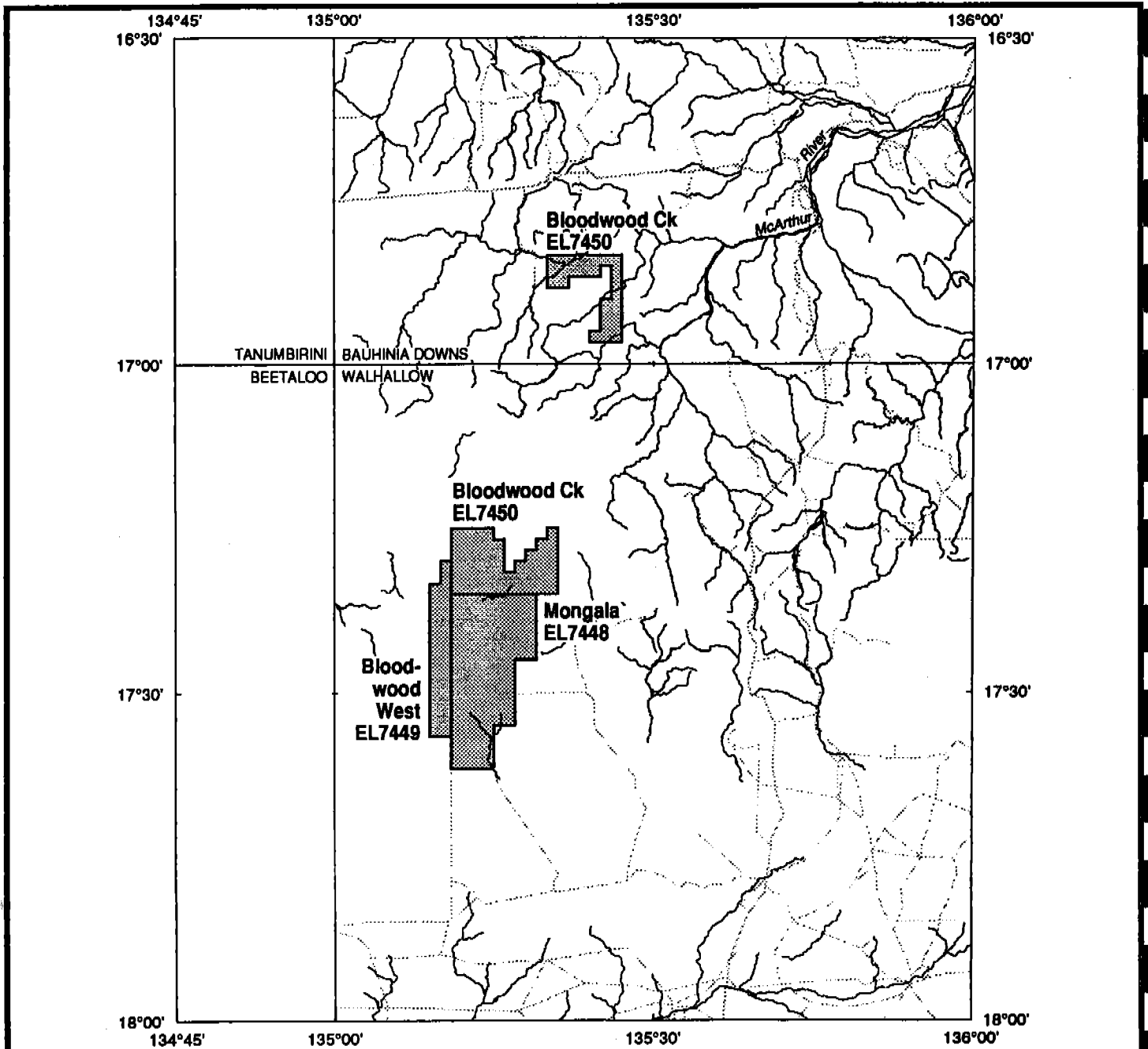
**List of Plates**


1.	TEM Sounding Site Location	1:250,000	A1-6821
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**List of Tables**

1. Tenement Details
2. Survey Logistics

**After Page**



Prepared : I.R.Brown		Exploration - BHP Minerals BHP Minerals Pty. Ltd., A.C.N. 008 694 782	Centre : Perth
Drawn : A.R.Veale		<b>McARTHUR RIVER PROJECT</b> <b>EL7448, 7449, 7450 MONGALA PROJECT</b> <b>LOCATION OF TENEMENTS</b>	Org. No. : A4-5777
Date : 8-12-95			<b>FIGURE 1</b>
Revised :			

## 1. INTRODUCTION

This report details the exploration carried out on Exploration Licences (ELs) 7448, 7449 and 7450 during the fourth year of tenure. During this period, the work included 33 EM soundings and drill hole planning. The surveys were designed to explore for sediment hosted base metal mineralisation.

The work was carried out by BHP personnel based in Perth and contractors from Geoterrex Pty Ltd, Sydney.

The Mongala group of tenements is located in the SW part of the mid-Proterozoic age Batten Trough. It covers a prominent NNE-SSW trending magnetic linear interpreted to be a fault, herein referred to as the Mongala Fault. Except for the NE corner, the tenement area is completely covered with overburden.

### 1.1 Location and Access

The Mongala tenements are located 250 km NE of Tennant Creek NT centred on 17° 30' S latitude and 135° 10' E longitude on the 1:250,000 Wallhallow sheet SE 53-7 (Fig. 1).

Access is via station tracks on Mallapunyah, Wallhallow, Anthony Lagoon and Balbirini Stations. Major station tracks and stock routes join the Tablelands Highway about 50 km to the east of the tenements.

### 1.2 Tenement Status

The Mongala Project tenements were granted in 1991 for a six year period (Table 1). Project status was given by the Northern Territory Department of Minerals and Energy (DME) and, as such, the reporting period is from 15 October 1994 to 11 November 1995. The Mongala Project originally included Els 7508 and 7509 and these were surrendered on 12 October 1993.

**TABLE 1 - TENEMENT DETAILS**

TENEMENT	LOCAL NAME	DATE GRANTED	AREA (km <sup>2</sup> )	EXPENDITURE COMMITMENT	1994-95 EXPENDITURE
EL 7448	Mongala	29/10/91	320.0	\$31,000	\$39,085
EL 7449	Bloodwood West	12/11/91	96.0	\$ 9,000	\$21,593
EL 7450	Bloodwood Creek	16/10/91	236.8	\$32,000	\$35,987

Current tenement coverage is 652.8 km<sup>2</sup> on portions of the Bloodwood Creek, Mongala and OT Downs 1:100,000 sheets. Annual Expenditures are detailed in Appendix 1.

### 1.3 Previous Work

Between 1983 and 1986, Ashton Mining Limited held a tenement EL 4354 which covered the southern part of the Mongala project tenements (EL 7448 and 7449).

Ashton were exploring for kimberlite pipes using gravel sampling and airborne thematic mapping. Some microdiamonds were found, although no kimberlite indicator minerals were detected and the tenement was relinquished (Ashton, 1986).

The Yah Yah Copper Prospect is located a few kilometres east of the Mongala Project tenements on the Bloodwood Creek 1:100,000 sheet. The prospect was first discovered about 1900 and about 40 tons of ore was mined before 1912 (Plumb & Rhodes, 1964). CEC Pty Ltd carried out some preliminary investigations in 1966. In 1984, CRA Exploration Pty Ltd held the prospect as part of EL 4408 which overlaps slightly with one of the Mongala project tenements (EL 7450). CRA completed a stream sediment survey around Yah Yah with values up to 44 ppm Cu and 75 ppm Zn (Colliver, 1985).

In the first year of tenure, BHP Minerals completed an extensive airborne magnetic/radiometric survey, minor airborne TEM testwork, minor stream sediment sampling and three stratigraphic diamond drill holes. Weak base metal mineralisation was intersected in one hole. Magnetic features were identified for follow-up as

possible kimberlites. In places, Cambrian cover was in excess of 350 m (Brescianini and Brown, 1993).

#### 1.4 Rehabilitation

Track access was established using a bulldozer. These tracks will remain open until the drilling has been completed in the 1996 field season. Rehabilitation of these tracks and drill sites will then be completed.

## 2. GEOLOGY

The Mongala project tenements comprise mid-Proterozoic Roper Group, Cambrian Top Springs Limestone, and undifferentiated Cretaceous and Cainozoic stratigraphy as described by Plumb and Rhodes (1964), Pietsch et al (1991), and Jackson et al (1987).

### Roper Group

Roper Group sediments outcrop in the northeastern part of EL 7450 and are generally controlled by a series of NNE-SSW structures. Limmen Sandstone unconformably overlies Emmerugga Dolomite (McArthur Group) and comprises conglomerate and quartz sandstone. The Mainoru Formation exhibits a gradational contact with the overlying Crawford Formation and consists of micaceous siltstone and fine sandstone. The Crawford Formation comprises blocky glauconitic sandstone and purple micaceous sandstone. The base of this formation is marked by a bed of brown quartz greywacke. The Arnold Sandstone Member of the Abner Sandstone consists of massive medium to coarse grained quartz sandstone and dips gently to the west.

### Top Springs Limestone

This unit is exposed in the northeastern part of EL 7450. It comprises massive yellow



brown fine-grained limestone with minor brown-grey silty limestone, limestone breccia and algal structures. Top Springs Limestone unconformably overlies the Proterozoic stratigraphy.

#### Undifferentiated Cretaceous

This unit is sparsely exposed throughout all Mongala project tenements north of latitude 17° 40'. Rocks of this unit are exposed in the northern scarp of the Barkly Tableland. The unit consists of massive grey calcareous siltstone, white quartz sandstone, ferruginous sandstone, and micaceous sandstone.

#### Undifferentiated Cainozoic

This unit is extensively exposed throughout all Mongala project tenements. This cover consists of laterite, residual sand and black soil.

### 3 GEOPHYSICS

#### 3.1 TEM Soundings

33 Protem soundings were completed by Geoterrex Pty Ltd, Sydney. Locations are plotted on Plate 1. Apparent resistivity plots and data inversions are presented in Appendix 2. 6.25 Hz data is supplied for each site. Loop corrected and 25 Hz data is supplied where appropriate. GRENDL software was used for data processing. Survey logistics are presented in Table 2.

This program was completed as follow-up to two TEM anomalies generated in 1993 and 1994, and to assess other structures in the area. Each anomaly has now been defined over three sites. The sites for proposed drillholes are mentioned in Section 4.

**TABLE 2**

**GROUND TEM SURVEY LOGISTICS**

<b>EL</b>	7448
<b>Contractor</b>	Geoterrex Pty Ltd
<b>Instrument</b>	Geonics PROTEM receiver. TEM37 crystal synchronized transmitter.
<b>Loope size/configuration</b>	300 x 300 m / fixed
<b>Base Frequency</b>	25 and 6.25 Hz. Standard times N=20
<b>Receiver spacing/components</b>	300 m / Z only
<b>Date</b>	June 1995
<b>Duration</b>	5 days production
<b>Coverage</b>	1.6 x 3.2 km grid. Both in and out-of-loop readings.
<b>Total</b>	33 soundings

#### 4. PROPOSED DRILLING

##### Anomaly M0814/274

The target is a 23  $\Omega\text{m}$  conductor from 43 m to 201 m. The Cretaceous cover is obvious by its usual 2-layer electrical nature (ie. highly conductive lower layer). The 25 Hz TEM data show the base of the Cretaceous to be at about 30 m. No Cambrian stratigraphy is anticipated. Doubts still remain about the validity of the target conductor. There could actually be a thickening of the Cretaceous but this would not be consistent with nearby soundings. The anomaly is situated in a northerly dipping magnetic block which is bounded by NNW-SSE trending structures.

##### Anomaly M0734/226

The target is a 23  $\Omega\text{m}$  conductor at a depth of approximately 300 m. The base of the conductor has not been defined by either the 25 Hz or 6.25 Hz soundings. About 66 m of Cretaceous cover is interpreted. A resistive layer is present from 66 m to 300 m. This is interpreted to be a sandstone and/or dolomite package, and could include Cambrian stratigraphy. The anomaly is situated in a northerly dipping magnetic block which is bounded by the northerly trending Mongala and Bloodwood Faults.

#### 5. CONCLUSIONS AND RECOMMENDATIONS

TEM data indicate two areas of conductive stratigraphy adjacent to these faults. These areas have resistivities of 19 - 28  $\Omega\text{m}$  and 15 - 29  $\Omega\text{m}$ . These conductors will be defined with further soundings and drill tested in the 1995-96 period.

6 **REFERENCES**

- ASHTON MINING LIMITED, 1986. Final Report EL 4354. 13 September 1983 to 16 July 1986. CR 86/295.
- BRESCIANINI, R.F. and BROWN, I.R., 1993. Annual Report to 12 December 1992 for Mongala Project Tenements. BHP Minerals. CR 7715.
- BROWN, I.R., 1994. Annual Report for Mongala Project Tenements, NT. Period ending 11 November 1994. BHP Minerals, CR 8219.
- BROWN, I.R. and DARBY, P., 1993. Annual Report for Mongala Project Tenements, NT. Period ending 11 November 1993. ELs 7448, 7449, 7450, 7508, 7509. BHP Minerals CR 7860.
- COLLIVER, I.C., 1985. EL 4408 Sandy Creek NT. Final Report. Period to 8 May 1985. CRA Exploration. CR 85/185.
- JACKSON, M.J., MUIR, M.D. and PLUMB, K.A., 1987. Geology of the Southern McArthur Basin, Northern Territory. Bur. Min. Resour. Bulletin 220.
- PIETSCH, B.A. et al, 1991. 1:250,000 Geological Map Series Explanatory Notes. Bauhinia Downs SE 53-3. Northern Territory Geological Survey.
- PLUMB, K.A. and RHODES, J.M., 1964. Walhallow NT 1: 250,000 Geological Series. Bur. Min. Resour. Aust. Explan. notes SE/53-7.

**APPENDIX 1**

**EXPENDITURE STATEMENTS**

**E7448 - MONGALA**

**29 October 1994 to 28 October 1995**

Wages and Salaries	5,631
Field Support	10,366
Vehicles	2,629
Equipment	2,928
Geochemistry	381
Geophysics	7,481
Surveys	1,750
Office Expenses	612
Other	414
Computer Expenses	264
In-House Services: Drafting	115
<b>Sub-Total</b>	<b>32,571</b>
20% of Total for Corporate Overheads	6,514
<b>TOTAL</b>	<b>\$39,085</b>

REF: E:\RICHARDS\EXPEND\SR0008.DOC

**E7449 - BLOODWOOD WEST**

**12 November 1994 to 11 November 1995**

Wages and Salaries	3,188
Vehicles	827
Equipment	4,797
Geochemistry	333
Geophysics	6,031
Surveys	1,750
Office Expenses	427
Consultants	526
In-House Services: Drafting	115
<b>Sub-Total</b>	<b>17,994</b>
20% of Total for Corporate Overheads	3,599
<b>TOTAL</b>	<b>\$21,593</b>

REF: E:\RICHARDS\EXPEND\SR0008.DOC

**E7450 - BLOODWOOD CREEK**

**16 October 1994 to 15 October 1995**

Wages and Salaries	7,518
Field Support	1,759
Vehicles	1,971
Equipment	3,404
Geochemistry	1,749
Geophysics	7,156
Surveys	1,750
Office Expenses	688
Other	2,120
Computer Expenses	264
In-House Services: Geophysics	1,150
Drafting	460
<b>Sub-Total</b>	<b>29,989</b>
20% of Total for Corporate Overheads	5,998
<b>TOTAL</b>	<b>\$35,987</b>



**APPENDIX 2**

**GEOPHYSICAL DATA**

SOUNDING: 680226 : Vers 1  
Mongala M0686/226 25 Hz

680226A

( 192 ohm.m)	* 47.9 m.	( 192)
<u>23.2 ohm.m</u>	<u>15.8 m</u> * 63.7 m.	<u>23.2</u>
( 267 ohm.m)	* 104 m.	( 267)
_____ * 168 m.		_____
* 52.7 ohm.m	( 113 m.)	* 52.7
_____ 280 m.		_____
* 84.0 ohm.m		* 84.0

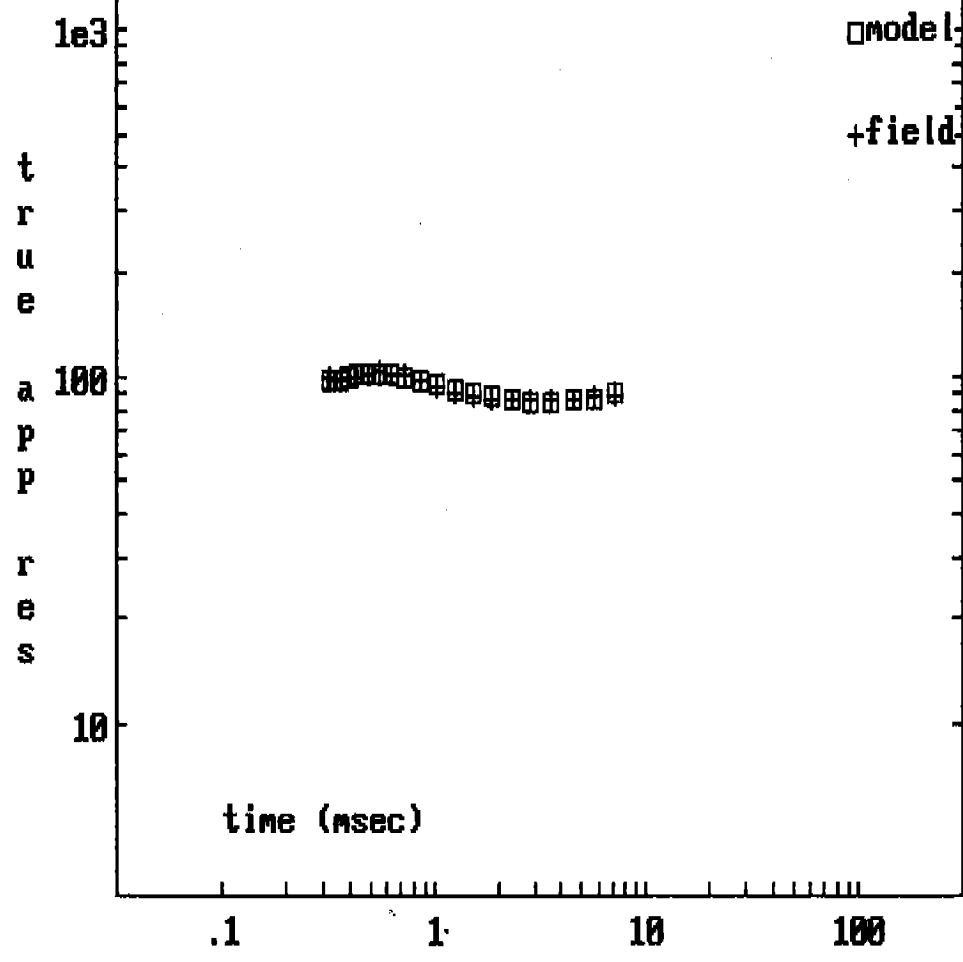
STD ERR= 2.3% : S= 3 S

E= 2%  
S= 3S

EL 208 - 2950

CR95/891

Sounding 680226 : Ver 1



SOUNDING: 680226 : Vers 2  
Mongala M0686/226 6.25 Hz

680226A

---

157 ohm.m	82.6 m.	
	<del>82.6 m.</del>	157

---

\* 71.2 ohm.m      \* 551 m.      \* 71.2

---

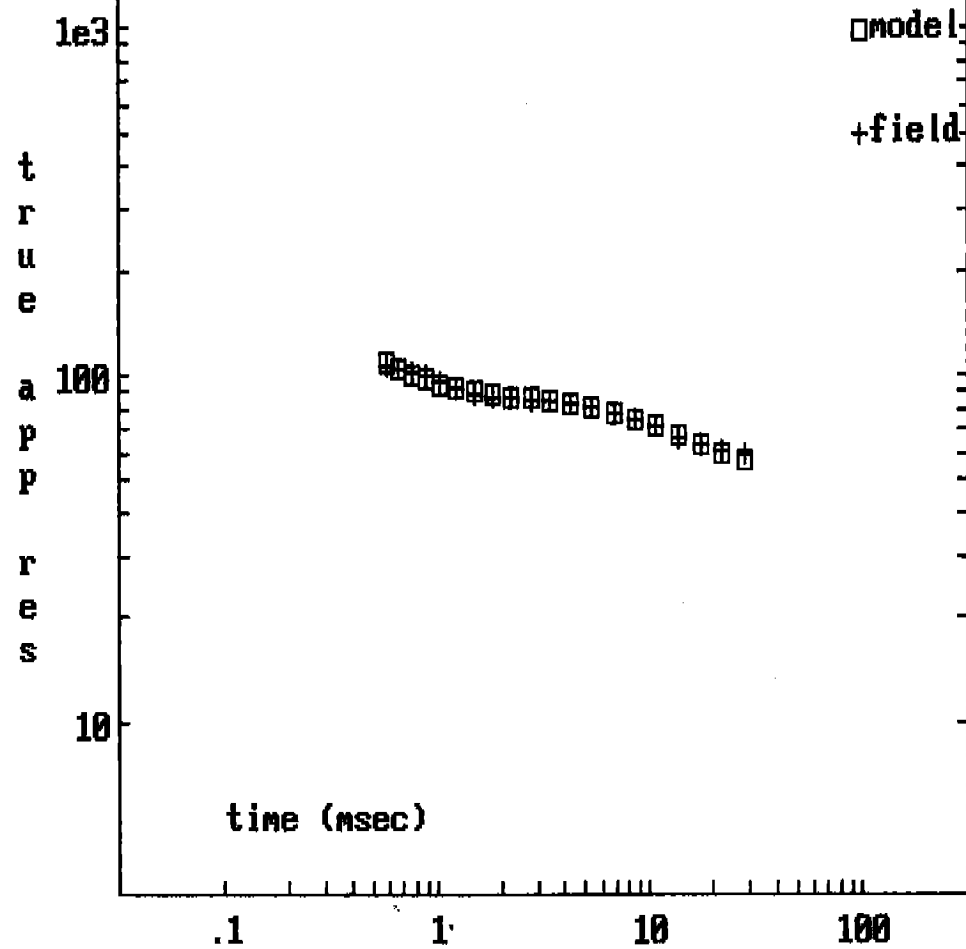
	* 634 m.	
* 33.1 ohm.m		* 33.1

---

STD ERR= 1.7% : S= 8 S

E= 2%  
S= 8S

Sounding 680226 : Ver 2



SOUNDING: 702210 : Vers 1  
Mongala M0702/210 25 Hz

702210A

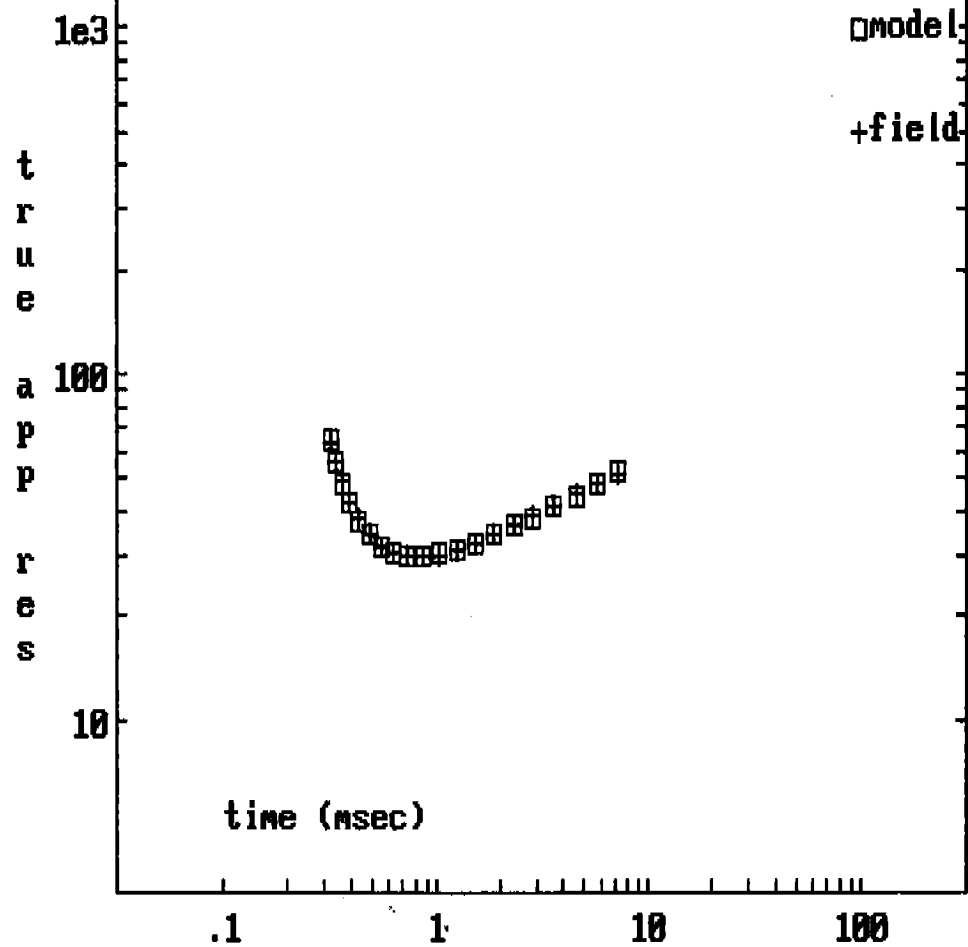
( 135 ohm.m)	* 34.9 m.	* 34.9 m.
* 17.4 ohm.m	* 62.8 m.	
		* 97.7 m.
* 81.1 ohm.m		

( 135)
* 17.4
* 81.1

STD ERR= 1.5% : S= 4 S

E= 1%  
S= 4S

Sounding 702210 : Ver 1



SOUNDING: 702210 : Vers 2  
Mongala M0702/210 6.25 Hz

702210A

( 136 ohm.m)	38.6 m.	38.6 m.	( 136)
17.1 ohm.m	70.6 m.		17.1
* 109 m.			

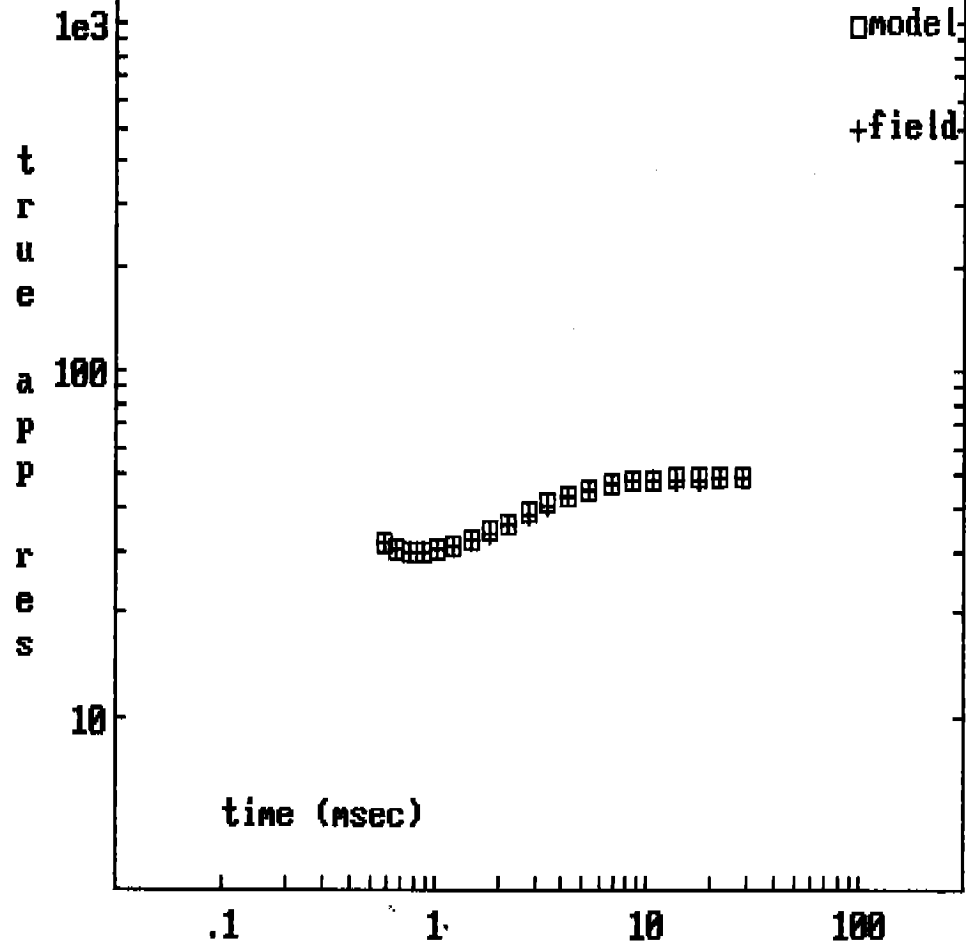
( 161 ohm.m)	* 194 m.		( 161)
* 304 m.			
* 47.8 ohm.m			* 47.8

STD ERR= 1.3% : S= 6 S

E= 1%  
S= 6S



Sounding 702210 : Ver 2



SOUNDING: 702226 : Vers 1  
Mongala M0702/226 25 Hz

702226A

---

\* 32.1 ohm.m      \* 59.8 m.  
-----\* 59.8 m.  
\* 8.8 ohm.m      \* 57.8 m.  
-----\* 117 m.  
( 870 ohm.m)

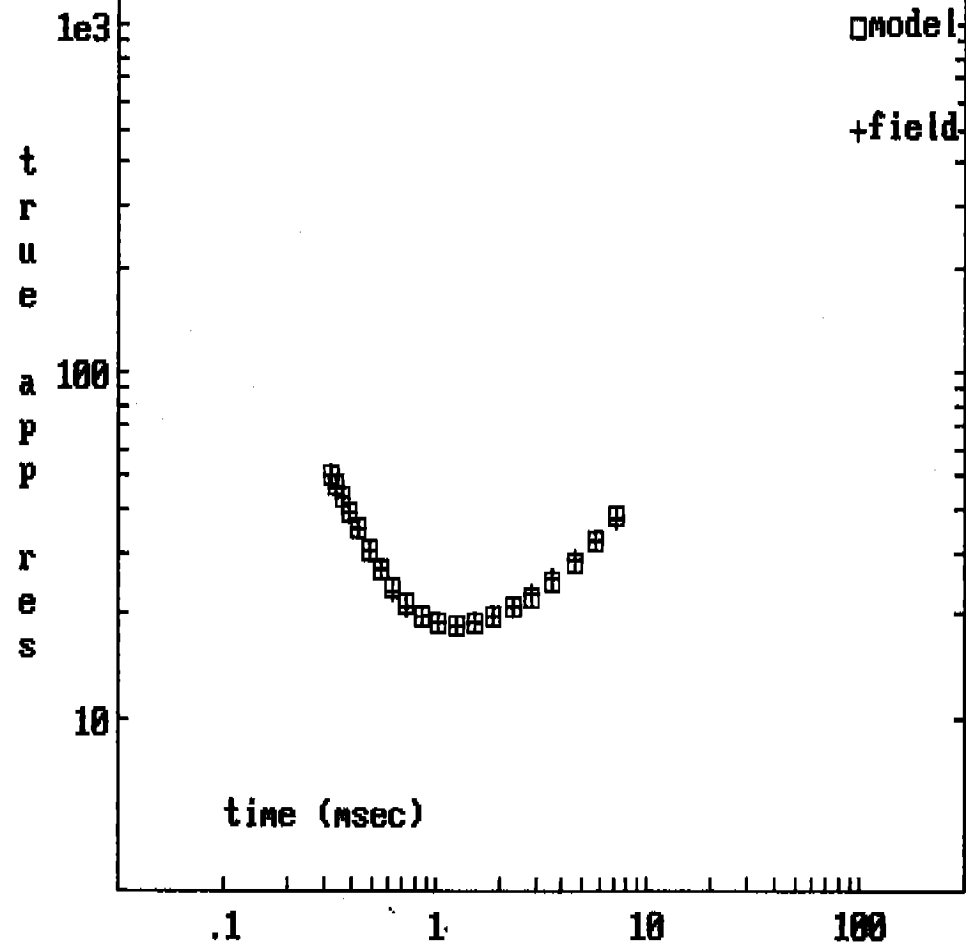
---

\* 32.1  
-----  
\* 8.8  
-----  
( 870)

STD ERR= .8% : S= 8 S

E= 1%  
S= 85

Sounding 702226 : Ver 1



SOUNDING: 702228 : Vers 2  
Mongala M0702/226 6.25 Hz

702228A

<u>33.7 ohm.m</u>	<u>60.3 m.</u>	<u>60.3 m.</u>
* 9.6 ohm.m	55.4 m.	* 116 m.

<u>33.7</u>
* 9.6

892 ohm.m \* 398 m.

892

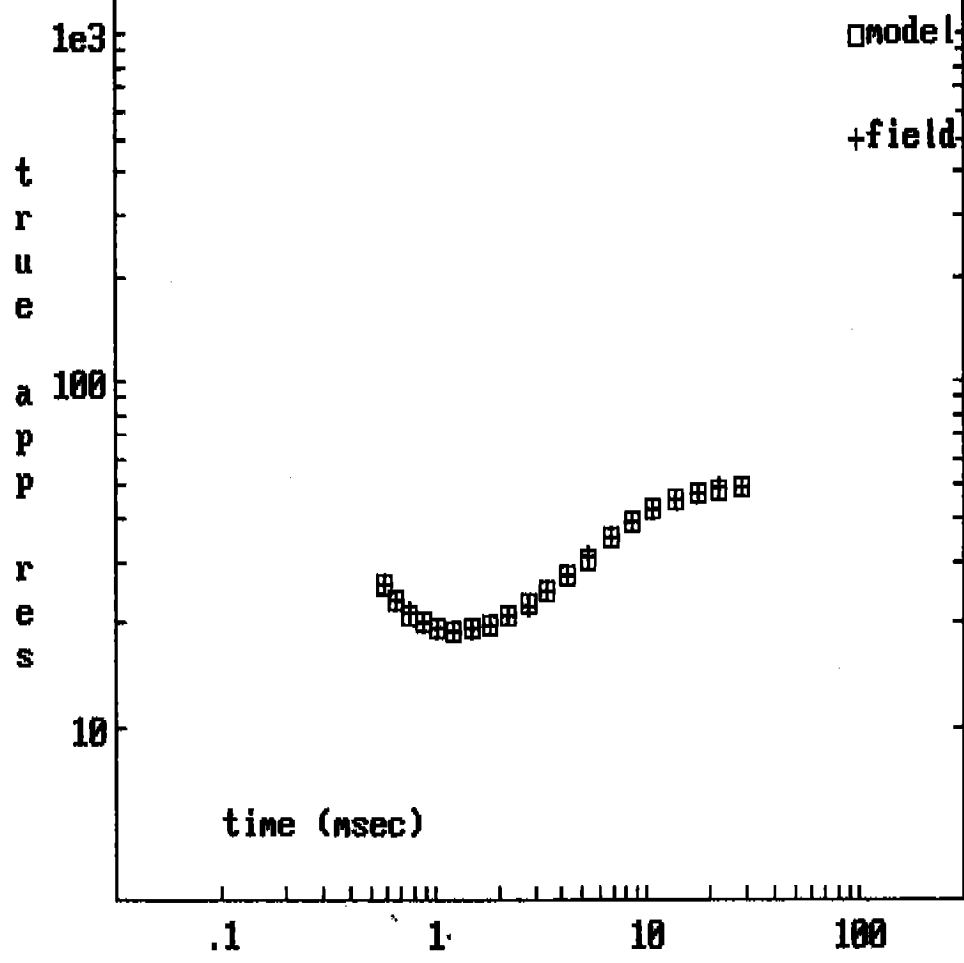
-----\* 514 m.  
\* 41.1 ohm.m

-----  
\* 41.1

STD ERR= 1.0% : S= 8 S

E= 1%  
S= 8S

Sounding 702226 : Ver 2



SOUNDING: 718194 : Vers 1  
Mongala M0718/194 25 Hz

718194A

---

* 31.5 ohm.m	* 67.1 m.	
<hr/>		* 67.1 m.
* 1.9 ohm.m	* 49.9 m.	
<hr/>		* 117 m.
( 201 ohm.m)		

---

\* 31.5

---

\* 1.9

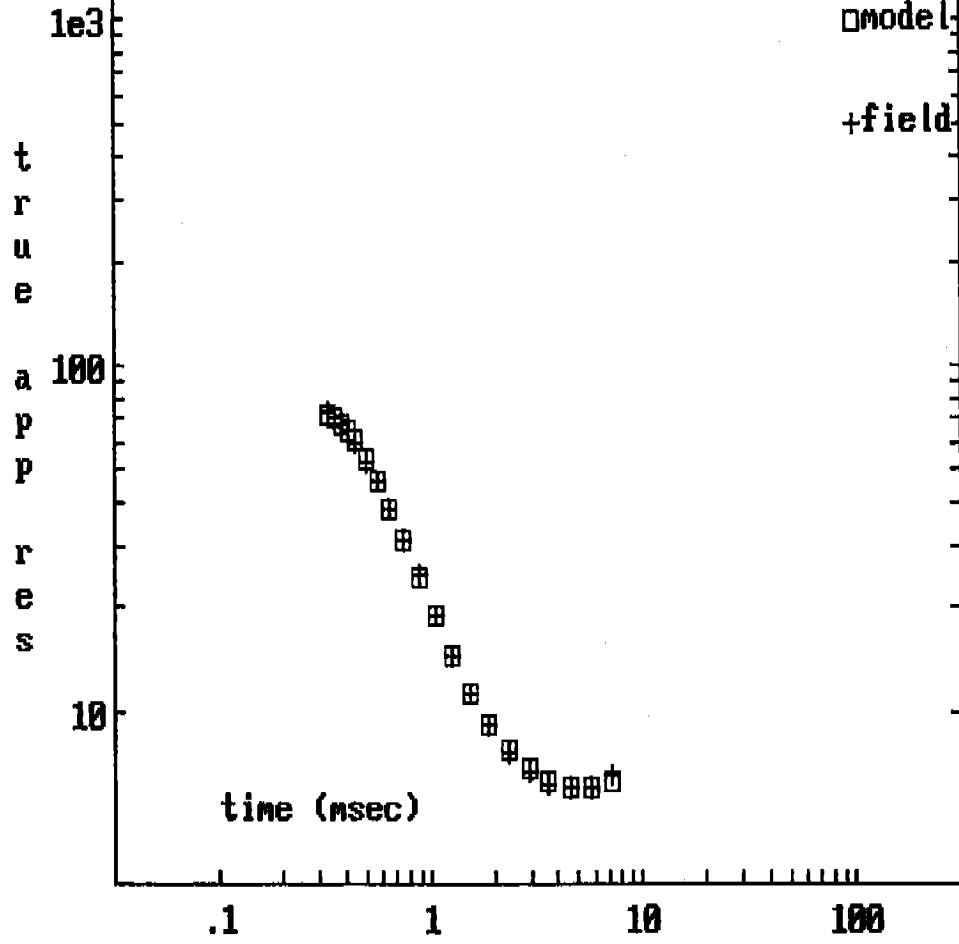
---

( 201)

STD ERR= 1.9% : S= 28 S

E= 2%  
S= 285

Sounding 718194 : Ver 1



SOUNDING: 718206 : Vers 1  
Mongala M0718/206 25 Hz

718206A

---

\* 70.7 ohm.m      \* 88.6 m.

---

\* 70.7

---

\* 1.9 ohm.m      \* 32.9 m.      \* 88.6 m.  
\* 122 m.

---

\* 1.9

( 203 ohm.m)

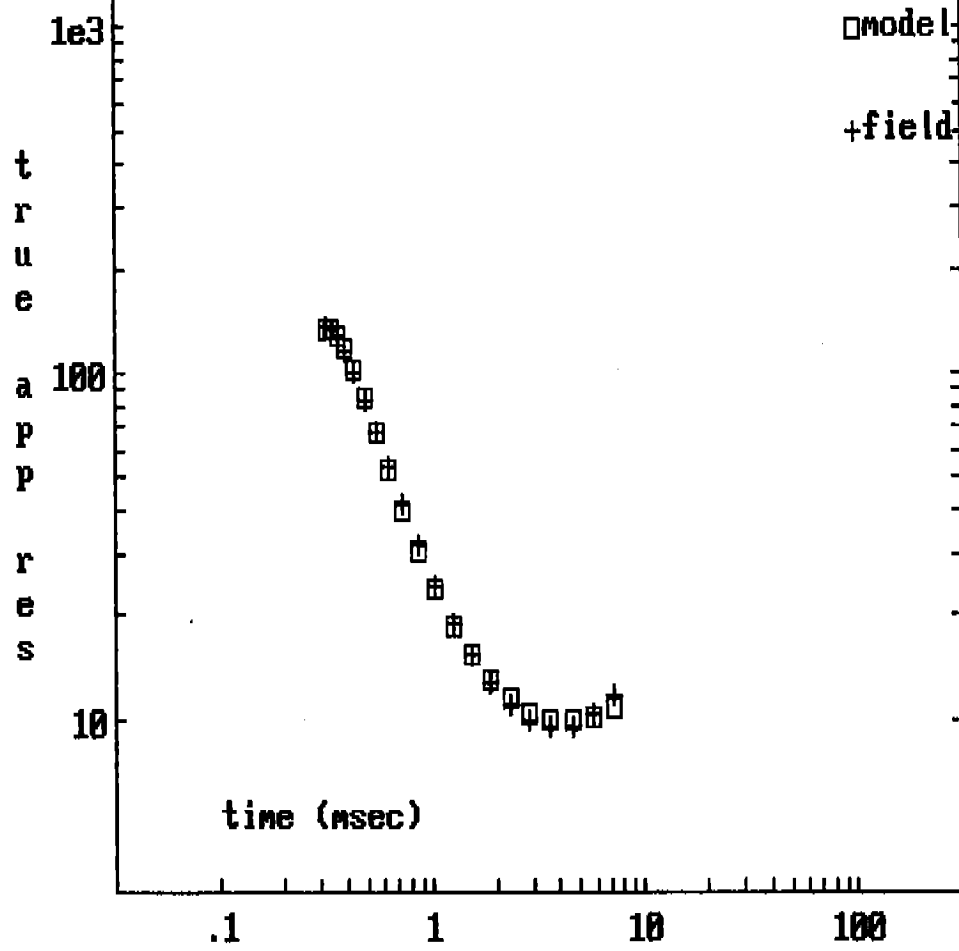
( 203)

STD ERR= 4.8% : S= 19 S

E= 5%  
S= 19S



Sounding 718206 : Ver 1



SOUNDING: 718226 : Vers 1  
Mongala M0718/226 25 Hz

718226A

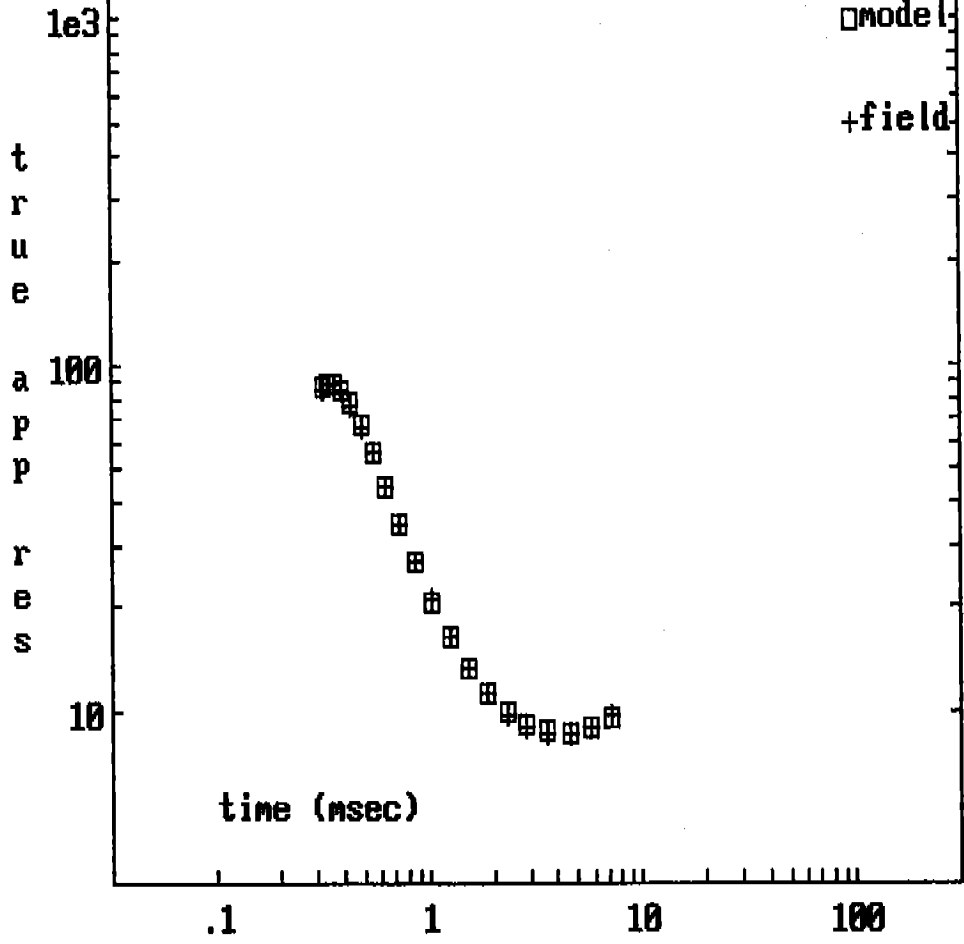
~~21.7 ohm.m~~ ~~9.9 m~~ 9.9 m.  
77.3 ohm.m \* 67.1 m.  
\* 2.3 ohm.m \* 43.1 m. \* 77.0 m.  
\* 120 m.  
( 202 ohm.m)

~~21.7~~  
77.3  
\* 2.3  
( 202)

STD ERR- 1.7% : S- 20 S

E= 2%  
S= 20S

Sounding 718226 : Ver 1



SOUNDING: 718242 : Vers 1  
Mongala M0718/242 25 Hz

718242A

~~( 143 ohm.m) ( 1.7 m.)~~ 1.7 m.

~~( 1.3 )~~

\* 21.0 ohm.m \* 70.0 m.

\* 21.0

~~\* 1.3 ohm.m \* 19.4 m~~ \* 71.7 m.  
\* 91.1 m.

~~\* 1.3~~

( 195 ohm.m)

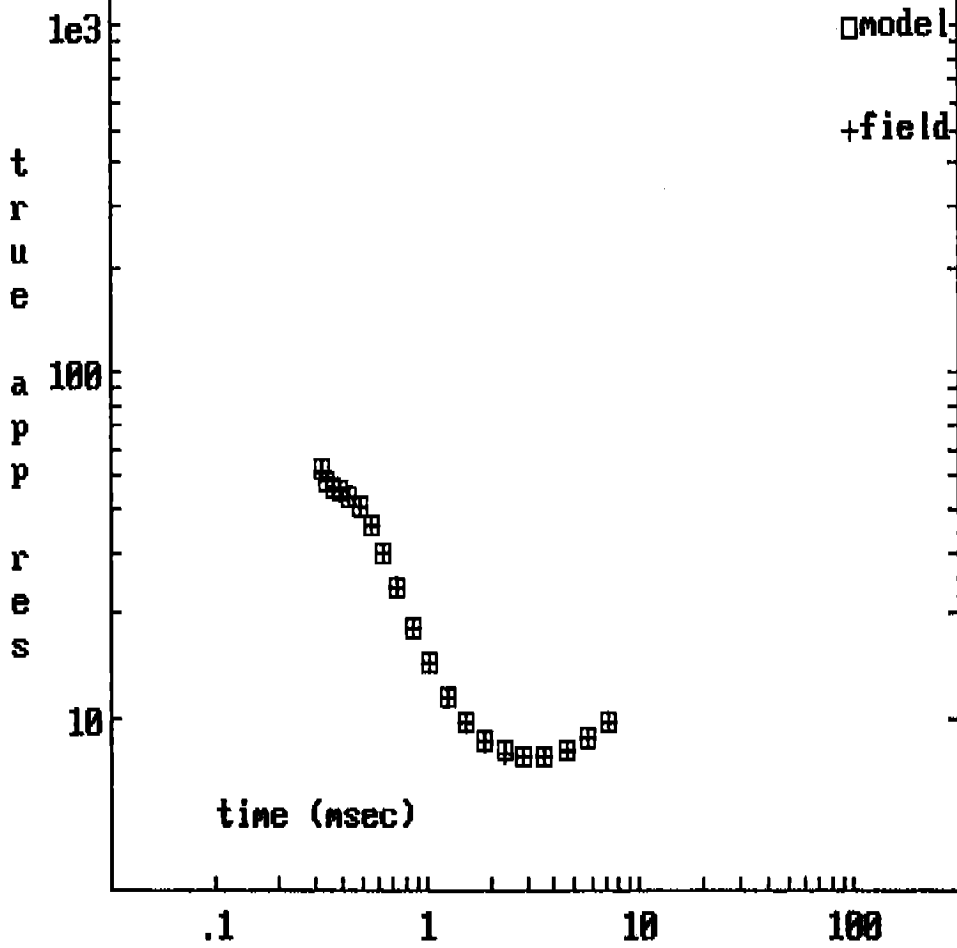
( 195)

STD ERR= .8% : S= 18 S

E= 1%

S= 18S

Sounding 718242 : Ver 1



SOUNDING: 718242 : Vers 2  
Mongala M0718/242 6.25 Hz

718242A

\* 21.5 ohm.m      \* 70.4 m.

\* 21.5

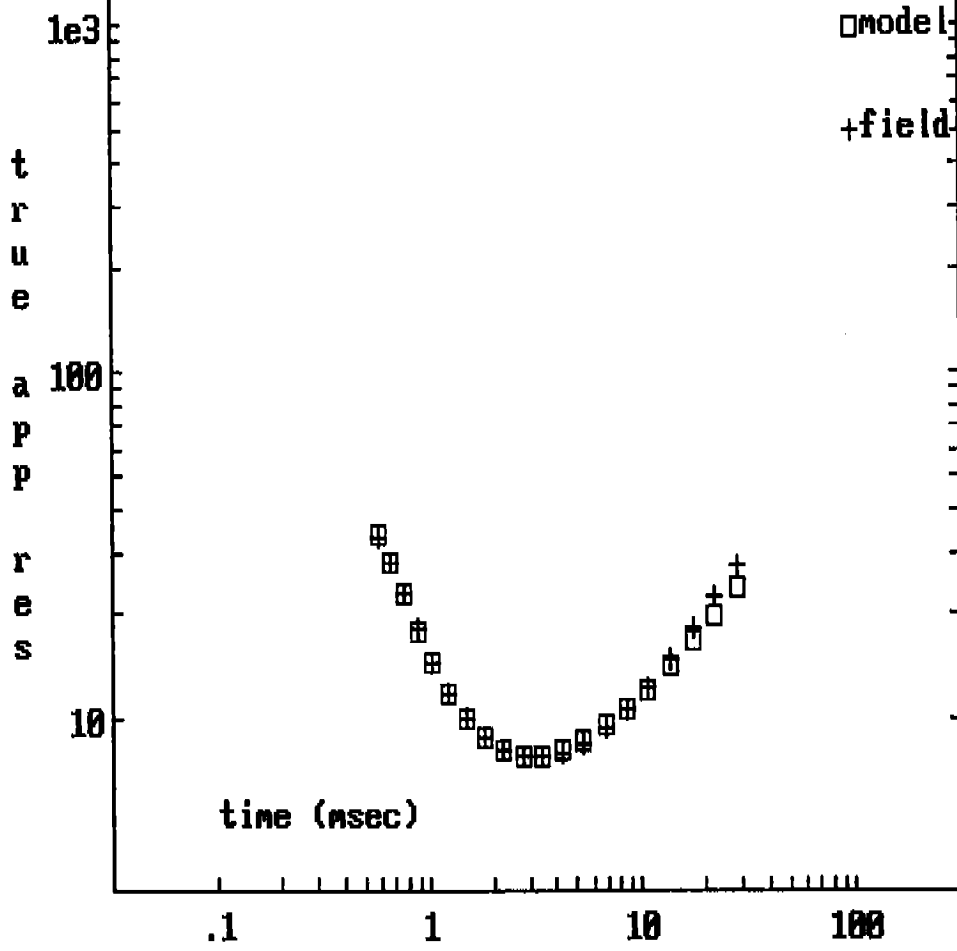
~~.27 ohm.m      3.7 m \* 80.0 m.~~  
( 610 ohm.m)

~~.27~~  
( 610)

STD ERR= 2.3% : S= 17 S

E= 2%  
S= 17S

Sounding 718242 : Ver 2



SOUNDING: 718258 : Vers 1  
Mongala M0718/258 25 Hz

718258A

\* 70.6 ohm.m      \* 52.2 m  
\* 52.2 m.

\* 70.6

\* 48.6 ohm.m      \* 403 m.

\* 48.6

-----\* 456 m.  
(89.2 ohm.m)

(89.2)

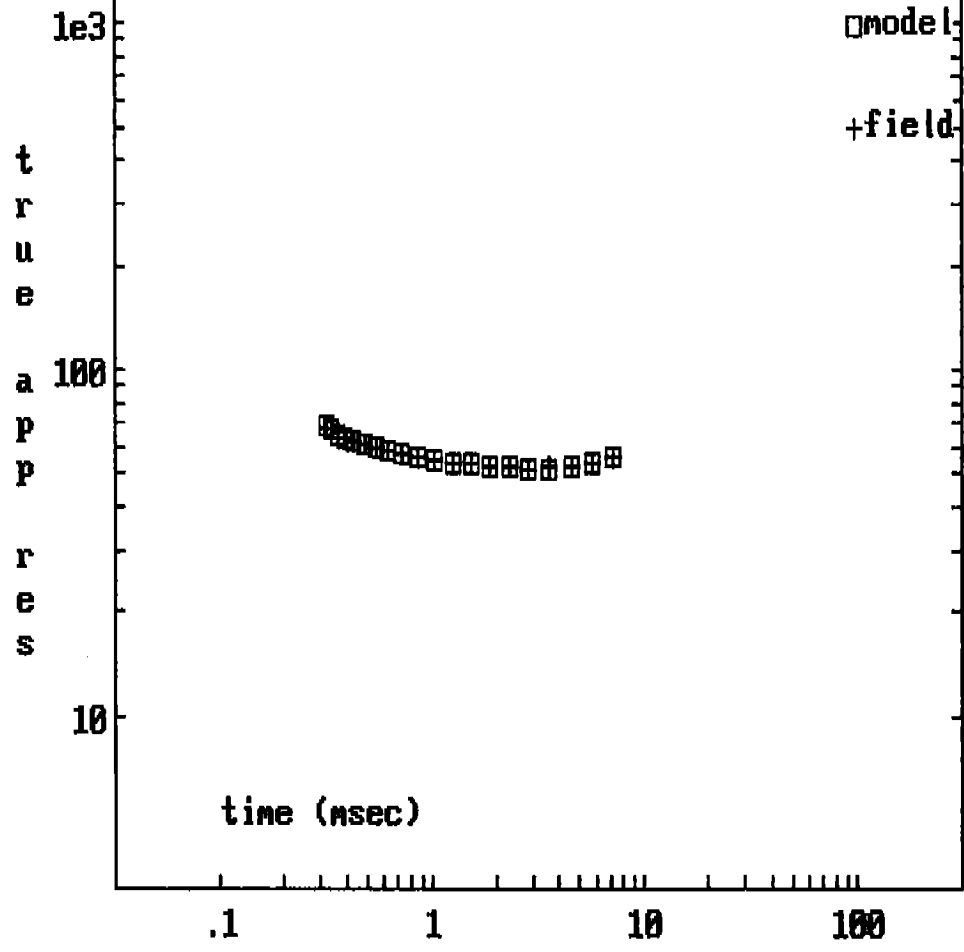
STD ERR- .8% : S- 9 S

E= 1%

S= 95



Sounding 718258 : Ver 1



SOUNDING: 718258 : Vers 2  
Mongala M0718/258 6.25 Hz

718258A

\* 70.6 ohm.m      (52.7 m.) {52.7 m.}

\* 70.6

\* 49.0 ohm.m      \* 452 m.

\* 49.0

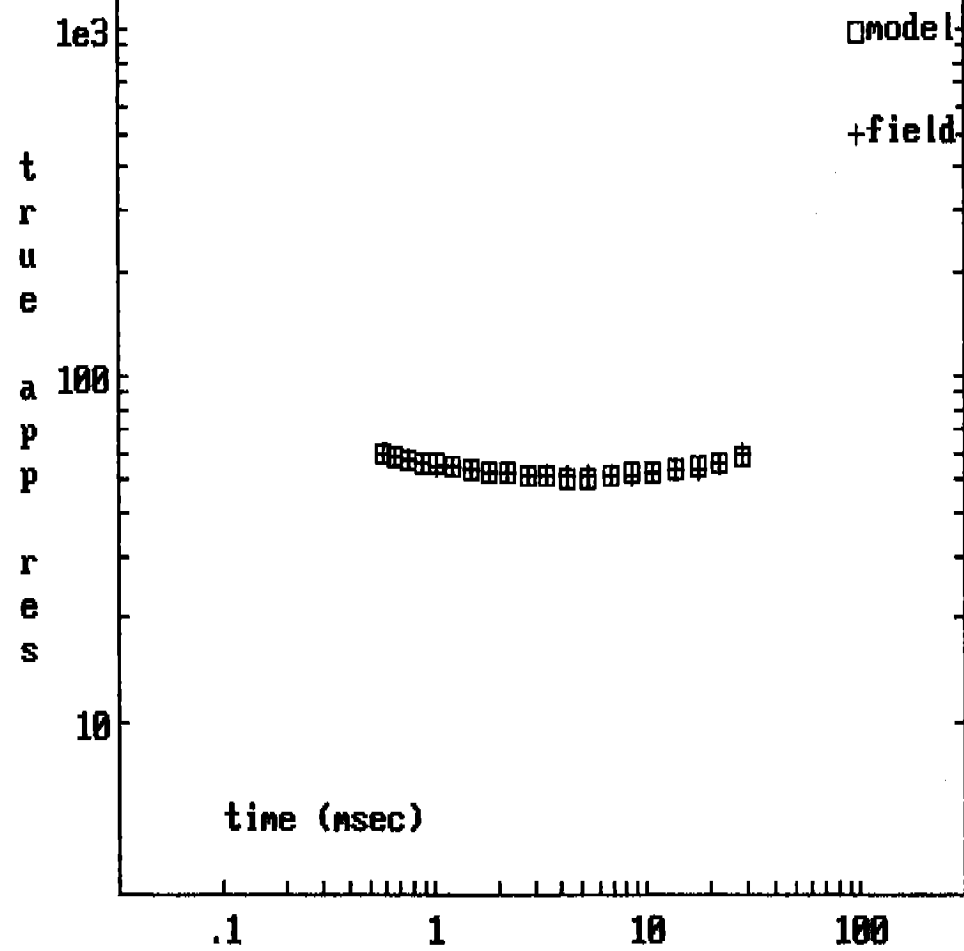
-----\* 505 m.  
\* 79.0 ohm.m

\* 79.0

STD ERR- 1.2% : S- 10 S

E= 1%  
S= 10S

Sounding 718258 : Ver 2



SOUNDING: 718274 : Vers 1  
Mongala M0718/274 25 Hz

718274A

185 ohm.m \* 29.1 m \* 29.1 m.  
\* 16.1 ohm.m 43.1 m \* 72.2 m.

185  
\* 16.1

201 ohm.m \* 225 m.

201

----- \* 297 m.

\* 38.7 ohm.m 301 m.

\* 38.7

----- 598 m.

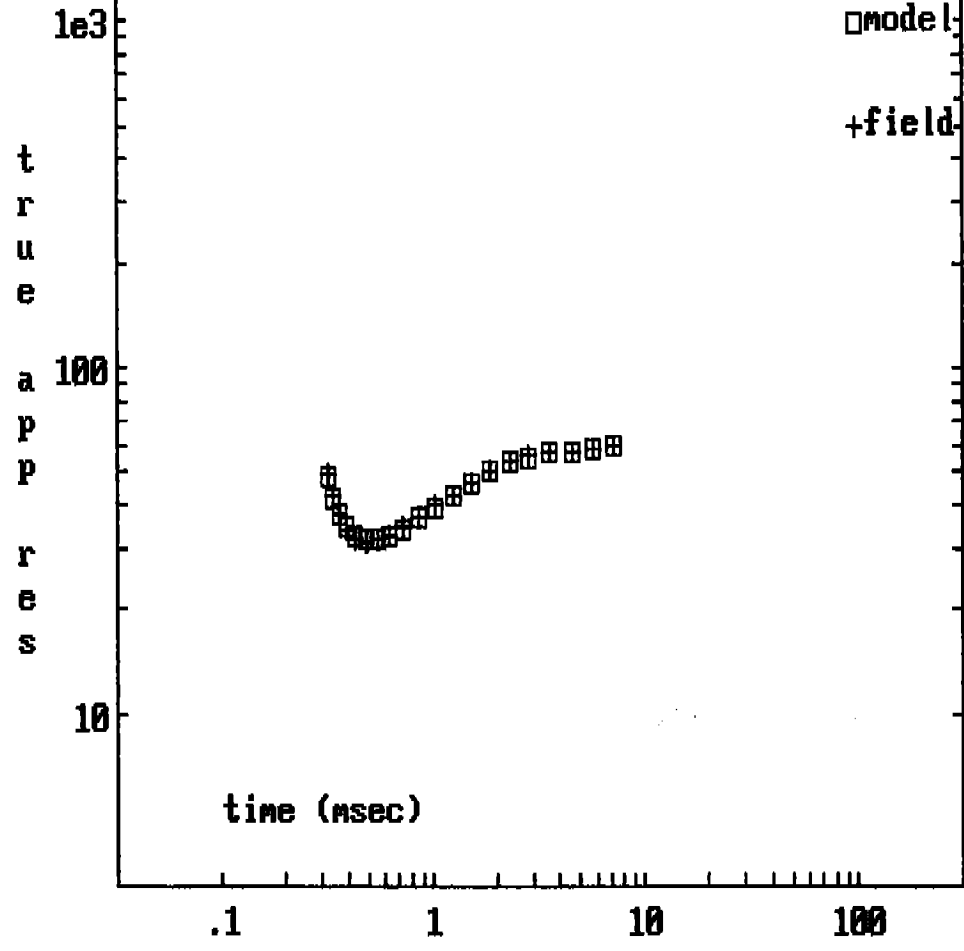
183 ohm.m

-----  
183

STD ERR= 1.1% : S= 12 S

E= 1%  
S= 12S

Sounding 718274 : Ver 1



SOUNDING: 718274 : Vers 2  
Mongala M0718/274 6.25 Hz

718274A

~~18.9 ohm.m~~ \* ~~27.1 m~~ 27.1 m:  
~~\* 18.9 ohm.m~~ \* 24.9 m  
( 221 ohm.m) \* 193 m.  
\* 265 m.

~~18.9~~  
~~\* 18.9~~  
( 221)

\* 40.1 ohm.m \* 719 m.

\* 40.1

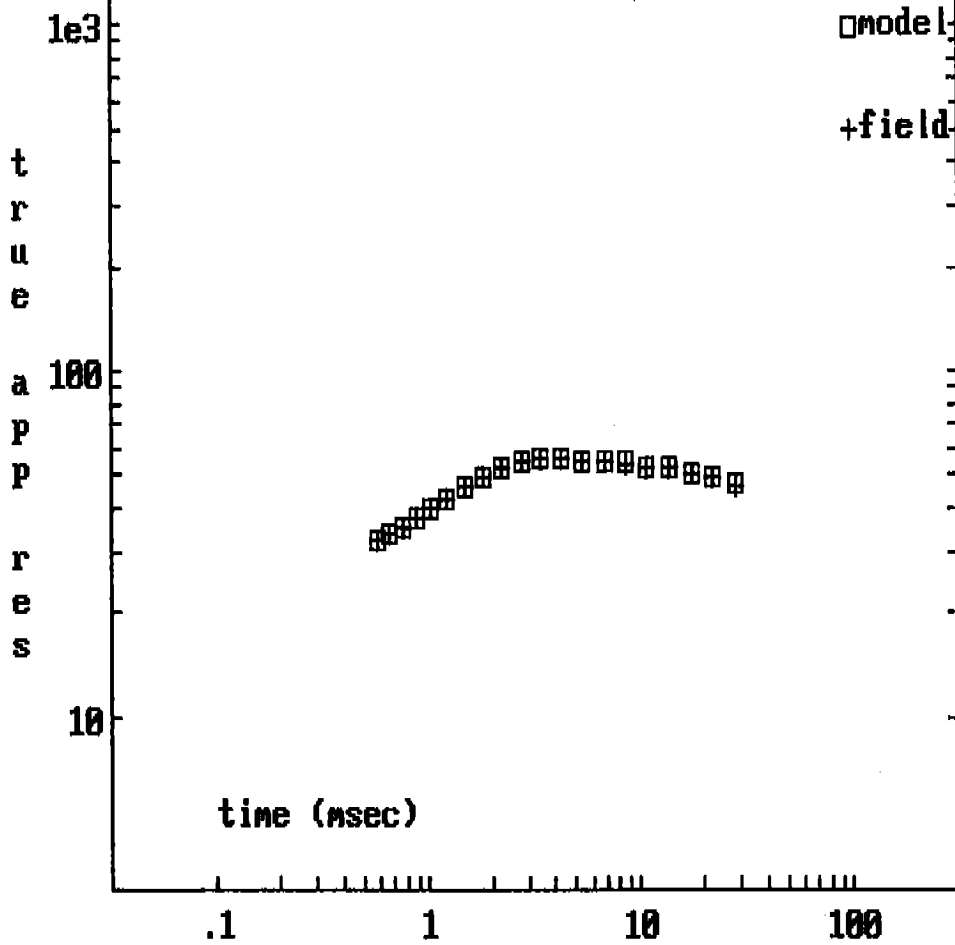
\_\_\_\_\_ \* 984 m.  
(16.4 ohm.m)

\_\_\_\_\_  
(16.4)

STD ERR- 1.2% : S- 22 S

E= 1%  
S= 22S

Sounding 718274 : Ver 2



SOUNDING: 718290 : Vers 1  
Mongala M0718/290 25 Hz

718290A

( 187 ohm.m)	* 24.3 m	* 24.3 m.
10.6 ohm.m	30.2 m	* 54.6 m.

( 187)
10.6

( 195 ohm.m) \* 144 m.

( 195)

\_\_\_\_\_ \* 199 m.  
\* 47.9 ohm.m

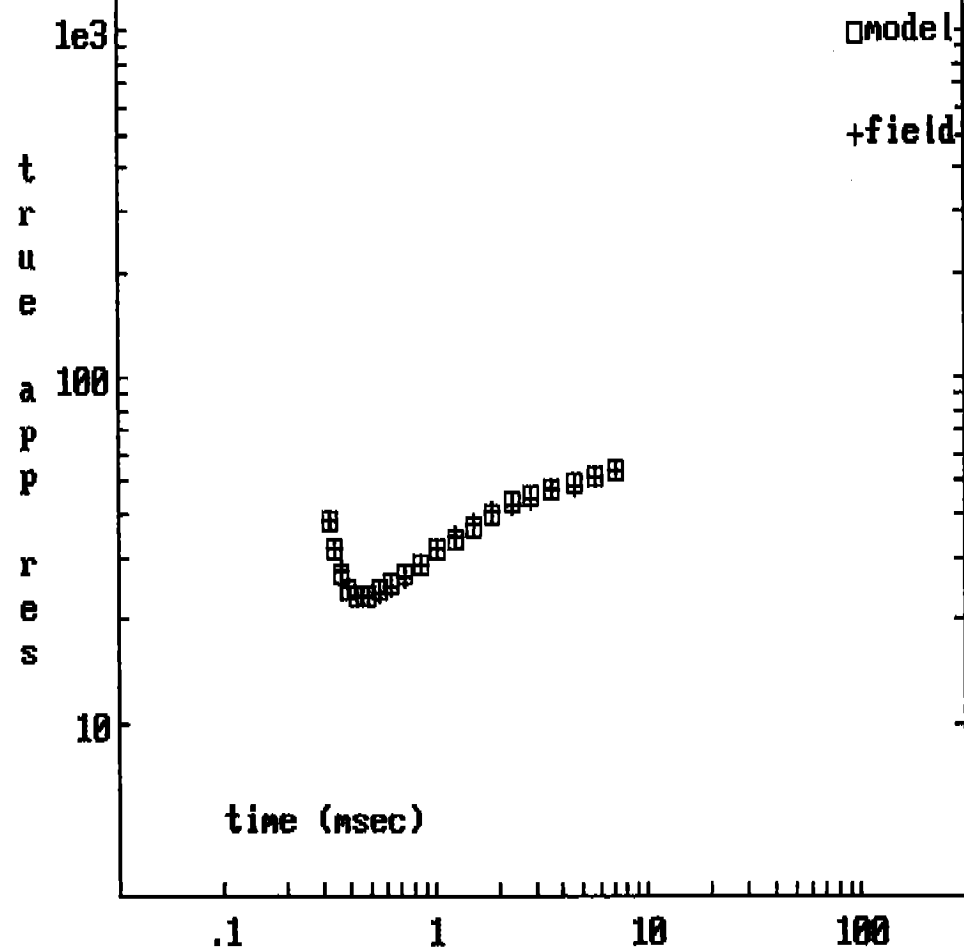
\_\_\_\_\_  
\* 47.9

STD ERR= 1.5% : S= 4 S

E= 1%  
S= 4S



Sounding 718290 : Ver 1



SOUNDING: 718290 : Vers 2  
Mongala M0718/290 6.25 Hz

718290A

177 ohm.m	17.5 m	17.5 m.
12.5 ohm.m	33.7 m.	* 51.3 m.

177
12.5

( 181 ohm.m) \* 118 m.

( 181)

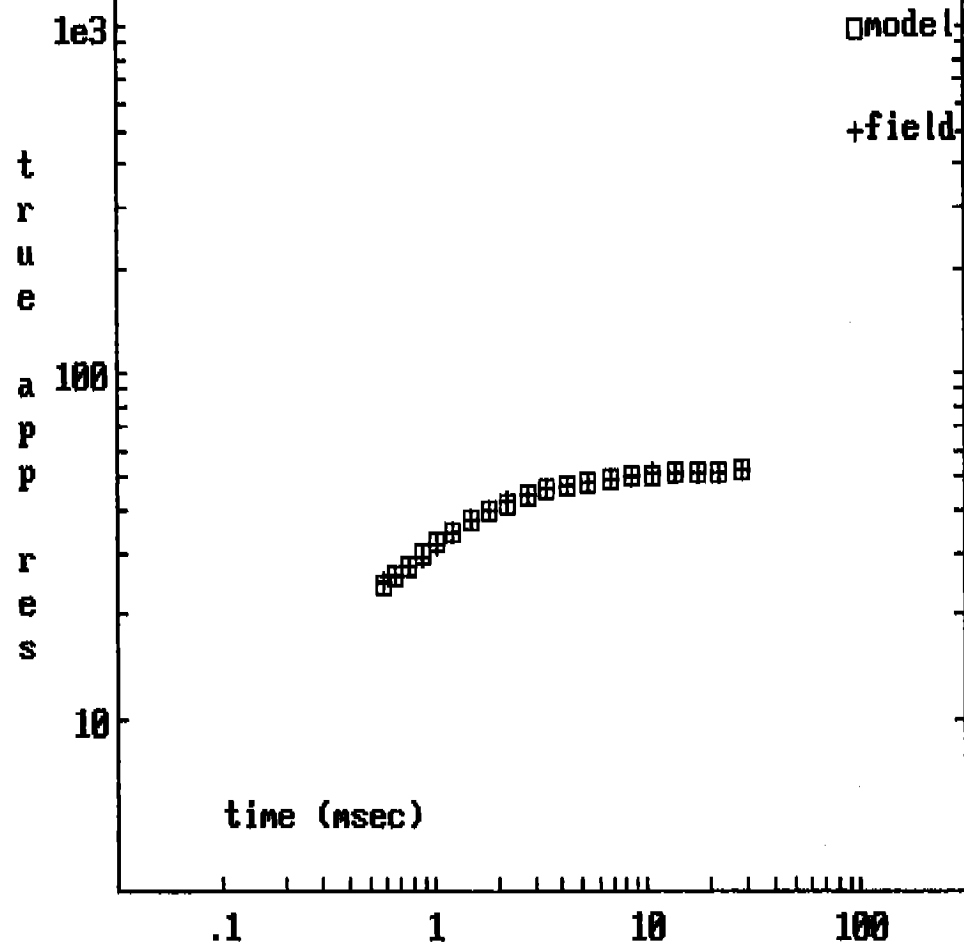
\* 53.9 ohm.m \* 169 m.

\* 53.9

STD ERR- 1.4% : S- 3 S

E= 1%  
S= 3S

Sounding 718290 : Ver 2



SOUNDING: 734216 : Vers 1  
Mongala M0734/216 25 Hz

734216A

( 261 ohm.m) \* 14.4 m.  
\* 2.2 ohm.m \* 14.4 m.

( 261)  
\* 2.2

STD ERR= 2.1% : S= 0 S

E= 2%  
S= 05

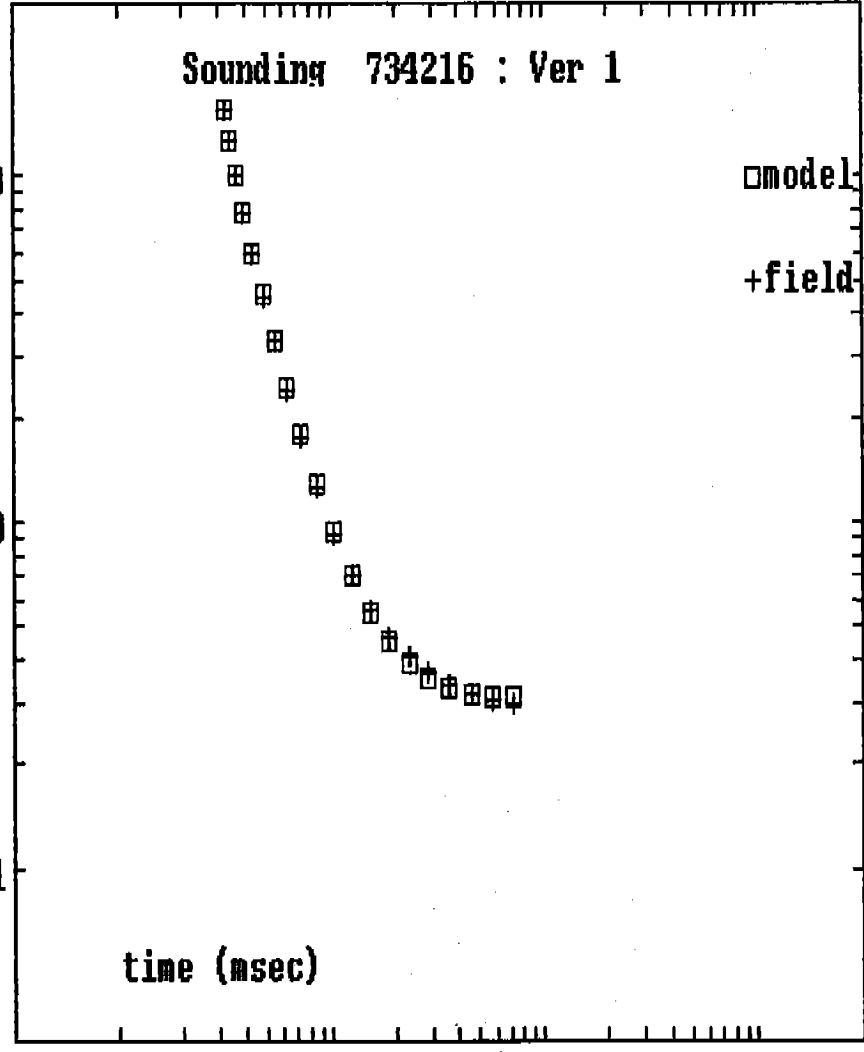
Sounding 734216 : Ver 1

100  
true  
app  
res  
1

□model  
+field

time (nsec)

.1 1 10 100



SOUNDING: 734216 : Vers 2  
Mongala M0734/216 6.25 Hz

734216A

---

( 261 ohm.m) \* 17.4 m.  
\* 17.4 m.

---

( 261)

\* 2.4 ohm.m \* 114 m.

\* 2.4

---

( 499 ohm.m) \* 132 m.

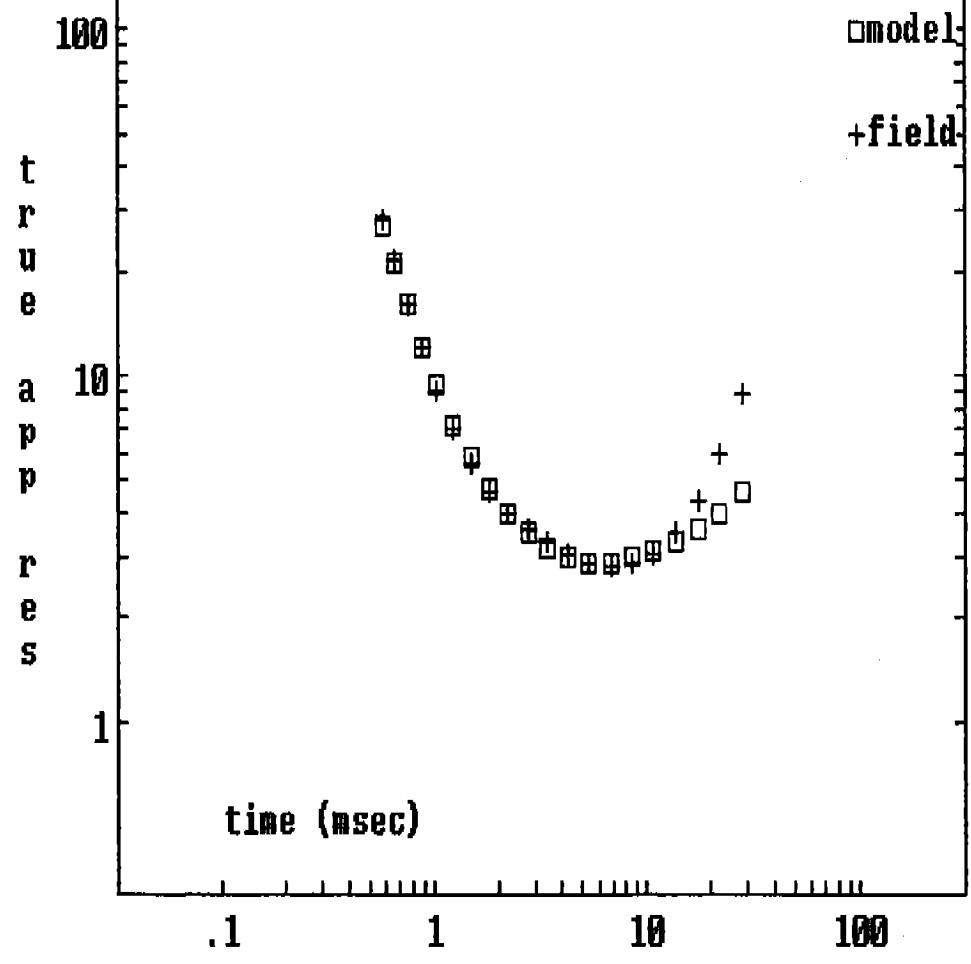
---

( 499)

STD ERR= 3.4% : S= 49 S

E= 3%  
S= 49S

Sounding 734216 : Ver 2



SOUNDING: 734226 : Vers 1  
Mongala M0734/226 25 Hz

734226A

( 379 ohm.m) \* 53.6 m.

( 379)

~~8.6 ohm.m~~ ~~13.1 m~~ \* 53.6 m.

~~8.6~~

\* 918 ohm.m \* 233 m.

\* 918

\_\_\_\_\_ \* 300 m.  
\* 25.1 ohm.m

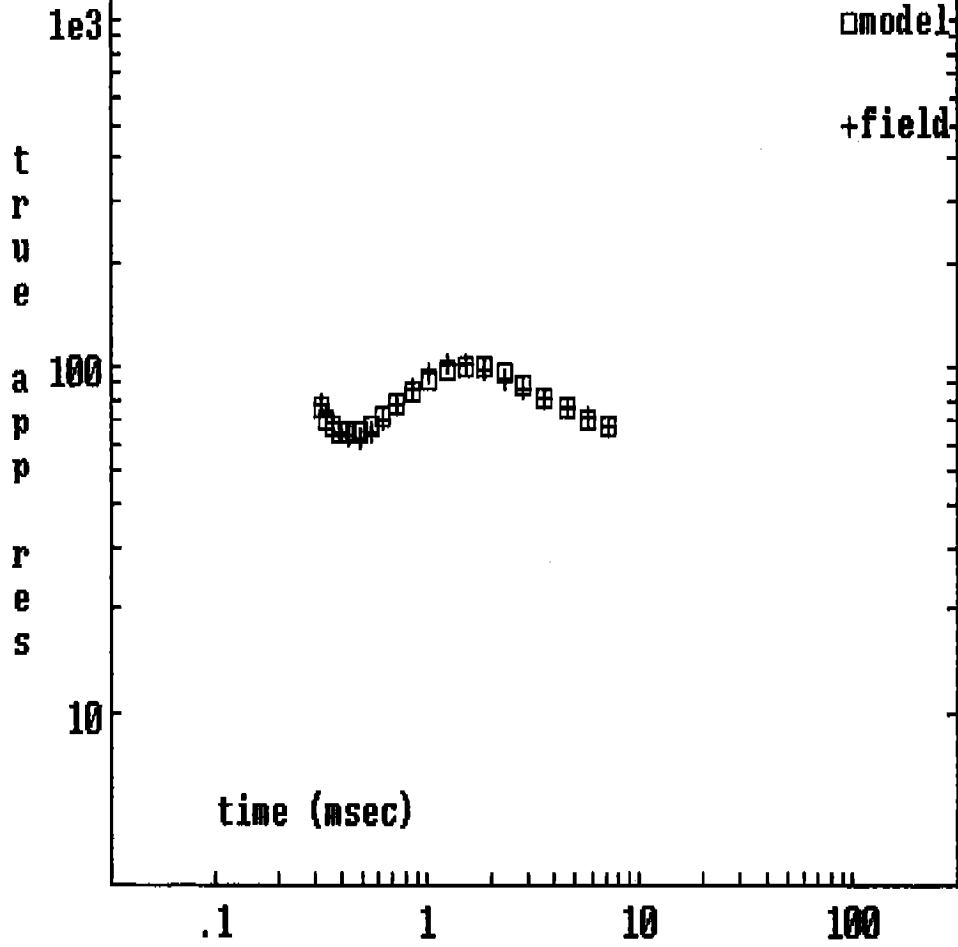
\_\_\_\_\_  
\* 25.1

STD ERR- 4.2% : S- 2 S

E= 4%  
S= 25



Sounding 734226 : Ver 1



SOUNDING: 734226 : Vers 2  
Mongala M0734/226 6.25 Hz

734226A

---

\* 45.0 ohm.m      \* 66.4 m.  
-----\* 66.4 m.

---

\* 45.0

---

( 385 ohm.m)      \* 241 m.

( 385)

---

-----\* 307 m.  
\* 23.4 ohm.m

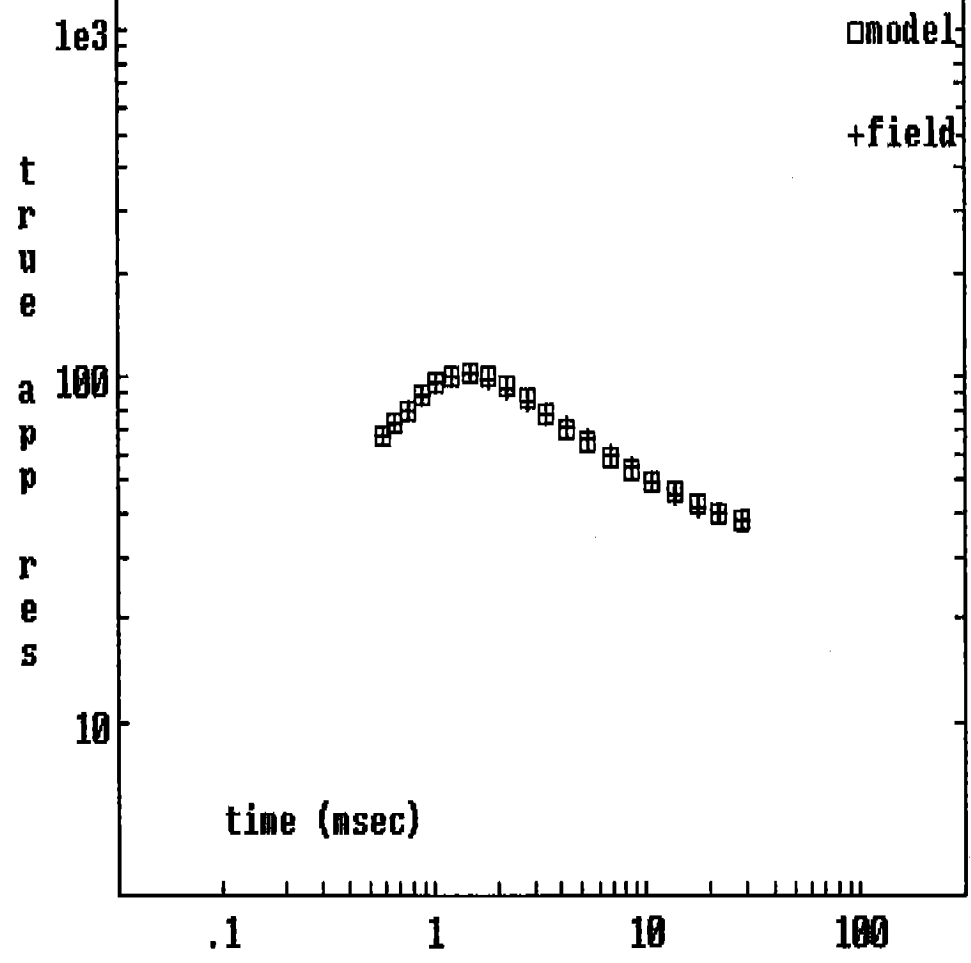
---

\* 23.4

STD ERR- 2.5% : S- 2 S

E= 3%  
S= 25

Sounding 734226 : Ver 2



SOUNDING: 782226 : Vers 1  
Mongala M0762/226 25 Hz

782226A

* 31.9 ohm.m	* 50.9 m	* 50.8 m
* 6.4 ohm.m	* 30.9 m	* 31.8 m

* 31.9
* 6.4

( 740 ohm.m) \* 440 m.

( 740)

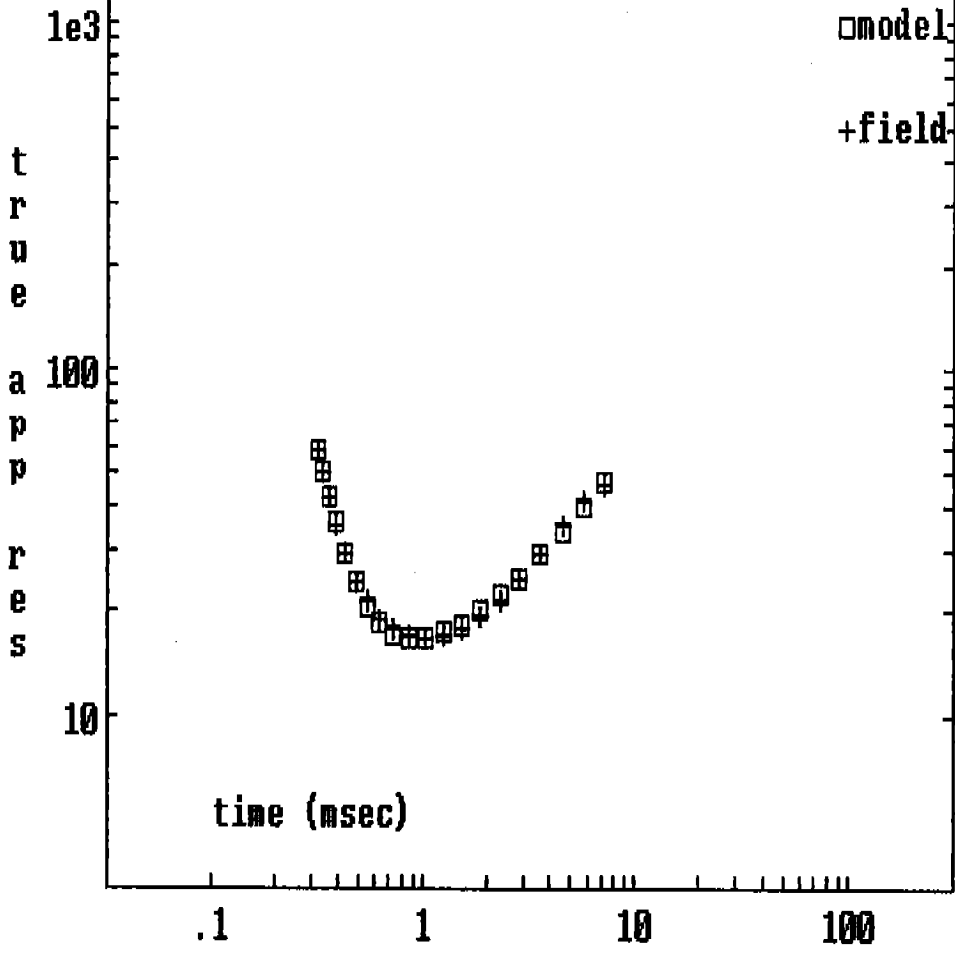
\_\_\_\_\_ \* 522 m.  
( 6.3 ohm.m)

\_\_\_\_\_  
( 6.3)

STD ERR= 3.3% : S= 7 S

E= 3%  
S= 7S

Sounding 762226 : Ver 1



SOUNDING: 762226 : Vers 2  
Mongala M0762/226 6.25 Hz

762226A

50.2 ohm.m \* 48.6 m.  
4.3 ohm.m \* 21.2 m. 48.6 m.

50.2  
4.3

( 276 ohm.m) \* 421 m.

( 276)

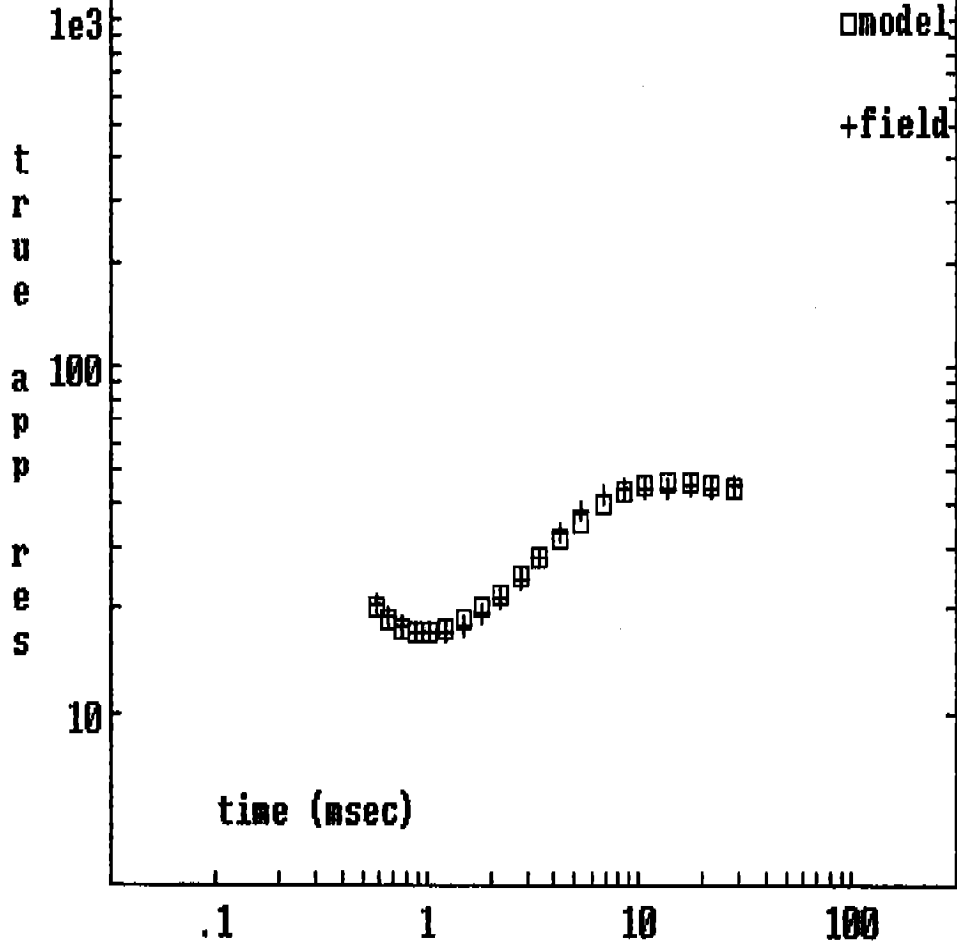
\_\_\_\_\_ \* 491 m.  
\* 29.0 ohm.m

\_\_\_\_\_  
\* 29.0

STD ERR= 4.8% : S= 7 S

E= 5%  
S= 7S

Sounding 762226 : Ver 2



SOUNDING: 782156 : Vers 1  
Mongala M0782/156 25 Hz

782156A

* 149 ohm.m	* 20.4 m	* 20.4 m.
* 6.8 ohm.m	* 62.0 m.	
		* 82.5 m.
157 ohm.m		

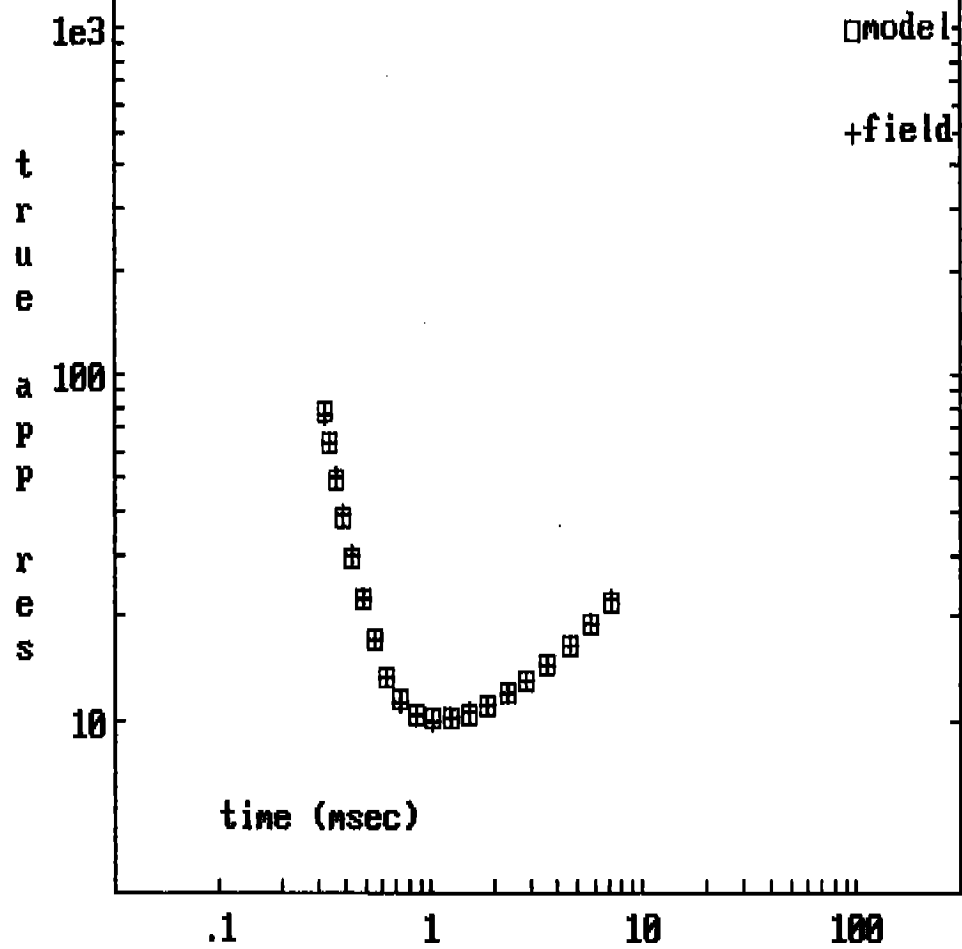
* 149
* 6.8
157

STD ERR= .8% : S= 9 S

E= 1%  
S= 95



Sounding 782156 : Ver 1



SOUNDING: 782156 : Vers 2  
Mongala M0782/156 6.25 Hz

782156A

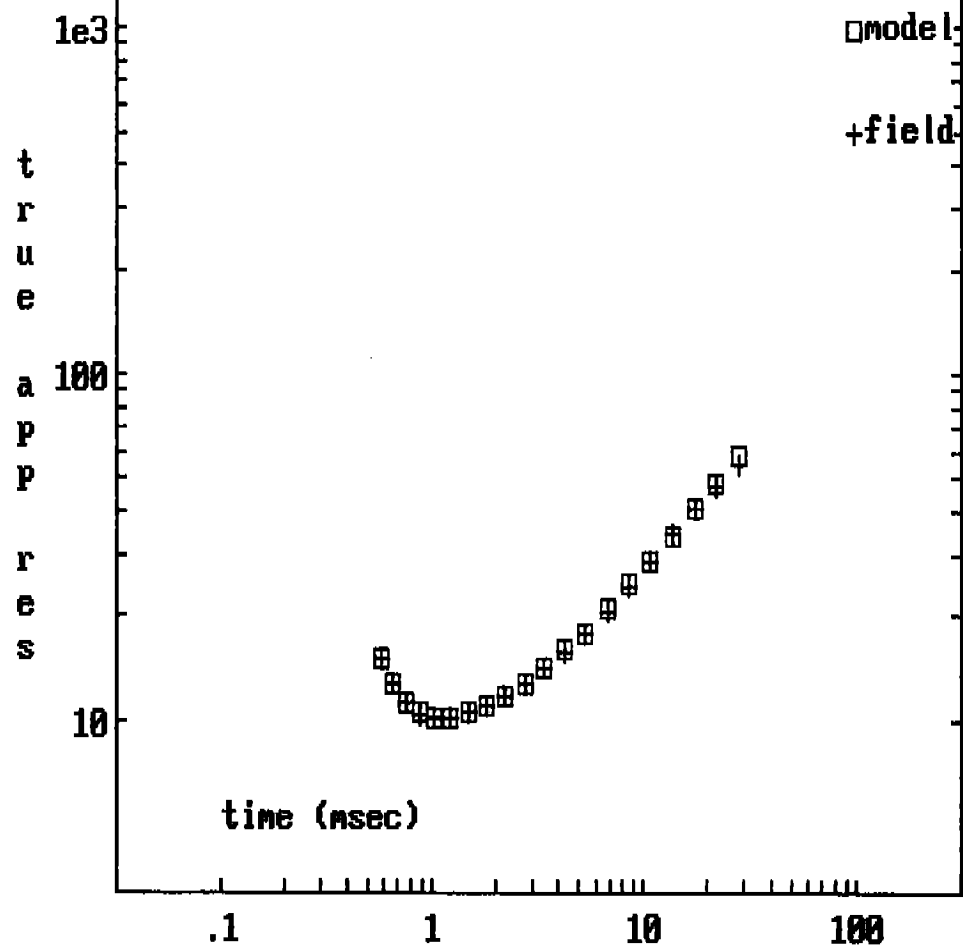
<hr/>	149 ohm.m	* 18.9 m	18.3 m.
	* 7.5 ohm.m	* 72.6 m.	
<hr/>		* 90.9 m.	
	419 ohm.m		

<hr/>	149
* 7.5	
<hr/>	419

STD ERR= 1.5% : S= 10 S

E= 1%  
S= 10S

Sounding 782156 : Ver 2



SOUNDING: 782166 : Vers 1  
Mongala M0782/166 25 Hz

782166A

---

\* 41.1 ohm.m      \* 56.2 m.  
-----\* 56.2 m.

---

\* 41.1

---

\* 115 ohm.m      \* 329 m.

\* 115

---

\* 48.7 ohm.m      \* 385 m.

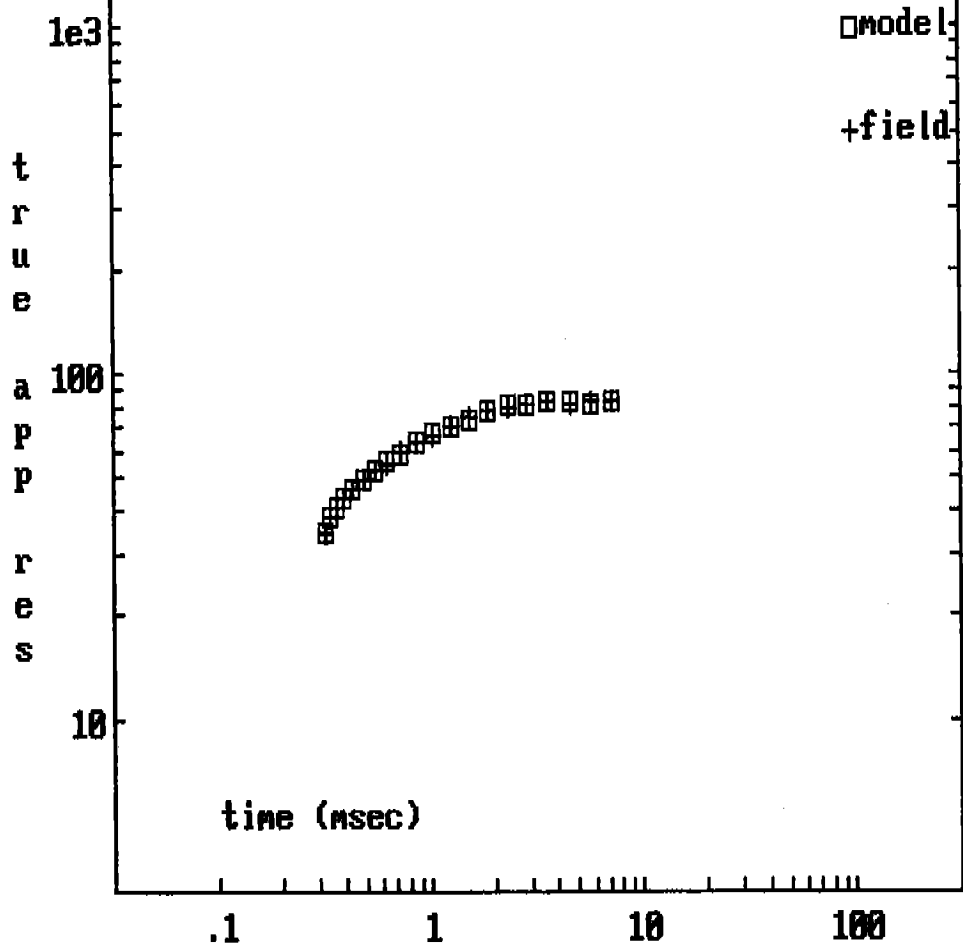
---

\* 48.7

STD ERR= .5% : S= 4 S

E= 0%  
S= 45

Sounding 782166 : Ver 1



SOUNDING: 782166 : Vers 2  
Mongala M0782/166 6.25 Hz

782166A

---

\* 39.3 ohm.m          52.8 m.  

---

52.8 m.

---

\* 39.3

---

\* 122 ohm.m          \* 278 m.

\* 122

---

\* 60.4 ohm.m          \* 332 m.

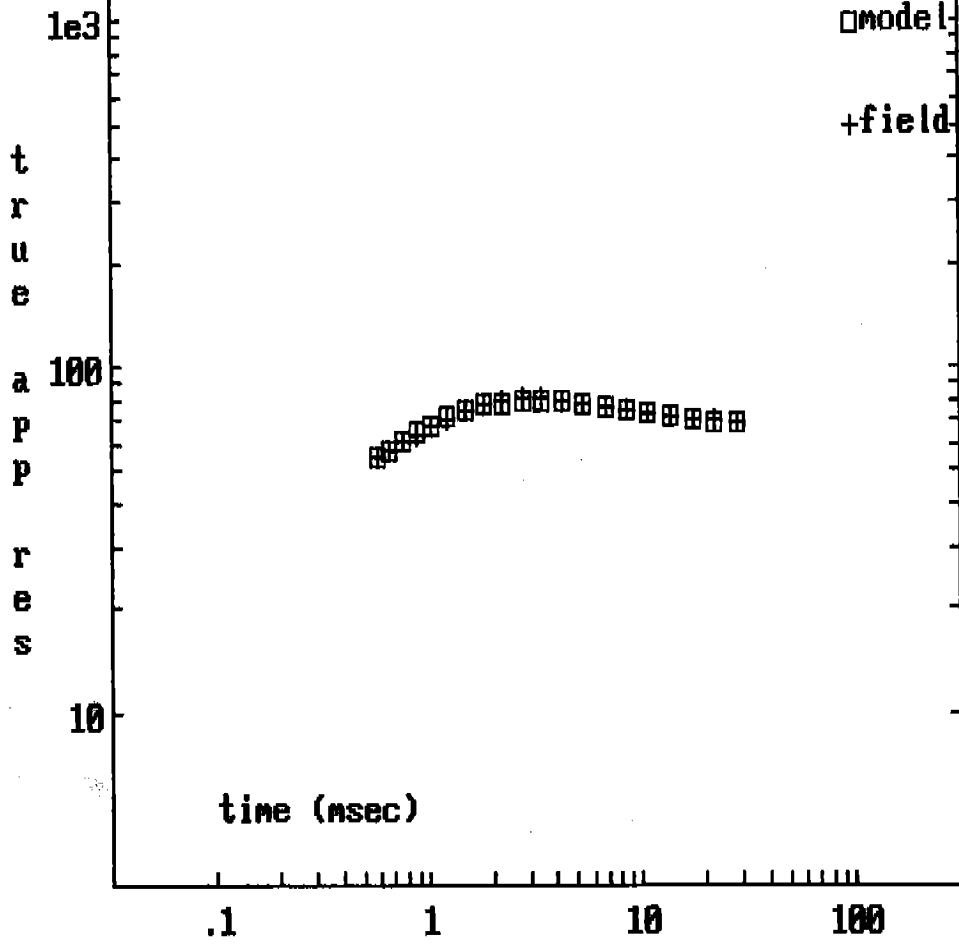
---

\* 60.4

STD ERR= 1.2% : S= 4 S

E= 1%  
S= 4S

Sounding 782166 : Ver 2



SDOUNDING: 782178 : Vers 1  
Mongala M0782/178 25 Hz

782178A

---

\* 30.1 ohm.m

\* 79.6 m.

---

\* 30.1

---

\* 79.6 m.

\* 97.5 ohm.m

---

\* 97.5

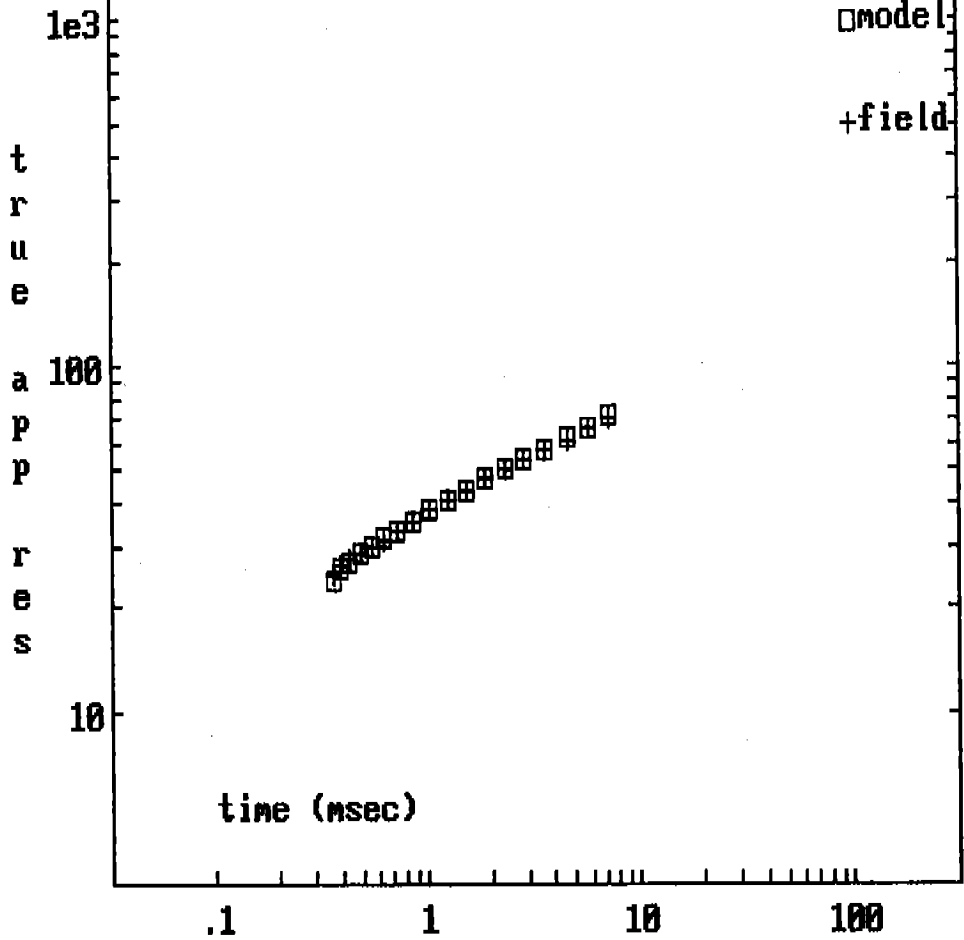
STD ERR= .8% : S= 3 S

E= 1%

S= 3S



Sounding 782176 : Ver 1



SOUNDING: 782176 : Vers 2  
Mongala M0782/176 6.25 Hz

782176A

---

\* 28.1 ohm.m

\* 66.2 m.

---

\* 28.1

---

\* 66.2 m.

\* 91.3 ohm.m

---

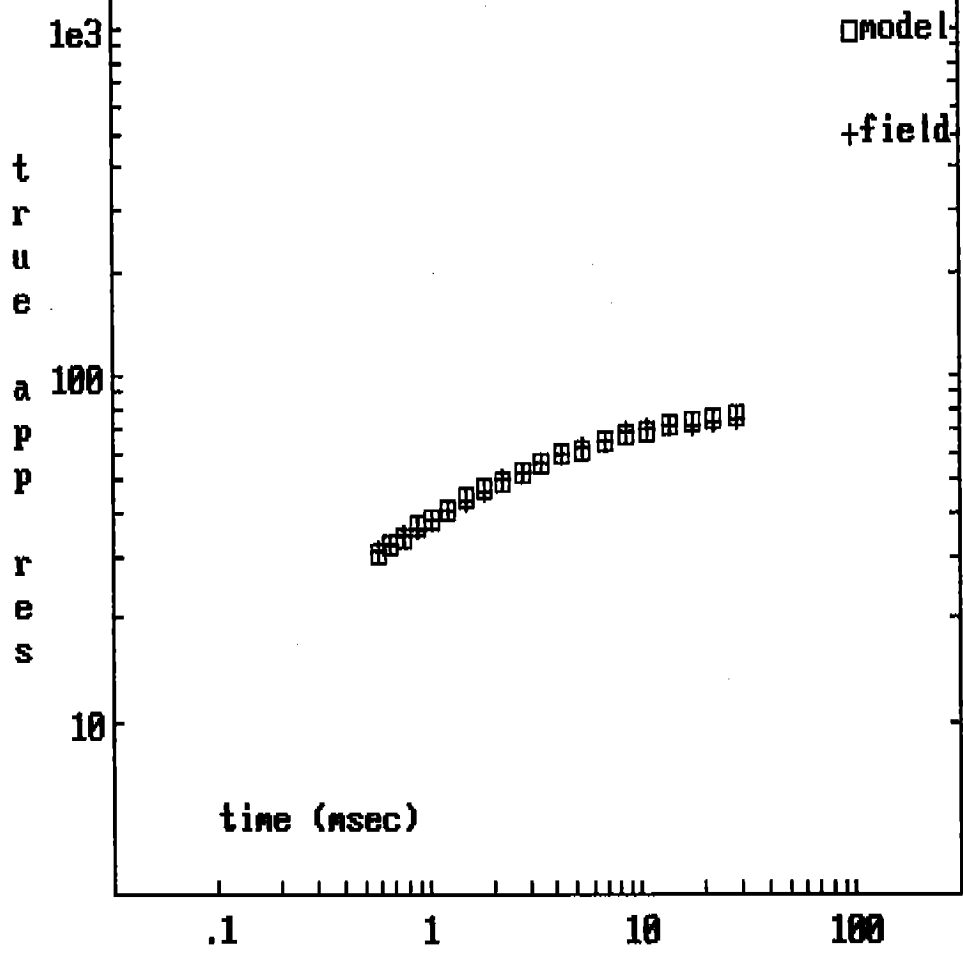
\* 91.3

STD ERR= 1.0% : S= 2 S

E= 2%

S= 25

Sounding 782176 : Ver 2



SOUNDING: 804266 : Vers 1  
Mongala M0804/266 25 Hz

804266A

( 179 ohm.m) \* 13.5 m  
\* 20 ohm.m \* 3.1 m 18.0 m.

( 179)  
\* 20

(67.3 ohm.m)

(84.4 m.)

(67.3)

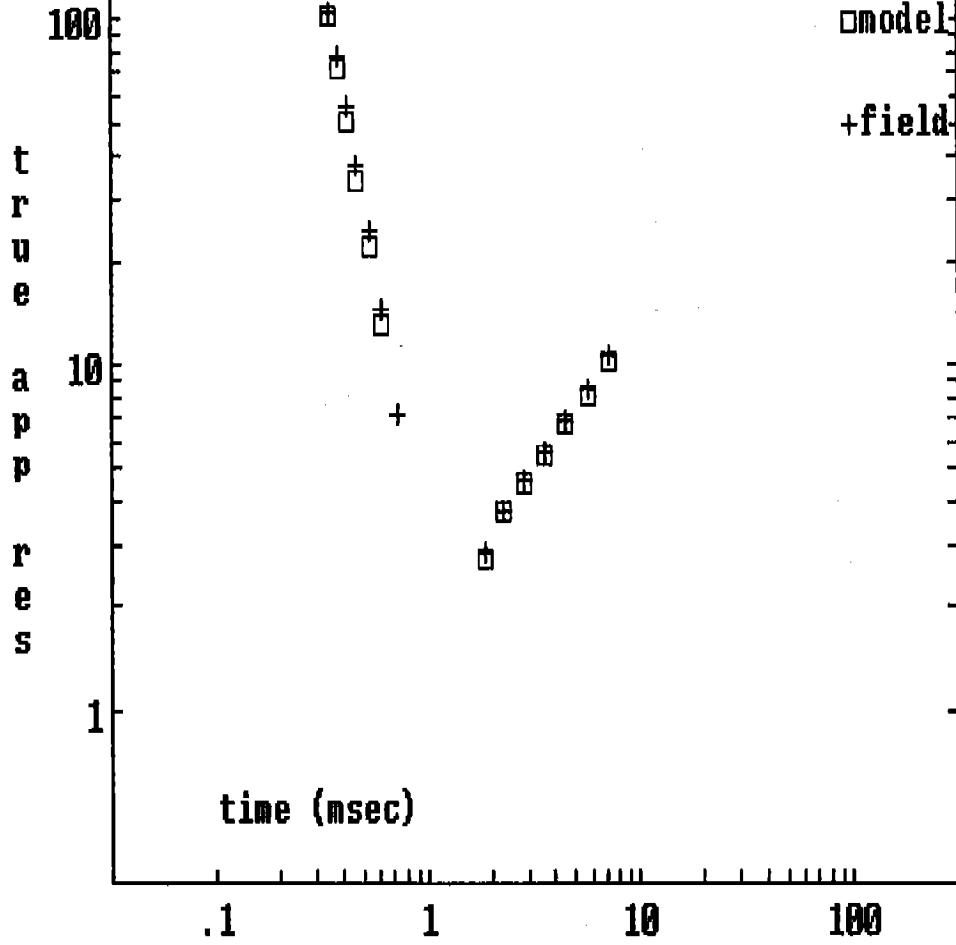
————— ( 101 m.)  
( 755 ohm.m)

—————  
( 755)

STD ERR= 6.7% : S= 14 S

E= 7%  
S= 14S

Sounding 804266 : Ver 1



SOUNDING: 804266 : Vers 2  
Mongala M0804/266 6.25 Hz

804266A

~~(83.22 ohm.m) \* 15.0 m 5.9 m.~~

~~\*83.22~~

( 610 ohm.m) \* 895 m.

( 610)

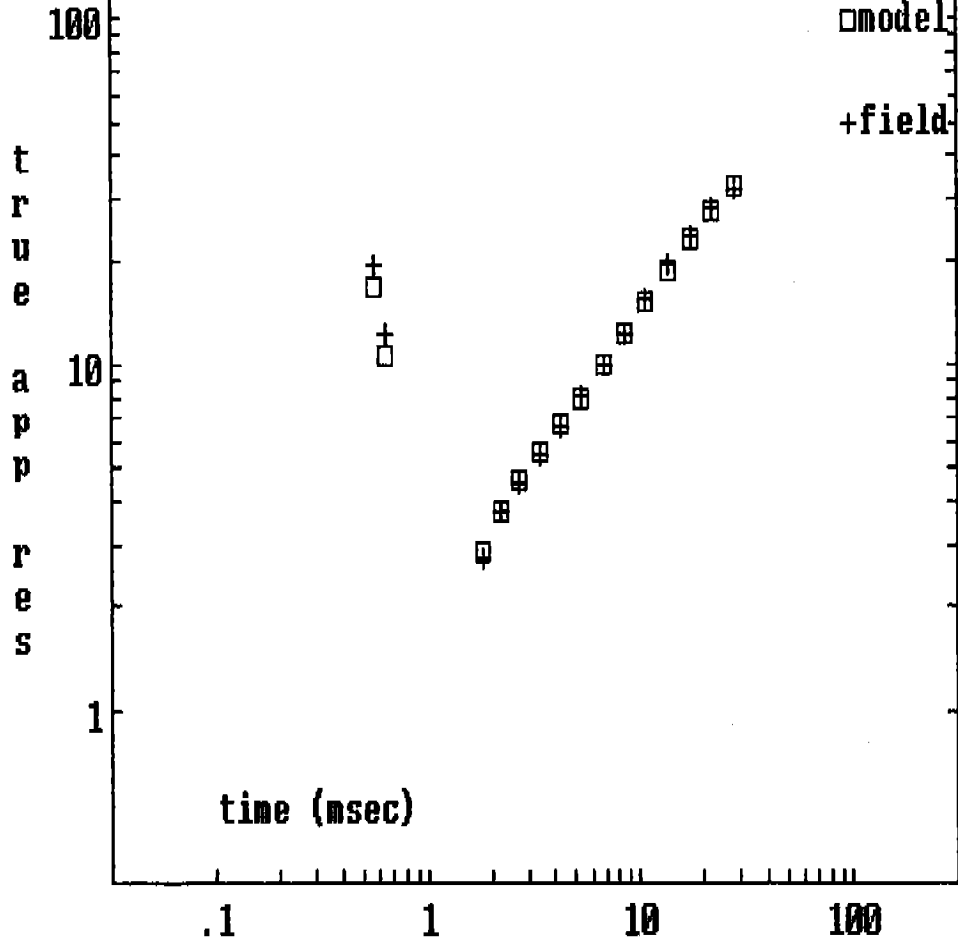
————— ( 913 m.)  
(24.0 ohm.m)

—————  
(24.0)

STD ERR= 4.6% : S= 14 S

E= 5%  
S= 14S

Sounding 804266 : Ver 2



SOUNDING: 804282 : Vers 1  
Mongala M0804/282 25 Hz

804282A

<u>129 ohm.m</u>	<u>* 12.2 m</u>	12.2 m.
* 3.0 ohm.m	* 31.7 m	* 43.9 m.

<u>129</u>
* 3.0

19.0 ohm.m                      108 m.

19.0

\_\_\_\_\_ 152 m.  
( 107 ohm.m)

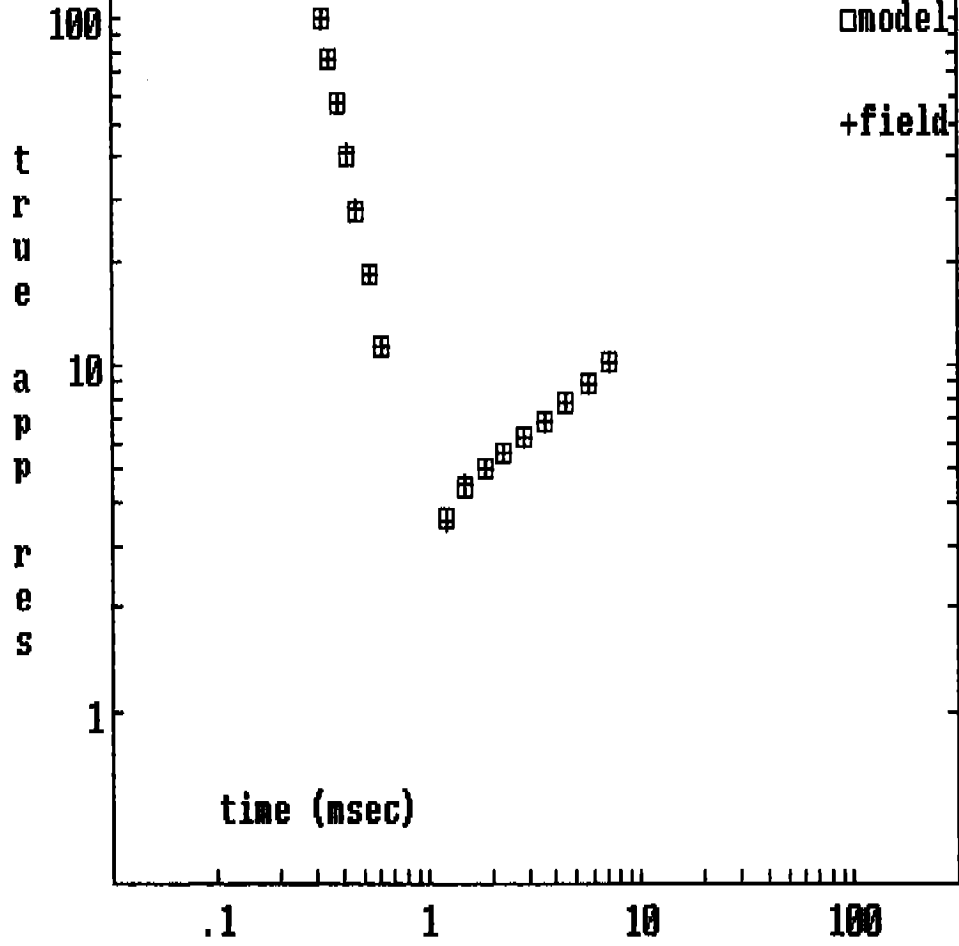
\_\_\_\_\_ ( 107)

STD ERR= .6% : S= 16 S

E= 1%  
S= 16S



Sounding 804282 : Ver 1



SOUNDING: 804282 : Vers 2  
Mongala M0804/282 6.25 Hz

804282A

~~127 ohm.m~~      ~~9.1 m.~~  
\* 5.7 ohm.m      42.7 m. \* 51.8 m.  
19.7 ohm.m      92.6 m.  
144 m.

~~127~~  
\* 5.7  
19.7

208 ohm.m      ( 692 m.)

208

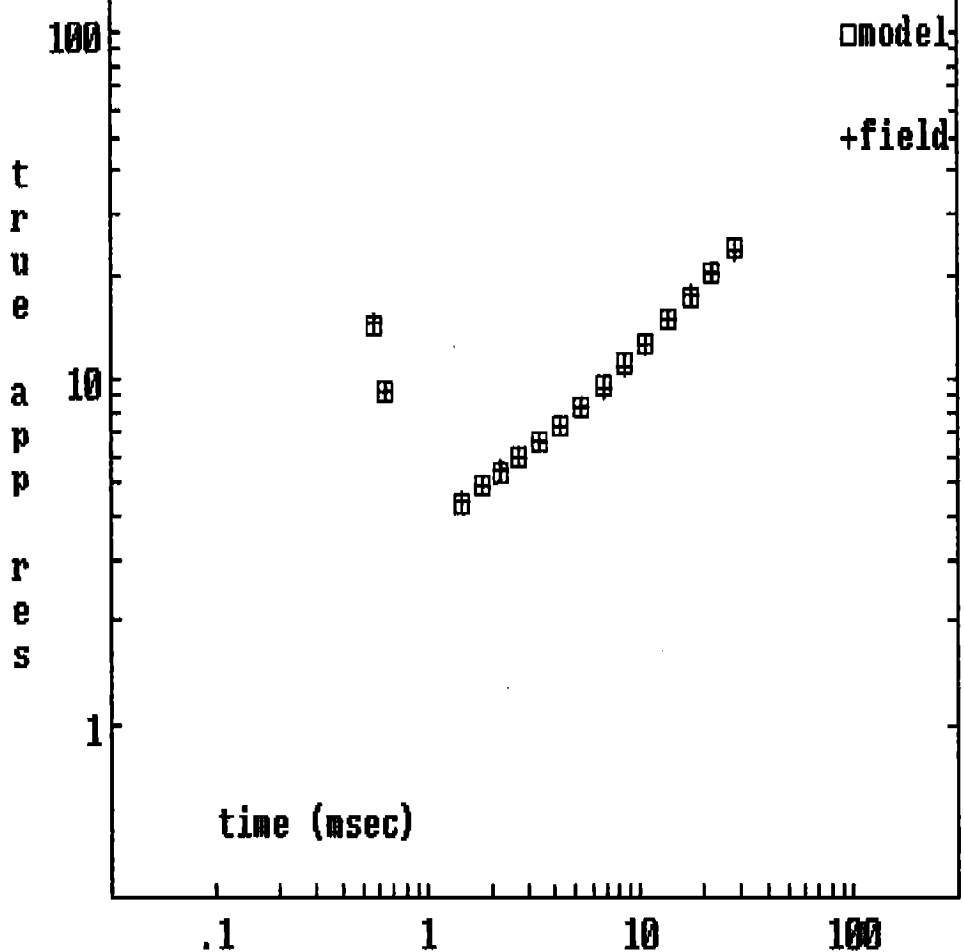
\_\_\_\_\_ ( 836 m.)  
(74.5 ohm.m)

\_\_\_\_\_ (74.5)

STD ERR= 1.3% : S= 20 S

E= 1%  
S= 20S

Sounding 804282 : Ver 2



SOUNDING: 804282 : Vers c  
Mongala M0804/282 6.25 Hz loop corrected

804282A

~~( 19.7 ohm.m )~~      ~~8.9 m.~~  
\* 3.7 ohm.m      43.1 m. \* 52.1 m.  
19.7 ohm.m      102 m.  
----- 154 m.

~~( 19.7 )~~  
\* 3.7  
-----  
19.7

( 207 ohm.m )

( 888 m. )

( 207 )

(75.0 ohm.m)

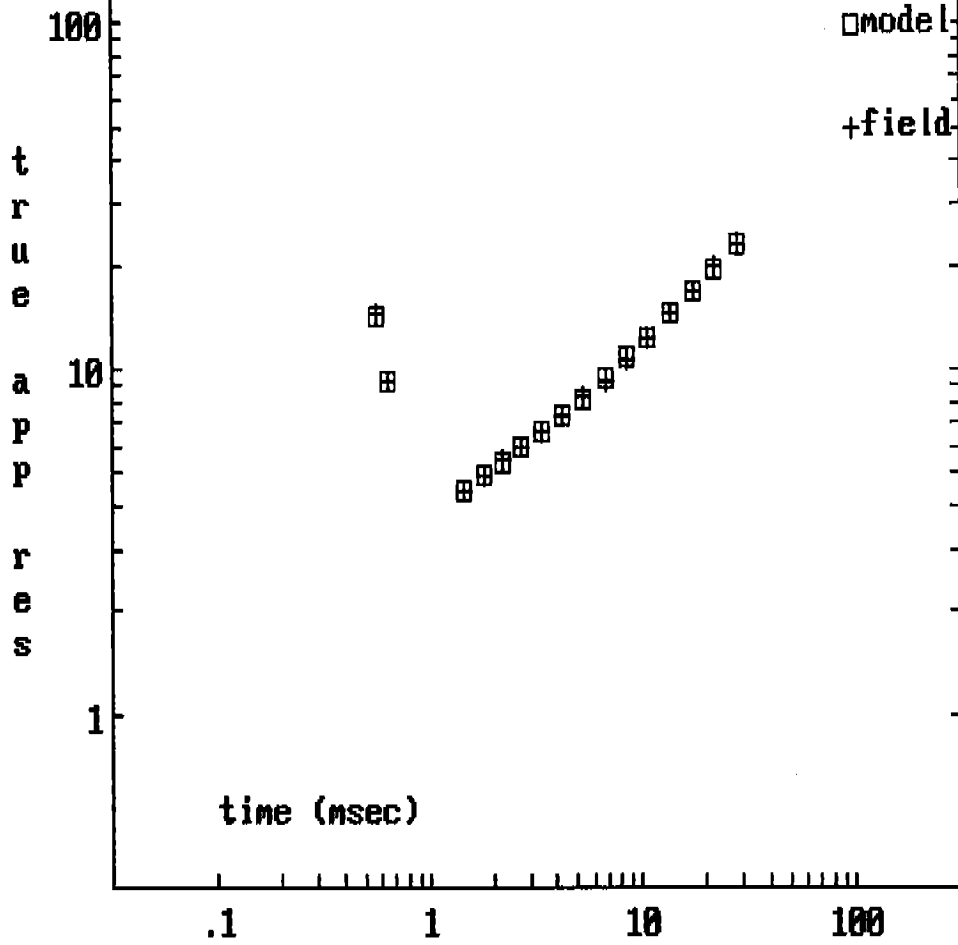
----- ( 843 m. )

----- (75.0)

STD ERR= 1.6% : S= 20 S

E= 2%  
S= 20S

Sounding 804282 : Ver c



SOUNDING: 814156 : Vers 1  
Mongala M0814/156 25 Hz .

814156A

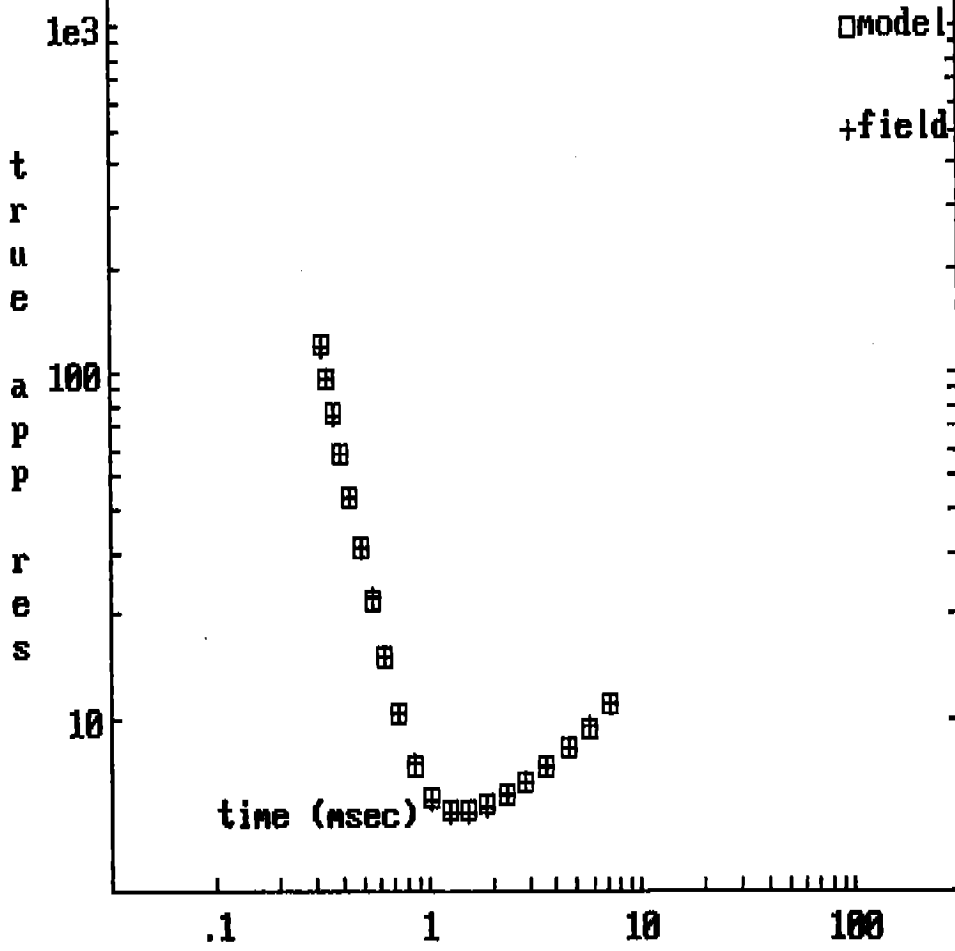
( 196 ohm.m)	* 20.9 m	* 20.9 m.
* 3.0 ohm.m	* 41.5 m.	* 62.3 m.
( 103 ohm.m)		

( 196)
* 3.0
( 103)

STD ERR= 1.1% : S= 14 S

E= 1%  
S= 14S

Sounding 814156 : Ver 1



SOUNDING: 814156 : Vers 2  
Mongala M0814/156 6.25 Hz

814156A

( 202 ohm.m)	* 28.2 m	28.2 m
* 1.5 ohm.m	* 17.0 m	45.1 m
* 41.2 ohm.m		

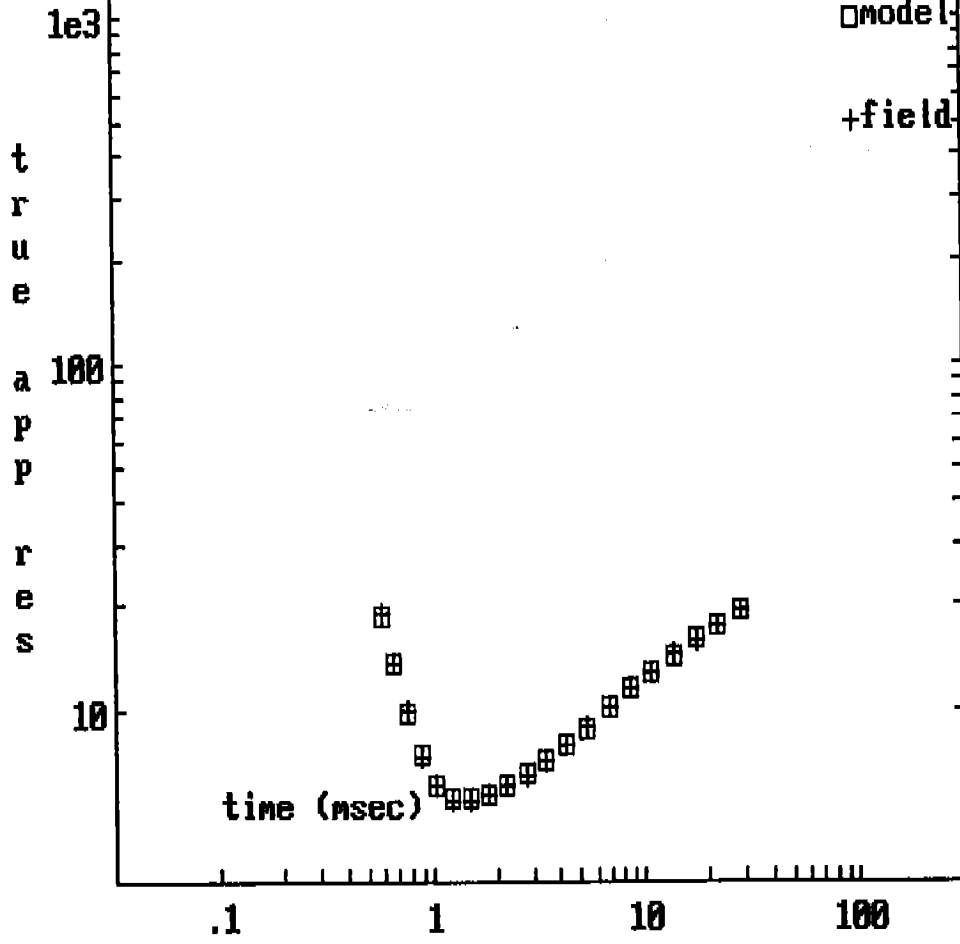
( 202)
* 1.5
* 41.2

STD ERR= 1.3% : S= 12 S

E= 1%  
S= 12S



Sounding 814156 : Ver 2



SOUNDING: 814166 : Vers 1  
Mongala M0814/166 25 Hz

814166A

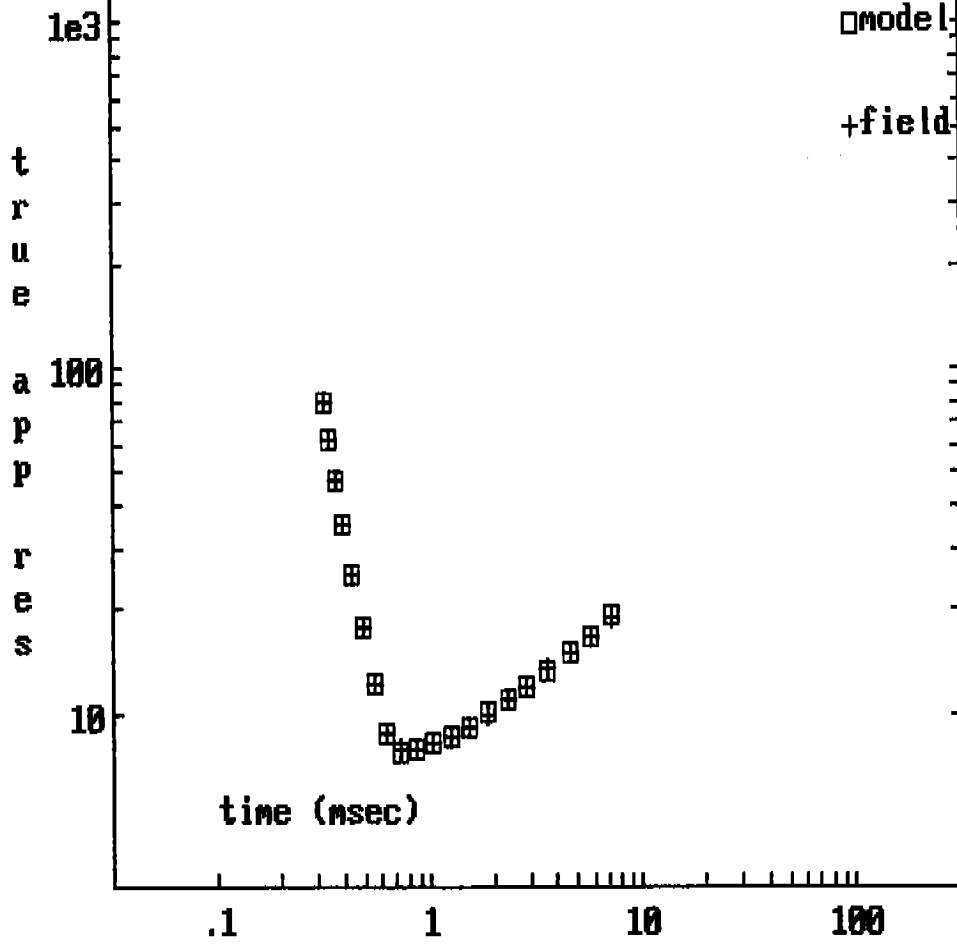
<u>189 ohm.m</u>	<u>* 14.2 m</u>	* 14.2 m.
* 5.9 ohm.m	* 48.1 m.	
		* 62.3 m.
* 52.6 ohm.m		

<u>189</u>
* 5.9
<u>        </u>
* 52.6

STD ERR= .5% : S= 8 S

E= 0%  
S= 8S

Sounding 814166 : Ver 1



SOUNDING: 814166 : Vers 2  
Mongala M0814/166 6.25 Hz

814166A

~~( 167 ohm.m) 10.0 m 10.0 m.~~

~~( 167)~~

\* 7.8 ohm.m      \* 89.7 m.

\* 7.8

\* 79.7 m.

\* 77.1 ohm.m

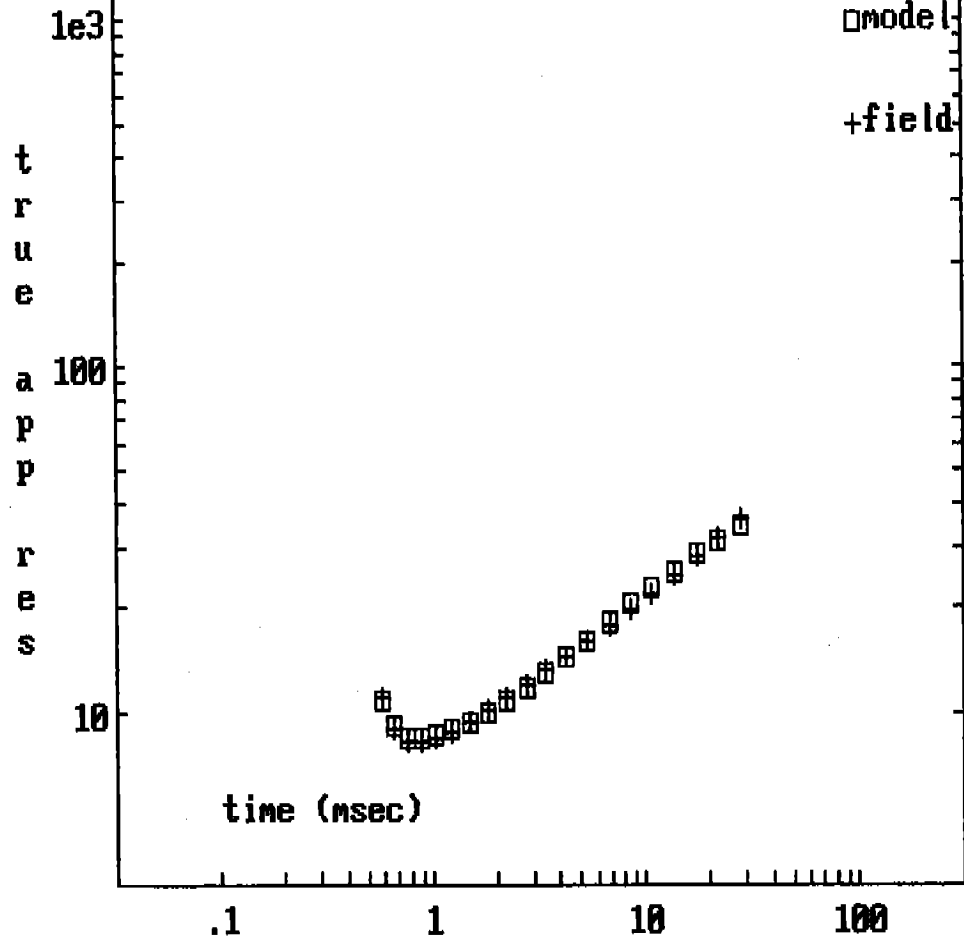
\* 77.1

STD ERR= 2.8% : S= 9 S

E= 3%

S= 95

Sounding 814166 : Ver 2



SOUNDING: 814176 : Vers 1  
Mongala M0814/176 25 Hz

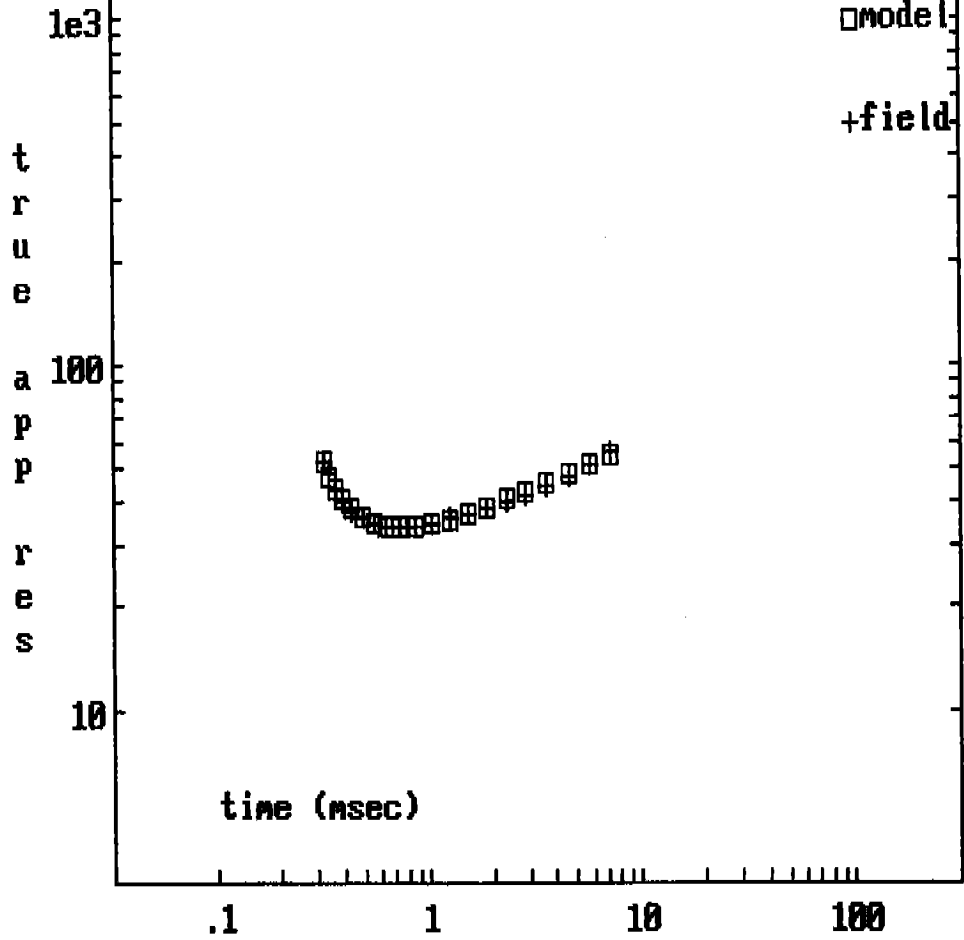
814176A

57.1 ohm.m	35.3 m.	35.3 m.	57.1
* 26.0 ohm.m	81.1 m.		* 26.0
<hr/>			<hr/>
* 77.6 ohm.m		* 116 m.	* 77.6

STD ERR= 1.3% : S= 4 S

E= 1%  
S= 4S

Sounding 814176 : Ver 1



SOUNDING: 814176 : Vers 2  
Mongala M0814/176 6.25 Hz

814176A

(99.8 ohm.m) (20.7 m.) {20.7 m.}

(99.8)

\* 29.7 ohm.m \* 121 m.

\* 29.7

\_\_\_\_\_ \* 142 m.

\* 93.3 ohm.m

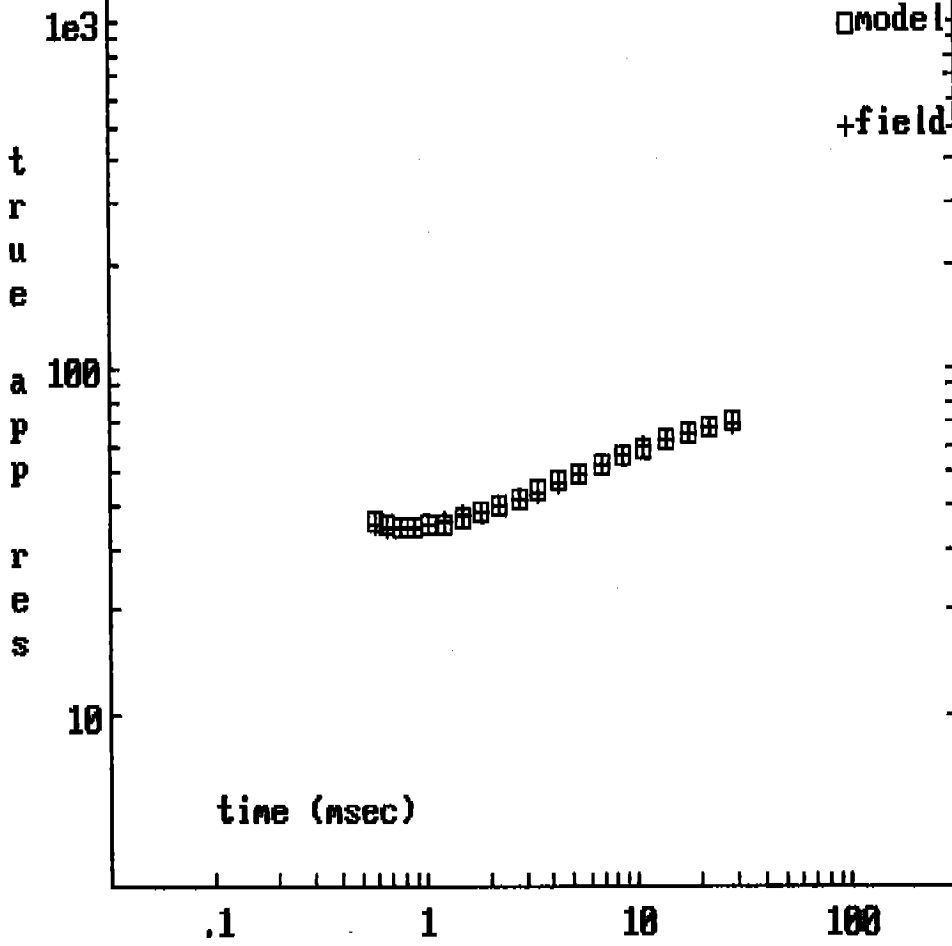
\_\_\_\_\_  
\* 93.3

STD ERR= 1.8% : S= 4 S

E= 2%  
S= 4S



Sounding 814176 : Ver 2



SOUNDING: 822266 : Vers 1  
Mongala M0822/266 25 Hz

822266A

---

\* 3.4 ohm.m      \* 57.6 m.  

---

\* 57.6 m.

---

\* 3.4

---

(49.7 ohm.m)      ( 200 m.)

(49.7)

---

( 200 ohm.m)      ( 258 m.)

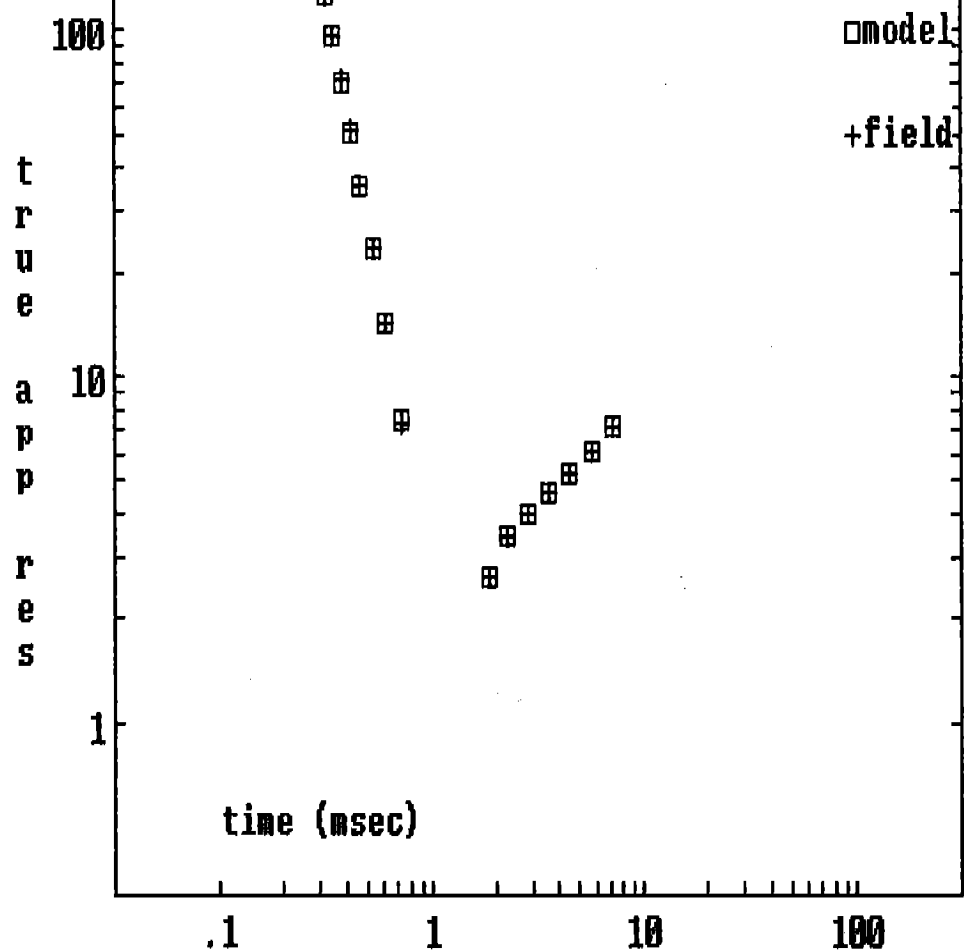
---

( 200)

STD ERR= 1.1% : S= 21 S

E= 1%  
S= 21S

Sounding 822266 : Ver 1



SOUNDING: 822266 : Vers 2  
Mongala M0822/266 6.25 Hz

822266A

---

\* 3.3 ohm.m      \* 57.7 m.  
-----\* 57.7 m.

---

\* 3.3

( 229 ohm.m)      ( 144 m.)

---

( 229)

---

( 647 ohm.m)      ( 202 m.)

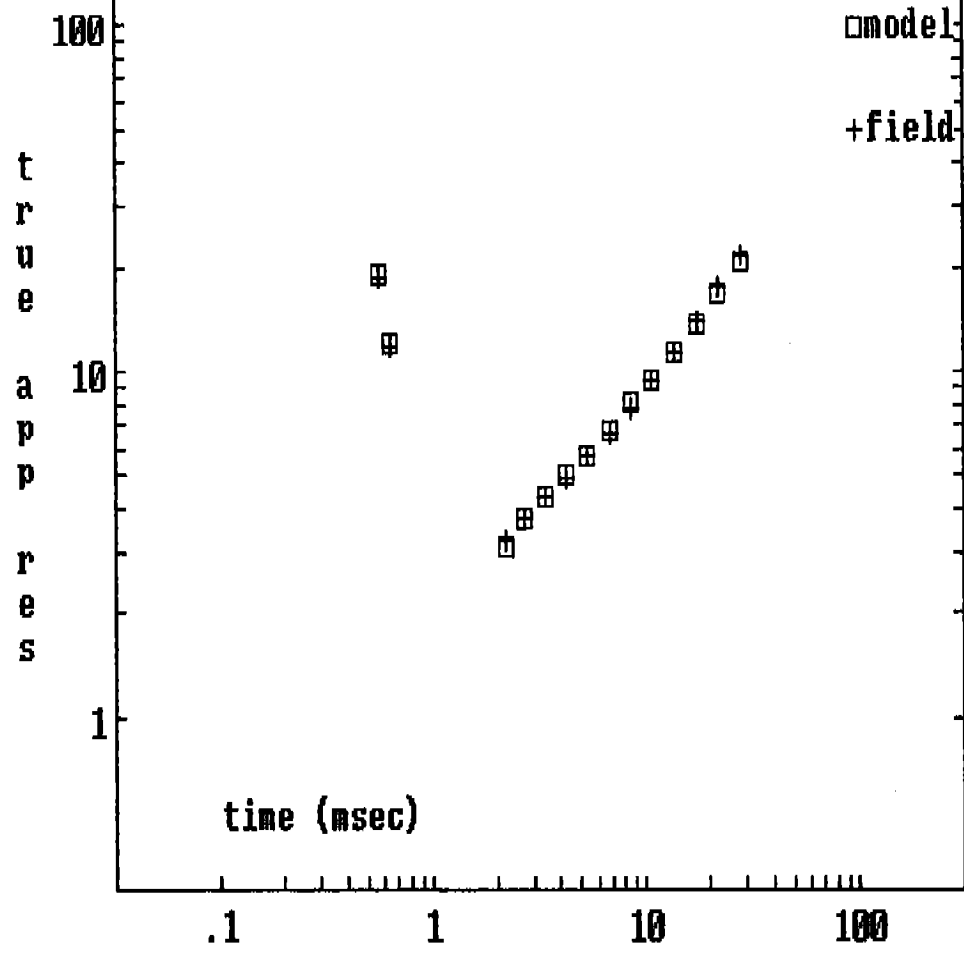
---

( 647)

STD ERR= 3.0% : S= 18 S

E= 3%  
S= 185

Sounding 822266 : Ver 2



SOUNDING: 828178 : Vers 1  
Mongala M0828/178 25 Hz

828178A

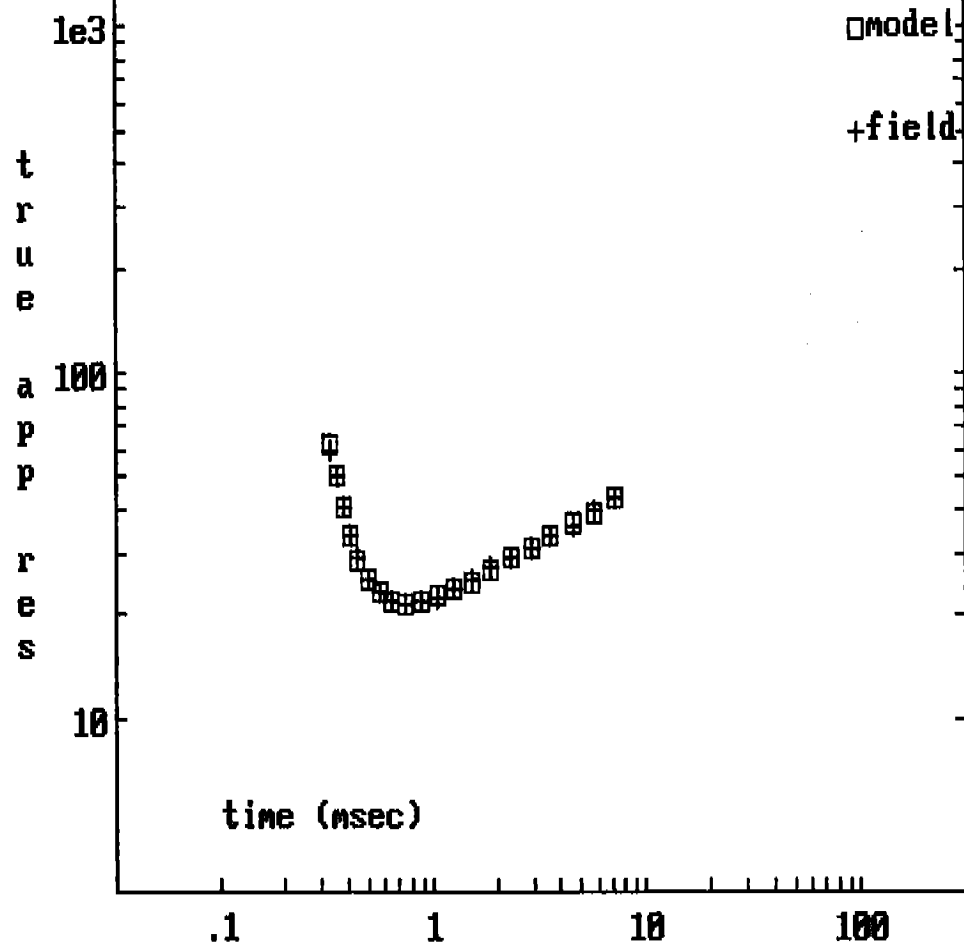
( 129 ohm.m)	* 41.0 m.
<u>4.5 ohm.m</u>	<u>14.9 m.</u>
* 66.7 ohm.m	* 56.0 m.

( 129)
<u>4.5</u>
* 66.7

STD ERR= 1.1% : S= 4 S

E= 1%  
S= 4S

Sounding 828178 : Ver 1



SOUNDING: 828178 : Vers 2  
Mongala M0828/178 6.25 Hz

828178A

( 100 ohm.m)	* 35.0 m.	
7.5 ohm.m	21.7 m.	35.0 m.
		* 56.8 m.
42.4 ohm.m	90.7 m.	
		147 m.
* 85.8 ohm.m		

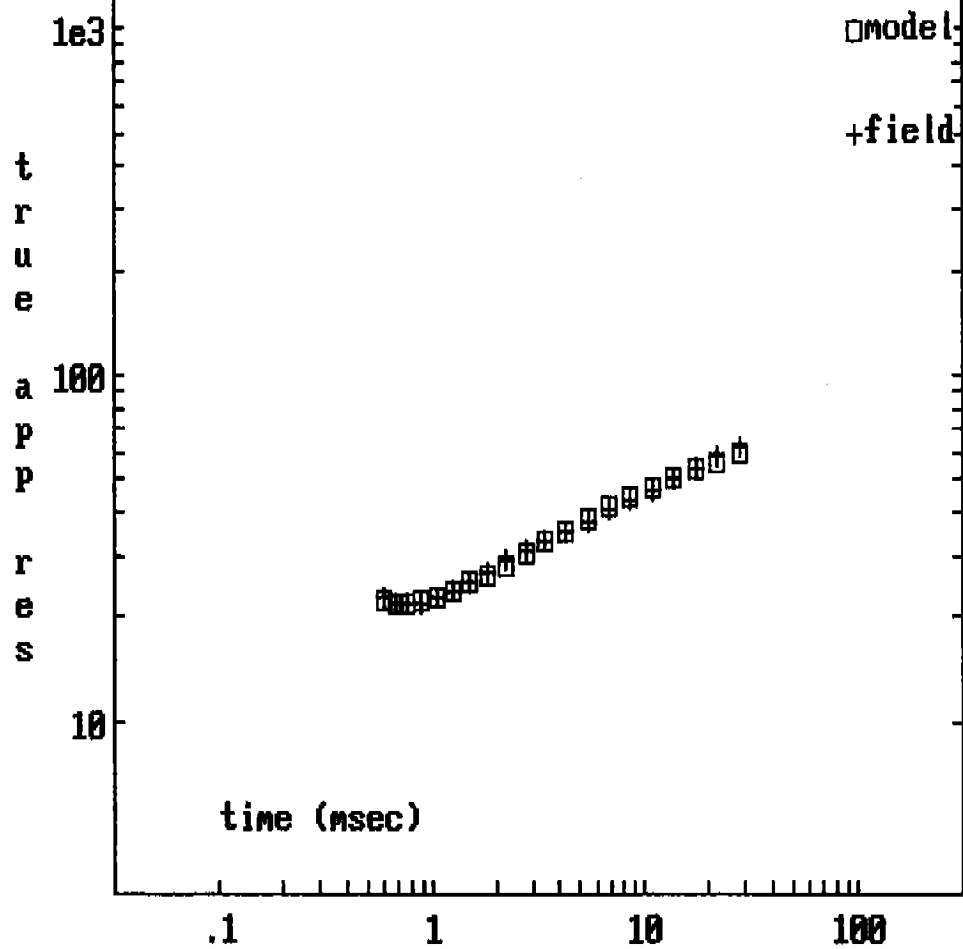
( 100)
7.5
42.4
* 85.8

STD ERR= 2.6% : S= 5 S

E= 3%  
S= 5S



Sounding 828178 : Ver 2



SOUNDING: 842178 : Vers 1  
Mongala M0842/178 25 Hz

842178A

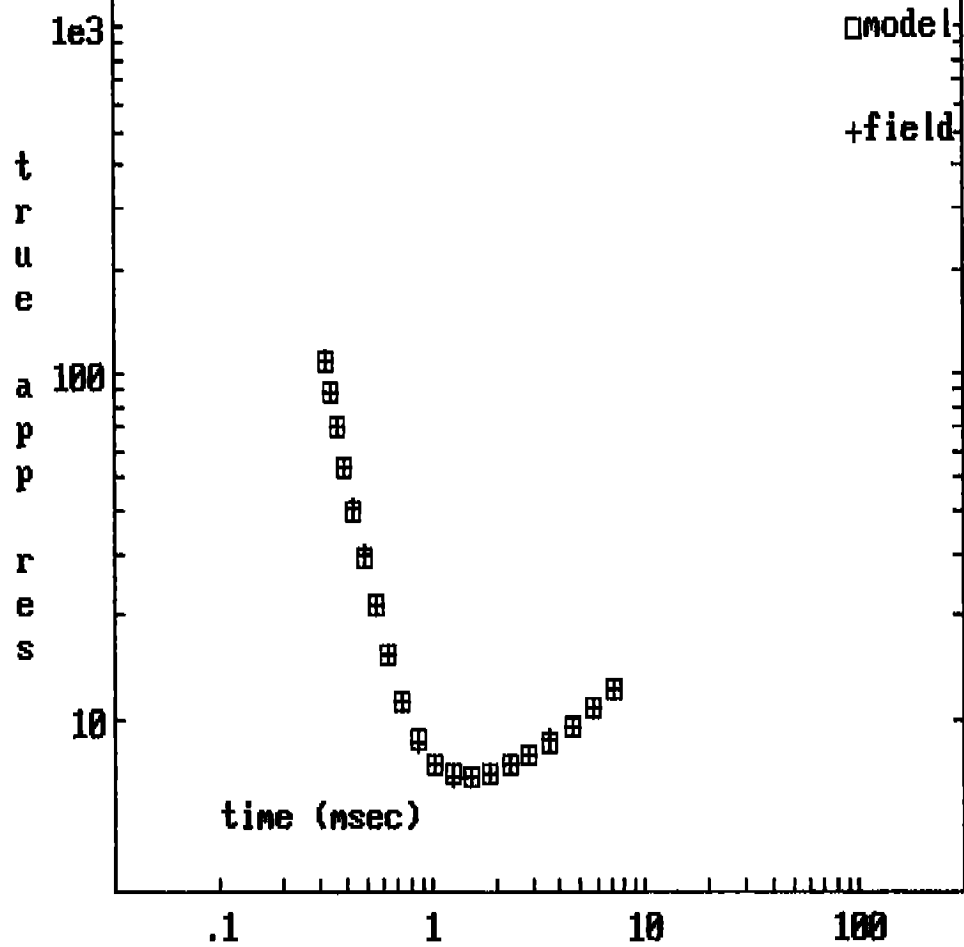
<u>( 109 ohm.m)</u>	* 25.1 m.	* 25.1 m.
* 3.5 ohm.m	* 40.8 m.	* 65.9 m.
* 46.3 ohm.m		

<u>( 109)</u>
* 3.5
* 46.3

STD ERR= .7% : S= 12 S

E= 1%  
S= 125

Sounding 842178 : Ver 1



SOUNDING: 842178 : Vers 2  
Mongala M0842/178 6.25 Hz

842178A

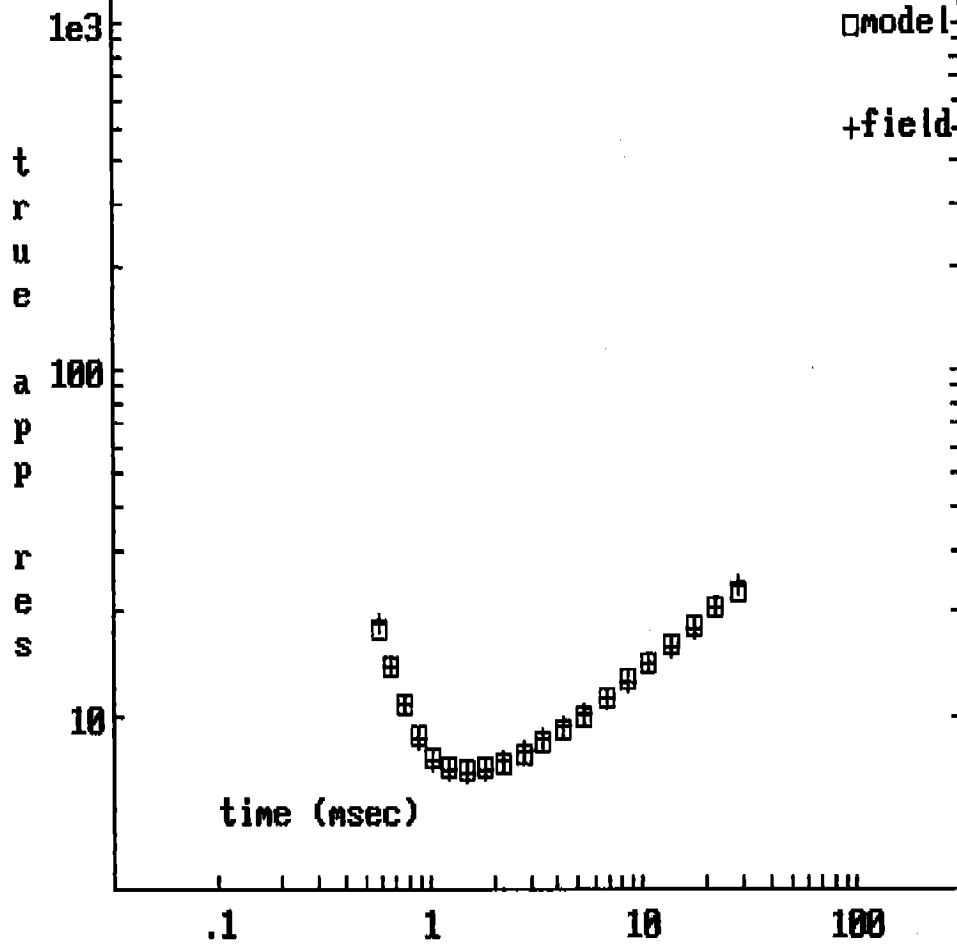
<u>119 ohm.m</u>	<u>* 22.0 m</u>	* 22.0 m.
* 4.4 ohm.m	* 55.1 m.	
		* 77.1 m.
* 62.2 ohm.m		

<u>119</u>
* 4.4
<u>          </u>
* 62.2

STD ERR= 2.3% : S= 13 S

E= 2%  
S= 13S

Sounding 842178 : Ver 2



SOUNDING: 845248 : Vers 1  
Mongala M0845/248 25 Hz

845248A

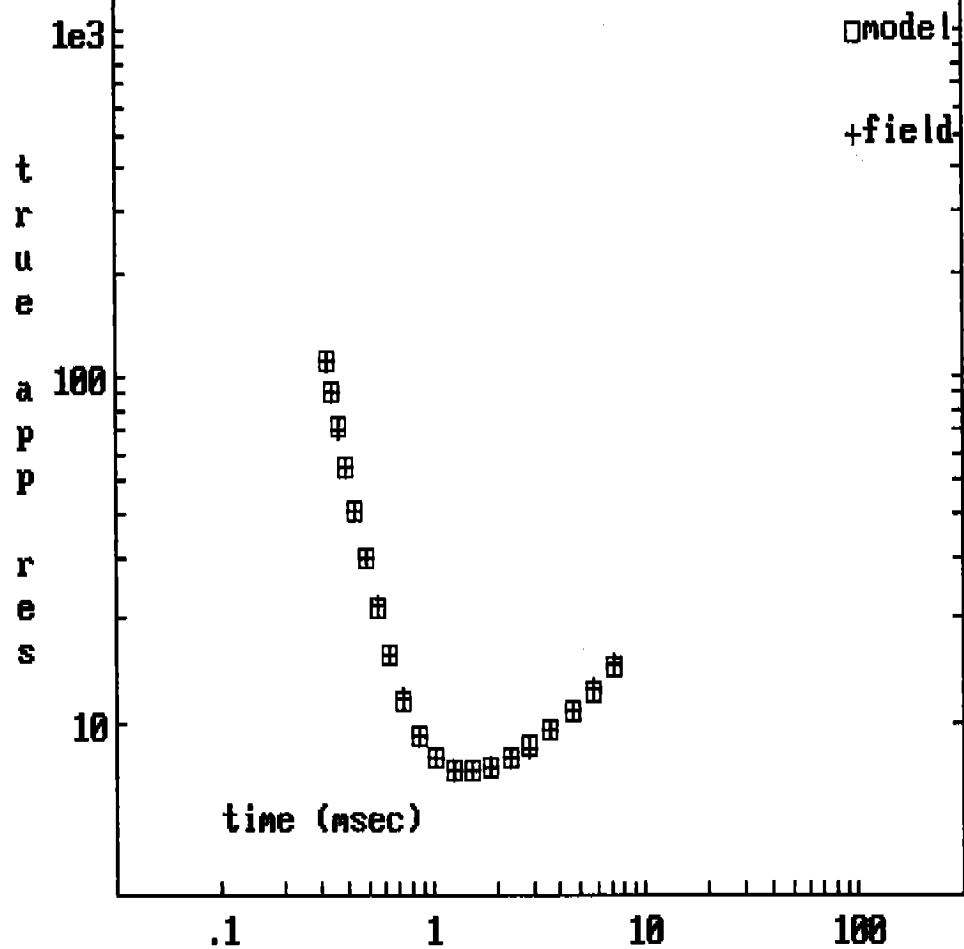
<u>(91.4 ohm.m)</u>	<u>* 28.9 m.</u>	* 28.9 m.
* 3.3 ohm.m	* 38.2 m.	* 67.0 m.
( 183 ohm.m)		

<u>(91.4)</u>
* 3.3
( 183)

STD ERR- .8% : S- 12 S

E= 1%  
S= 12S

Sounding 845248 : Ver 1



SOUNDING: 845248 : Vers 2  
Mongala M0845/248 6.25 Hz

845248A

93.3 ohm.m	* 32.4 m.	* 32.4 m.
* 2.5 ohm.m	* 28.3 m.	* 60.7 m.
* 140 ohm.m		

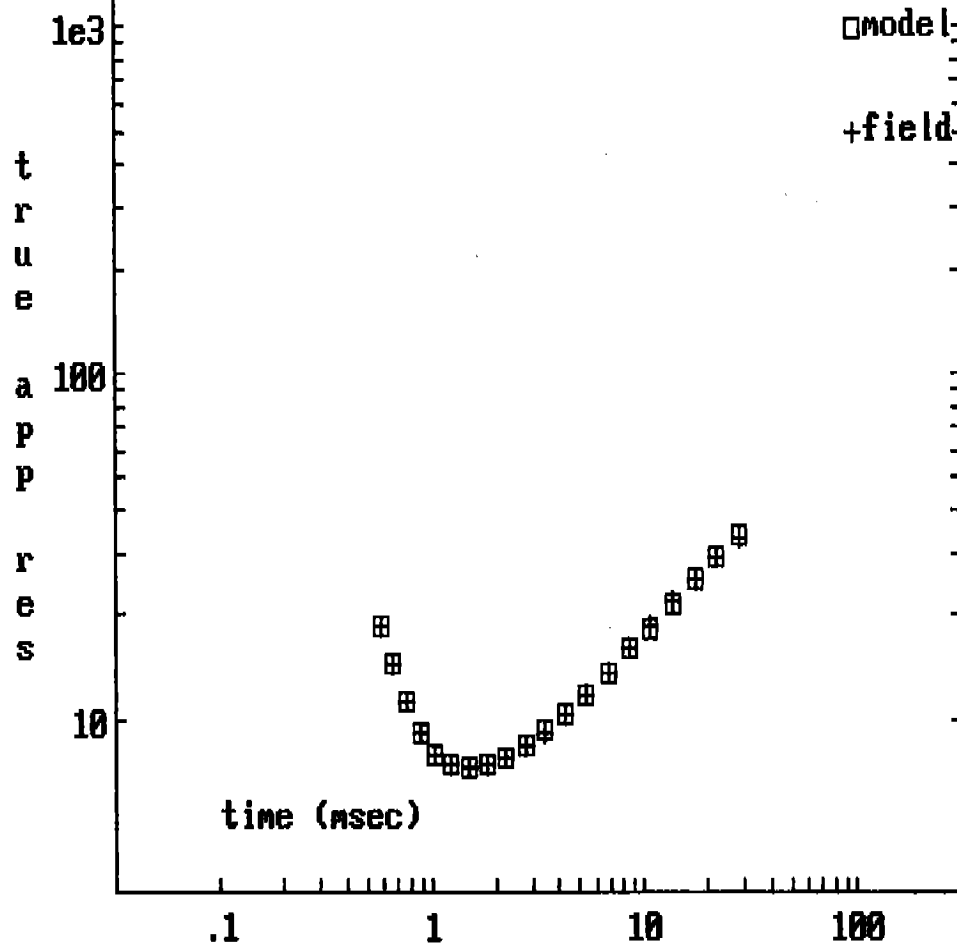
93.3
* 2.5
* 140

STD ERR= 1.3% : S= 11 S

E= 1%  
S= 11S



Sounding 845248 : Ver 2



SOUNDING: 855242 : Vers 1  
Mongala M0855/242 25 Hz

855242A

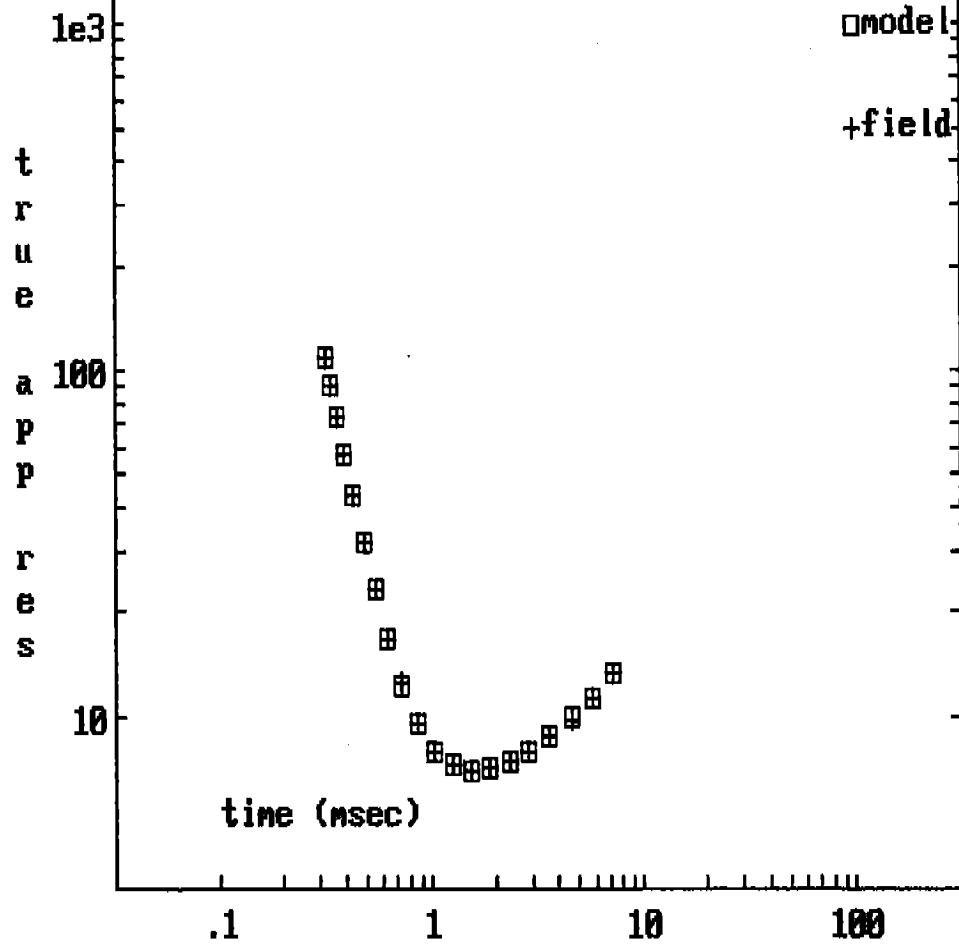
* 38.2 ohm.m	* 33.8 m.	* 33.8 m.
* 2.8 ohm.m	* 34.5 m.	* 68.1 m.
( 290 ohm.m)		

* 38.2
* 2.8
( 290)

STD ERR= .6% : S= 13 S

E= 1%  
S= 13S

Sounding 855242 : Ver 1



SOUNDING: 855242 : Vers 2  
Mongala M0855/242 6.25 Hz

855242A

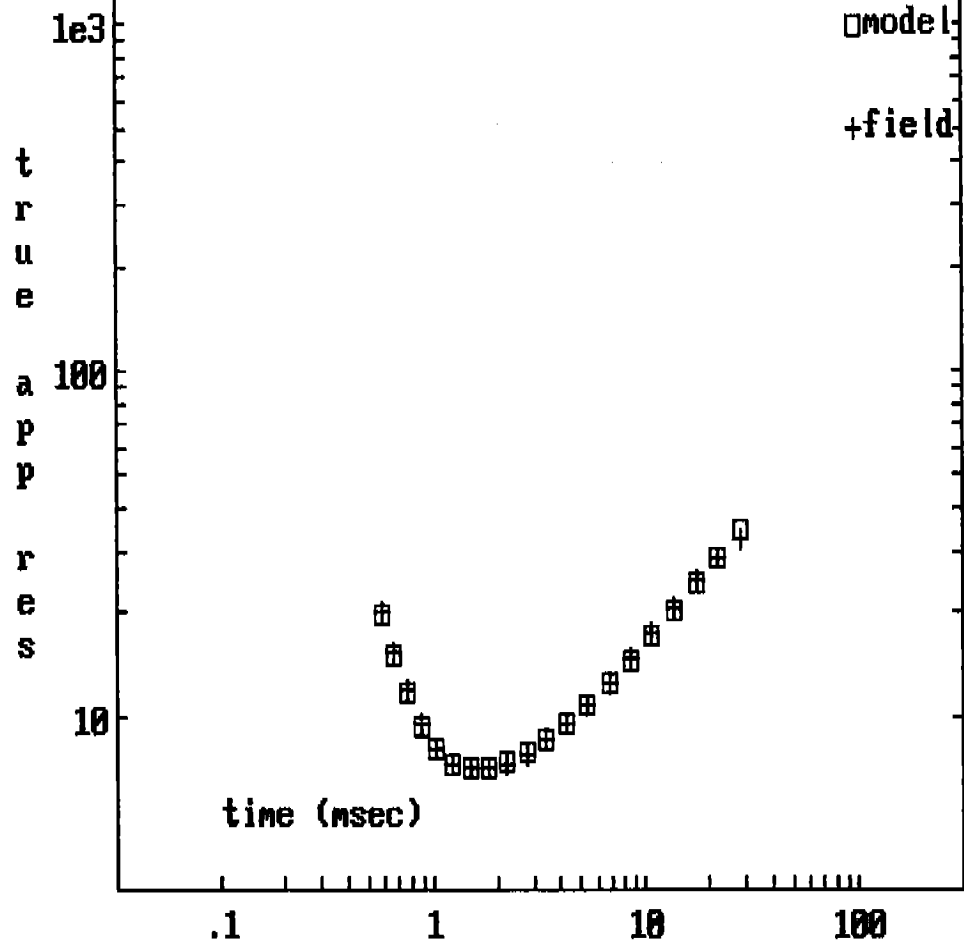
(38.0 ohm.m)	* 34.2 m.	* 34.2 m.
* 2.9 ohm.m	* 34.4 m.	* 68.5 m.
290 ohm.m		

(38.0)
* 2.9
290

STD ERR= 3.0% : S= 13 S

E= 3%  
S= 135

Sounding 855242 : Ver 2



SOUNDING: 856178 : Vers 1  
Mongala M0856/178 25 Hz

856178A

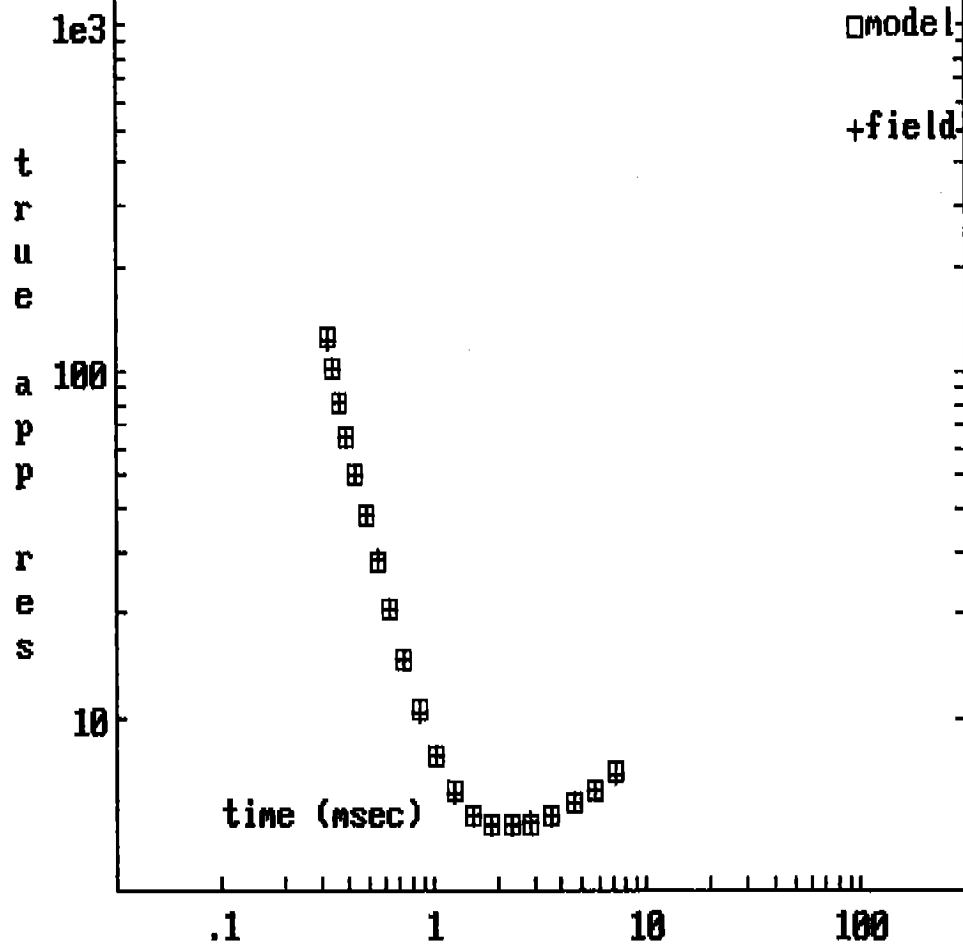
( 108 ohm.m)	* 23.7 m	* 23.7 m.
* 2.8 ohm.m	* 53.4 m.	
<hr/>		* 77.1 m.
(42.8 ohm.m)		

( 108)
* 2.8
<hr/>
(42.8)

STD ERR= 1.1% : S= 19 S

E= 1%  
S= 195

Sounding 856178 : Ver 1



SOUNDING: 856178 : Vers 2  
Mongala M0856/178 6.25 Hz

856178A

( 108 ohm.m)	* 24.1 m.	* 24.1 m.
* 2.9 ohm.m	* 54.6 m.	
		* 78.7 m.
* 40.4 ohm.m		

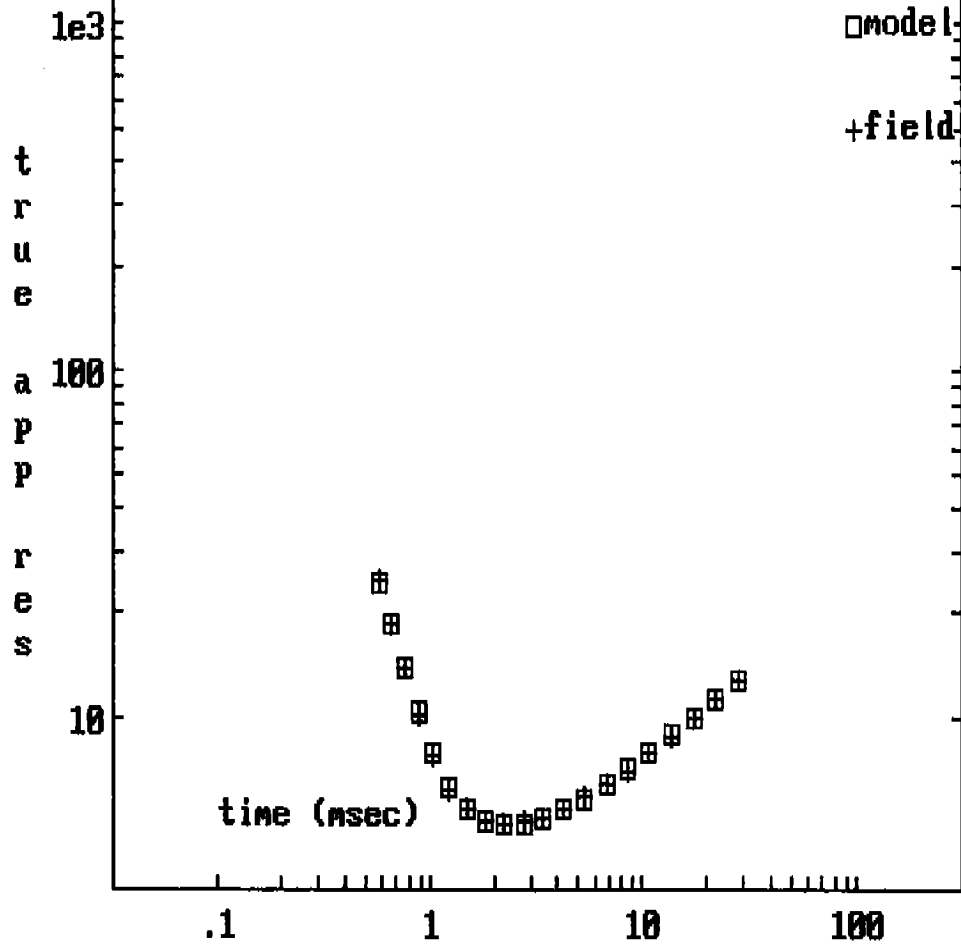
( 108)
* 2.9
* 40.4

STD ERR= 1.2% : S= 19 S

E= 1%  
S= 19S



Sounding 856178 : Ver 2



SOUNDING: 865236 : Vers 1  
Mongala M0865/236 25 Hz

865236A

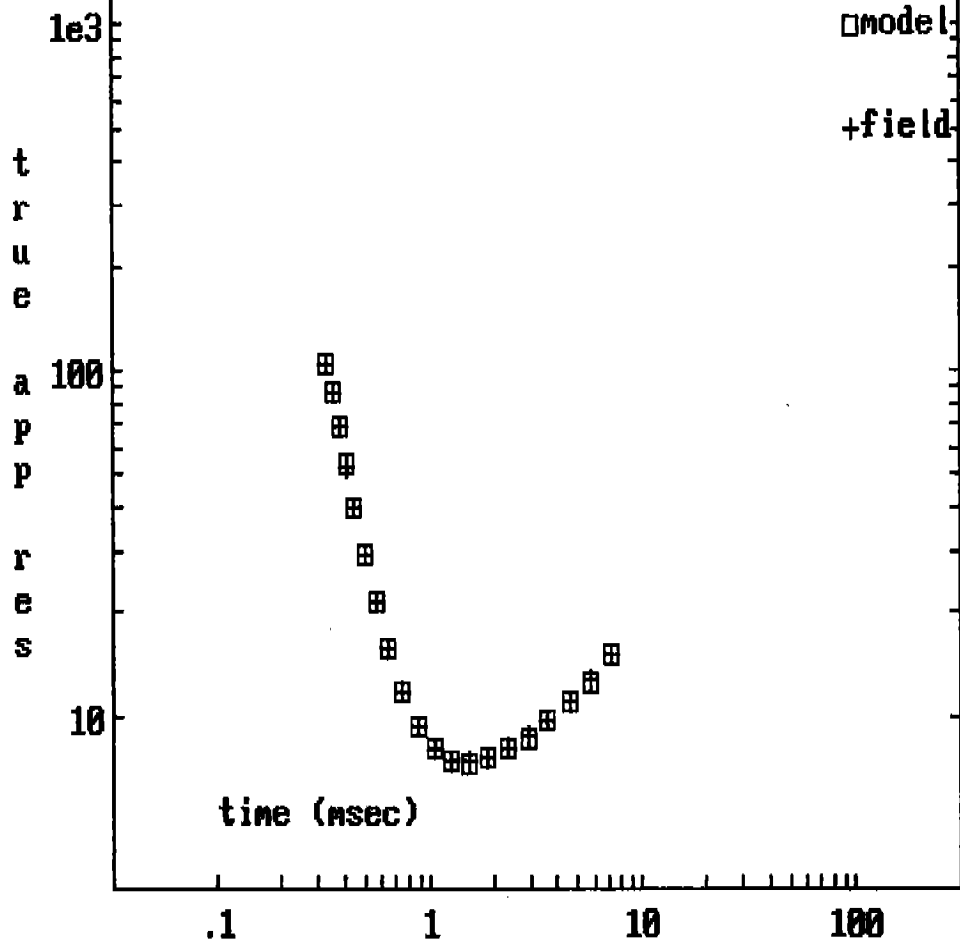
* 30.3 ohm.m	* 33.9 m.	* 33.9 m.
* 2.9 ohm.m	* 31.9 m.	* 85.8 m.
( 291 ohm.m)		

* 30.3
* 2.9
( 291)

STD ERR= .5% : S= 12 S

E= 0%  
S= 125

Sounding 865236 : Ver 1



SOUNDING: 865236 : Vers 2  
Mongala M0865/236 6.25 Hz

865236A

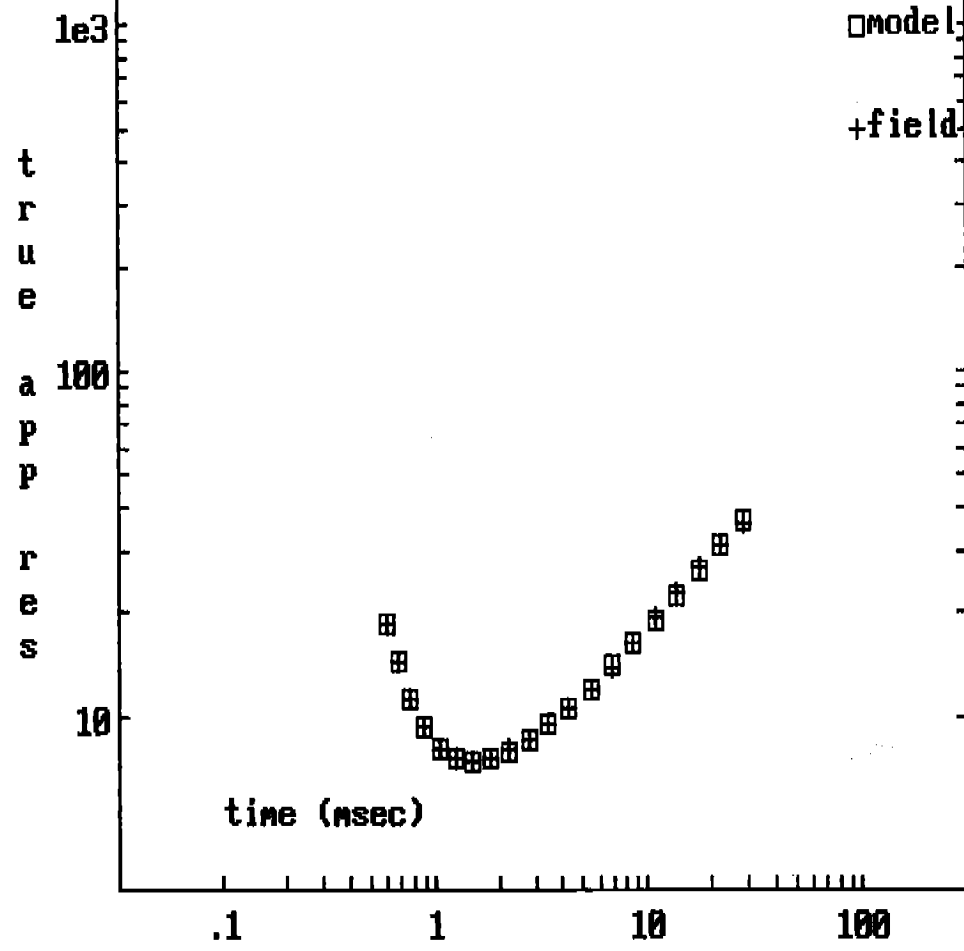
(44.1 ohm.m)	* 37.7 m.	
* 1.9 ohm.m	* 20.2 m.	* 37.7 m.
		* 58.0 m.
* 174 ohm.m		

(44.1)
* 1.9
* 174

STD ERR= 1.4% : S= 11 S

E= 1%  
S= 11S

Sounding 865236 : Ver 2



SOUNDING: 870178 : Vers 1  
Mongala M0870/178 25 Hz

870178A

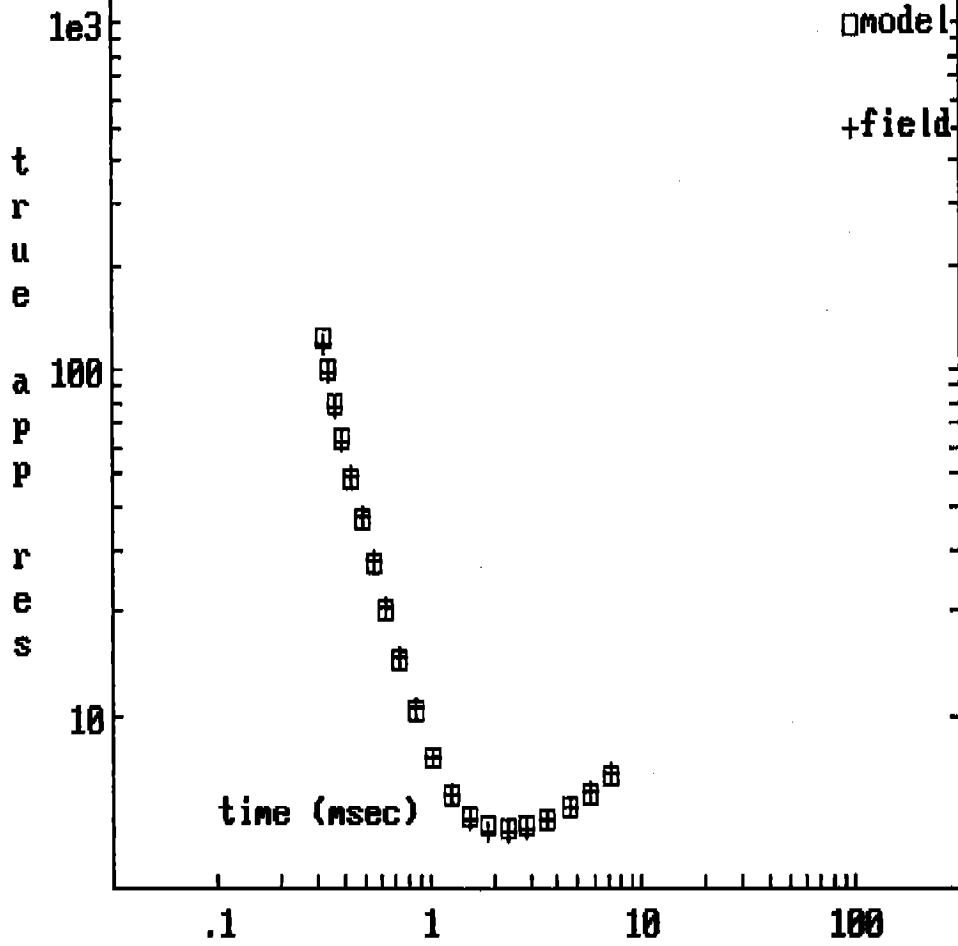
<u>( 106 ohm.m)</u>	* 21.2 m	* 21.2 m.
* 3.0 ohm.m	* 58.7 m.	
<hr/>		* 79.9 m.
(42.7 ohm.m)		

<u>[ 106 ]</u>
* 3.0
<hr/>
(42.7)

STD ERR= 2.4% : S= 20 S

E= 2%  
S= 20S

Sounding 870178 : Ver 1



SOUNDING: 870178 : Vers 2  
Mongala M0870/178 6.25 Hz

870178A

<u>( 109 ohm.m)</u>	<u>* 25.0 m</u>	* 25.0 m.
* 2.5 ohm.m	* 45.9 m.	
		* 70.9 m.
* 41.9 ohm.m		

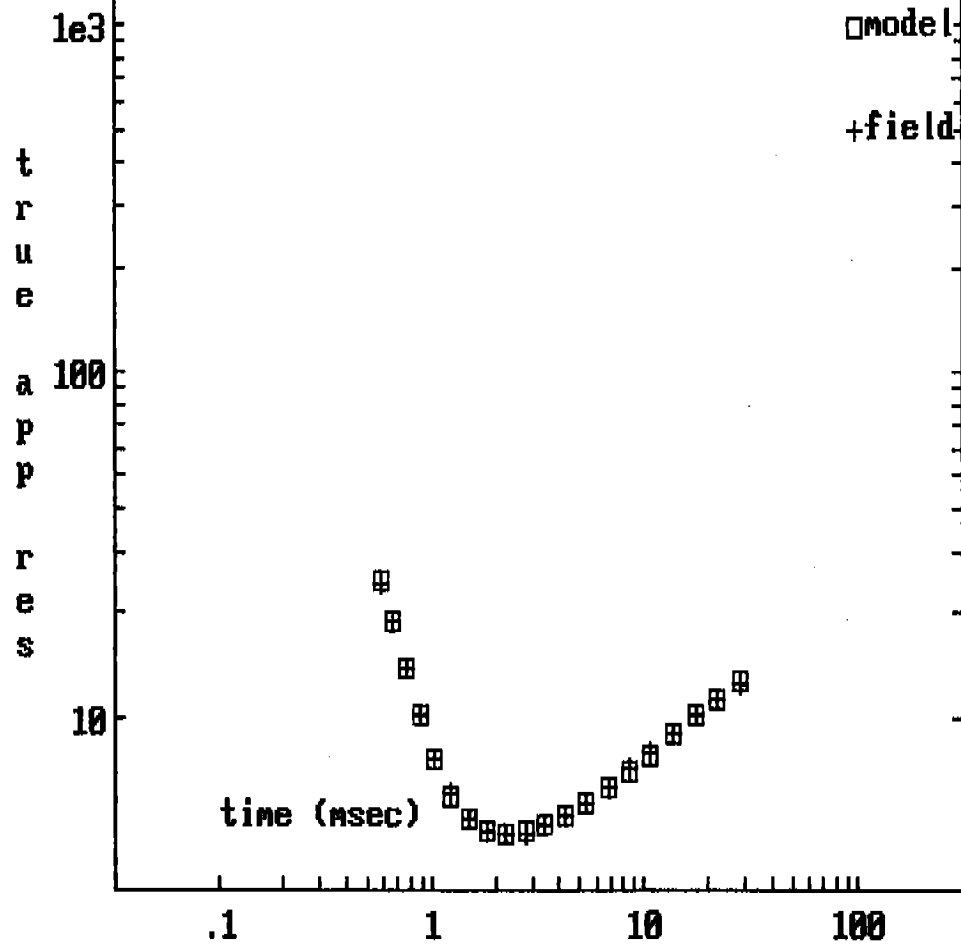
<u>( 109)</u>
* 2.5
<u>* 41.9</u>

STD ERR- 1.4% : S- 19 S

E= 1%  
S= 19S



Sounding 870178 : Ver 2



SOUNDING: 879226 : Vers 1  
Mongala M0879/226 25 Hz

879226A

(72.9 ohm.m) \* 35.4 m.  
~~\* 1.5 ohm.m \* 7.9 m~~ 25.4 m

(72.9)  
~~\* 1.5~~

( 352 ohm.m) \* 394 m.

( 352)

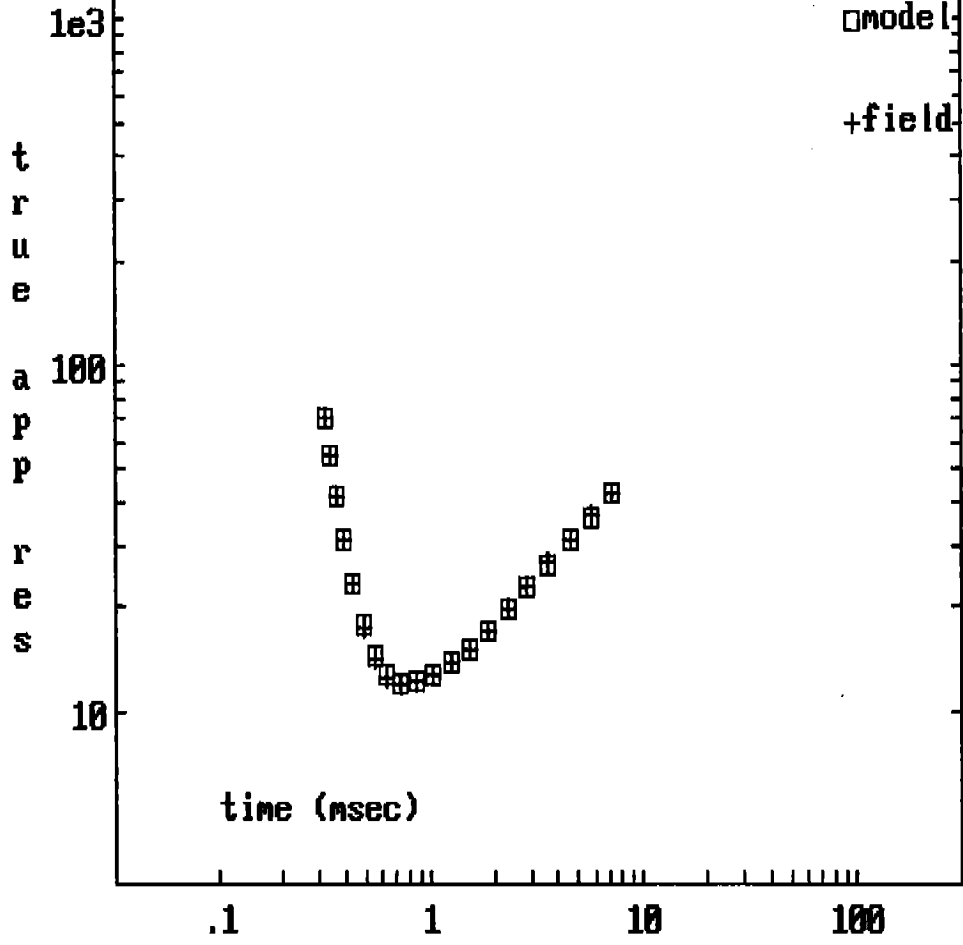
————— ( 438 m.)  
(44.0 ohm.m)

(44.0)

STD ERR= .9% : S= 7 S

E= 1%  
S= 75

Sounding 879226 : Ver 1



SOUNDING: 879226 : Vers 2  
Mongala M0879/226 6.25 Hz

879226A

(74.1 ohm.m)	* 30.7 m.	* 30.7 m.
3.7 ohm.m	20.0 m.	* 50.7 m.

(74.1)
3.7

( 365 ohm.m) \* 381 m.

( 365)

\_\_\_\_\_ 432 m.  
\* 62.3 ohm.m

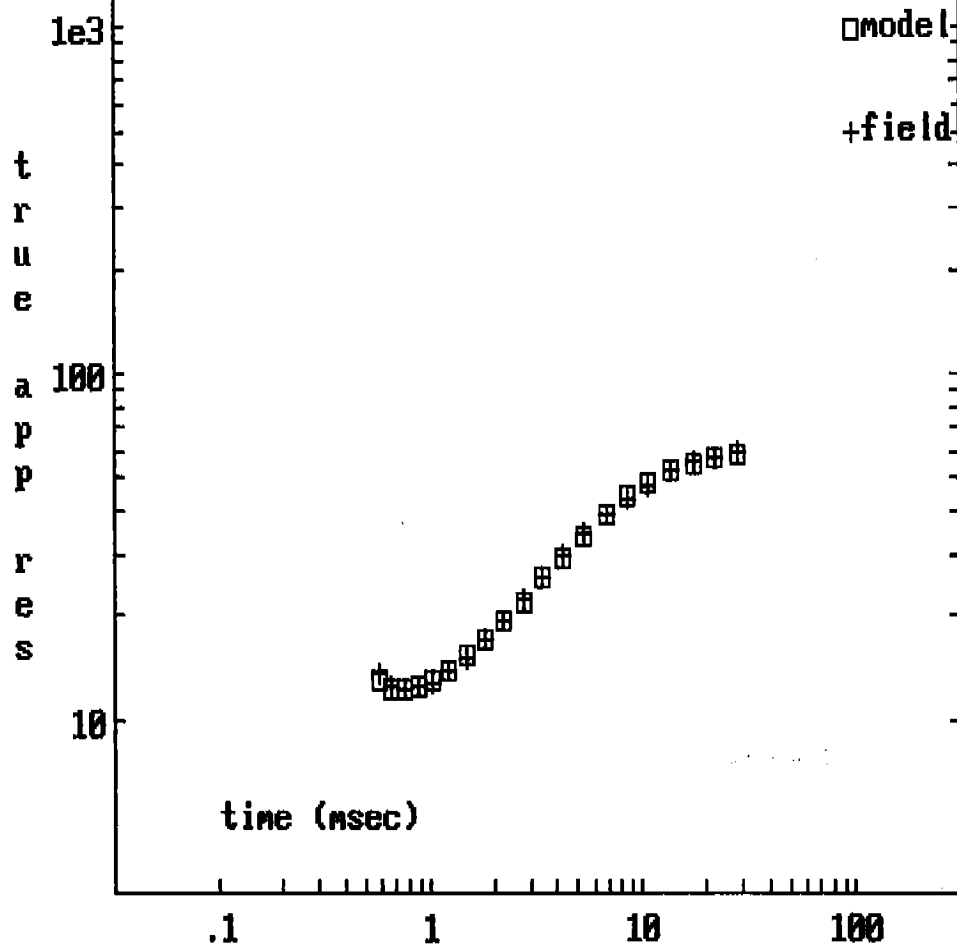
\_\_\_\_\_

\* 62.3

STD ERR= 1.6% : S= 7 S

E= 2%  
S= 75

Sounding 879226 : Ver 2



SOUNDING: 890258 : Vers 1  
Mongala M0890/258 25 Hz

890258A

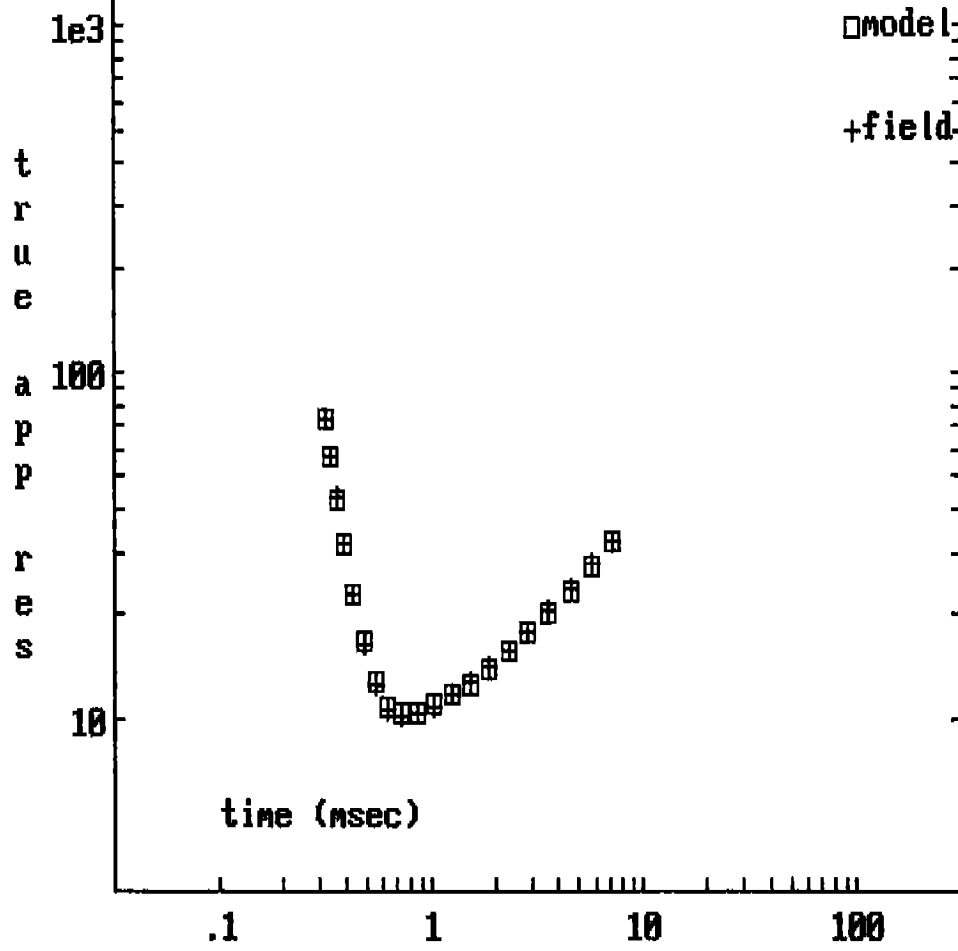
(69.4 ohm.m)	* 24.4 m	* 24.4 m.
* 5.1 ohm.m	* 32.7 m	* 57.1 m.
168 ohm.m		

(69.4)
* 5.1
168

STD ERR= 1.5% : S= 7 S

E= 2%  
S= 75

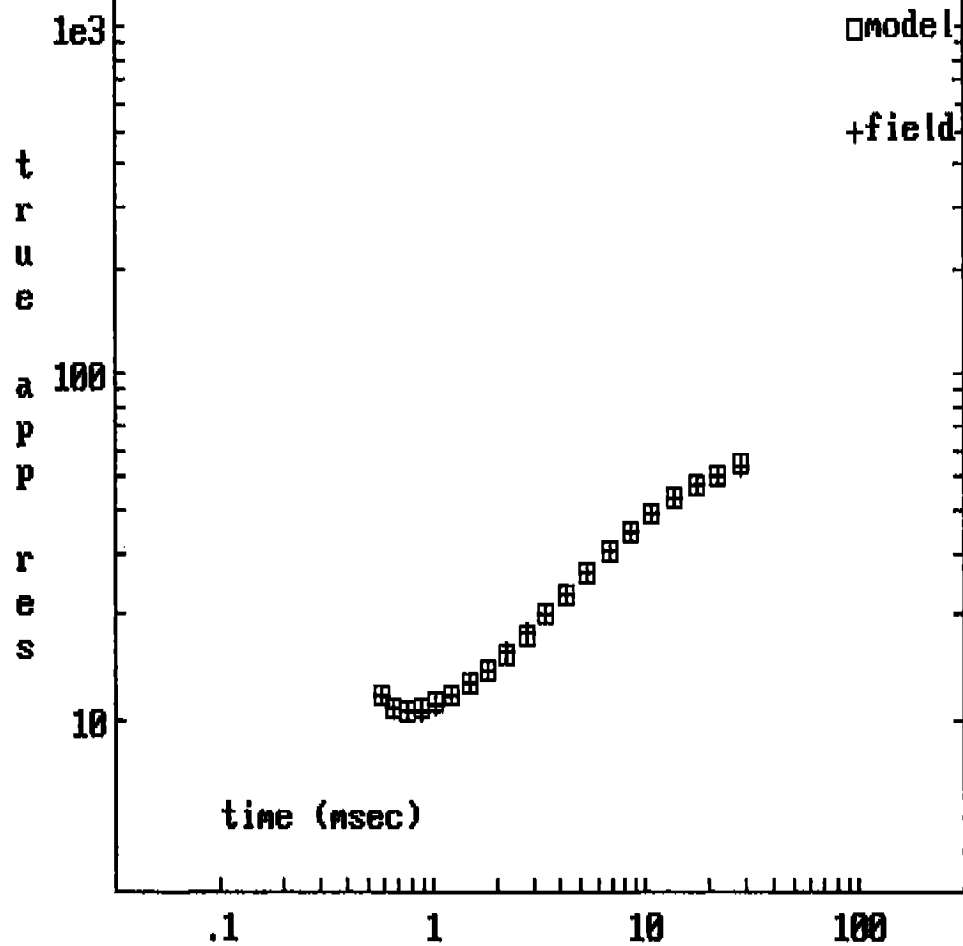
Sounding 890258 : Ver 1







Sounding 890258 : Ver 2



SOUNDING: 903249 : Vers 1  
Mongala M0903/249 25 Hz

903249A

(91.2 ohm.m) \* 34.2 m.  
\* 2.5 ohm.m \* 11.8 m 34.2 m.

(91.2)  
\* 2.5

( 369 ohm.m) \* 315 m.

( 369)

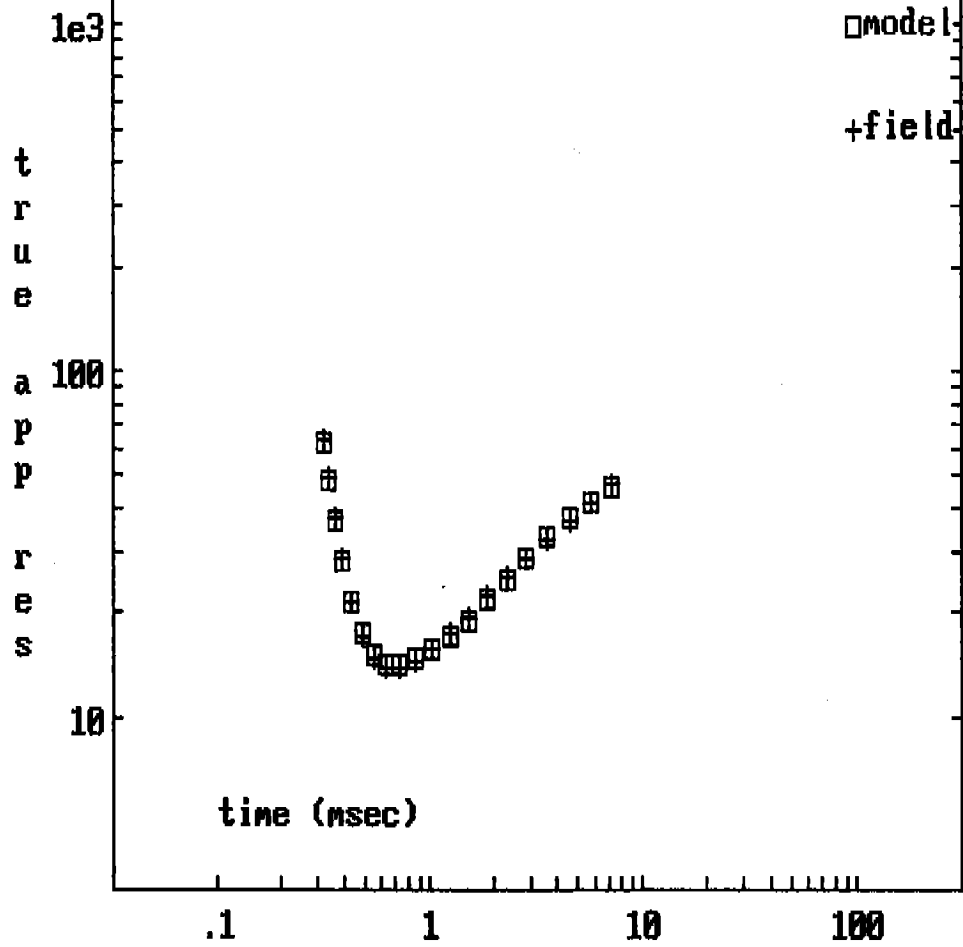
\_\_\_\_\_ \* 361 m.  
(30.5 ohm.m)

\_\_\_\_\_  
(30.5)

STD ERR= 2.3% : S= 6 S

E= 2%  
S= 6S

Sounding 903249 : Ver 1



SOUNDING: 903249 : Vers 2  
Mongala M0903/249 6.25 Hz

903249A

* 113 ohm.m	* 29.7 m.	* 29.7 m.
<del>3.3 ohm.m</del>	<del>14.8 m.</del>	<del>44.5 m.</del>

* 113
<del>3.3</del>

( 265 ohm.m)                      183 m.

( 265)

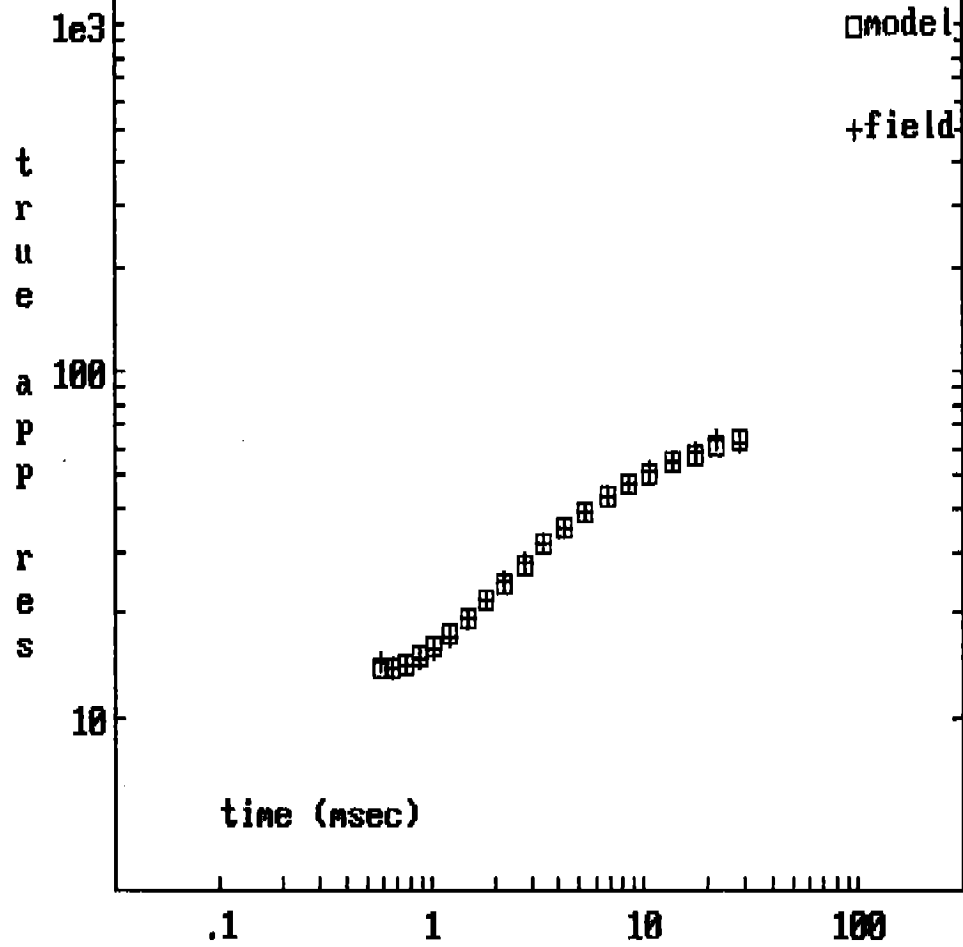
\_\_\_\_\_ ( 228 m.)  
\* 83.1 ohm.m

\_\_\_\_\_ \* 83.1

STD ERR- 1.6% : S- 5 S

E= 2%  
S= 5S

Sounding 903249 : Ver 2



SOUNDING: 916240 : Vers 1  
Mongala M0916/240 25 Hz

916240A

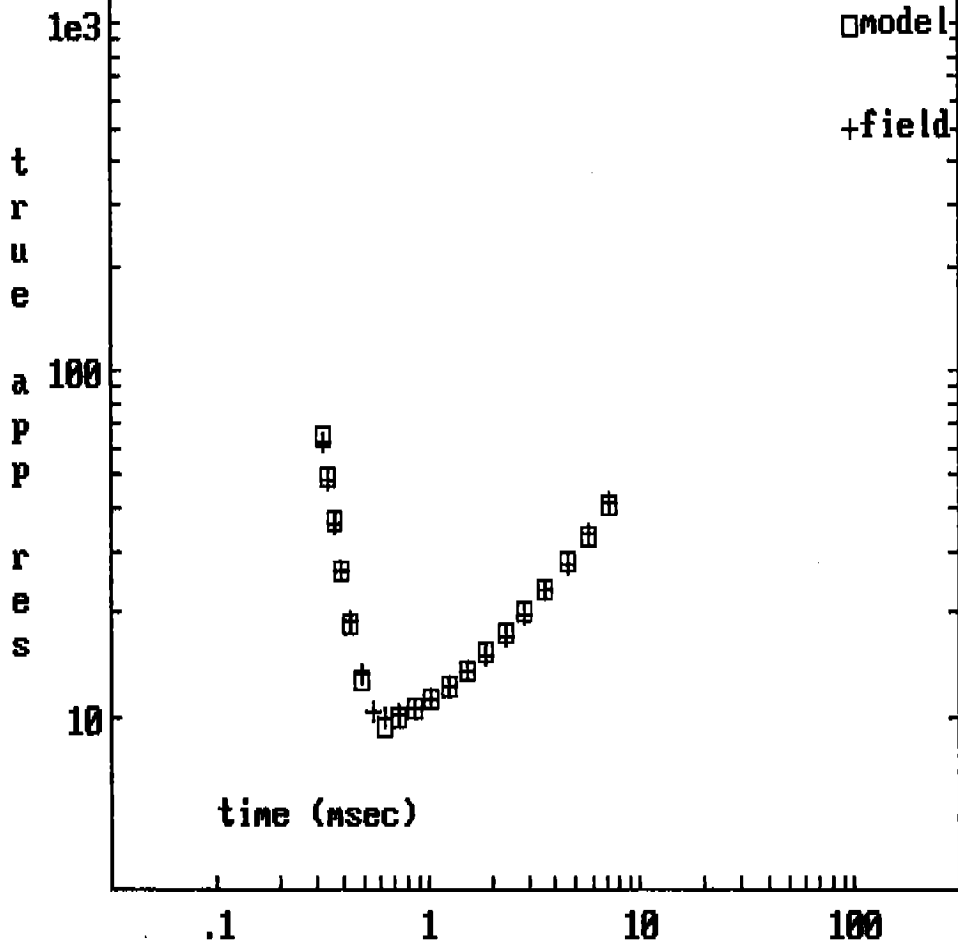
<u>(78.2 ohm.m)</u>	<u>* 17.9 m</u>	17.9 m.
* 6.7 ohm.m	* 42.9 m.	
		* 60.7 m.
( B07 ohm.m)		

<u>(78.2)</u>
* 6.7
( B07)

STD ERR= 1.8% : S= 7 S

E= 2%  
S= 7S

Sounding 916240 : Ver 1



SOUNDING: 916240 : Vers 2  
Mongala M0916/240 6.25 Hz

916240A

(95.5 ohm.m)	* 27.9 m	27.9 m
3.1 ohm.m	16.5 m	* 46.4 m

(95.5)
3.1

( 418 ohm.m)

( 311 m.)

( 418)

————— ( 357 m.)  
275 ohm.m

—————  
275

STD ERR= 2.0% : S= 7 S

E= 2%  
S= 7S



**APPENDIX 3**

**PROPOSED WORK PROGRAMS**

**EL 7448**

**Proposed Work Program - 29/10/95 to 28/10/96**

1. Continuing interpretation of TEM and magnetic data.
2. RC/diamond drill testing.
3. Down hole geochemical sampling.
4. Dozing and rehabilitation.

**Proposed Expenditure**

1.	2 days @ \$400 /day	800
2.	300 m @ \$35 /m	
	200 m @ \$100 /m	30,500
3.	80 samples @ \$12.50 ea	1,000
4.	30 hours @ \$100 /hr	<u>3,000</u>
	<b>Total (rounded)</b>	<b>\$35,000</b>

Field work for this tenement would be carried out in conjunction with ELs 7449 and 7450 which are held by BHP Minerals.

EL 7449

Proposed Work Program - 12/11/95 to 11/11/96

1. Track rehabilitation (Grader hire).
2. Continuing Interpretation of TEM and magnetic data.

Proposed Expenditure

1.	20 hours @ \$100 /hr	2,000
2.	2 days @ \$400 /day	<u>800</u>
	<b>Total (rounded)</b>	<b>\$3,000</b>

Field work for this tenement would be carried out in conjunction with ELs 7448 and 7450 which are held by BHP Minerals.

EL 7450

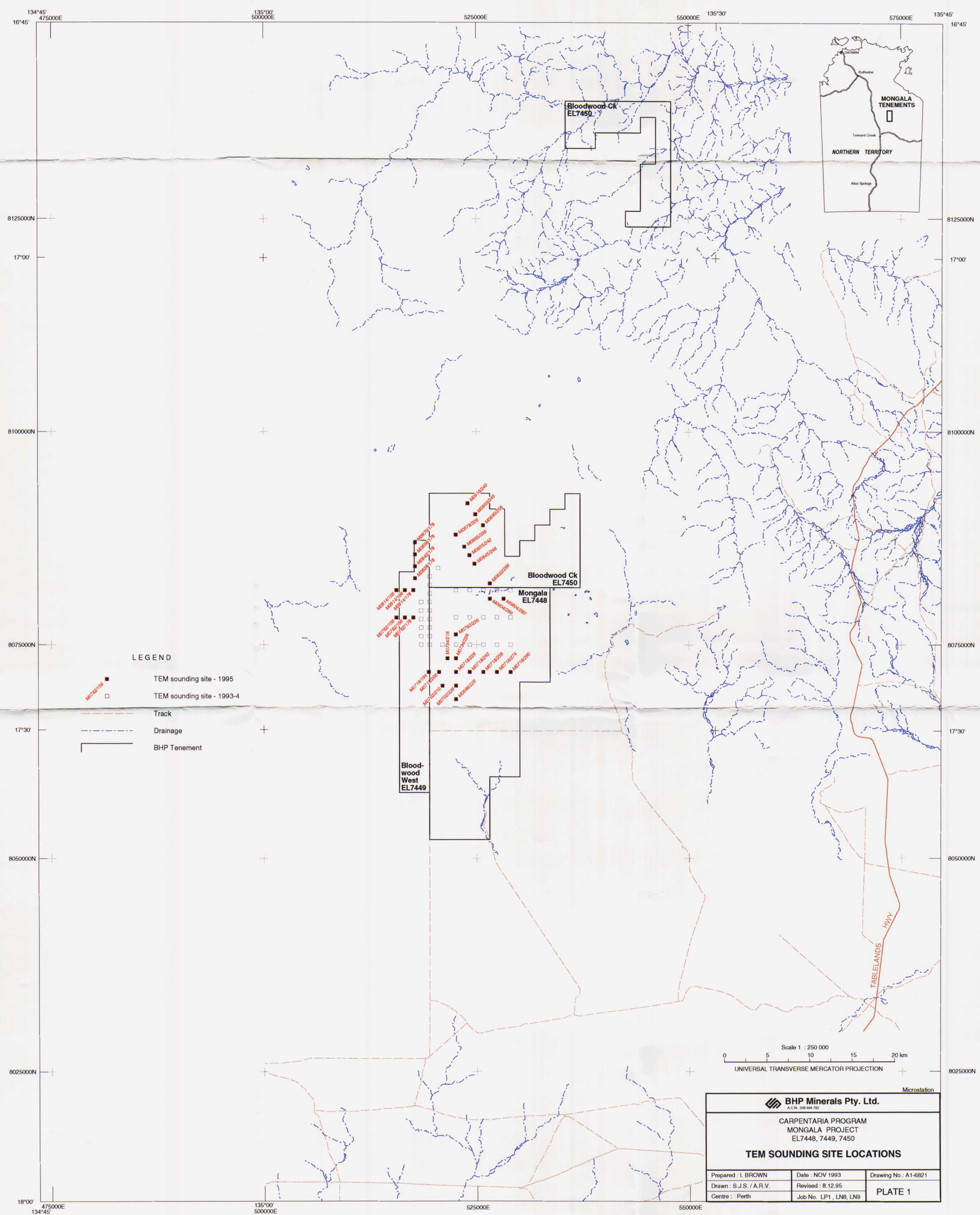
Proposed Work Program - 16/10/95 to 15/10/96

1. Continuing interpretation of TEM and magnetic data.
2. Possible drill testing of TEM anomaly on EL 7450 if encouragement from other drilling on EL7448.
3. Dozing and rehabilitation.

Proposed Expenditure

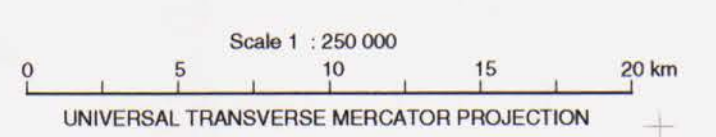
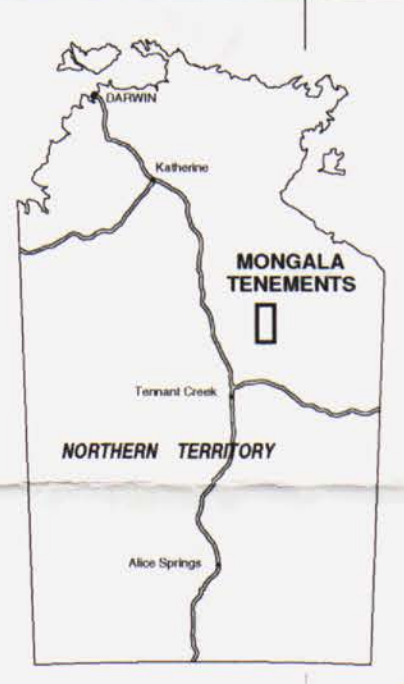
1.	3 days @ \$400 /day	1,200
2.	200 m @ \$35 /m	7,000
3.	30 hours at \$100 /hr	<u>3,000</u>
	<b>TOTAL (rounded)</b>	<b>\$11,000</b>

Field work for this tenement would be carried out in conjunction with ELs 7448 and 7449 which are held by BHP Minerals.



**LEGEND**

- TEM sounding site - 1995
- TEM sounding site - 1993-4
- Track
- Drainage
- BHP Tenement



<b>BHP Minerals Pty. Ltd.</b> <small>A.C.N. 098 694 762</small>		
CARPENTARIA PROGRAM MONGALA PROJECT EL7448, 7449, 7450		
<b>TEM SOUNDING SITE LOCATIONS</b>		
Prepared : I. BROWN	Date : NOV 1993	Drawing No.: A1-6821
Drawn : S.J.S. / A.R.V.	Revised : 8.12.95	
Centre : Perth	Job No. LP1, LN8, LN9	<b>PLATE 1</b>

Microstation