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BRIEF COMMENTS ON A GRADIENT EIP SURVEY OVER THE STAVERTON GRID NEAR DEVONPORT, NORTHERN TASMANIA ON BEHALF OF C.R.A. EXPLORATION PTY. LIMITED

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PRIVATE AND CONFIDENTIAL

BRIEF COMMENTS ON A GRADIENT ELECTRICAL INDUCED POLARIZATION SURVEY OVER THE STAVERTON GRID NEAR DEVONPORT, NORTHERN TASMANIA ON BEHALF OF C.R.A. EXPLORATION PTY. LIMITED

BY

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GEOPHYSICIST

SYDNEY, N.S.W.

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TAS-045A

BRIEF COMMENTS ON
A GRADIENT ELECTRICAL INDUCED POLARIZATION SURVEY
OVER THE STAVERTON GRID
NEAR DEVONPORT, NORTHERN TASMANIA
ON BEHALF OF
C.R.A. EXPLORATION PTY. LIMITED

INTRODUCTION

As part of a series of geophysical surveys executed by Scintrex Pty. Ltd. on behalf of C.R.A. Exploration Pty. Limited in Northern Tasmania during the winter of 1977, four gradient array electrical induced polarization lines were surveyed on lines 400 metres apart over the Staverton grid.

These surveys were executed at the request of, and geologically supervised by, Mr. G. Purvis, Area Geologist for C.R.A. Exploration Pty. Limited. The work was carried out by Scintrex operators Mr. B. Ekstrom and Mr. G. Street on 27th and 28th July, 1977.

The whole area was energised by a Scintrex 10/15 KW generator and the resultant primary (resistivity) and secondary (chargeability) equipotential fields were investigated using two Scintrex IPR-8 receivers using a 2 second energising programme and three slices under the decay curve.

DISCUSSION OF RESULTS

The lines surveyed were as follows:-

Line 1300SE	510S - 330N
Line 900SE	590S - 370N
Line 500SE	490S - 330N
Line 100SE	550S - 130N

The data is presented at a horizontal scale of 1:2500 and vertical scales of 1 centimetre = 2 millivolts/volt (slice M_3 only, presented), while the resistivity data is expressed in ohm-metres and shown on a 10 centimetre log cycle. Each profile is presented separately at the back of this report.

The chargeability backgrounds over the area covered in this survey were similar to those noted at Gowrie Park and East Cethana, namely 4 to 8 millivolts/volt. The apparent resistivity background, however, is about a third of that seen in the abovementioned areas, being for the most part between 700 and 1200 ohm-metres.

The broadly spaced lines do not allow anything but broad conclusions to be drawn from the area. However, it is clear that higher chargeabilities were noted on each of the lines as follows:-

Line 1300SE	225S - 075N
Line 900SE	325S - 200N and particularly 150S - 050N

On line 500SE only minor 6 millivolts/volt responses above the 8 millivolts/volt background were noted. However, one of these, at 200S shows increased chargeability to 16 millivolts/volt, together with a material decrease in apparent resistivity of 70% to 325 ohm-metres. The maximum depth of this response is estimated at 45 to 55 metres. While the distance between lines does not allow correlation, the broad resistivities between 325S and 200S, particularly over the material decline of 55% to 350 ohm-metres at 237E on line 900SE, *look* very similar to those on line 500SE between 275S and 100S.

CONCLUSIONS

1 - Should any of the responses mentioned above be considered to be of possible economic interest, it is recommended that intermediate lines be run between the above lines at 200 metre intervals to cover the more chargeable zones. Preferably the same current dipole should be employed so that the data from both surveys can be integrated.

Respectfully submitted on behalf of:

SCINTREX PTY. LTD.

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GEOPHYSICIST

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LINE 100SE

STAVERTON

Gradient array EIP

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LINE 500 SE

Staverton

EIP-Gradient array

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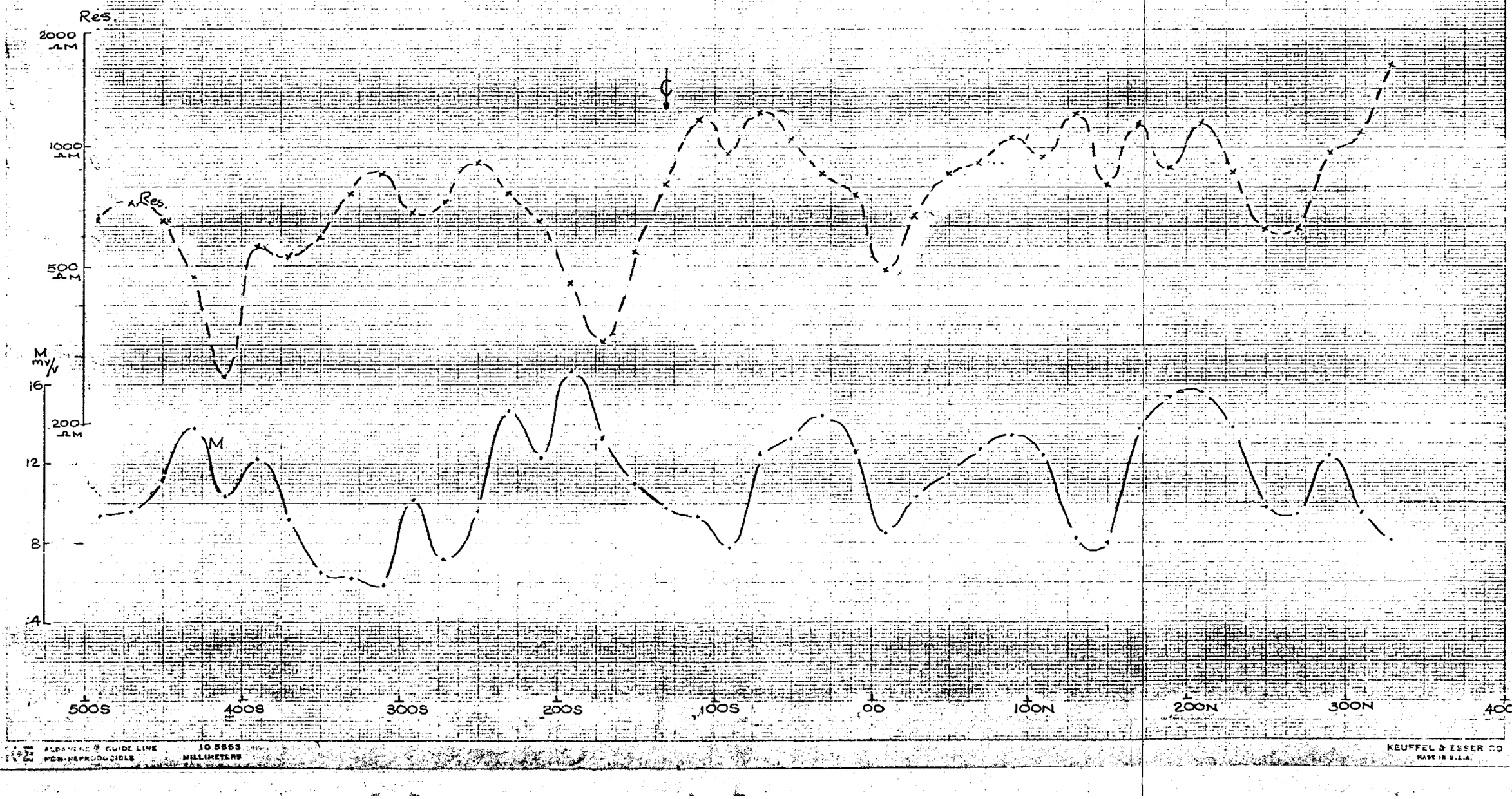

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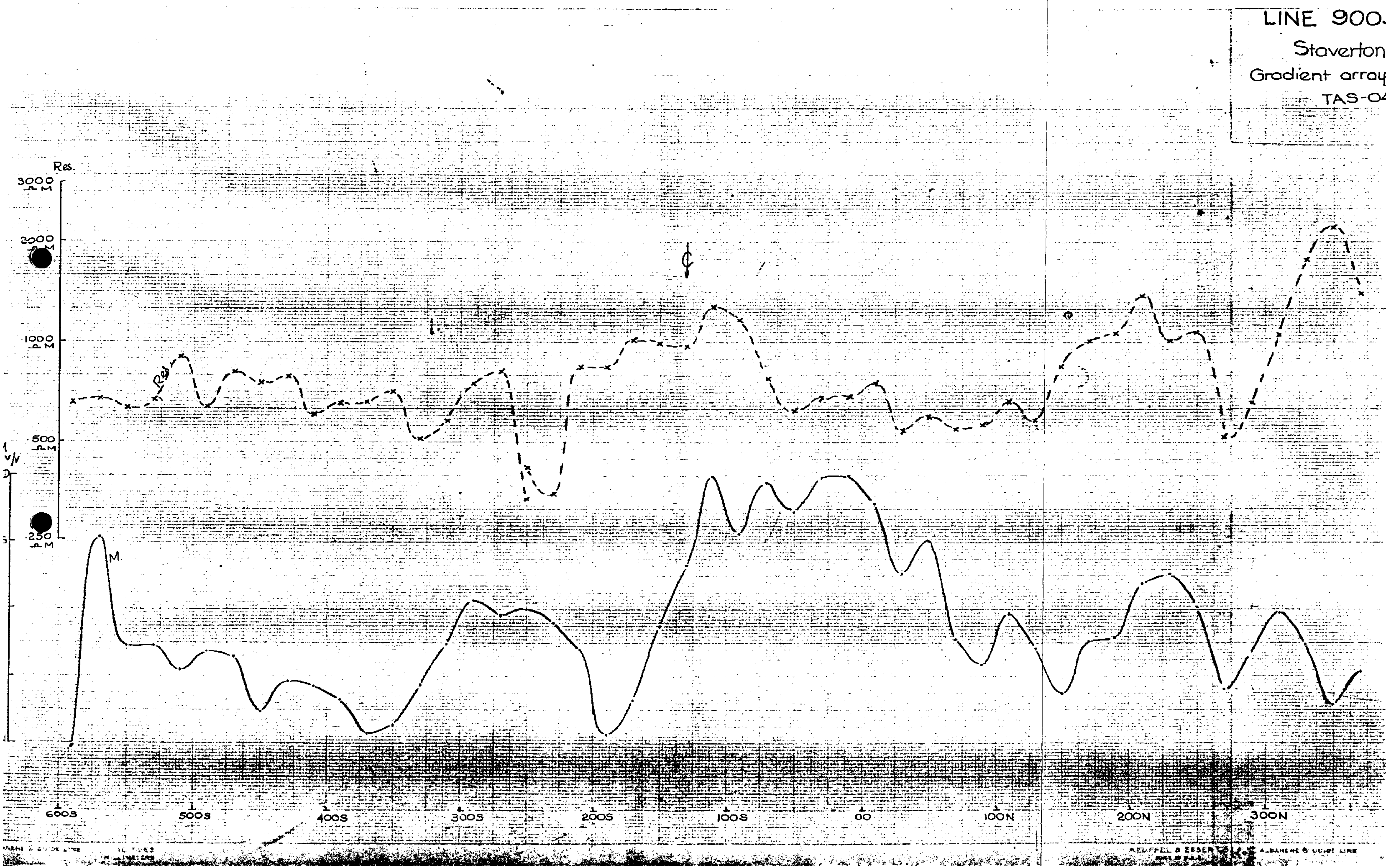

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LINE 1300 SE

Staverton

Gradient array E1P

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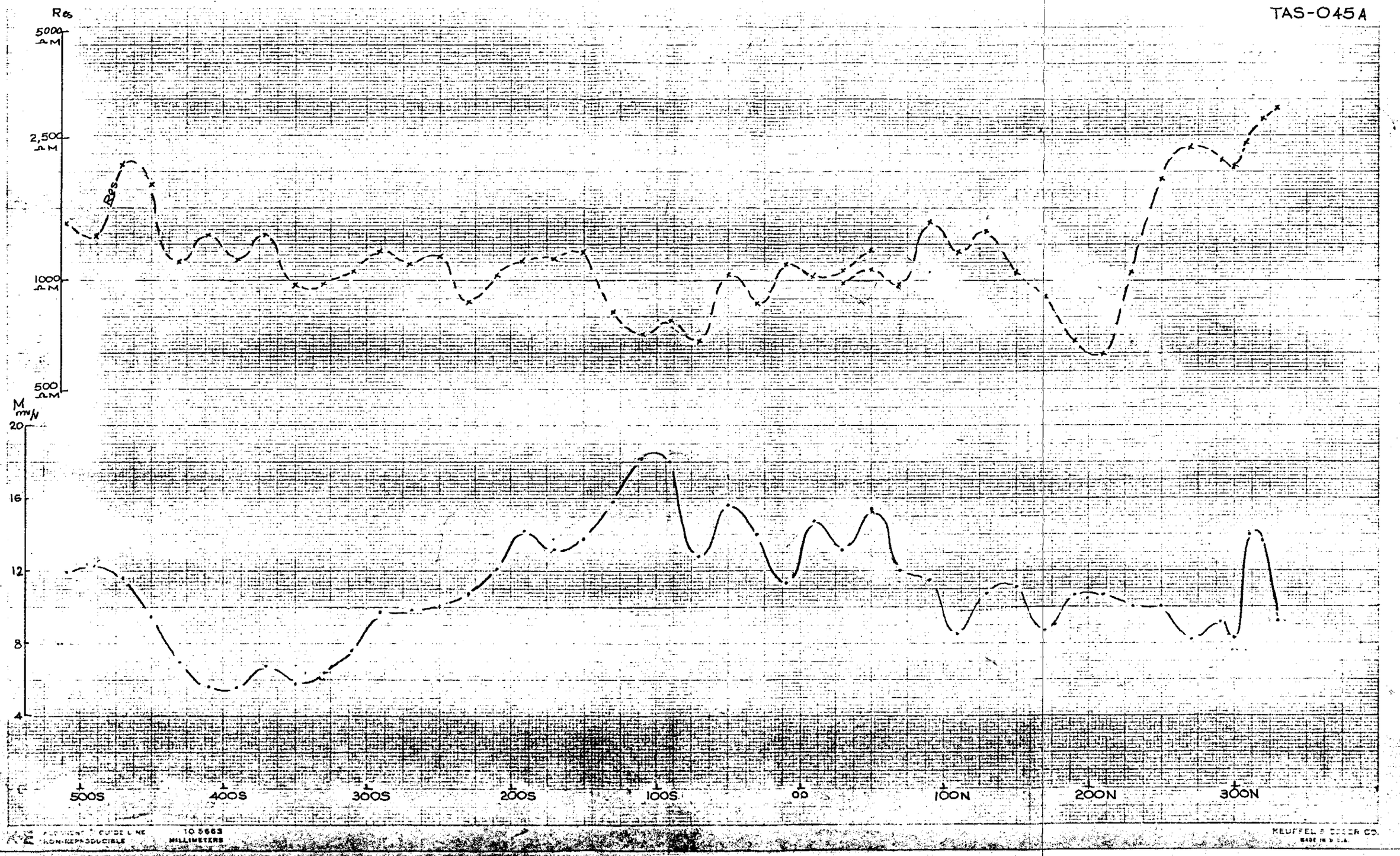

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