GEOPHYSICAL REPORT ELECTRO-MAGNETIC INDUCTION SURVEY
ALCOCK BASE-METAL PROSPECT
EWART TOWNSHIP, KENORA MINING DIVISION, ONTARIO

INTRODUCTION

The E-M. survey, which is the subject of this report, was conducted over a selected portion of the Alcock Prospect when the property was under option to a second party. M. W. Bartley, acting as Geological Consultant to the second party, recommended the survey and directed its execution.

LOCATION AND ACCESS

The Alcock base-metal prospect within which the survey was conducted lies in the central portion of Ewart Township in the N.E. ¼ of 52 E/11. More specifically the prospect is centered at about 49° 42' N latitude and 95° 05' W longitude; about one mile due east of the east end of High Lake and one-half mile west of the Shoal Lake road at a point some 2½ to 2⅝ miles south along the road from its junction with Highway No. 17. The easiest access is down the Shoal Lake Road and through the bush westward to the prospect. The prospect is located as a mineralized showing on J. C. Davies' Preliminary Geological Map No. P. 144.

PURPOSE AND SCOPE

The mineralized showing indicated was the primary reason for the option being taken on the property which consists of twelve unpatented claims, K.28590 through K.28598 and K.34000 through K.34002. Surface work consisting of pitting and trenching by Mr. Alcock had disclosed interesting metal values occurring as sulfides in the outcrop.

Mr. Bartley's recommendation to do the E-M survey was for two reasons, first to determine the general strike and lateral extent of the visible sulfides in the main pit, and secondly to obtain a first approximation of the relative conductivity of the sulfides as an aid in evaluation and also to aid in extrapolation of drill data if such were obtained at some subsequent time.

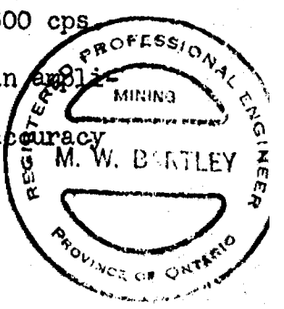
The survey was not intended to be a reconnaissance survey of the entire claim group, but a local fairly detailed survey to accomplish the above objectives.

GENERAL GEOLOGY AND TOPOGRAPHIC FEATURES

The survey area is perhaps one-quarter to one-third outcrop, about one-quarter swamp, and the remainder drift-covered upland. No geologic mapping was done but the outcrop was visually compared against Davies' map and in the survey area the acidic and basic volcanics strike about east-west as he shows. The showing consists of disseminated (locally heavy disseminations to massive) sulfide zones in the volcanic host. The muck from the trench weathers and oxidizes rapidly.

GEOPHYSICAL EQUIPMENT AND FIELD TECHNIQUE

The instrument used on the survey was the Sheridan-Kelk Dual-Frequency "Magniphase" E-M equipment, Model 515, Serial #13. The instrument is of the horizontal loop type measuring the changes in Amplitude and Phase of the resultant E-M field as compared against the primary transmitted field. The operating frequencies are 2400 cps and 800 cps. The manufacturer claims the reading accuracy to be at least 1% in amplitude and 1° in phase and we found this to be true, the average accuracy



is actually probably somewhat greater. The manufacturer also states that normal survey background or noise can commonly be about 3% im amplitude and 2° in phase and that the noise arises from misorientation of the two coils, shortened cable (an inherent feature in operating over non-planer topography), and local minor conductive bodies. Under ideal conditions we found the noise level to be considerably below the above maximums.

The reliable depth penetration of such equipment is probably no greater than three-quarters of the maximum theoretical value (one-half the coil separation) and as we used a 200 foot coil separation in the survey the penetration would thus be about 75 feet.

The plan map accompanying this report shows north-south traverse lines of two lengths, 1000 feet and 2000 feet. On the 1000 foot lines our stations were taken every 50 feet and on most of the 2000 foot lines the stations were every 100 feet. At each station the high-frequency readings were taken and then the low-frequency where deemed advisable. Any and all conductive bodies within 75 feet of the surface will show up with the high-frequency field and if a similar response is obtained with the lower frequency field then the anomaly is worthy of detailed study. The amplitude values obtained in the outcrop areas cannot be considered reliable since the rough topography caused misorientation of the coils and shortened cables -- both in a wide range of variableness. The phase readings, however, are independent of the topography and will be used as the primary data in the evaluation.

SURVEY RESULTS

The accompanying plan displays the picket-line network which

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consists of about 15,000 feet of line over which 210 stations were occupied during September 13 and 14, 1962. The survey data are all plotted in profile on the accompanying plates. The accompanying plan contains the phase values only for the two frequencies where taken and the high-frequency values are contoured since the high-frequency is the moressensitive of the two. It will be noted in the profiles that the amplitude and phase values are plotted against the instrument zero position which is 200 units for both quantities. In contouring the phase values the regional or local average level was used for zero -- 180 units for the high-frequency.

It can be seen from the plan that the relative large area of high-frequency response (to a maximum of -4°) centered at about 50S and 700 E coincides nicely with the water saturated stagnant swamp at that position, and that the low frequency phase response is essentially nil over the same area indicating that the swamp is the observed conductor. Two other minor high-frequence phase low closures are noted at about 100 W on the base line and 100 N on line 200 E. It is also noted that only one low-frequency reading, that at 00 on line 0+00, gives any correlation with the high-frequency. It is noted further that these values are within the normal noise range and are probably just that, noise.

It is obvious that the sulfides visible in the trench at about 75 N on line 0+00 evidence no significant response from which we conclude that the surface showing has no significant extent either from dip or along strike.

STATEMENT OF WORK

The following is an itemized tabulation of the eight-hour man-days actually required and accomplished on the survey of the prospect.

(a) Line cutting (under Mr. Ab. Zabaski, of Kenora)	18	man-days
(b) Instrument operator (R. W. Riedel and assistant)	6	"
(c) Consultants (i) field (M. W. Bartley & R. W. Riedel)	2	"
(ii) office (M. W. Bartley & R. W. Riedel)	2	"
(d) Draftsman	3	"
	31	man-days

Respectfully submitted,

BARTLEY, GREER & ASSOCIATES

R. W. Riedel

Port Arthur, Ontario
September 27, 1962

R. W. Riedel
Geophysicist

approved

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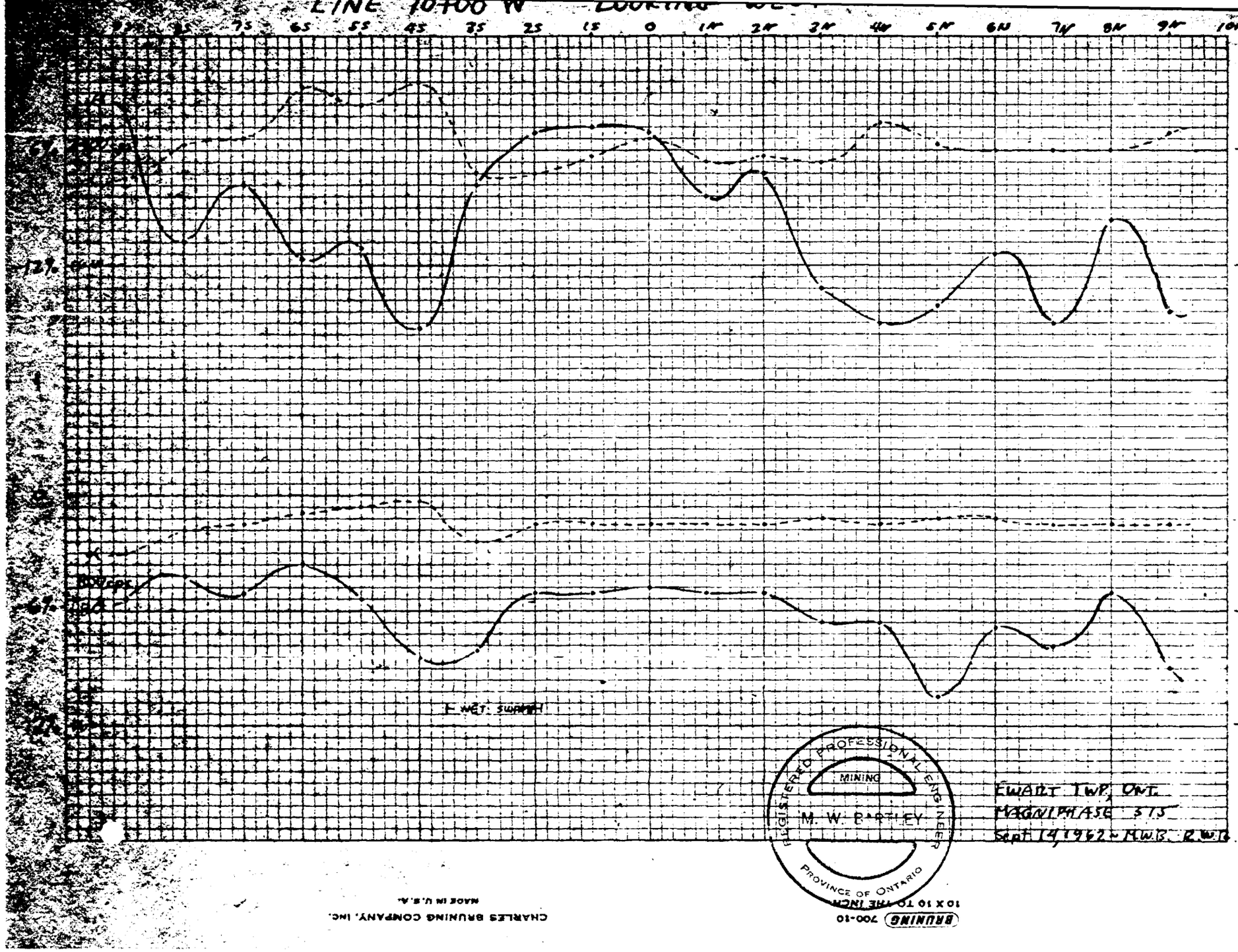
TECH - 15
LINE 15 (reduced from 18)
30 x 4 ÷ 4 = 30 days per claim


LINE 10700 W - LOOKING
9S 8S 7S 6S 5S 4S 3S 2S 1S 0 1N 2N 3N 4N 5N 6N 7N 8N 9N 10N
-5°
-10°
0
-5°
-10°
E WET SWAMP
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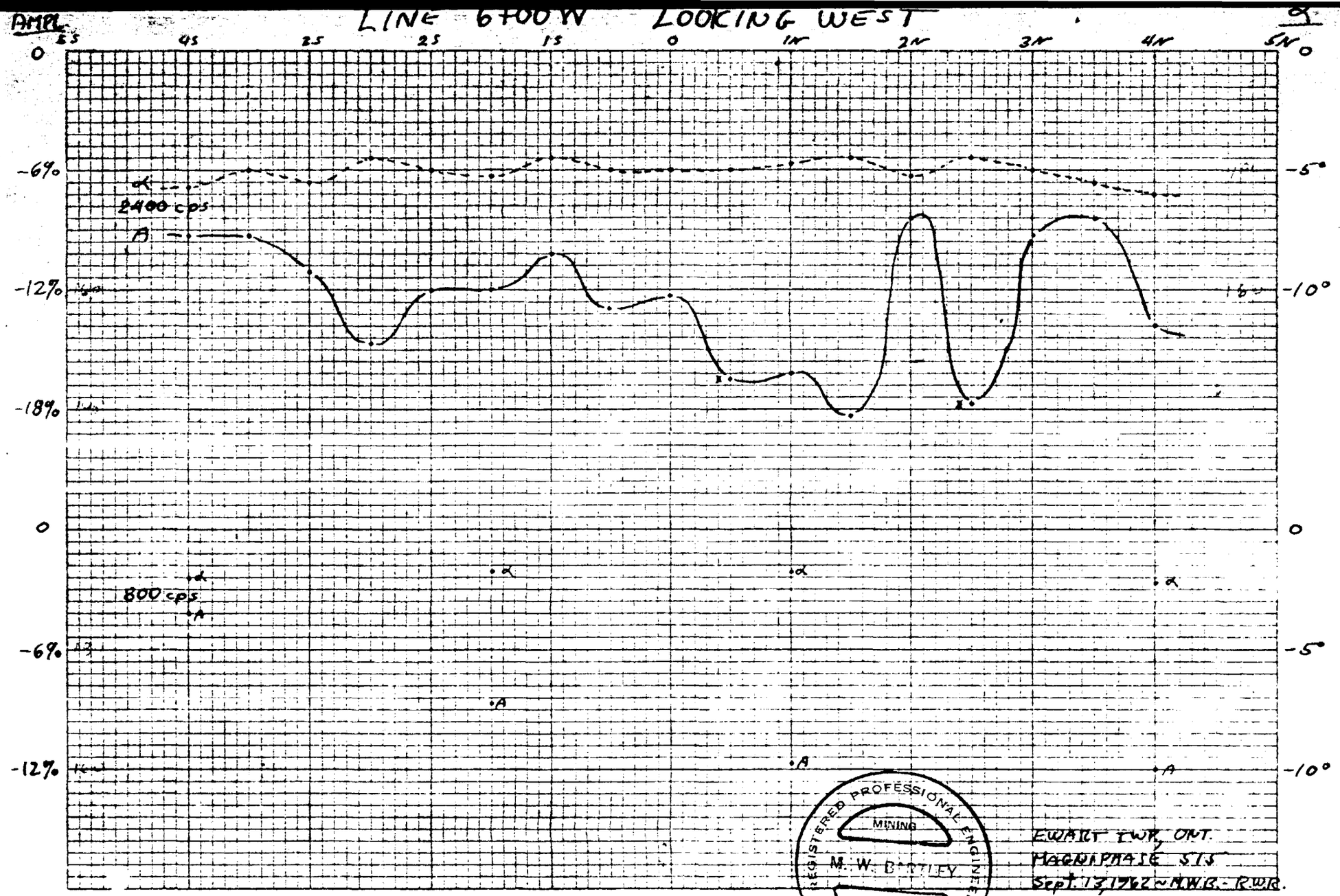
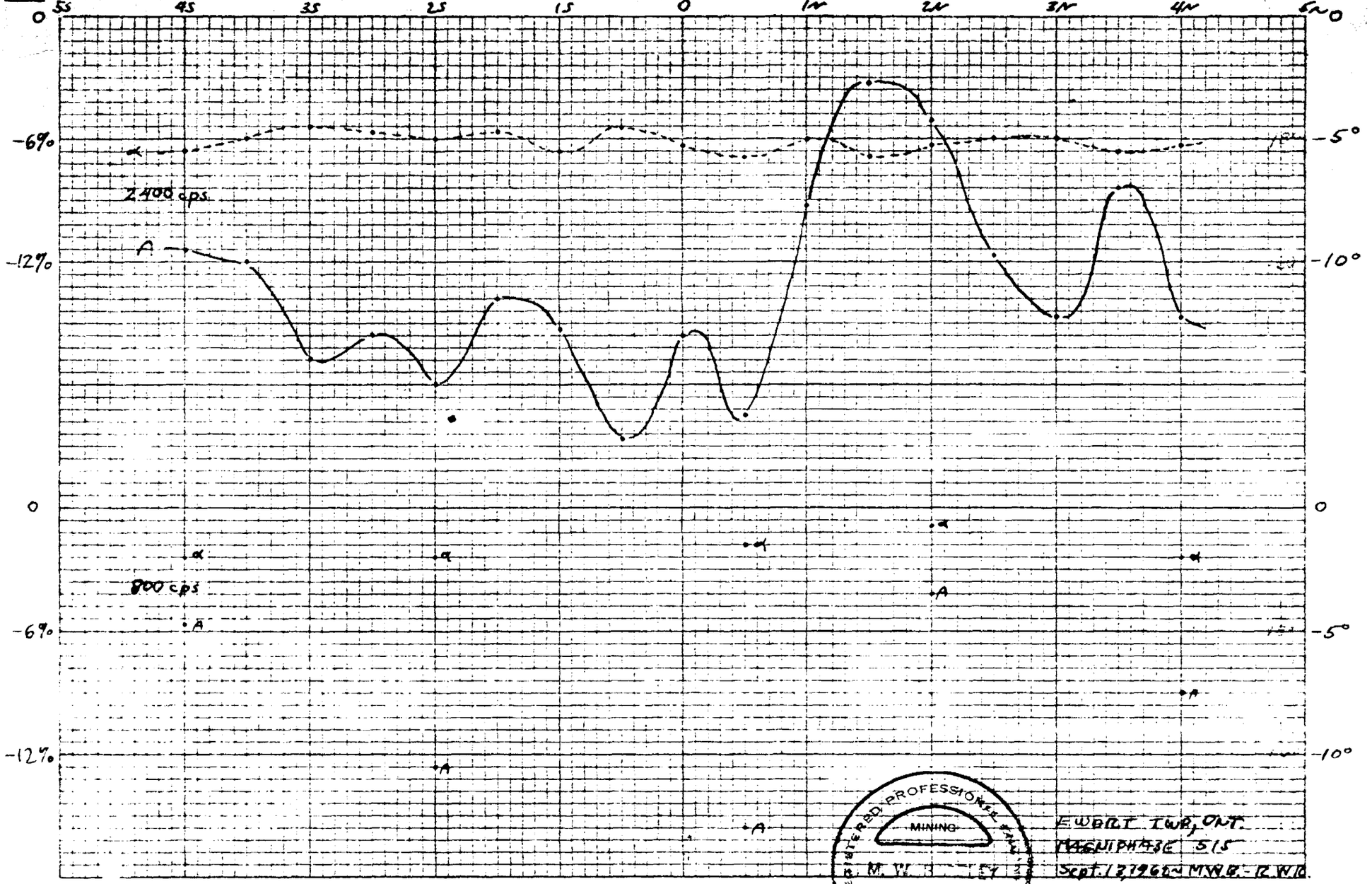
PROVINCE OF ONTARIO
EWART TWP, ONT.
MAGNIPHASE 515
Sept 14, 1962 - M.W.B. R.W.B.
BRUNING 700-10
10 X 10 TO THE INCH
CHARLES BRUNING COMPANY, INC.
MADE IN U.S.A.



LINE 3700 W - LOOKING WEST



EWART TWP, ONT.
MAGNIPHASE 515
Sept. 13, 1966 - MWB - RWB

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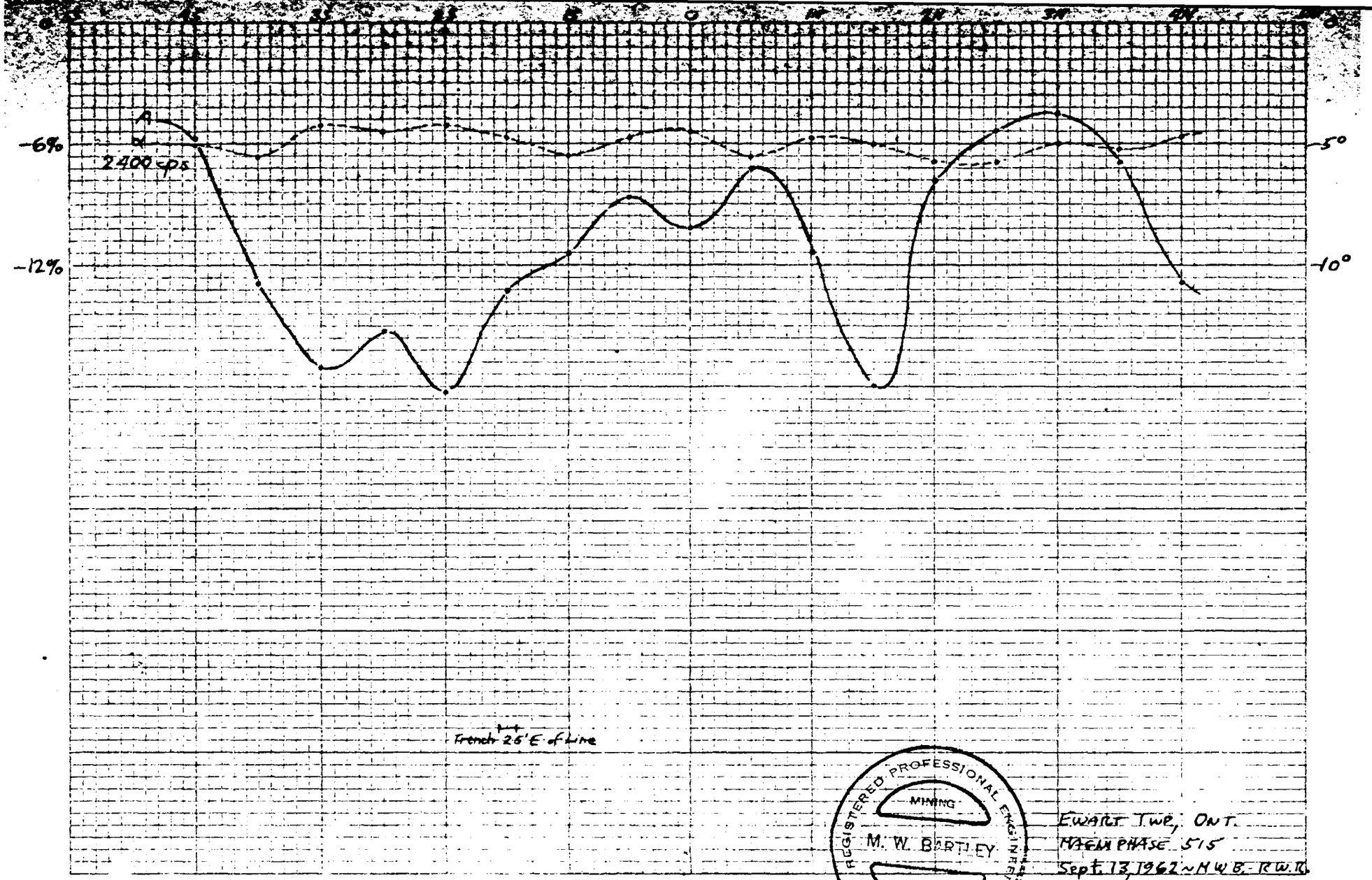
MINING
M. W. B.

CHARLES BRUNING COMPANY, INC.
MADE IN U.S.A.



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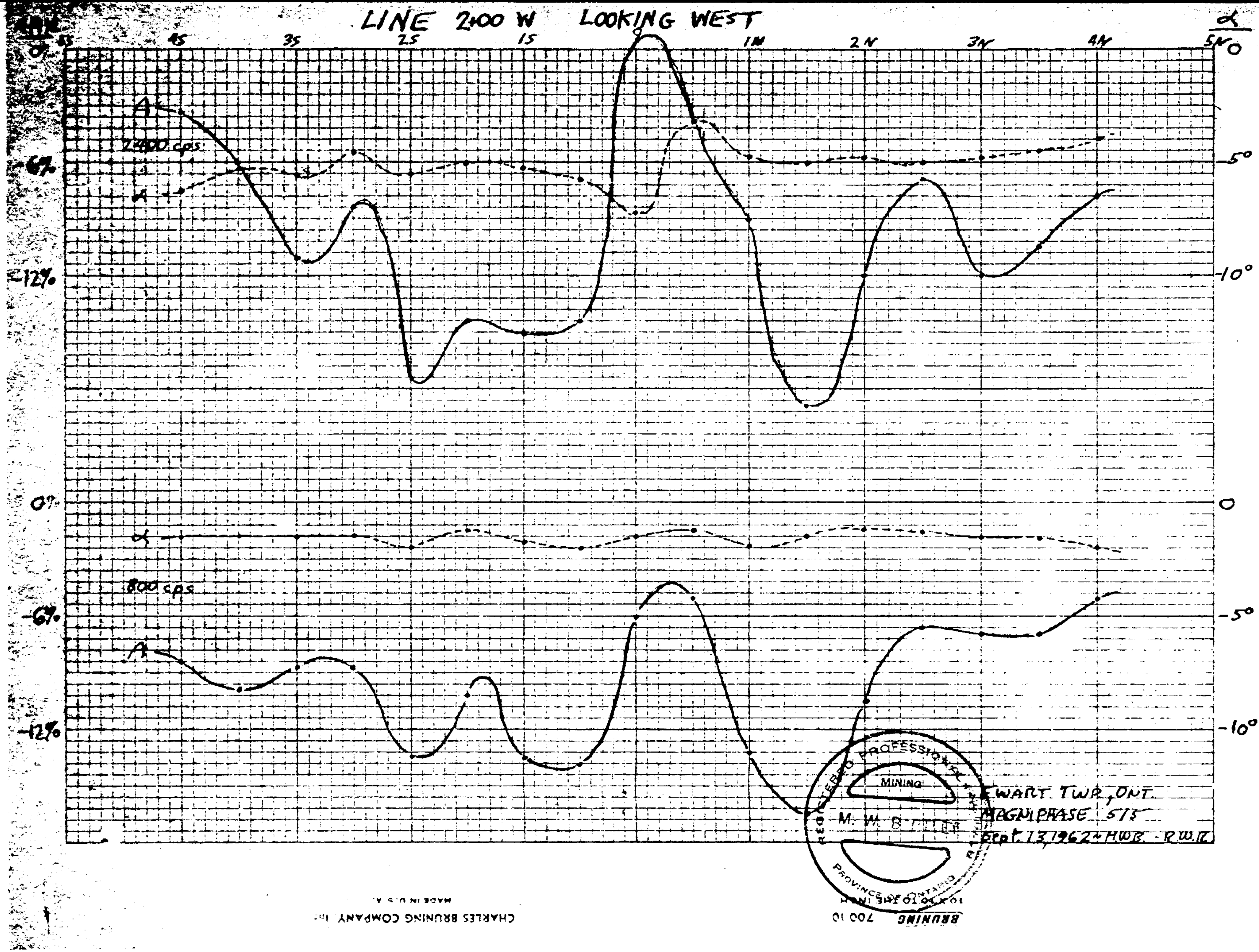
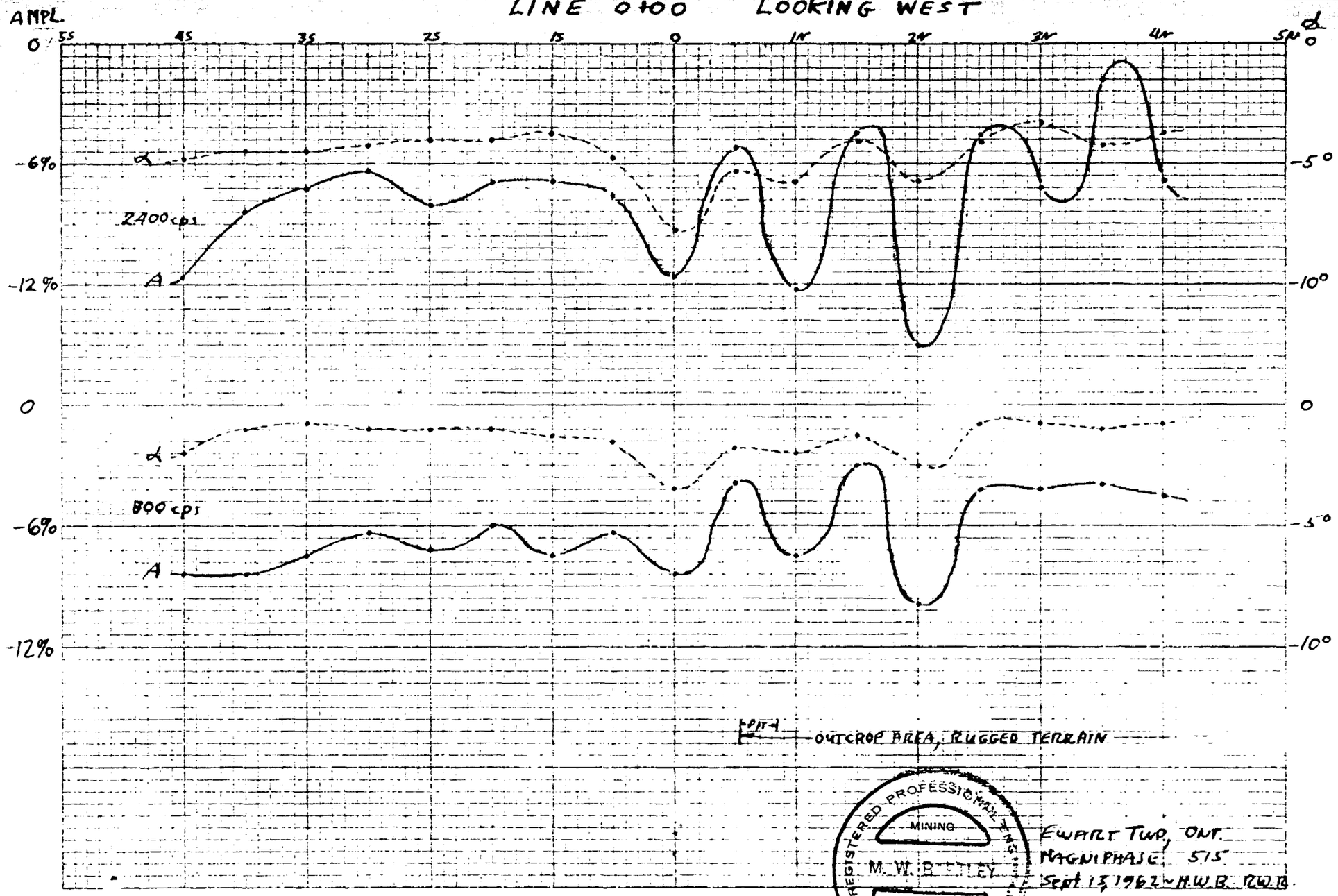
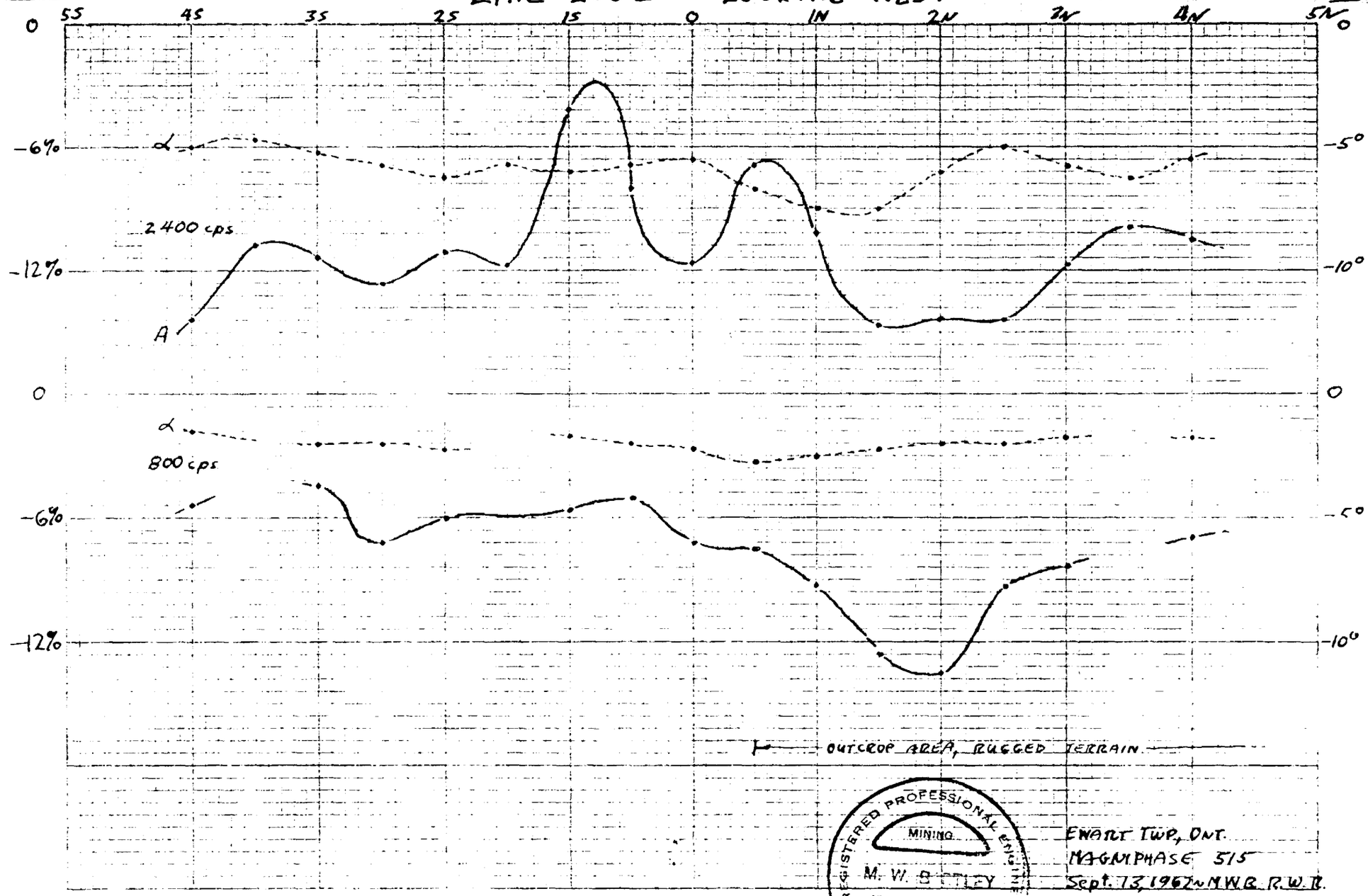
EWART Twp, ONT.
MAGNAPHASE 515
Sept. 13, 1962 ~ N W B - R W R


LINE 2+00 W LOOKING WEST
α
5S 4S 3S 2S 1S 0 1N 2N 3N 4N 5N
0% -6% -12%
0 -5° -10°
A
2400 cps
α
0%
-6%
-12%
0
-5°
-10°
α
800 cps
A
EWART TWP, ONT.
MAGNIPHASE 575
Sept. 13, 1962 - MWB - RWR
REGISTERED PROFESSIONAL
MINING
PROVINCE OF ONTARIO
CHARLES BRUNING COMPANY Inc
MADE IN U.S.A.
BRUNING 700 10
10 X 10 TO THE INCH



AMR.

LINE 200E LOOKING WEST



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MINING
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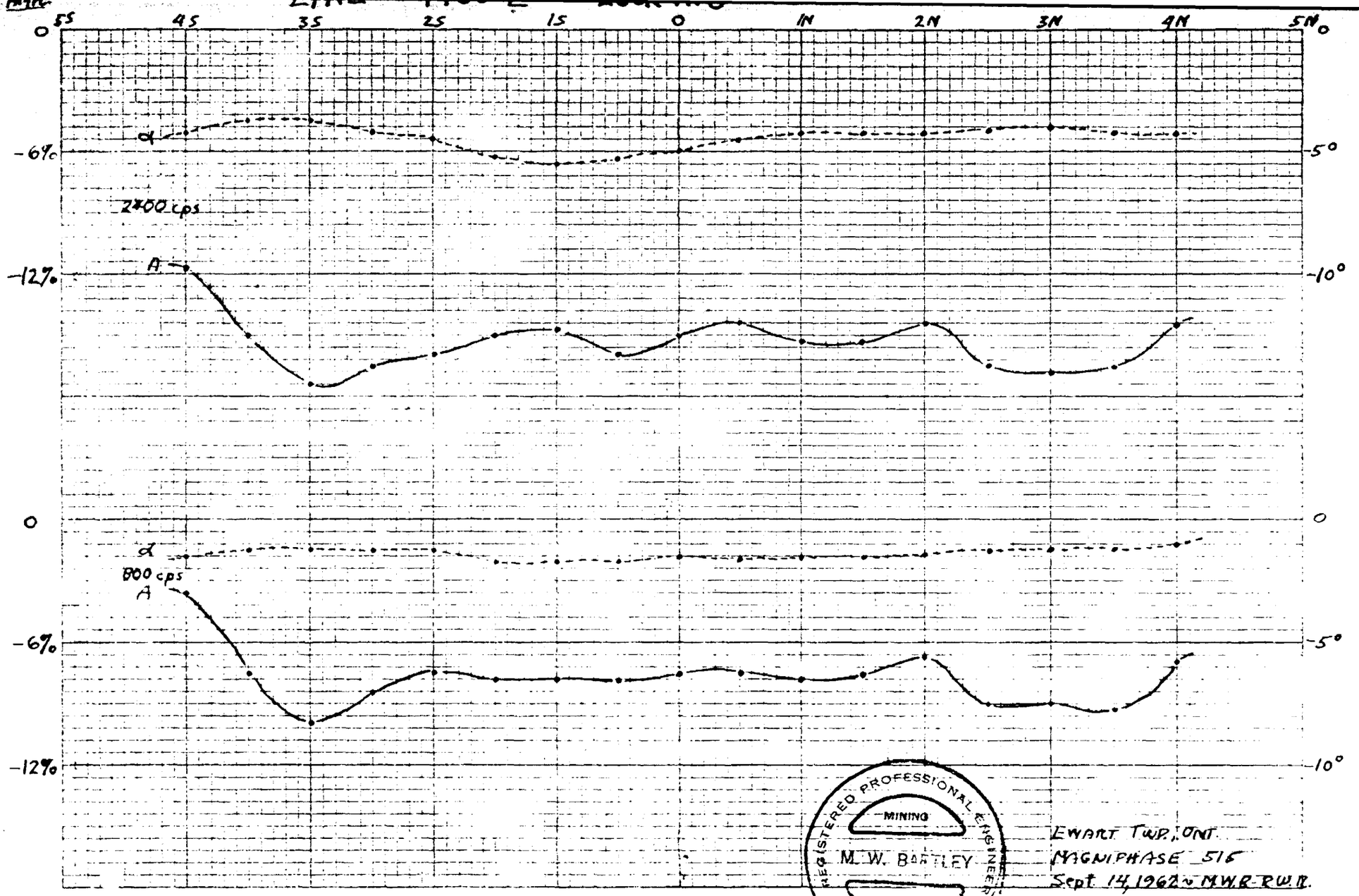
PROVINCE OF ONTARIO

EWART TWP, ONT.
MAGNIPHASE 515
Sept. 13, 1962 NNW R.W.B.

CHARLES BRUNING COMPANY INC.



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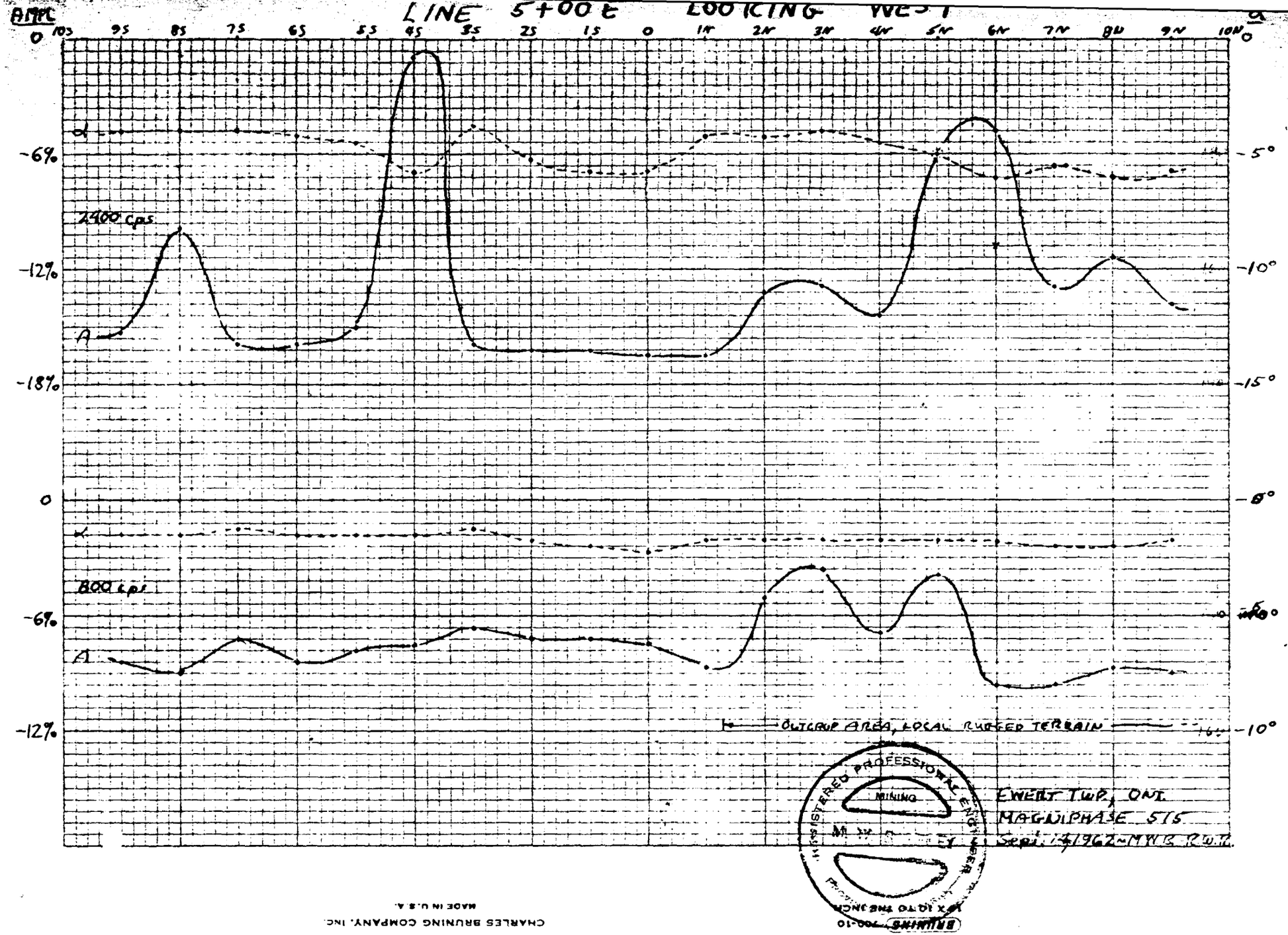
EWART TWP., ONT.
MAGNIPHASE 516
Sept 14, 1962 ~ M.W.B-R.W.B.

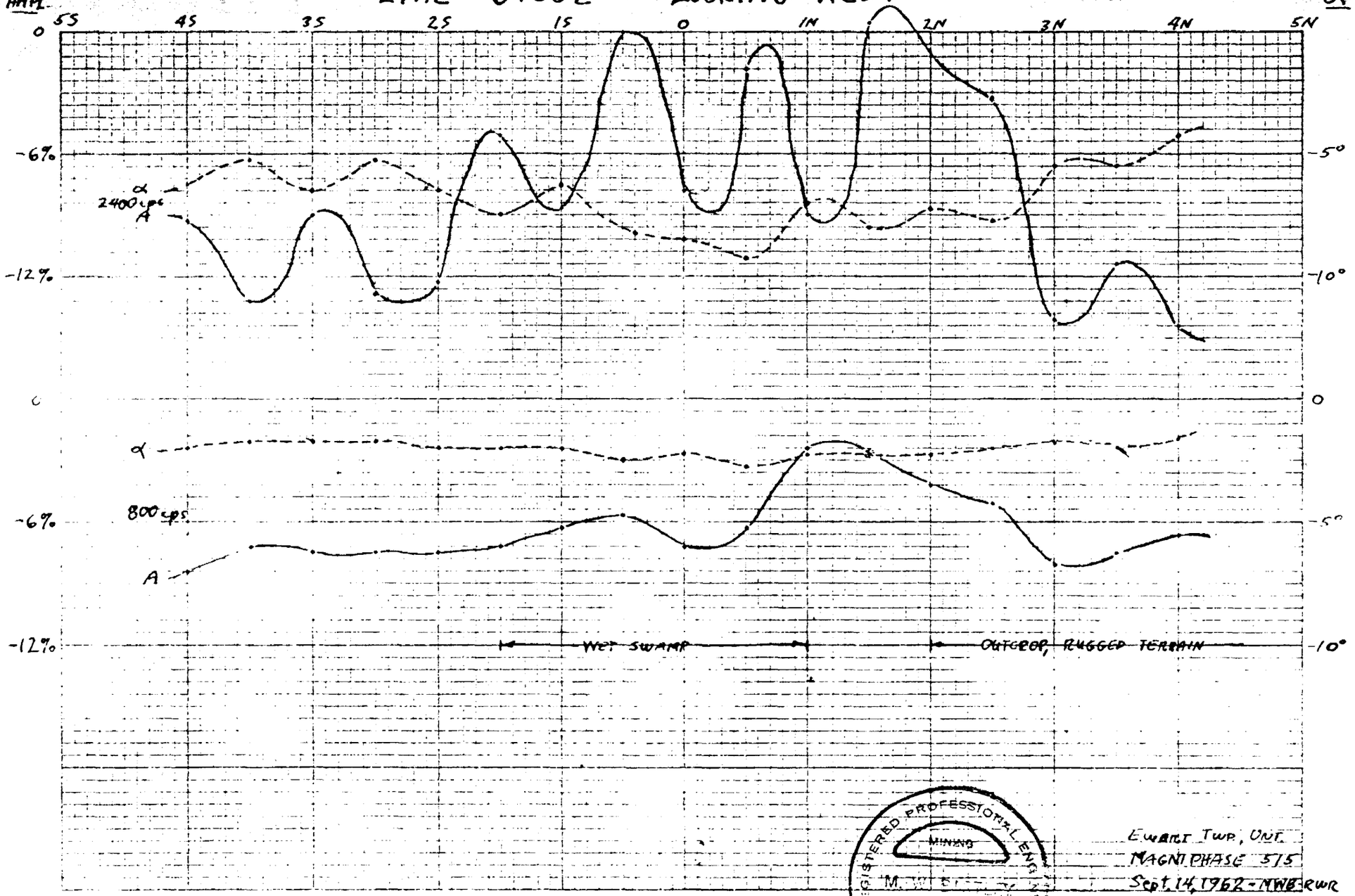
BRUNING 700-10

CHARLES BRUNING COMPANY INC.



AMPL.

LINE 6+00E LOOKING WEST



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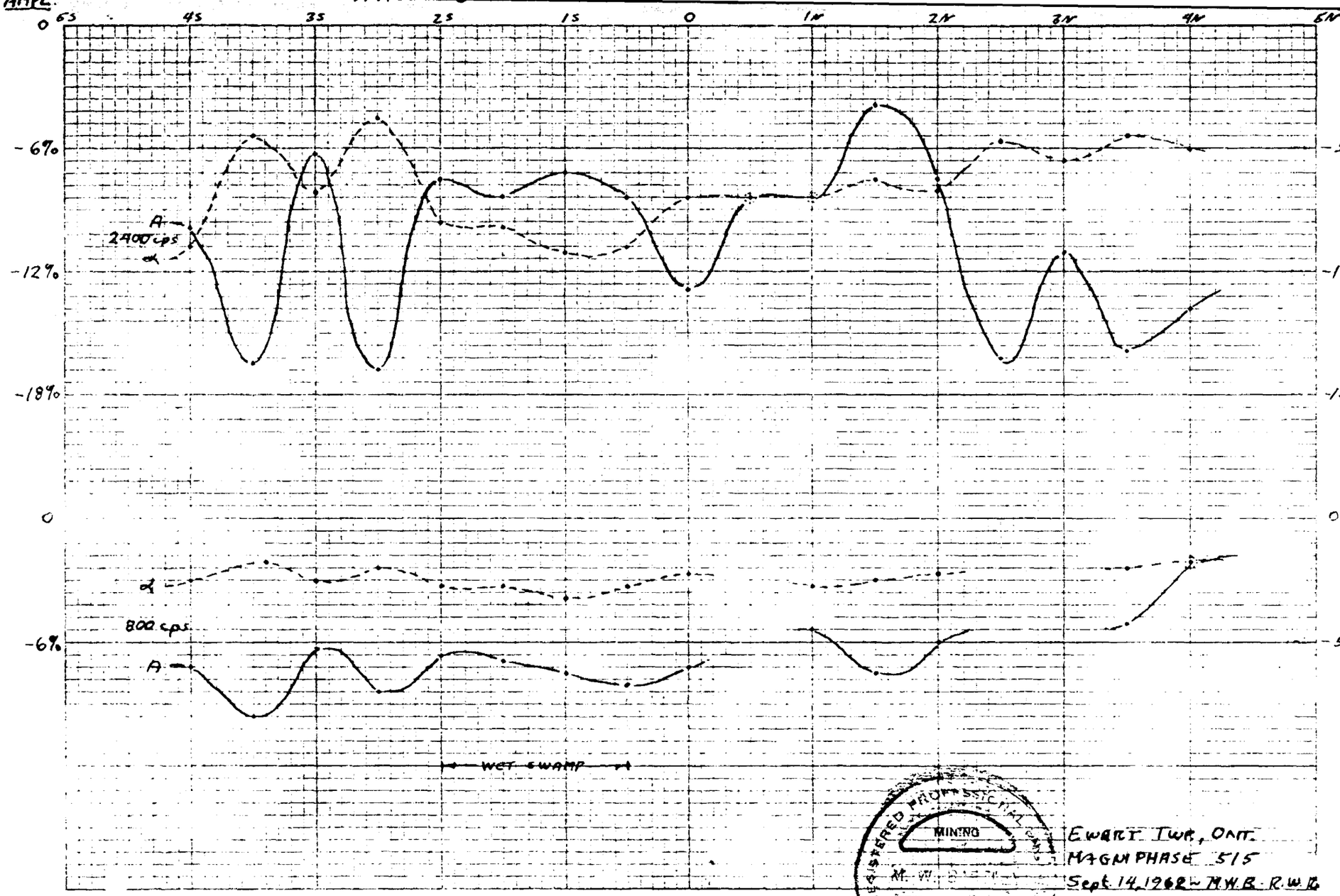
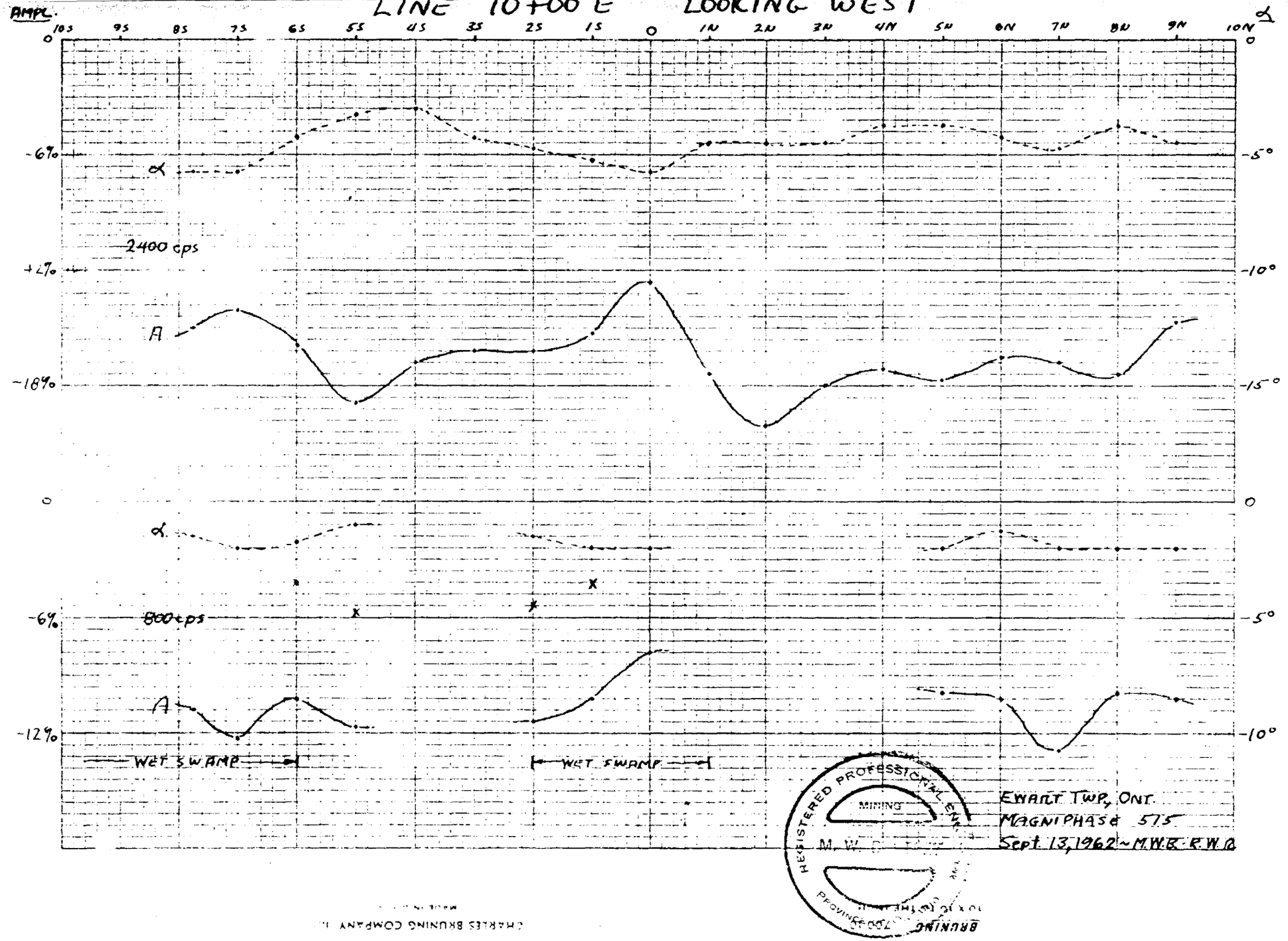
MINING

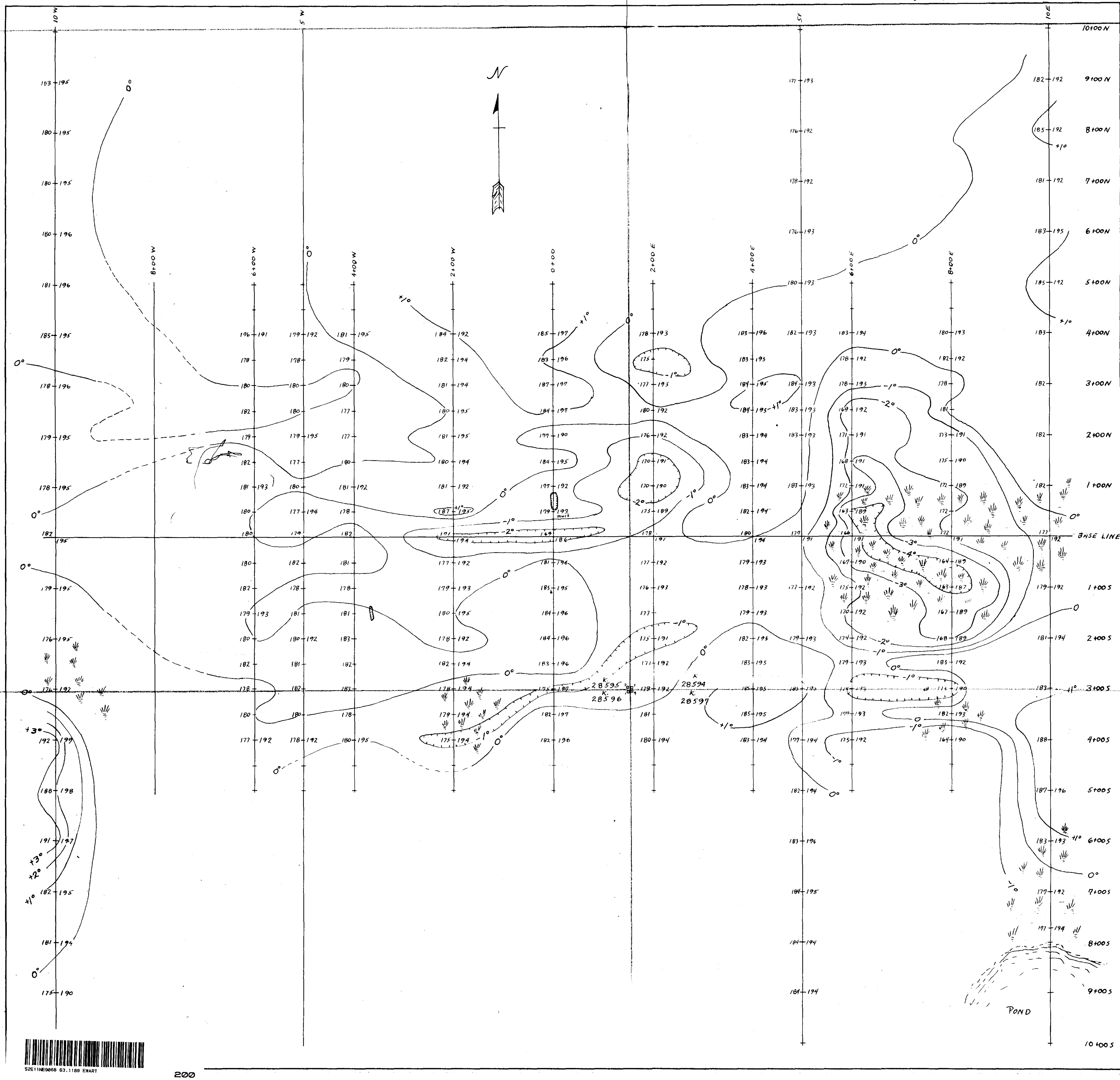
Ewart Twp, Ont.
MAGNI PHASE 375
Sept. 14, 1962 - MWB-RWR

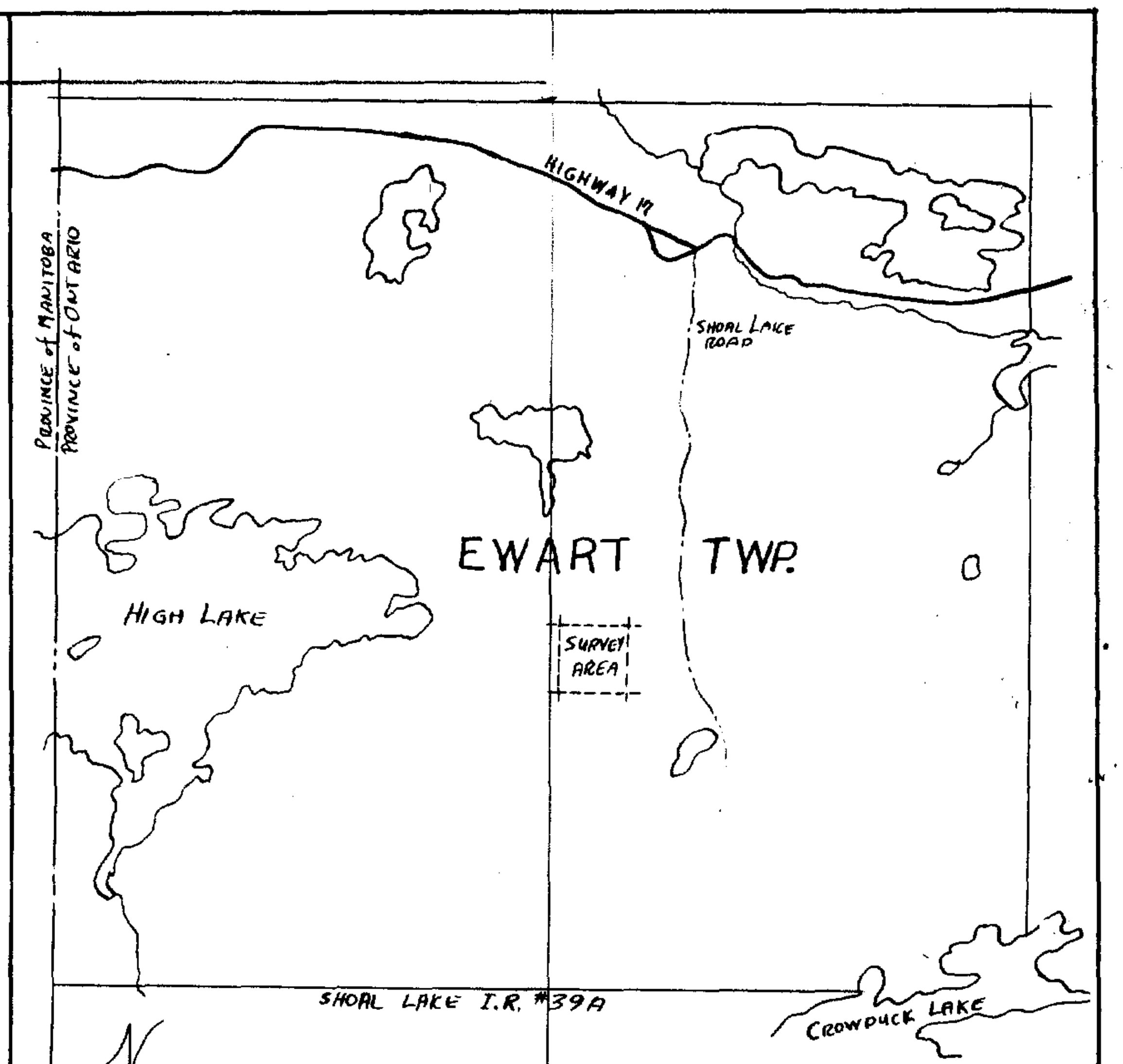


EWART TWP, ONT.
MAGM PHASE 515
Sept. 14, 1962 - M.W.B. - R.W.B.

CHARLES BRUNING COMPANY INC.


LINE 10+00 E LOOKING WEST
AMPL.
10S 9S 8S 7S 6S 5S 4S 3S 2S 1S 0 1N 2N 3N 4N 5N 6N 7N 8N 9N 10N
-6%
-5°
2400 cps
+2%
-10°
A
-18%
-15°
0
0
-6%
800 cps
-5°
A
-12%
-10°
WET SWAMP
WET SWAMP
REGISTERED PROFESSIONAL ENG.
MINING
PROVINCE OF ONTARIO
EWART TWP, ONT.
MAGNIPHASE 575
Sept 13, 1962 ~ M.W.B. R.W.B.





KEY MAP

SCALE: 1 inch = 1 mile

LEGEND

180┼193 E-M Phase Responses at 2400 & 800 cps in scale divisions, 200 s.d. inst. zero.

Water-saturated Swamp

Trench or Pit

Claim Posts

[Note: Instrument used on survey was the MAGNIPHASE MODEL 515 (Dual Frequency) SERIAL #13]

Survey area is located in the NE 1/4 of 52 E/11 at about 49°42' N. Lat. & 95°05' W. Long. about one mile east of the east end of HIGH LAKE.

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63.1189

BARTLEY, GREER & ASSOCIATES
PORT ARTHUR, ONTARIO

ALCOCK BASE-METAL PROSPECT
EWART TWP, ONTARIO
E-M PHASE RESPONSES
2400 cps RESPONSE CONTOURED
CONTOUR INTERVAL = 1° ≈ 4 scale div.

REVISIONS		
No.	DATE	BY
1		
2		

DRAWN: R. W. Riedel
APPROVED: MWB
DATE: September 24, 1962
SCALE: 1 inch = 100 feet
DWG. NO.:

52E11NE9068 63.1189 EWART

200