GEOPHYSICAL REPORT

on

ELECTROMAGNETIC AND INDUCED POLARIZATION SURVEYS

CONDUCTED ON THE ROSARIO PROPERTY

LOCATED IN REID AND MAHAFFY TOWNSHIPS IN

PORCUPINE MINING DIVISION, ONTARIO

by

P.A. Diorio

6, April 1982

For

Utah Mines Ltd.

4 King St. West

Suite # 1406

Toronto, Ontario

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I INTRODUCTION

This report covers work done on a large claim block in Reid and Mahaffy townships, staked to cover a thick rhyolitic sequence hypothesized to be extensions of units in the Kidd - Carnegie township region. This property is referred to here as the "Rosario" property after our joint-venture partners.

The work includes IP surveys, primarily to explore for disseminated sulphides, and time domain EM surveys employed to examine previously located but questionable anomalies, to explore in close proximity to previously tested conductors, and at the same time allow evaluation of this technique in relation to older survey methods.

I LOCATION OF PROPERTY AND ACCESS

The property is located about 40 km northwest of Timmins and straddles the Reid, Mahaffy boundary. The entire property is located to the west of the Matagami river as may be seen on the attached map. (Figure 1)

In the summer the property may be reached by boat on the Matagami river. In the winter access may be obtained by winter road to just south of the Ontario Hydro Dam. From this point the river may be crossed by skidoo. The Reid, Mahaffy township line which may be traversed by ATV or skiddoo,provides access across the east-west length of the property.

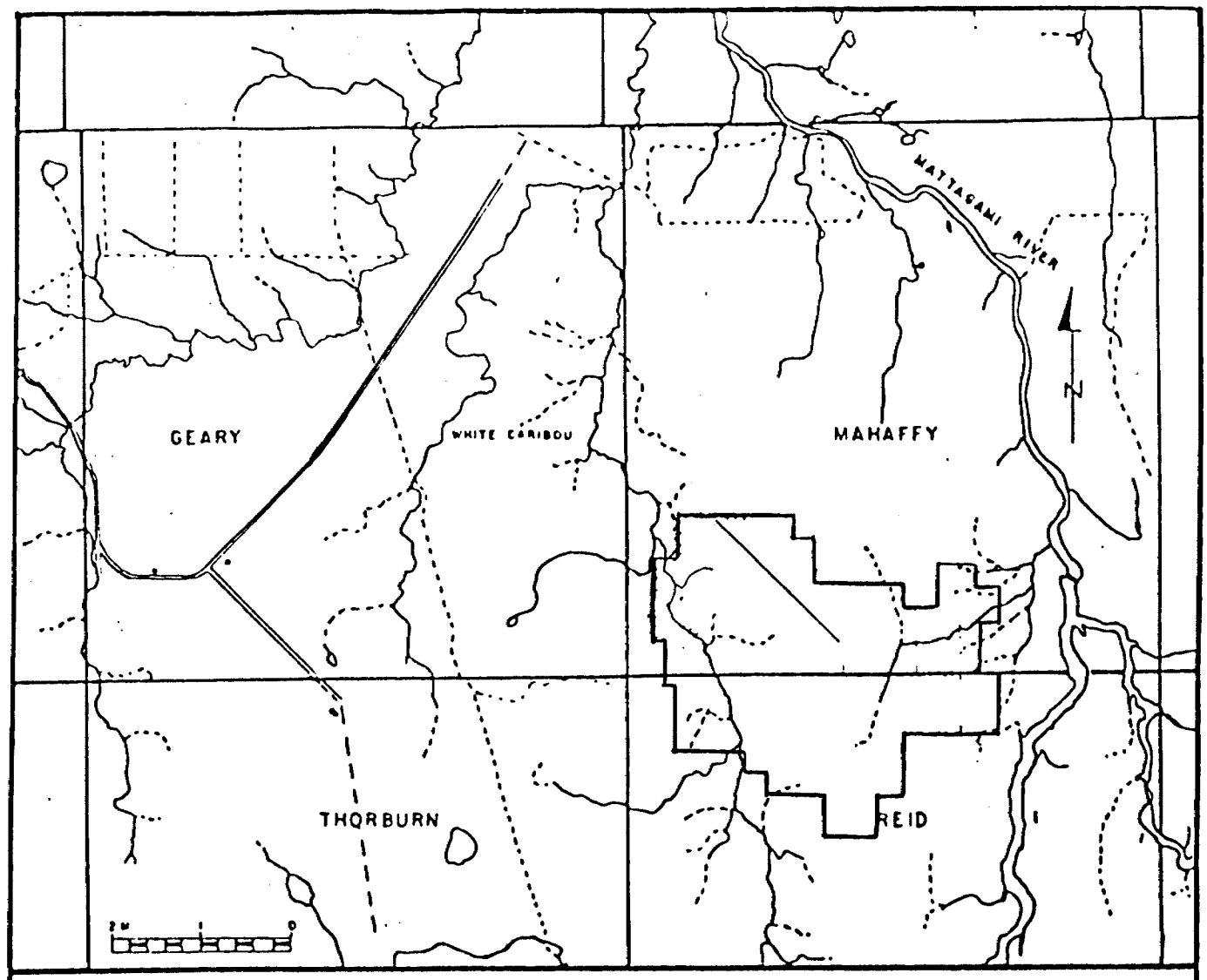
During the course of the surveys referred to here, both summer and winter operations were mobilized, supported, and demobilized by helicopter.

PROPERTY

The Rosario property includes a large block of claims as outlined on the geophysical plans. Since the purposes for conducting the IP and electromagnetic surveys were quite different, the claims covered by each method are not necessarily coincident.

The 37 claims covered by the IP survey are:

499 601 - 602	501 594
499 622	501 597 - 599
499 625 - 630	
499 633 - 634	506 824 - 831
499 639	
499 654 - 659	517 029 - 030
	539 937 - 939
501 588 - 589	



LOCATION PLAN
OF
ROSARIO PROPERTY

Figure 1

I PROPERTY (Continued)

The 36 claims covered by the DEEPEM survey are:

499 582	499 653 - 656
499 598 - 599	499 658
499 601	
499 621	499 663 - 665
499 628 - 630	499 672 - 673
499 633 - 634	
499 636	501 594
499 638 - 639	501 597
499 641 - 649	506 824
	517 029

GEOLOGY

The entire property is covered by extensive glacial overbuden and there is no known outcrop within the area. On the basis of limited drill information it appears that the property is underlain by a sequence of metavolcanic and metasedimentary rocks which are cut by north/northwest trending diabase dykes.

PREVIOUS WORK

A considerable amount of work has been completed in the area referred to as the Rosario property since 1964, following the discovery in Kidd township of the Kidd Creek Mine. Records in the assessment files show that in 1964, Keevil, Black River and Jacobies worked in the area and 8 diamond drill holes were recorded. In 1965, Barrington ran JEM and magnetics in the area. In the same year, United Porcupine, drilled 4 holes along the Reid, Mahaffy township line.

Conwest completed vertical loop electromagnetic and magnetic surveys in 1966 and drilled two holes. In 1972 Caltor conducted ground magnetic and electromagnetic surveys and drilled 4 diamond holes. In 1973, Deepex Syndicate ran Turam, magnetics and gravity and drilled two holes in the northwest part of the property. Following an airborne INPUT survey, the results of which are not on assessment file,

I PREVIOUS WORK (Continued)

Phelps Dodge in 1965 conducted Ronka HEM, magnetics and drilled one hole.

Rosario Resources Canada Limited, claimed much of this area in 1977, and since then have conducted a variety of ground geophysical surveys over the property and have drilled a total of 8 diamond drill holes. Early in 1980 Utah Mines Ltd. conducted magnetometer and Max-Min surveys and drilled a further 6 diamond drill holes under the joint-venture agreement with Rosario Resources Canada Limited.

II DEEPEM AND IP SURVEYS

SURVEY METHOD AND INSTRUMENTATION

(a) DEEPEM Electromagnetic Survey

A survey was carried out using a Crone Geophysics Limited Pulse EM unit employing a large fixed transmitter configuration. This is commonly referred to as the DEEPEM mode of operation and may be considered the time domain equivalent of Turam.

The transmitter consists of a 400 ft. square loop of number 10 gage insulated copper wire. The loop is laid directly on the ground along grid lines, where possible, and along pace and compass traverse lines otherwise. The transmitter is driven with an alternating polarity step function as is common in most time domain EM systems. This signal is produced by a Crone 450 watt Pulse EM transmitter which is powered by a 24 volt motor generator.

The receiver consists of a ferrite core receive coil and the time domain receiver unit. Both are easily portable. The receiver and transmitter are synchronized by the use of a twin lead signal cable between the two. The receiver measures the amplitude of the field at 8"time windows" or channels at progressively later times after termination of the primary pulse. The receiver stacks and averages the results for a large number of primary pulse cycles in order to reduce noise effects. The recorded values are in arbitrary units.

The survey is conducted as follows. The transmitter loop, transmitter and motor generator are set-up at the desired location and left to run unattended. Traverse lines at 200 - 400 foot spacings are surveyed at 100 foot intervals. Normally traverses are run perpendicular to the loop edges. At each station both the vertical, "Z", and

II DEEPEM AND IP SURVEYS

SURVEY METHOD AND INSTRUMENTATION (Continued)

(a) DEEPEM Electromagnetic Survey

horizontal, "X", components of the primary and secondary magnetic fields are measured. The horizontal component is measured with the receive coil axis parallel to the survey lines. Orientation of the coil is accomplished by the use of spirit levels built into the receiver antenna.

All secondary field measurements are made after the termination of the primary pulse, hence this observed signal is not affected by the transmitter to receiver spacing. This allows the transmitter to be located to optimize the response from a specific conductor and hence, it is sometimes advantageous to survey the same line from a variety of transmitter locations. This technique was used to provide detailed information in the vicinity of known conductors.

DEEPEM method is effective at discriminating between bedrock and surficial conductors(i.e. conductive overburden). Low conductivity features, such as conductive overburden generally produces responses only in the earliest time windows(i.e. channels 1 & 2,) whereas bedrock conductors often produce responses through all 8 channels.

(b) Induced Polarization

A Scintrex IPR-7 receiver and Elliot 2 kw transmitter were employed for this survey. A pole-dipole array with "a" = 200 feet and "n" = 1 thru 4 were used. A 2 second "on" and 2 seconds "off" step function waveform was transmitted to the ground from the transmitter via steel stake electrodes. Receiver

II SURVEY METHOD AND INSTRUMENTATION (Continued)

(b) Induced Polarization

contact with the ground was made using porous pots filled with copper sulphate.

Chargeability and resistivity data where obtained and plotted in Pseudosection format.

Because all of the ground covered by this survey had previously been explored with EM methods the emphasis was in detecting possible disseminated targets. For the purposes of base metal exploration it was thought that such targets would have to be of considerable volume if they were to be of economic interest. For this reason an 800 foot linespacing was routinely employed. This was decreased to 400 feet in areas of particular interest.

PERSONNEL AND SURVEY DATES

The attached Table I list all personnel, dates worked and the type of survey done. Total man-days for each type of survey are entered on the Report of Work forms in order to calculate the assessment credits.

SURVEY STATISTICS

The following mileages and stations were surveyed during 1980 with IP and DEEPEM.

Type of Survey	Stations	Mileage
IP	502	18.18
DEEPEM	832	14.49

TABLE I

PERSONNEL	DATES WORKED From	To	TYPE OF SURVEY
Cover, Keith			
1461 Otis Ave.	8/02/80 -	10/02/80	DEEPEM
Mississauga, Ont.	18/02/80 -	28/02/80	"
L5C 2B7	1/03/80 -	10/03/80	"
	20/03/80 -	1/04/80	"
Zellmann, John	8/02/80 -	10/02/80	DEEPEM
Wyatt Road	18/02/80 -	28/02/80	"
R.R.#1 Millgrove,	1/03/80 -	10/03/80	"
Ontario LOR LVO	20/03/80 -	1/04/80	"
Diorio, Peter	8/02/80 -	10/02/80	DEEPEM
Utah Mines Ltd.	18/02/80 -	28/02/80	"
4 King St. W. -1406	1/03/80 -	10/03/80	"
Toronto, Ont. M5H 1B6	20/03/80-	31/03/80	"
	4/09/80 -	8/09/80	IP
	23/03/82 -	26/03/82	Drafting (IP)
	29/03/82 -	1/04/82	Drafting (DEEPEM)
Godbout, Michel	4/09/80 -	8/09/80	IP
Utah Mines Ltd.	8/08/80 -	28/08/80	"
1238 Riverside Dr.			
Timmins, Ontario			
P4R 1A4			
Bianchini, Egizio	8/08/80 -	28/08/80	IP
73 Sellers Avenue			
Toronto, Ontario			
M6E 317			
Lombardi, Raul	8/08/80-	28/08/80	IP
2 Restwell Crescent			
Willowdale, Ont.			
M2K 2A2			
Feltracco, Walter	8/08/80-	28/08/80	IP
368 Douglas St. W.			
Sudbury, Ont.			
P3C 1H3			
Witherly, Kenneth	4/09/80-	8/09/80	IP
Utah Mines Ltd.			
4 King St. W. -1406			
Toronto, Ont.			
M5H 1B6			
Godbout, Nelson	4/09/80-	8/09/80	IP
Utah Mines Ltd.			
1238 Riverside Dr.			
Timmins, Ontario			
P4R 1A4			

III INTERPRETATION

DEEPEM

The data for the DEEPEM survey are shown as profile plots at 1" = 200' and are included in Appendix I. The plots show one horizontal component of the secondary electromagnetic field as a dotted line and the vertical component of the secondary electromagnetic field as a solid line. The various transmitter of loop locations are shown on the geophysical plans and are identified by a single bold capital letter on both the plans and the profiles.

Anomalies may be recognized by positive peaks in the "X" component and "crossover" type features in the "Z" component. Poor conductors show responses in only the first few channels while better conductors may show a response in all eight.

The objectives of this survey where to investigate known anomalies which were of interest either because of their complexity or some question about their validity. The ability of the DEEPEM Method to differentiate between bedrock and overburden sources was useful in discounting several questionable anomalies. For example loops A, E, F, G and W were intended to examine poorly defined EM anomalies and in all cases show only strong responses which could be attributed to overburden conductivity. The following Table shows anomalies which were detected during the course of this survey.

(PLEASE SEE NEXT PAGE)

III

TABLE 2

Transmitter Loop	Anomaly Location	Comments
A	L80W ;4N L76W ;4+50N	Along strike from graphite zones defined by Caltor, Black River and Rosario drilling. L76W; 4+50N may represent an "off end" response
B	L80W ;17N	Excellent conductor. Drill tested by UR 80-2. Massive Py and graphitic argillite encountered.
	L76W ;17N	Drill tested UR 80-6, No conductor encountered.
C	L68W ;32N	Questionable response, possibly results from noise.
D	L68W-L64W;27N	Drill tested UR 80-3. Graphitic tuff minor massive pyrite.
	L64W ;37N	Low conductivity bedrock response
H	L24N ;BL L28N ;2W	Good conductor, drilled by Keevil 66-1, graphitic argillite.
	L24N ;14+50W L26N ;14W L28N ;14W	Good conductor. Drilled by Rosario RM-4. Graphitic argillite.
I	L16W ;11N L18W ;11N L20W ;11N	Good conductor. Drill tested by Rosario RM-6. Graphitic argillite.
J	L16W ;6N L20W ;7N	Good conductor. L16W,6N probably is off the end of the zone.
K	L22W ;8S L24W ;8S L26W ;8S	Drilled by Rosario, RM-3. Pyrite and graphite.
L,M,N,O	L0W ;1S L4W ;BL	Excellent conductor. Drill tested by Utah UR 80-1; graphite with minor pyrite.
P,Q,R,S T,U,V,Y	L28E ;16N L24E ;17N	Good conductor. Tested with UR 80-5. No conductor intersected.

III

TABLE 2 (Continued)

Transmitter Loop	Anomaly Location		Comments
P,Q,R,S	L36E	;7N	Fair conductor. Tested with UR 80-4.
T,U,V,Y	L32E	;8N	Graphitic tuffs intersected.
	L28E	;7N	
	L32E	;0+50N	Drill tested by Phelps-Dodge
	L28E	;2N	152-7 (Data not filed)
	L24E	;4N	

Table 3, shows the data and conductivity thicknesses for various anomalies calculated based on a thin vertical sheet model.

INDUCED POLARIZATION SURVEY

The IP data are presented as contoured psuedosections in Appendix 2. Anomalies are recognized by the coincidents of chargeability highs and resistivity lows.

The coverage on the eastern part of the grid outlines a low conductivity unit extending from L28E at station 8N to L60E at 17N. At the eastern edge the unit is conductive and has been drill tested (Rosario RM-2 and UR-2). It should be noticed that this data does not resolve separate conductors which may be observed on L28E, on the DEEPEM data even though these features are about 750' apart. This results from overburden which approaches one dipole in thickness and is also a relatively conductive. To the east of this conductive zone the chargeability decreases rapidly and no resistivity anomaly is observed on L44E-52E and 60E.

Data from the western part of the grid defines a number of anomalous zones between L88W and 64W. Several of these have been tested and apparently result from graphite or barren sulphide conductors as shown on the accompanying geophysical plans. An anomaly is noted on L72W, 68W, and 64W at station 17N. This is coincident with PEM, Max-Min and gravity anomalies. A single anomaly on L76W at 9N may be an extension of either of two previously tested zones to the west, however insufficient data is present to define

III INTERPRETATION

INDUCED POLARIZATION SURVEY

the correct trend.

Several lines on the northern grid (104N to 116N) were designed to evaluate the cause of several poorly defined, out-of-phase, Max-Min anomalies. It does not appear that these features could be substantiated by the IP data. A weak chargeability high is noted on L108N at 67W.

IV SUMMARY AND CONCLUSIONS

The IP survey was successful in establishing a large anomalous zone on the northeast part of the property. This anomaly grades from a strong conductor at L28E to a weak chargeability anomaly with no associated resistivity low on L60E at station 16N.

Several diamond drill holes have been targeted at conductors associated with the western part of this zone, (RM-2, PD 152-7, UR80-5). Barren sulphides and graphite were encountered and no drilling has been done on the rest of this zone.

No other new significant targets were established by the IP survey.

The DEEPEM survey resulted in the drilling of 6 holes, early in 1980 (Figure 2). Four of these (UR 80-1, UR 80-2, UR 80-3, UR 80-4) intersected previously untested conductors caused by graphite or barren sulphides. The last two drill holes UR 80-5 and UR 80-6 failed to intersect conductors. Drill logs and sections for these holes have been filed separately for assessment.

Respectfully submitted

P.A. Diorio B.Sc.
April, 6 1982

PAD/ca

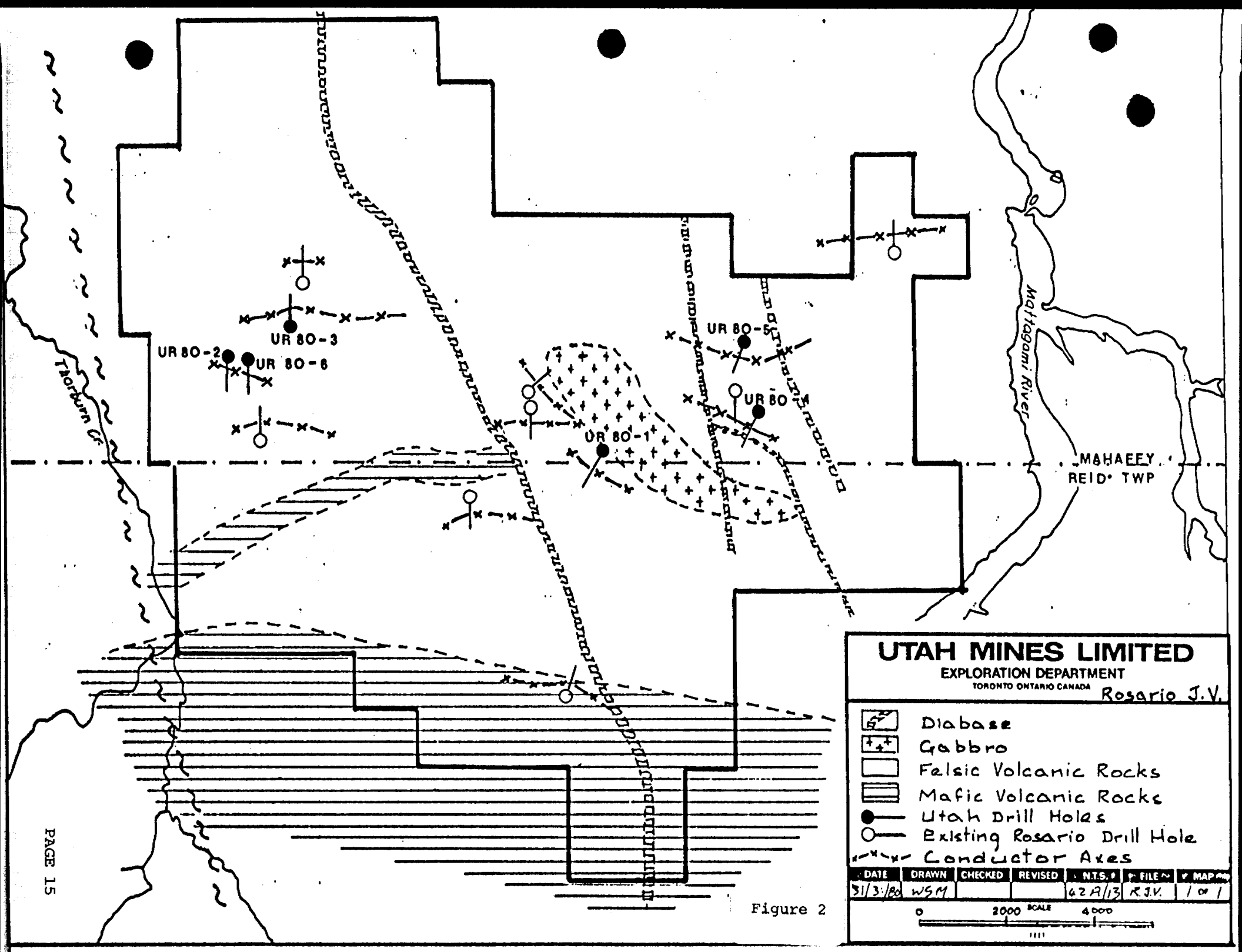

UR 80-3
UR 80-2
UR 80-6
UR 80-5
UR 80
UR 80-1
MAHAFFY
REID TWP
Mattagami River
Thorburn Cr.
UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA
Rosario J.V.
Diabase
Gabbro
Felsic Volcanic Rocks
Mafic Volcanic Rocks
Utah Drill Holes
Existing Rosario Drill Hole
Conductor Axes
DATE
DRAWN
CHECKED
REVISED
N.T.S.
FILE
MAP
31/3/80
WSM
42A/13
R.J.V.
1 of 1
0
2000
SCALE
4000

Figure 2

TABLE 3

ANOMALY CONDUCTIVITY-THICKNESS FROM THE DEEPEM DATA

Line	Station	Channel Number	Conductivity-Thickness (mhos)
80W	4N	1-2	4.6
		2-3	16.5
		3-4	31.3
		4-5	40.1
		5-6	54.7
		6-7	73.2
		7-8	78.1
76W	4N	1-2	3.9
		2-3	12.0
		3-4	31.4
		4-5	21.6
		5-6	67.5
		6-7	55.3
		7-8	0.0
76W	5N	1-2	4.1
		2-3	11.6
		3-4	31.3
		4-5	20.7
		5-6	62.8
		6-7	55.8
		7-8	22.5
80W	17N	1-2	4.9
		2-3	9.9
		3-4	25.7
		4-5	18.2
		5-6	54.5
		6-7	35.4
		7-8	0.0

TABLE 3

ANOMALY CONDUCTIVITY-THICKNESS FROM THE DEEPEM DATA

Line	Station	Channel Number	Conductivity-Thickness (mhos)
76W	17N	1-2	3.1
		2-3	11.7
		3-4	32.3
		4-5	12.0
		5-6	49.8
		6-7	116.7
		7-8	0.0
68W	32N	1-2	3.3
		2-3	11.8
		3-4	28.8
		4-5	24.3
		5-6	88.8
		6-7	51.6
		7-8	0.0
68W	27N	1-2	3.9
		2-3	12.2
		3-4	20.6
		4-5	24.7
		5-6	76.1
		6-7	75.6
		7-8	30.9
64W	27N	1-2	4.7
		2-3	11.0
		3-4	27.4
		4-5	28.1
		5-6	69.1
		6-7	63.0
		7-8	35.6

TABLE 3

ANOMALY CONDUCTIVITY-THICKNESS FROM THE DEEPEM DATA

Line	Station	Channel Number	Conductivity-Thickness (mhos)
64W	37N	1-2	2.9
		2-3	4.1
		3-4	7.0
		4-5	0.0
		5-6	0.0
		6-7	0.0
		7-8	0.0
24N	OE	1-2	5.6
		2-3	5.1
		3-4	13.0
		4-5	30.7
		5-6	48.1
		6-7	70.5
		7-8	64.4
28N	2W	1-2	3.1
		2-3	8.4
		3-4	19.5
		4-5	35.0
		5-6	49.3
		6-7	66.0
		7-8	60.2
24N	14W	1-2	4.1
		2-3	6.8
		3-4	14.2
		4-5	24.3
		5-6	44.8
		6-7	58.2
		7-8	42.4

TABLE 3

ANOMALY CONDUCTIVITY-THICKNESS FROM THE DEEPEM DATA

Line	Station	Channel Number	Conductivity-Thickness (mhos)
24N	15W	1-2	4.6
		2-3	6.8
		3-4	13.0
		4-5	25.5
		5-6	43.8
		6-7	68.2
		7-8	40.6
26N	14W	1-2	3.5
		2-3	7.4
		3-4	16.1
		4-5	27.6
		5-6	44.8
		6-7	62.5
		7-8	50.4
28N	14W	1-2	3.9
		2-3	6.9
		3-4	16.6
		4-5	29.0
		5-6	44.0
		6-7	60.7
		7-8	48.3
16W	11N	1-2	4.0
		2-3	6.8
		3-4	14.7
		4-5	25.6
		5-6	37.3
		6-7	55.3
		7-8	22.0

TABLE 3

ANOMALY CONDUCTIVITY-THICKNESS FROM THE DEEPEM DATA

Line	Station	Channel Number	Conductivity-Thickness (mhos)
18W	11N	1-2	3.5
		2-3	7.0
		3-4	15.0
		4-5	25.7
		5-6	40.1
		6-7	66.3
		7-8	52.8
20W	11N	1-2	3.4
		2-3	6.5
		3-4	14.4
		4-5	25.2
		5-6	44.0
		6-7	63.0
		7-8	42.6
16W	6N	1-2	4.5
		2-3	8.9
		3-4	15.8
		4-5	26.3
		5-6	42.2
		6-7	67.4
		7-8	83.9
22W	8S	1-2	2.7
		2-3	3.6
		3-4	6.8
		4-5	5.6
		5-6	0.0
		6-7	0.0
		7-8	0.0

TABLE 3

ANOMALY CONDUCTIVITY-THICKNESS FROM THE DEEPEM DATA

Line	Station	Channel Number	Conductivity-Thickness (mhos)
24W	8S	1-2	2.8
		2-3	4.2
		3-4	8.4
		4-5	10.2
		5-6	18.7
		6-7	0.0
		7-8	0.0
26W	8S	1-2	3.1
		2-3	4.0
		3-4	8.2
		4-5	10.1
		5-6	20.7
		6-7	0.0
		7-8	0.0
0W	1S	1-2	3.9
		2-3	5.6
		3-4	11.1
		4-5	24.9
		5-6	70.1
		6-7	86.9
		7-8	101.3
4W	0N	1-2	4.2
		2-3	6.0
		3-4	9.9
		4-5	26.5
		5-6	94.3
		6-7	114.7
		7-8	105.7

TABLE 3

ANOMALY CONDUCTIVITY-THICKNESS FROM THE DEEPEM DATA

Line	Station	Channel Number	Conductivity-Thickness (mhos)
28E	16N	1-2	3.4
		2-3	6.8
		3-4	15.0
		4-5	22.9
		5-6	36.5
		6-7	53.4
		7-8	49.8
24E	17N	1-2	3.2
		2-3	5.9
		3-4	11.7
		4-5	19.8
		5-6	45.3
		6-7	44.3
		7-8	39.0
36E	7N	1-2	6.4
		2-3	5.5
		3-4	9.8
		4-5	17.4
		5-6	35.3
		6-7	32.6
		7-8	0.0
32E	8N	1-2	5.9
		2-3	5.8
		3-4	10.9
		4-5	20.3
		5-6	35.8
		6-7	32.5
		7-8	33.1

TABLE 3

ANOMALY CONDUCTIVITY-THICKNESS FROM THE DEEPEM DATA

Line	Station	Channel Number	Conductivity-Thickness (mhos)
28E	9N	1-2	5.5
		2-3	7.4
		3-4	14.4
		4-5	26.9
		5-6	40.1
		6-7	48.3
		7-8	50.4
32E	0N	1-2	3.6
		2-3	7.0
		3-4	15.8
		4-5	31.6
		5-6	50.4
		6-7	63.8
		7-8	87.2
32E	1N	1-2	3.6
		2-3	7.3
		3-4	16.1
		4-5	34.6
		5-6	64.6
		6-7	94.1
		7-8	83.6
28E	2N	1-2	8.5
		2-3	6.0
		3-4	10.0
		4-5	21.7
		5-6	64.8
		6-7	59.1
		7-8	49.4

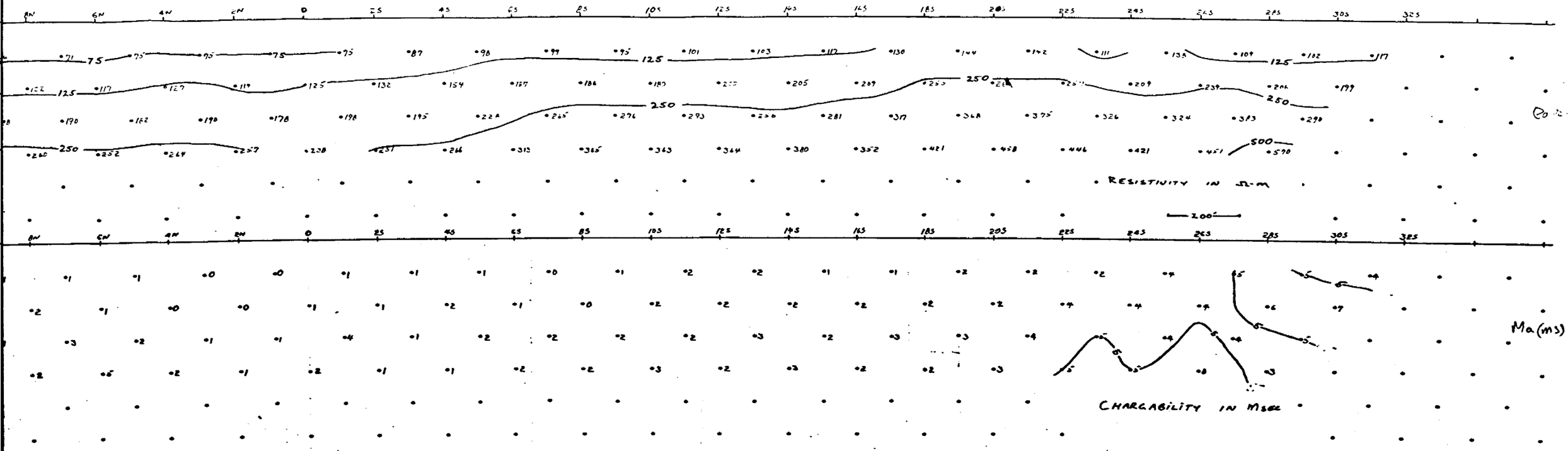
TABLE 3

ANOMALY CONDUCTIVITY-THICKNESS FROM THE DEEPEM DATA

Line	Station	Channel Number	Conductivity-Thickness (mhos)
24E	4N	1-2	5.3
		2-3	6.3
		3-4	9.7
		4-5	13.7
		5-6	41.5
		6-7	77.9
		7-8	51.6

-Dp ARRAY

IP-CR DATA SHEET Dp-Dp ARRAY



IP-CR DATA SHEET Dp-Dp ARRAY

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Sheet of Array: a

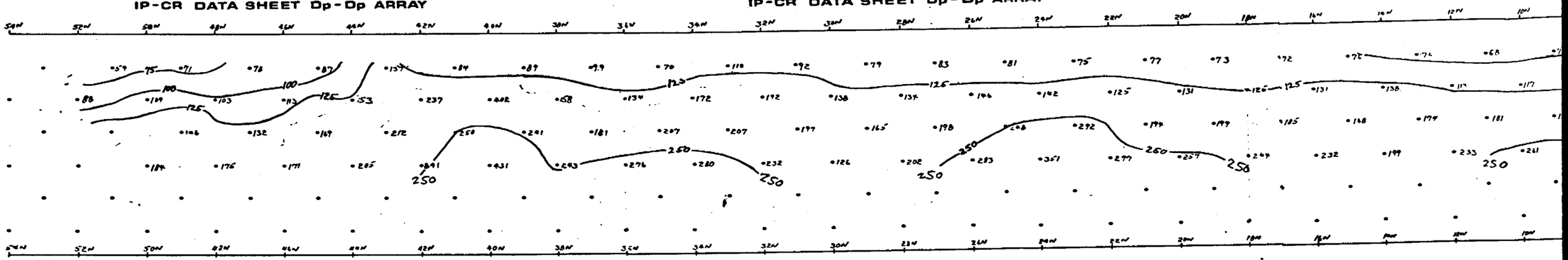
Line : 60-E Scale : Comments :

Sheet of Array: a

Sheet of

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY



Area : R25AREA10 Line : 68-E Scale : 1" = 200' Comments :

Date : 07 / 08 / 92 Array : P-D.P. a 200'

IP-CR DATA SHEET Dp-Dp ARRAY

Line : 68-E Scale : Comments :

Sheet ___ of ___/___/___ Array : a

IP-CR DATA SHEET Dp

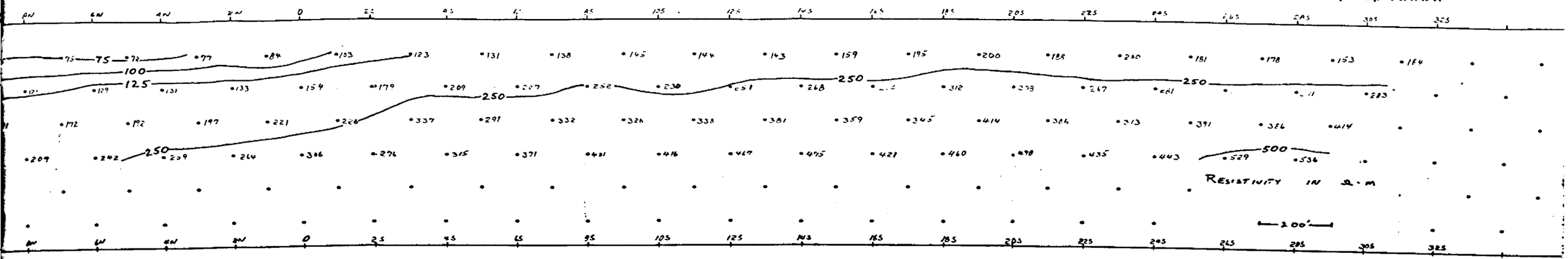
Line : 68-E Scale : Comments :

Sheet ___ of ___/___/___ Array : a

IEET Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp ARRAY



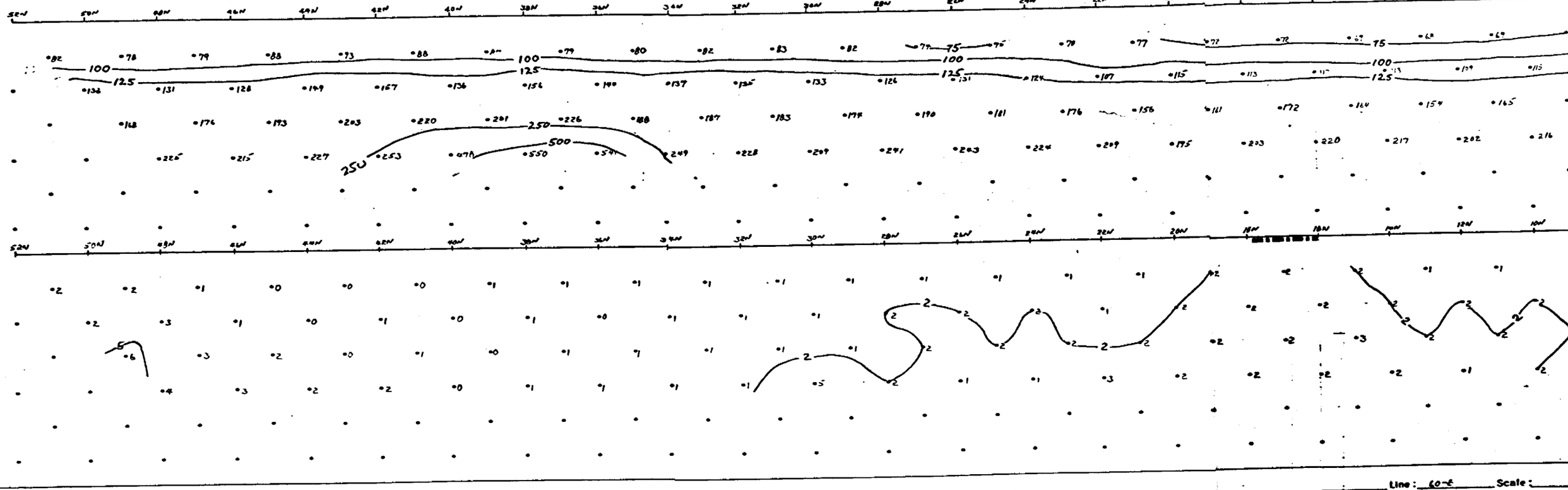
Comments: _____

Sheet ___ of 1 / 1 Line: 60-E Scale: _____ Comments: _____
Array: _____ a _____

Sheet ___ of 1 / 1 Line: 60-E Scale: _____ Comments: _____
Array: _____ a _____

24695

IP-CR DATA SHEET Dp-Dp ARRAY



Area : ROSARIO Line : 60-6 Scale : 1" = 200' Comments :

Date : 11 / 09 / 93 Array : P-D.P a 200'

IP-CR DATA SHEET Dp-Dp ARRAY

Line : 60-6 Scale :

Sheet __ of __/__/__ Array : a

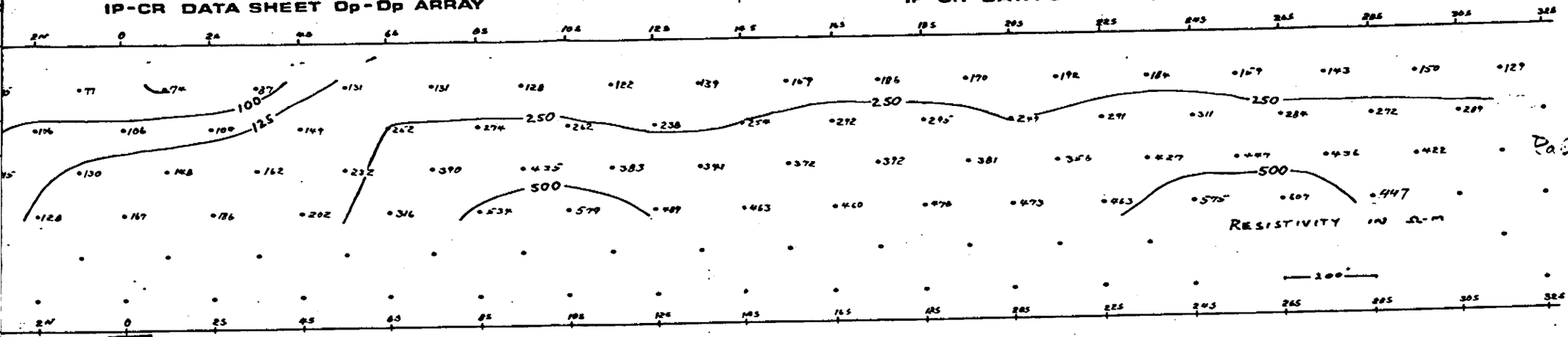
IP-CR DATA S

Line : 60-6 Scale :

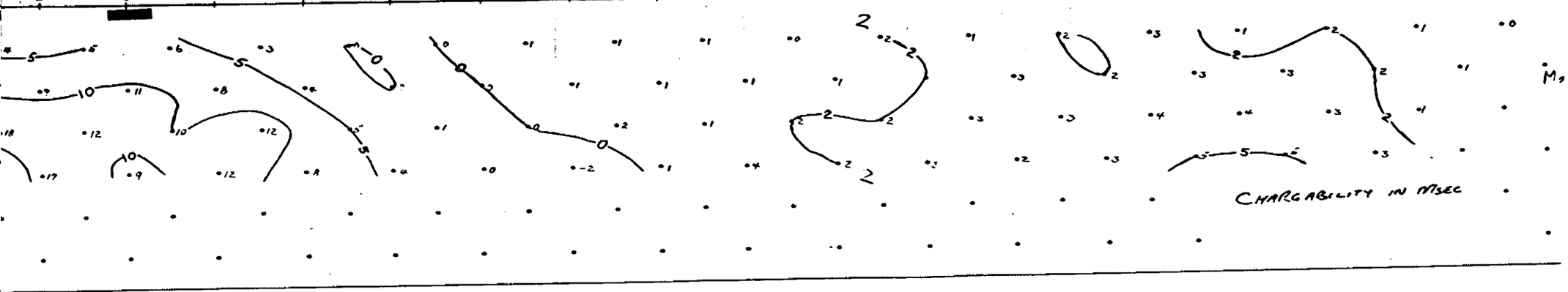
Sheet __ of __/__/__ Array : a

L 36E.

IP-CR DATA SHEET Dp-Dp ARRAY



IP-CR DATA SHEET Dp-Dp ARRAY



E

Line : 36-E Scale : _____ Comments : _____

Array: _____ a _____

Sheet ___ of ___

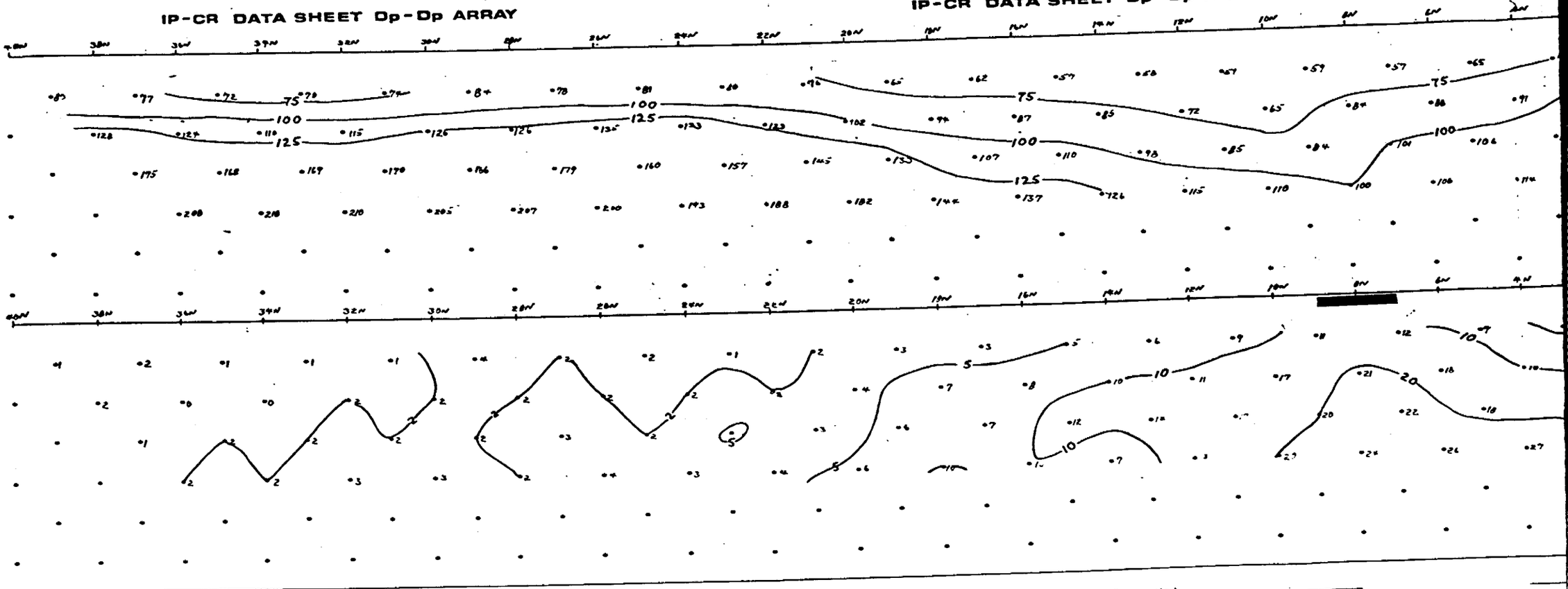
Line : 36-E Scale : _____ Comments : _____

Sheet ___ of ___

Array: _____ a _____

2.695

IP-CR DATA SHEET Dp-Dp ARRAY



Area : ATLANTA Line : 36-E Scale : 1" = 200' Comments : _____

Date : 15 / 08 / 80 Array : P-D.P a 200'

IP-CR DATA SHEET Dp-Dp ARRAY

_____ Line : 36-E Scale : _____ Comments : _____

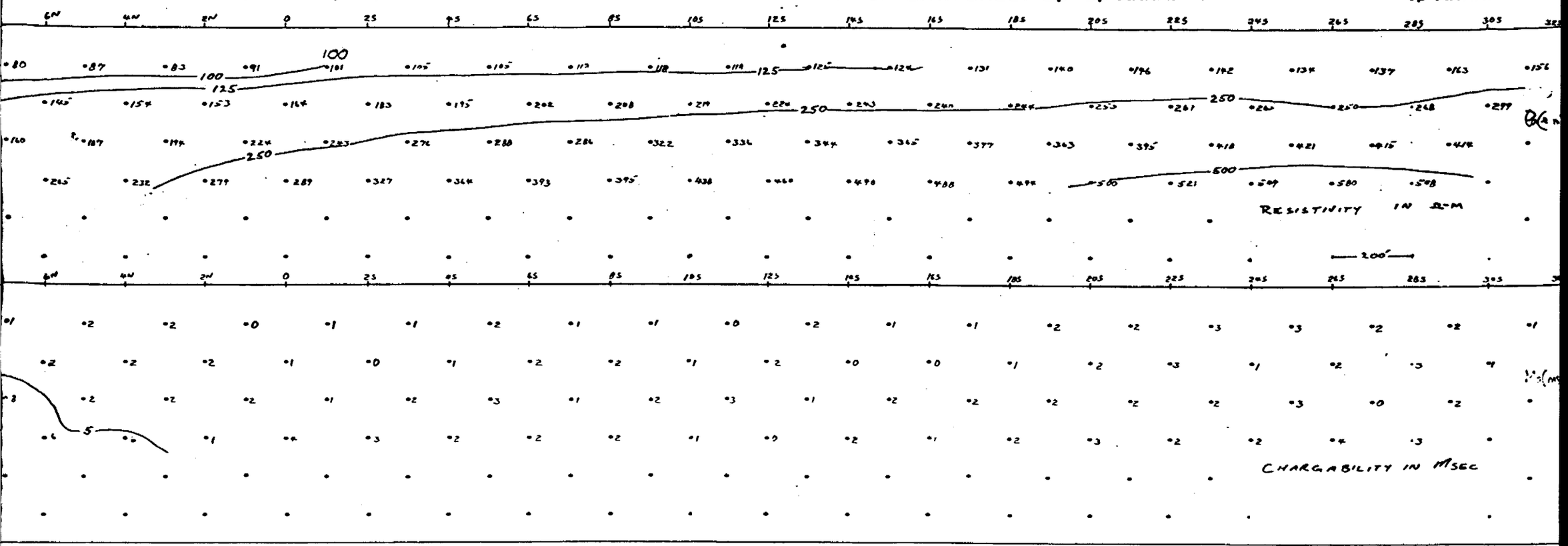
Sheet ___ of ___/___/___ Array : _____ a _____

Sheet ___ of ___/

IP-CR DATA SHEET Dp ARRAY

IP-CR DATA SHEET Dp-Dp ARRAY

Dp ARRAY



Line : 44+5 Scale : _____ Comments : _____

/ Array : _____ a _____

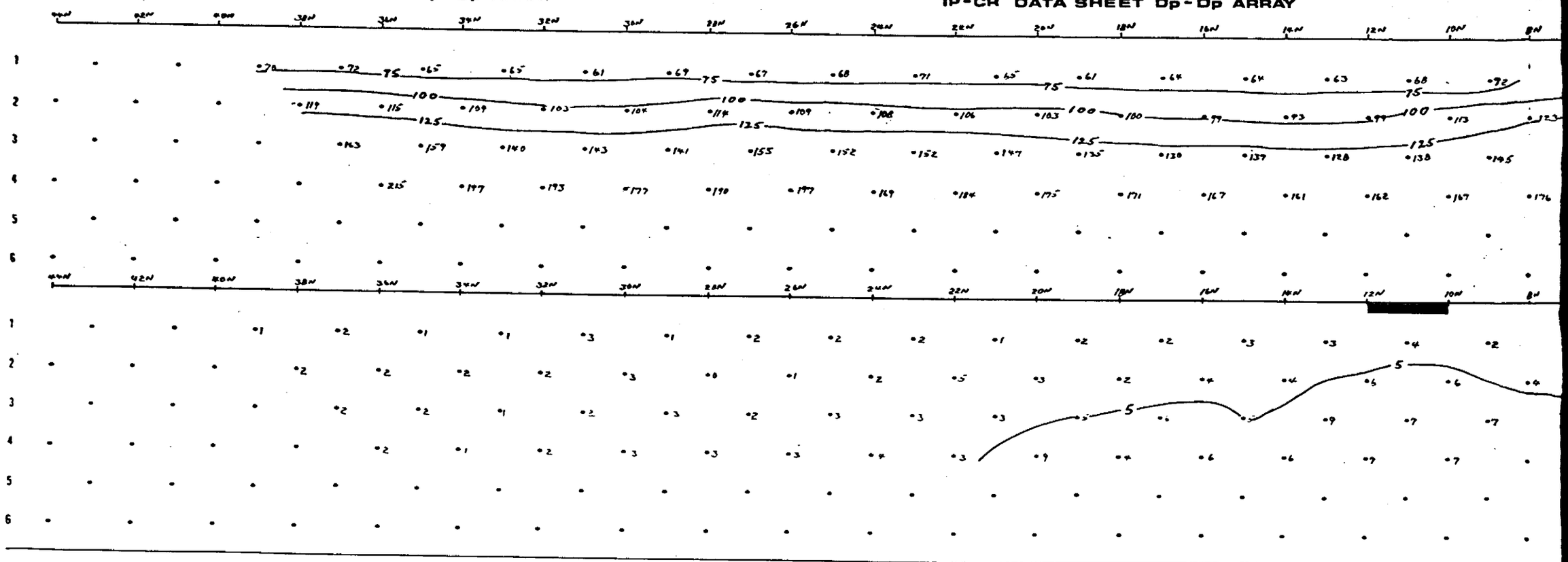
Line : 44+5 Scale : _____ Comments : _____

Sheet ___ of ___/___/___ Array : _____ a _____

Sheet ___ of

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY



Area: Arabba Line: uu-5 Scale: 1" = 200' Comments: _____

Date: 14/08/92 Array: D-Dp a 225'

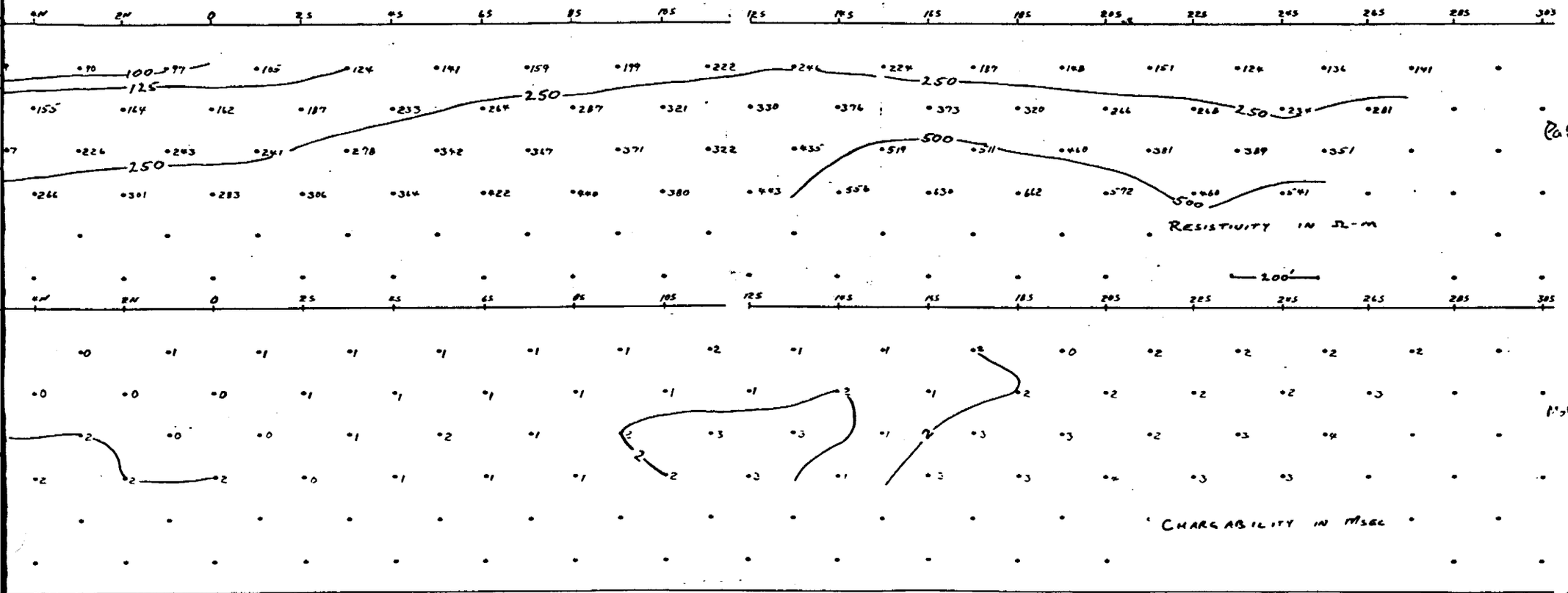
IP-CR DATA SHEET Dp-Dp ARRAY

_____ Line: uu-5 Scale: _____ Comments: _____

Sheet ___ of ___/___/___ Array: _____ a _____

Sheet ___ of ___/

IP-CR DATA SHEET Dp-Dp ARRAY



Line : 52-E Scale : _____ Comments : _____

Array : _____ a _____

IP-CR DATA SHEET Dp-Dp ARRAY

a : _____ Line : 52-E Scale : _____ Comments : _____

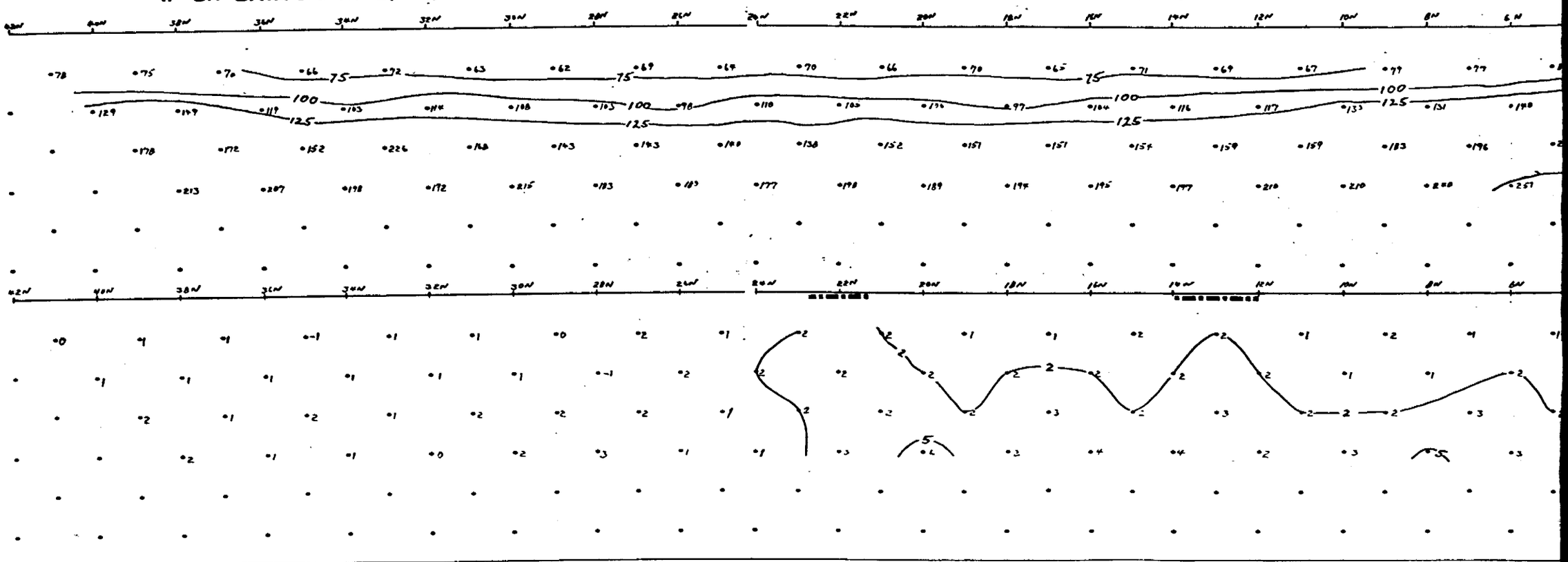
Sheet 9 : ___/___/___ Array : _____ a _____

E

Sheet ___ of ___

24695

IP-CR DATA SHEET Dp-Dp ARRAY



Area: ROSARIO Line: S2-E Scale: 1" = 225' Comments: _____

Date: 13 / 08 / 80 Array: P.-DP a 225'

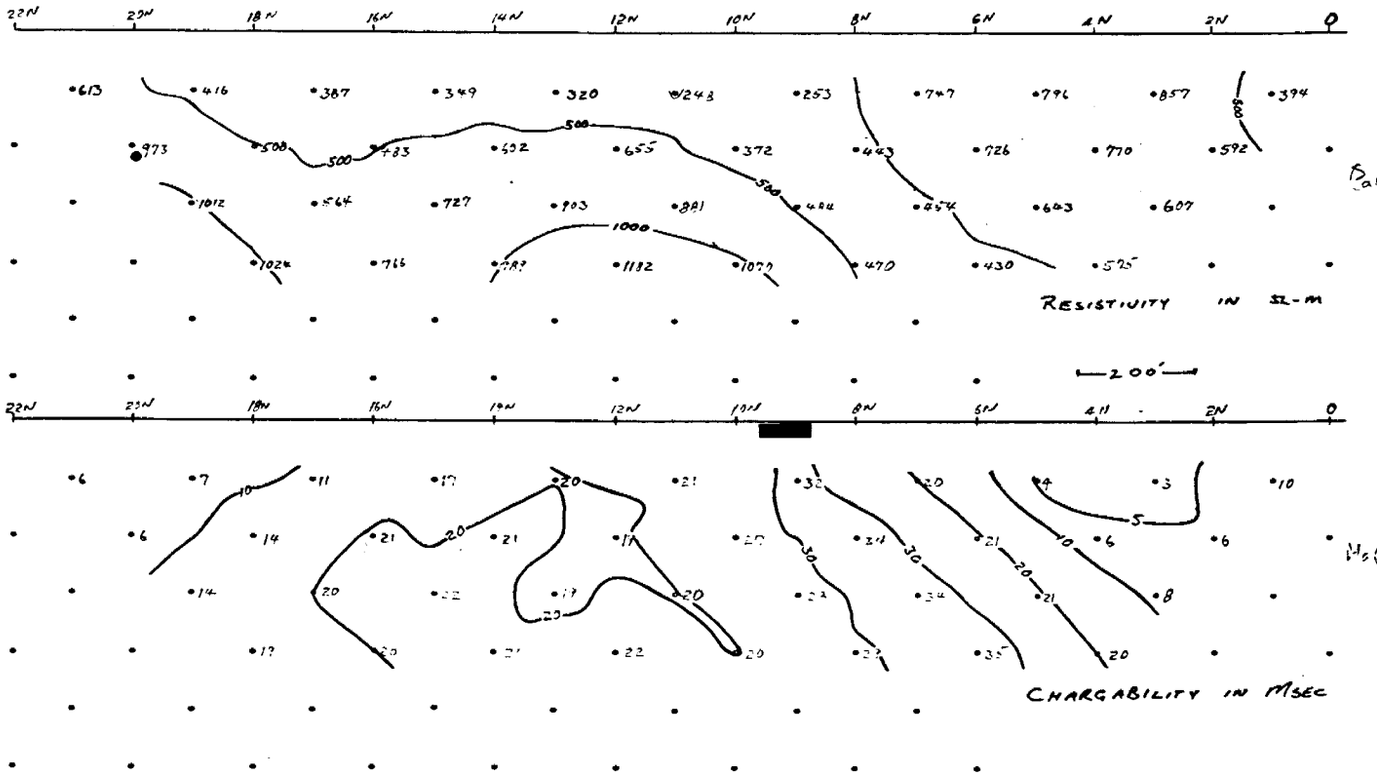
IP-CR DATA SHEET Dp-Dp ARRAY

_____ Line: S2-E Scale: _____ Comments: _____

Sheet ___ of ___ / ___ / ___ Array: _____ a _____

Sheet ___ of ___ / ___

IP-CR DATA SHEET Dp-Dp ARRAY



Area: KLAMATH Line: 76-W Scale: 1" = 200' Comments: _____

Date: 21/23/92 Array: P-P a 200'

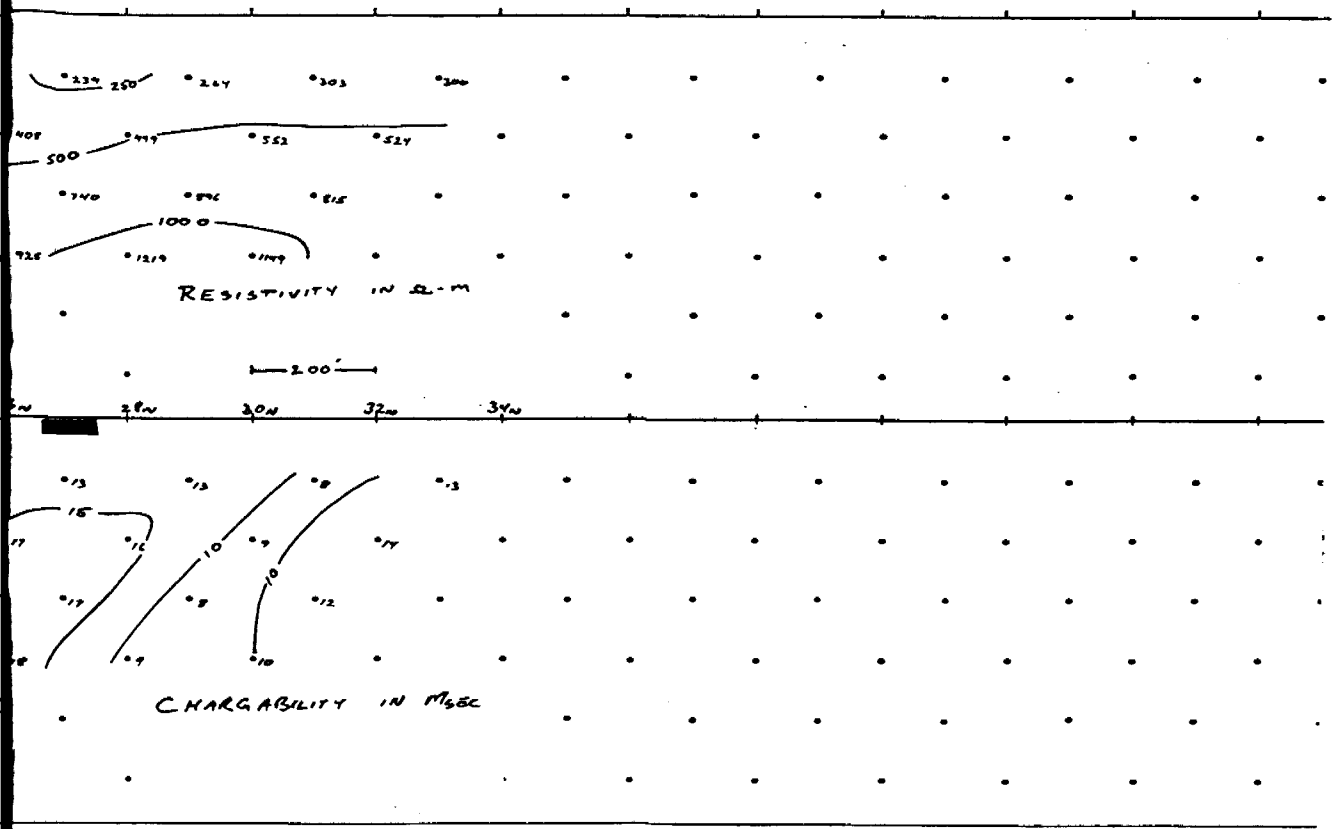
Sheet ___ of ___ Sheet ___ of ___

E

2.4695

ET Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp AR



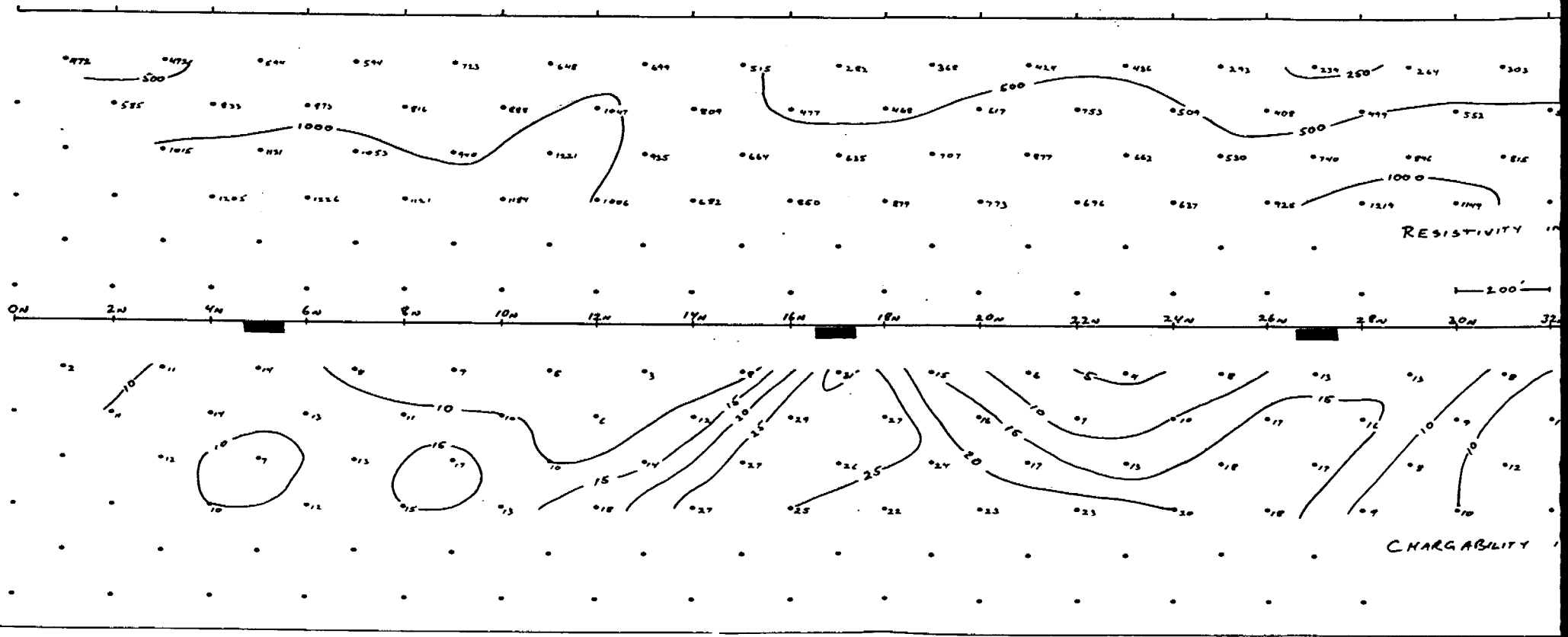
Comments : _____

_____ Line : _____ Scale : _____ Comments : _____

Sheet ___ of ___/___/___ Array : _____ a _____

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY



Area : ROSARIO Line : 72N Scale : _____ Comments : _____

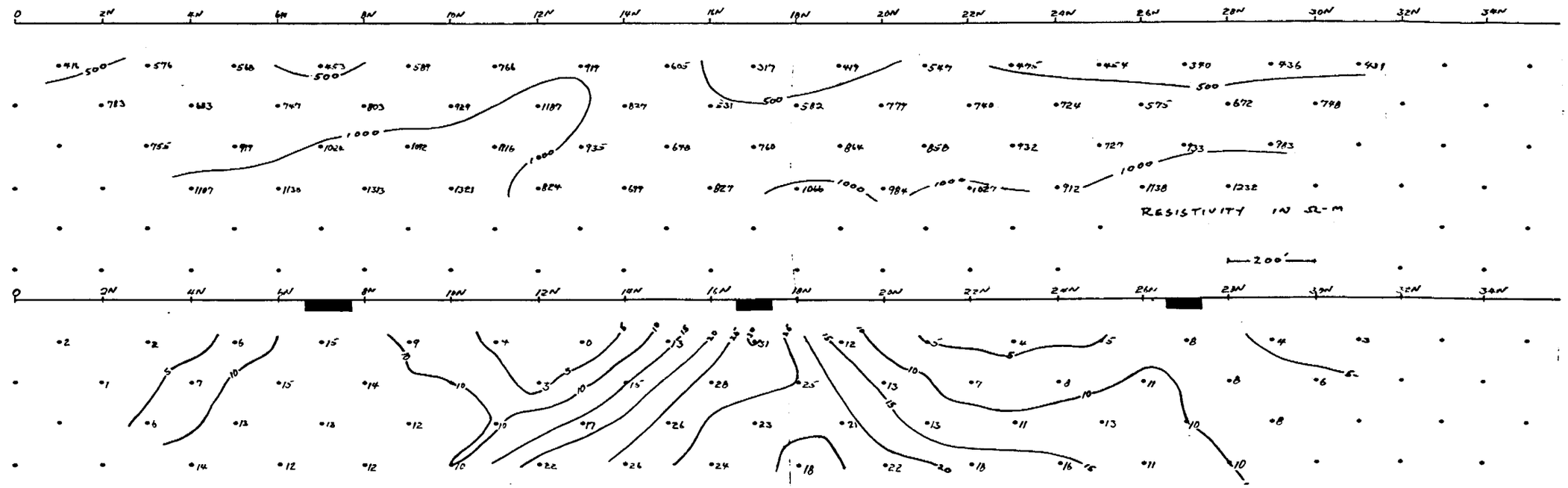
Date : ___/___/___ Array : Pole-Dipole a 200'

IP-CR DATA SHEET Dp-Dp ARRAY

_____ Line : _____ Scale : _____ Comments : _____

Sheet ___ of ___/___/___ Array : _____ a _____

IP-CR DATA SHEET Dp-Dp ARRAY



Area : Rosario Line : LB-W Scale : 1" = 200' Comments : _____

Date : 06 / 09 / 80 Array : P-DP-IP a 200'

IP-CR DATA SHEET Dp-Dp ARRAY

_____ Line : LB-W Scale : _____ Comments : _____

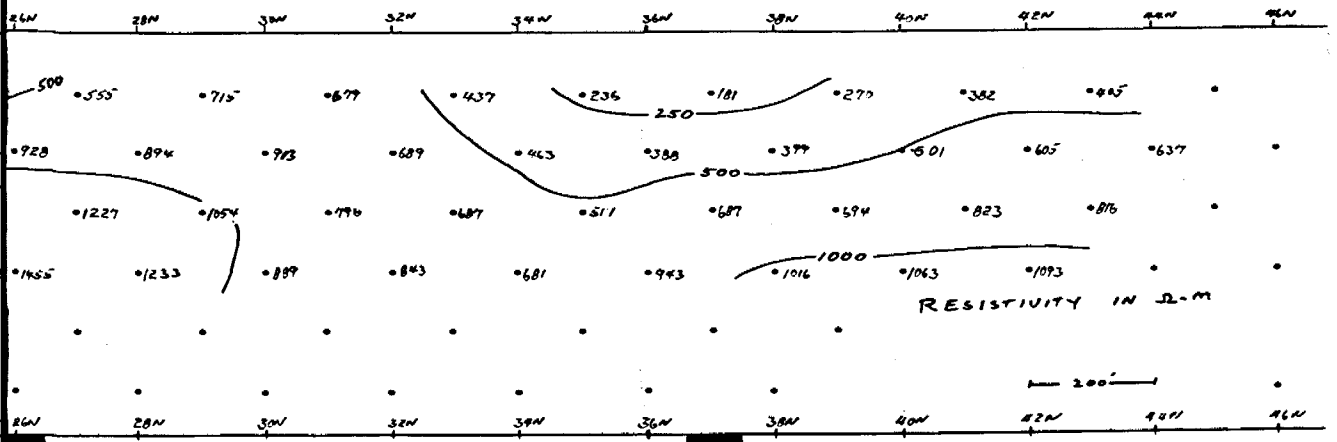
Sheet ___ of ___ / ___ / ___ Array : _____ a _____

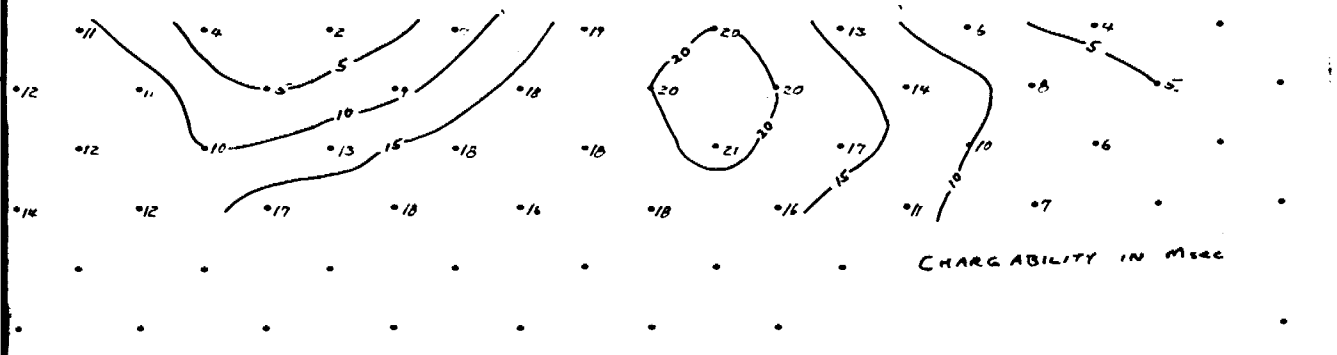
Sheet ___ c

2.4695

ET Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp A





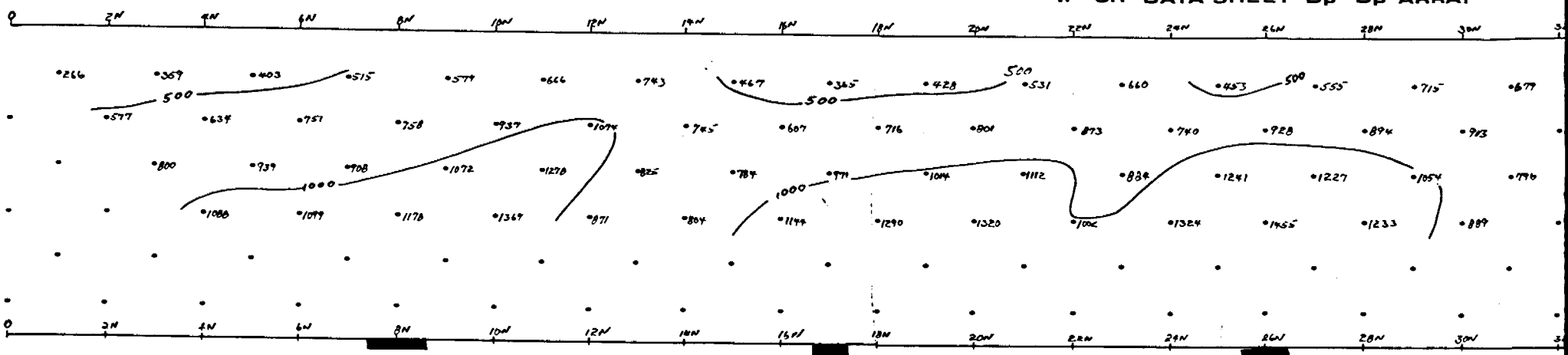
Comments : _____

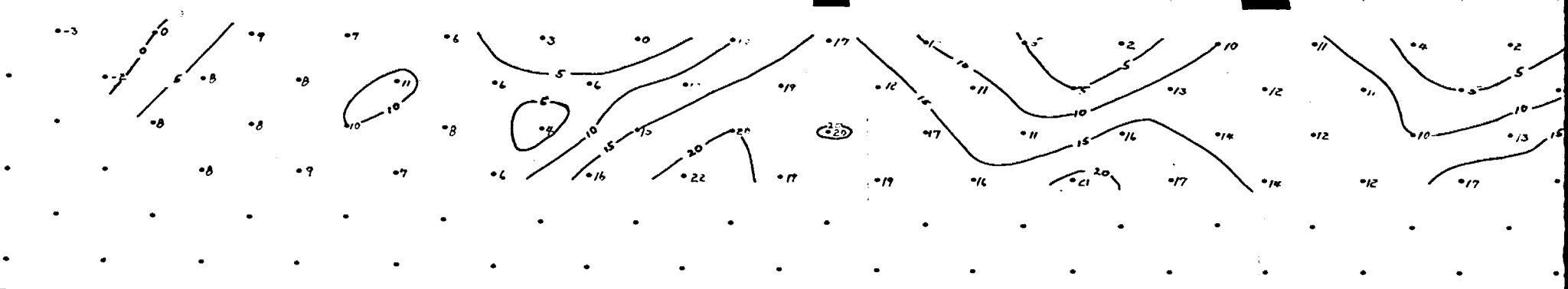
_____ Line : 64-W _____ Scale : _____ Comments : _____

Sheet ___ of ___/___/___ Array : _____ a _____

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY





Area : ROSARIO Line : 6A-W Scale : 1" = 250' Comments : _____

Date : 07 / 09 / 80 Array : D-D.P. a 200'

IP-CR DATA SHEET Dp-Dp ARRAY

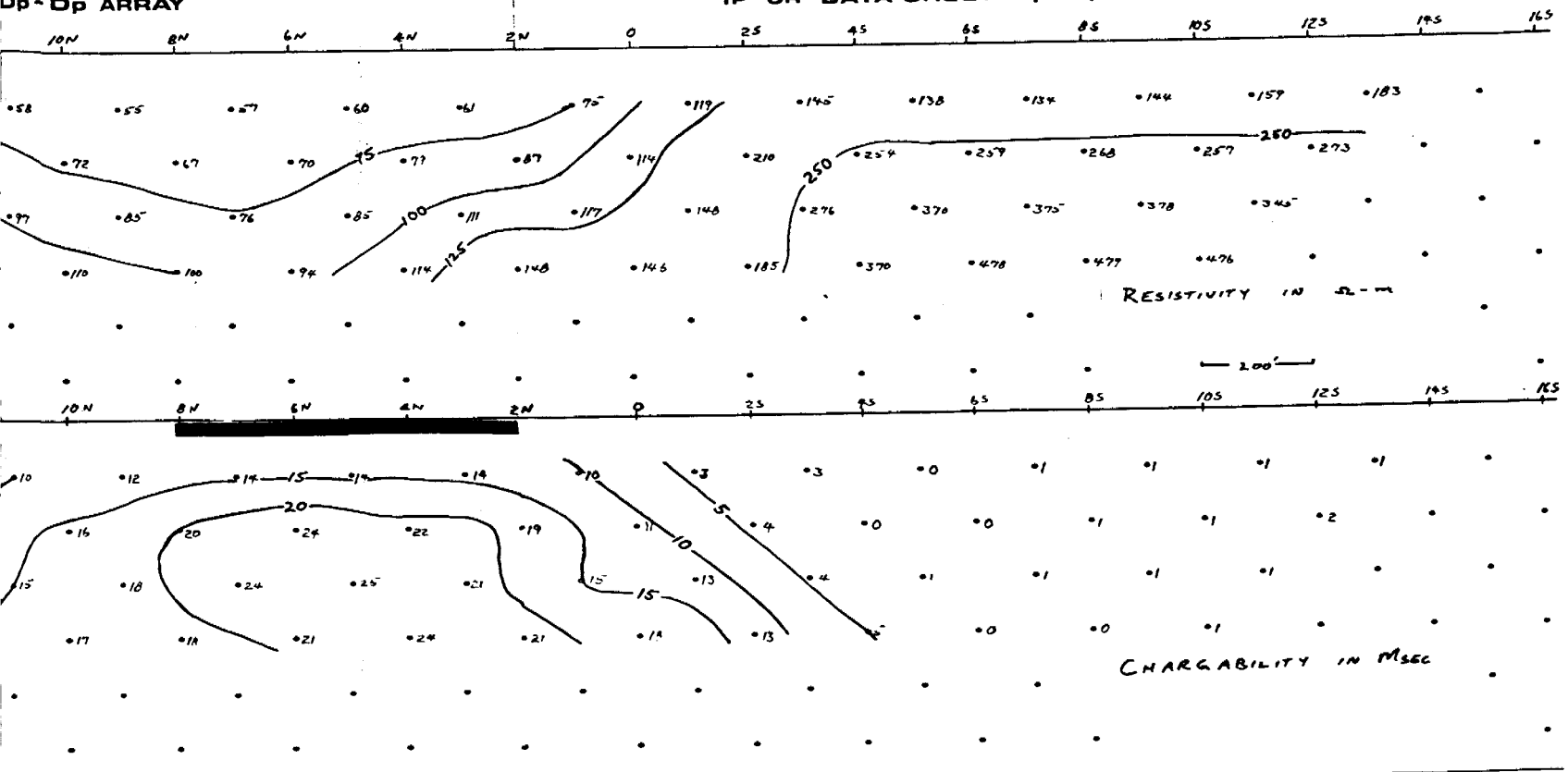
_____ Line : 6A-W Scale : _____ Comments : _____

Sheet ___ of ___ / ___ / ___ Array : _____ a _____

L23E

Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp ARRAY



E

ents : _____

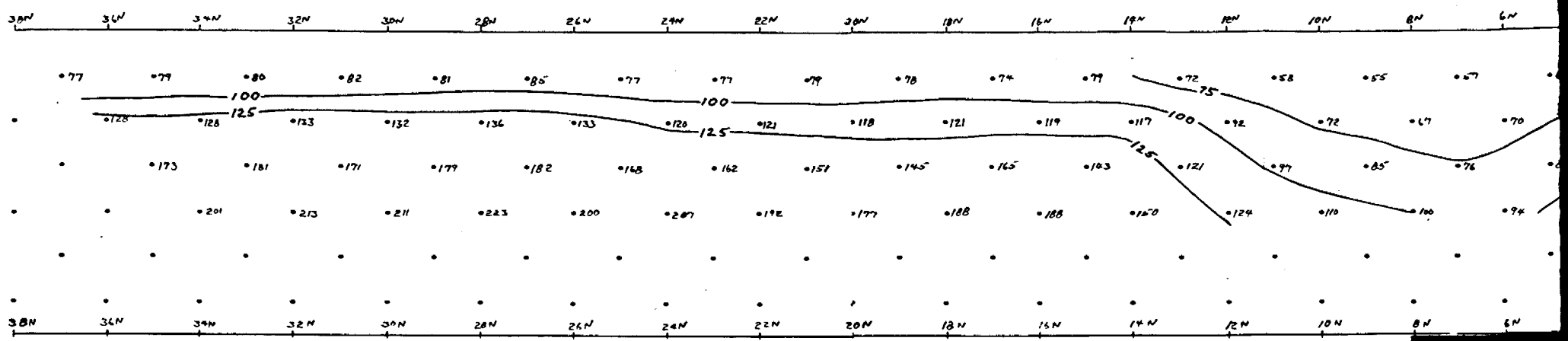
_____ Line : 28-E Scale : _____ Comments : _____

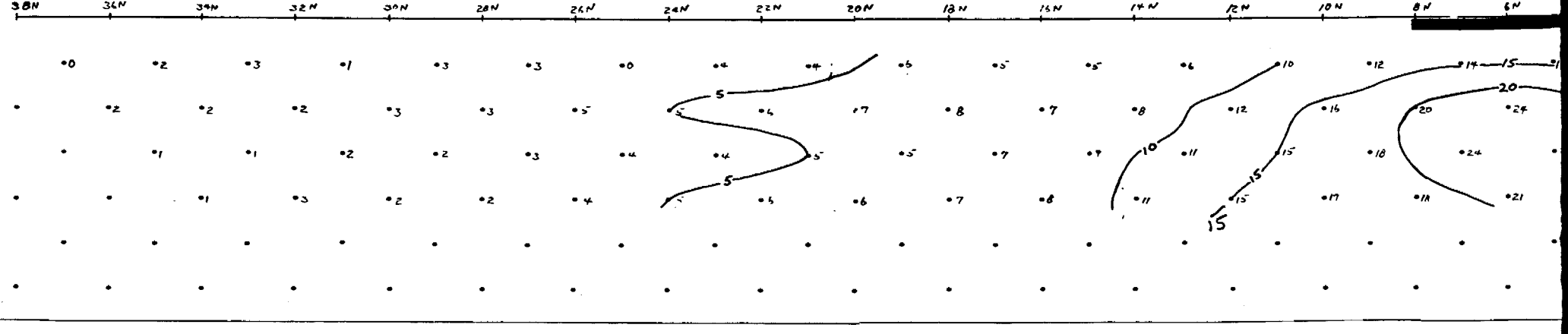
Sheet ___ of ___/___/___ Array : _____ a _____

Sheet ___ of ___

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY





Area: ROSARIO Line: 28E Scale: 1" = 200' Comments: _____

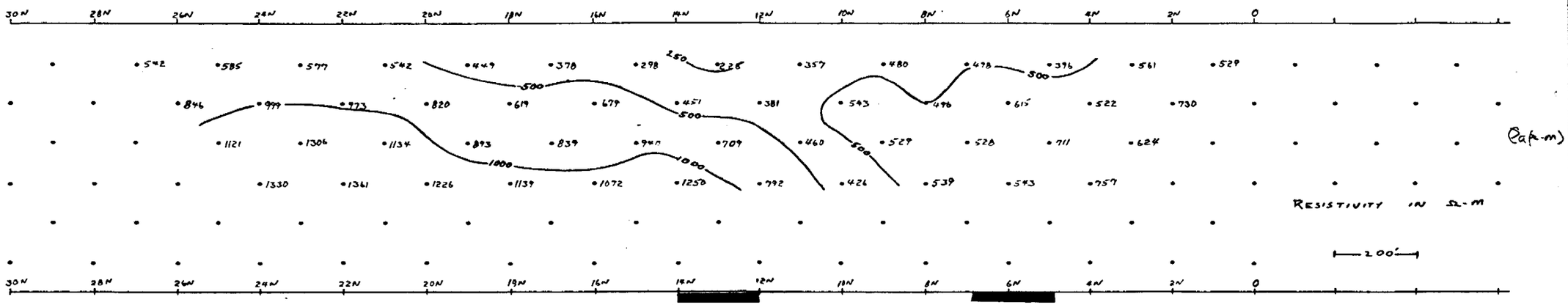
Date: 17 / 08 / 80 Array: P-D.P. a 200'

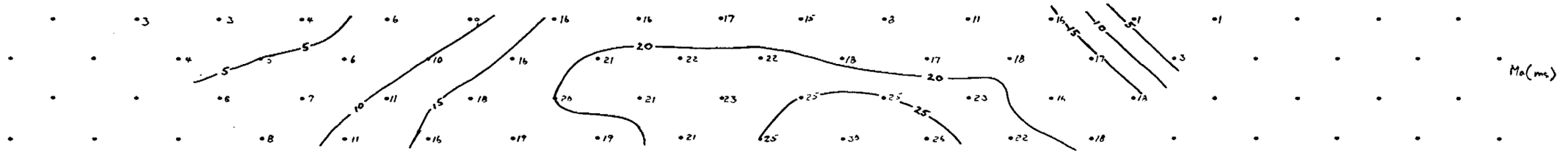
IP-CR DATA SHEET Dp-Dp ARRAY

_____ Line: 28-E Scale: _____ Comments: _____

Sheet __ of __/__/__ Array: _____ a _____

IP-CR DATA SHEET Dp-Dp ARRAY





Area : ROSARIO Line : 80-W Scale : 1"=200' Comments : _____

Date : 20 / 08 / 80 Array : P-DP a 200'

_____ Line : 80-W Scale : _____ Comments : _____

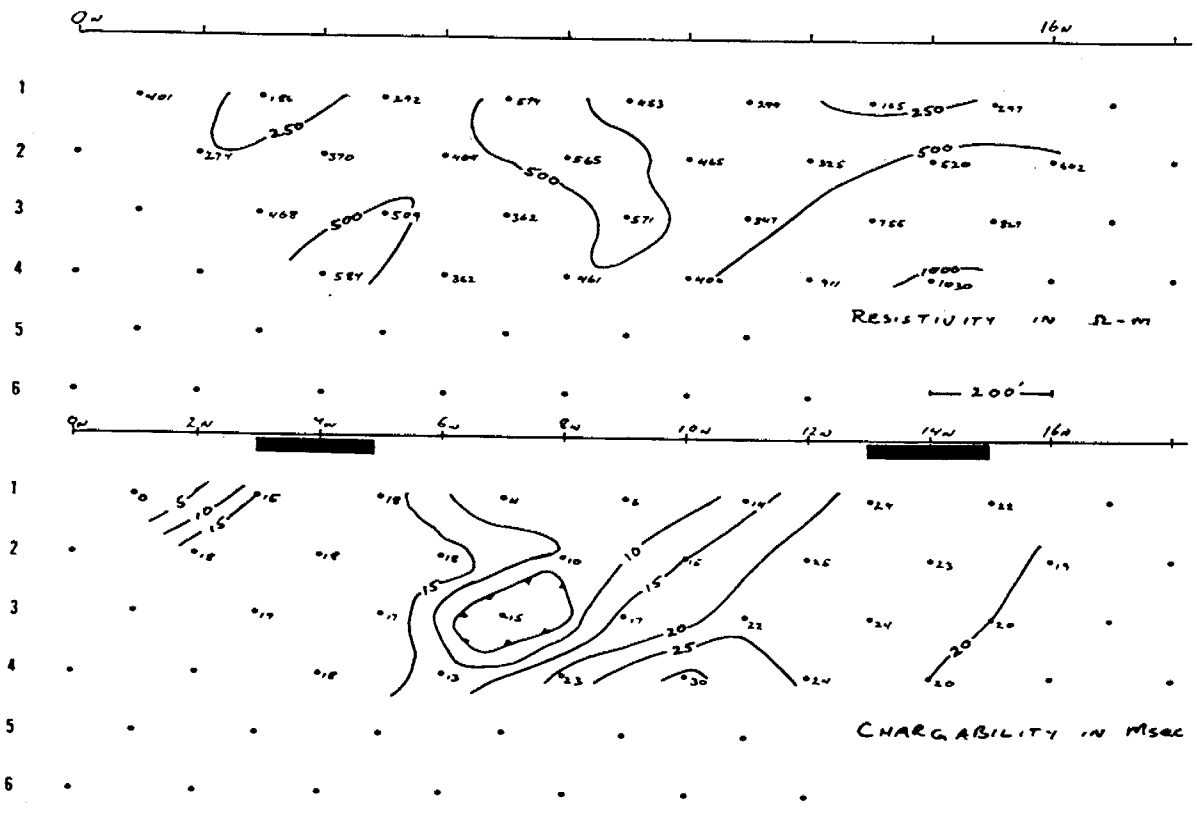
Sheet ___ of ___ / ___ / ___ Array : _____ a _____

Sheet ___ of ___

E

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY



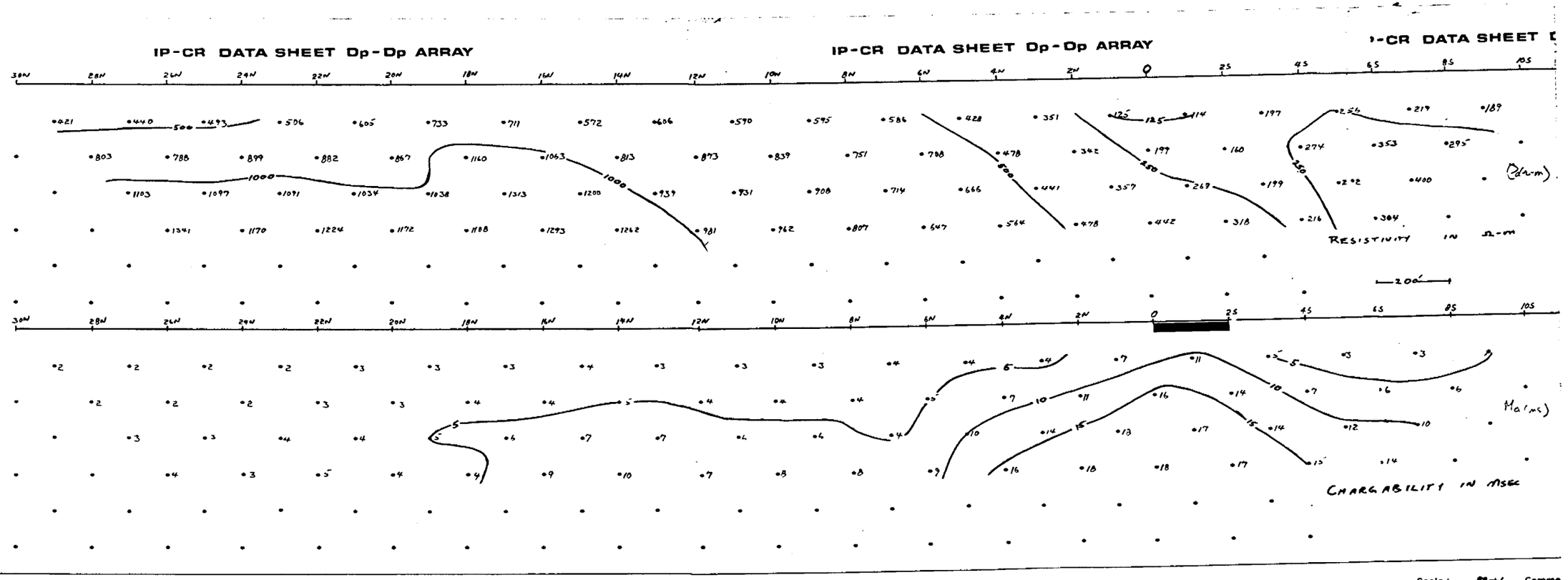
Area: Rosario Line: 82W Scale: _____ Comments: _____

Date: 5/9/80 Array: P-Dp a _____

Sheet 1 of 1

E

2.4695



Area : ROSARIO Line : RB-W Scale : 1" = 200' Comments : _____

Date : 20 / 12 / 80 Array : P-D.P a 200'

_____ Line : RB-W Scale : _____ Comments : _____

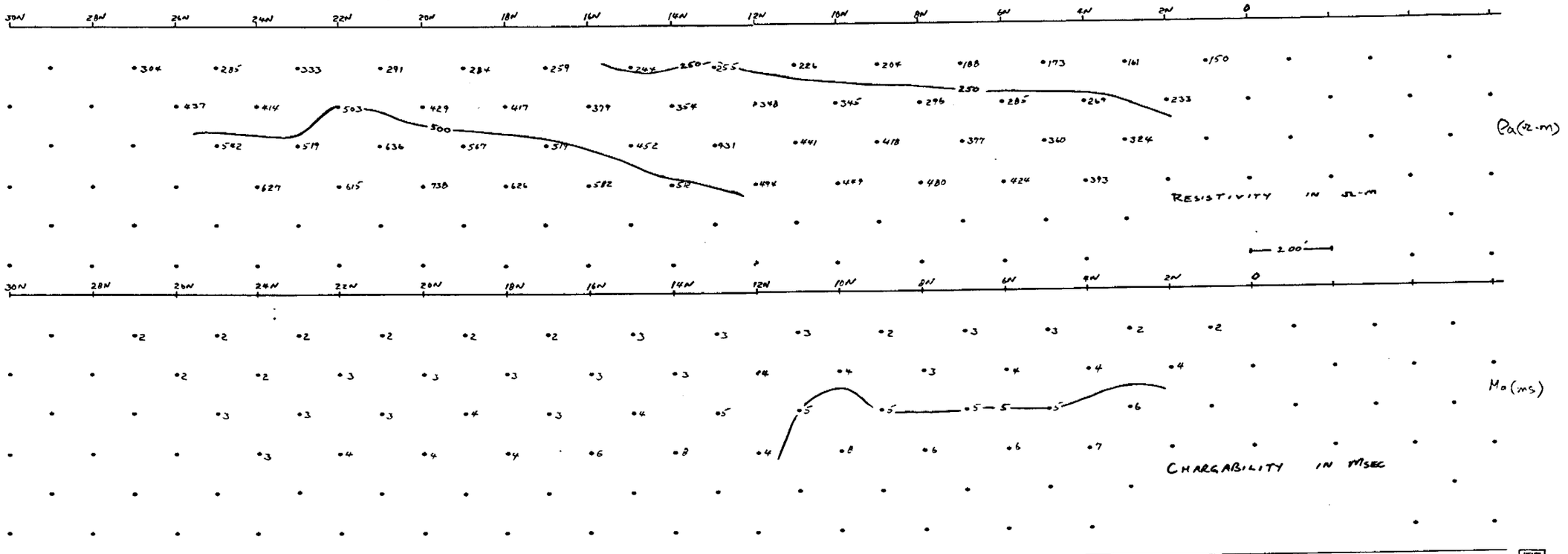
Sheet ___ of ___ / ___ / ___ Array : _____ a _____

_____ Scale : RB-W Comme

Sheet ___ of ___ a _____

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY



E

Area : ROSARIO Line : 96-W Scale : 1" = 200' Comments : _____

Date : 19 / 08 / 80 Array : P-D.P. a 200'

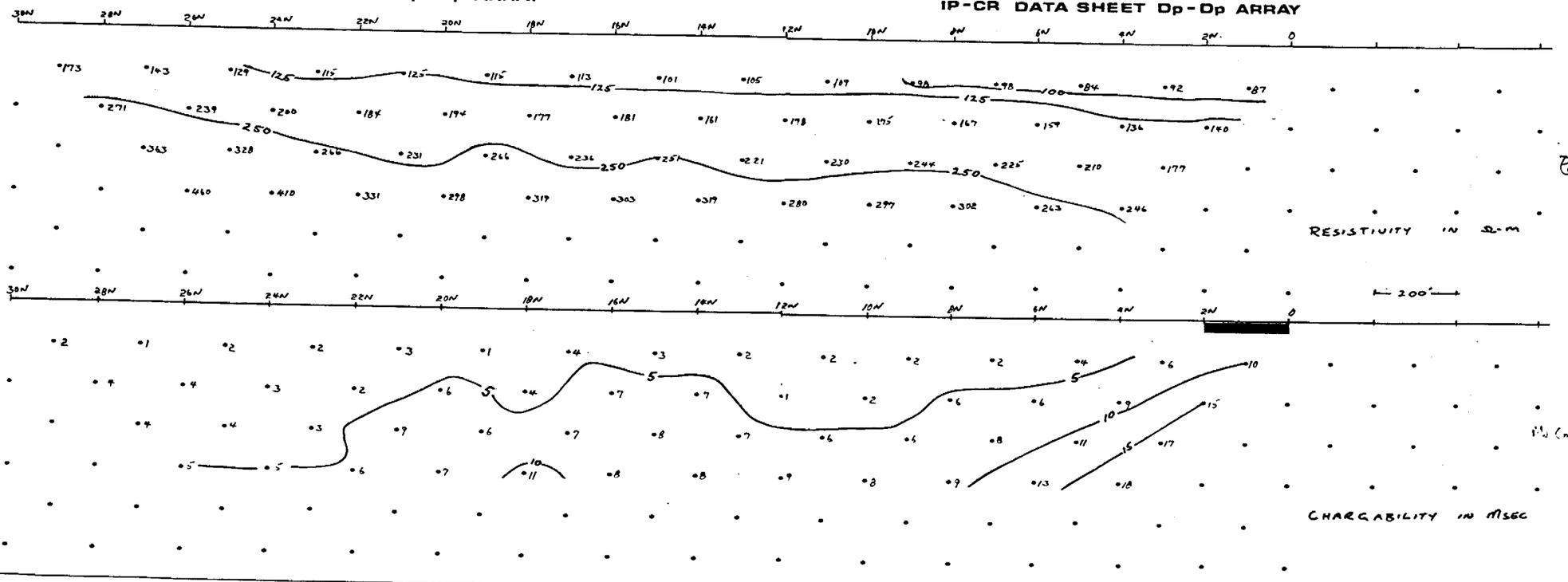
_____ Line : 96-W Scale : _____ Comments : _____

Sheet ___ of ___ / / Array : _____ a _____

Sheet ___ of ___

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY



Area: ROSARIO Line: 104-W Scale: 1" = 200' Comments: _____

Date: 12/28/80 Array: D-DP a 200'

_____ Line: 104-W Scale: _____ Comments: _____

Sheet ___ of ___/___/___ Array: _____ a _____

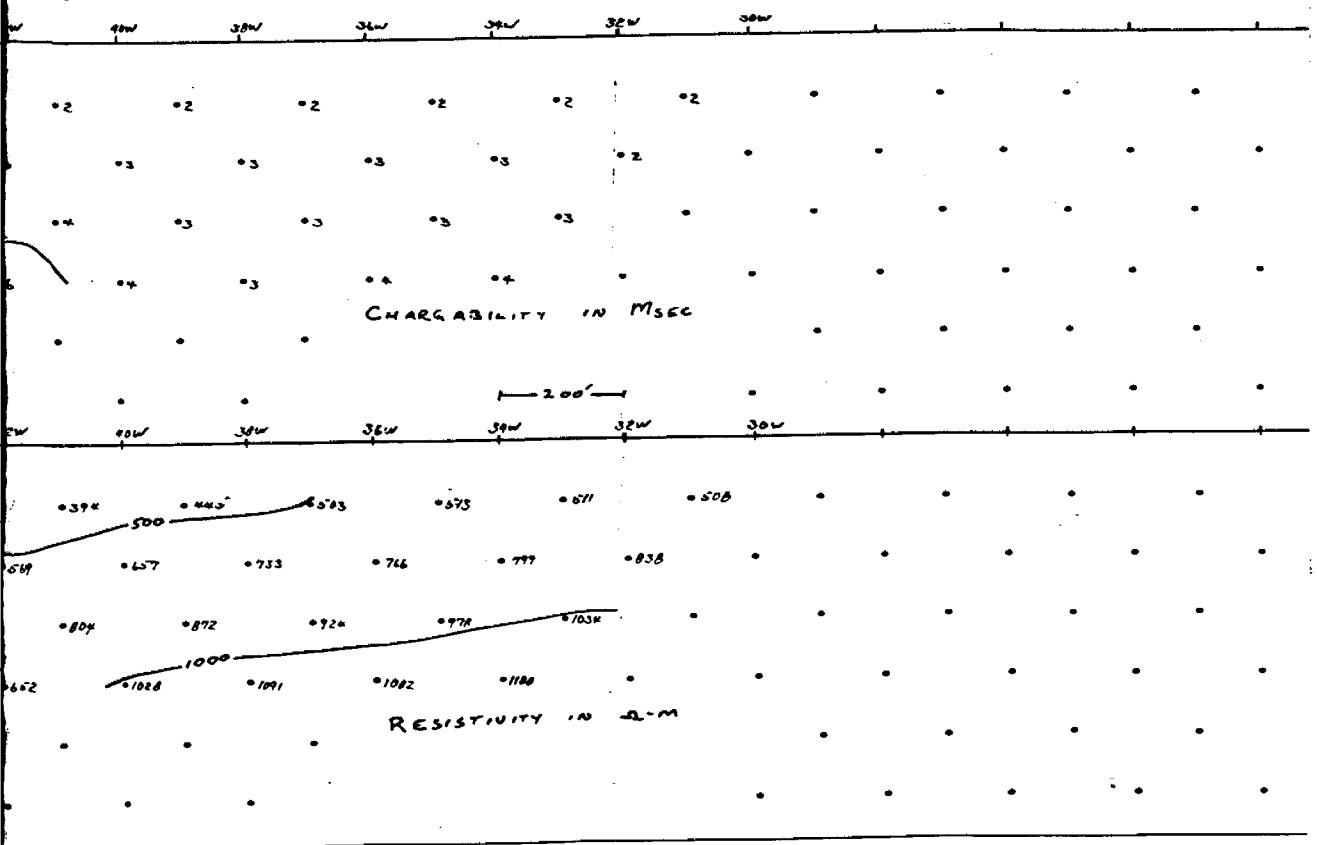
Sheet ___ of ___

E

2.4695

T Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp A



Comments : _____

_____ Line : 116-N Scale : _____ Comments : _____

Sheet __ of ___/___/___ Array : _____ a _____

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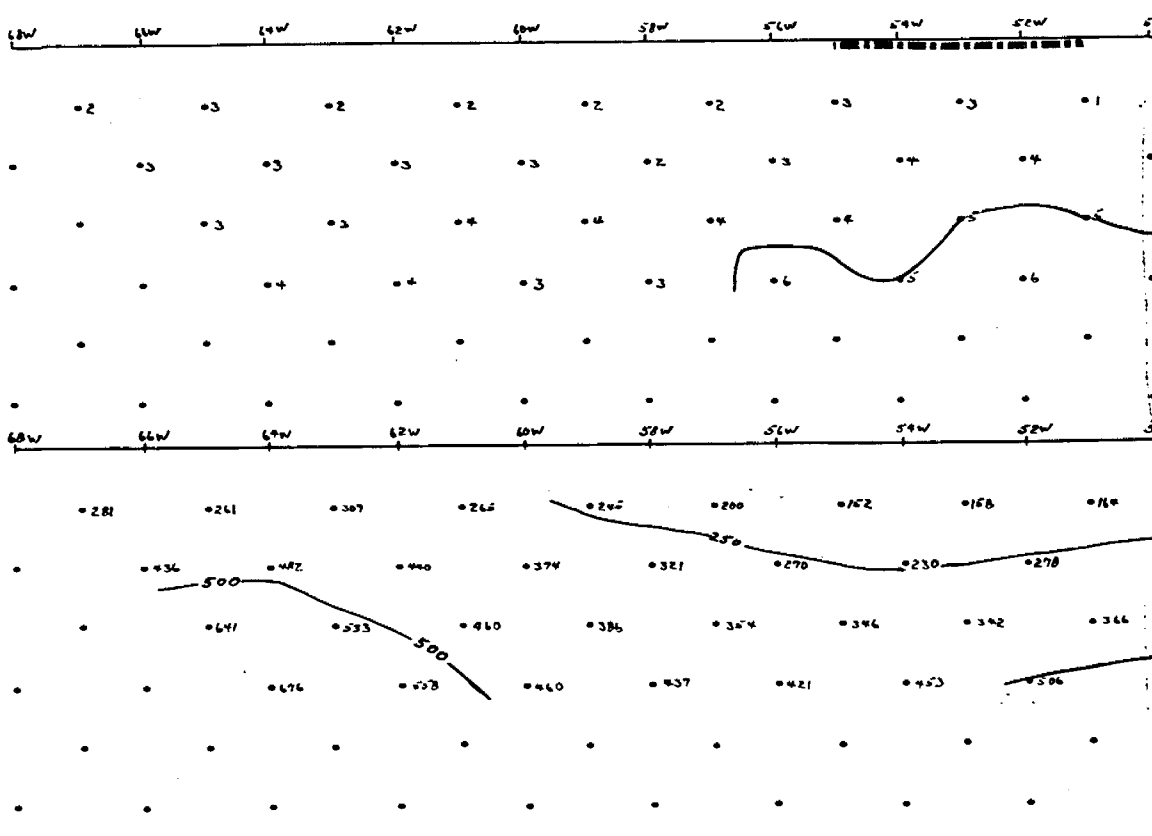
IP-CR DATA SHEET Dp-Dp ARRAY



IP-CR DATA SHEET Dp-Dp ARRAY

Area : ROSARIO Line : 11W Scale : 1" = 200' Comments : _____

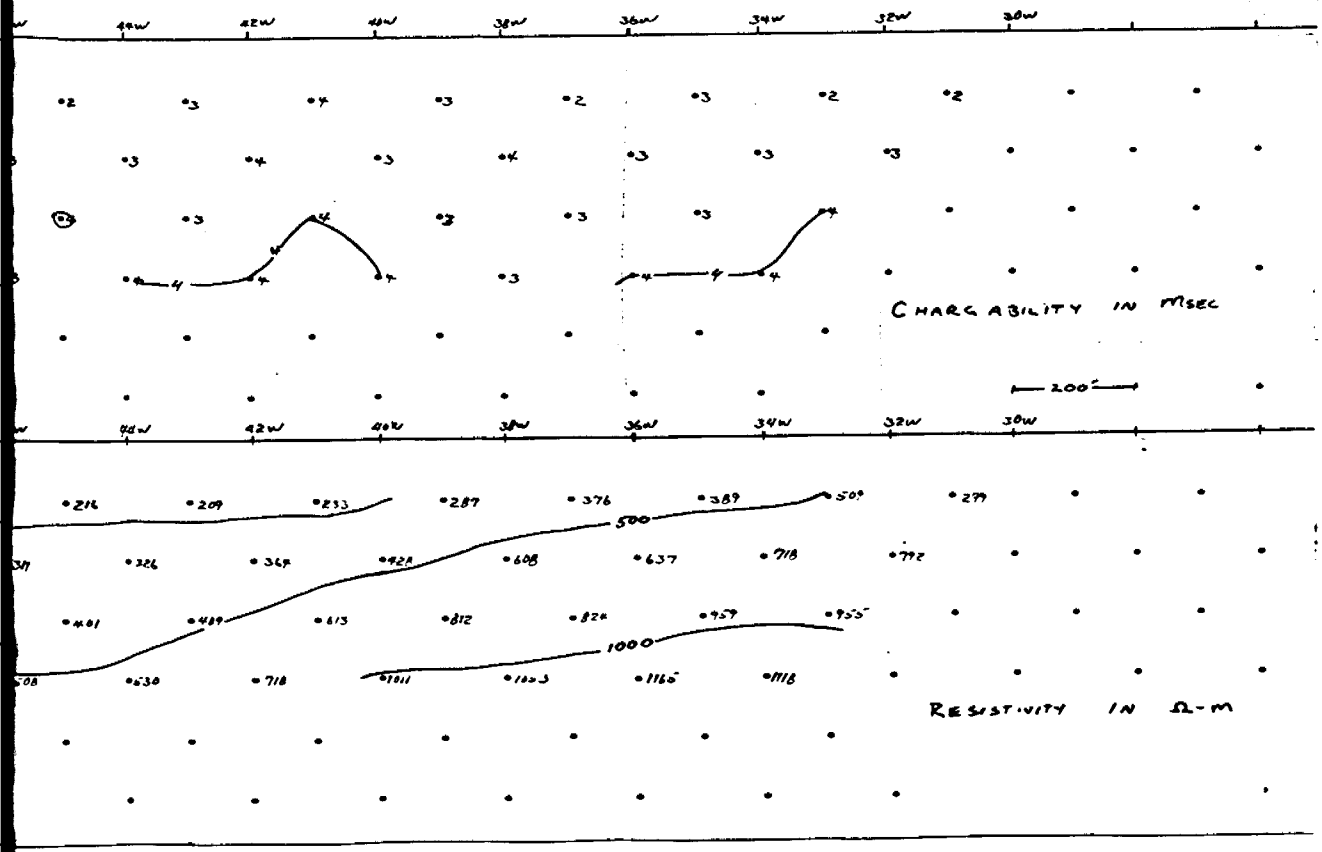
Date : 24 / 08 / 80 Array : P-D.P -I.P. a 200'

_____ Line : 11W-W Scale : _____ Comments : _____

Sheet ___ of ___/___/___ Array : _____ a _____

T Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp A



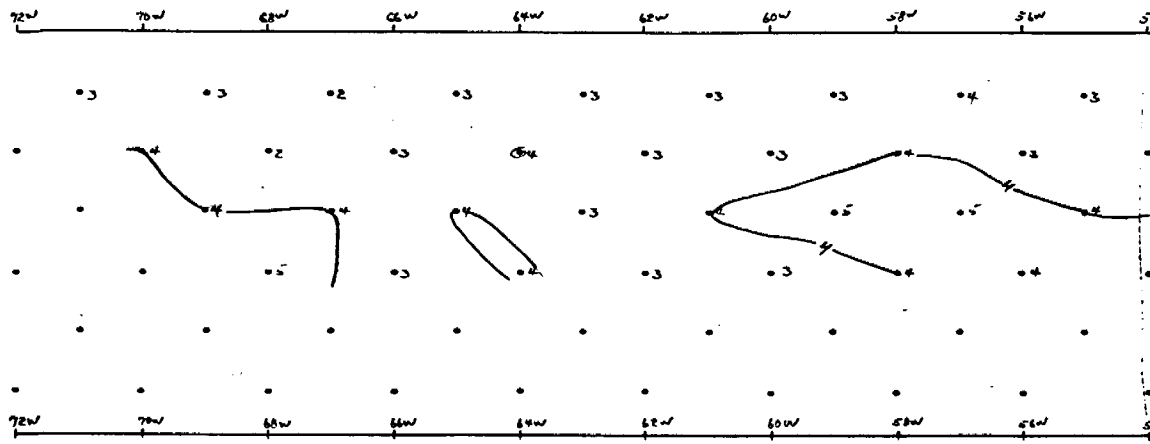
Comments : _____

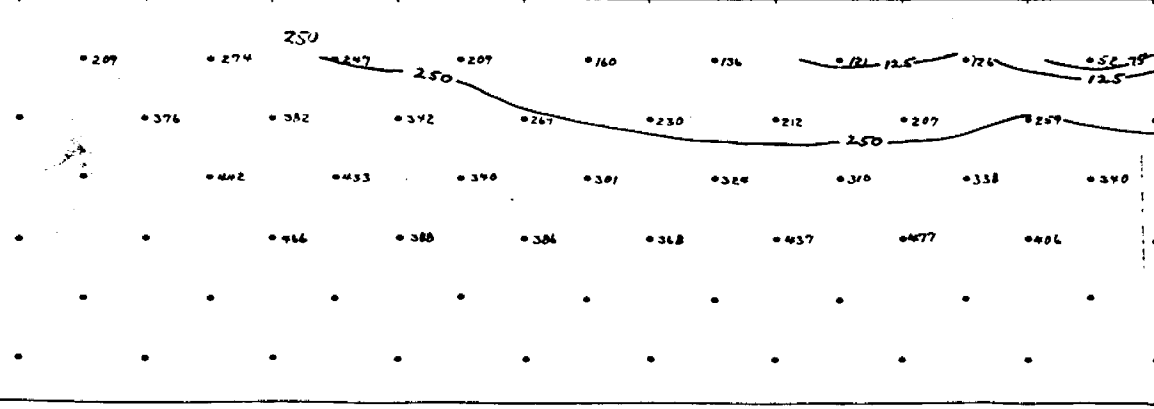
_____ Line : 112W Scale : _____ Comments : _____

Sheet ___ of ___/___/___ Array : _____ a _____

24695

IP-CR DATA SHEET Dp-Dp ARRAY





Area : Rosario Line : 112-N Scale : 1"=200' Comments :

Date : 25 / 08 / 80 Array : P.-D.P.-I.P. a 200'

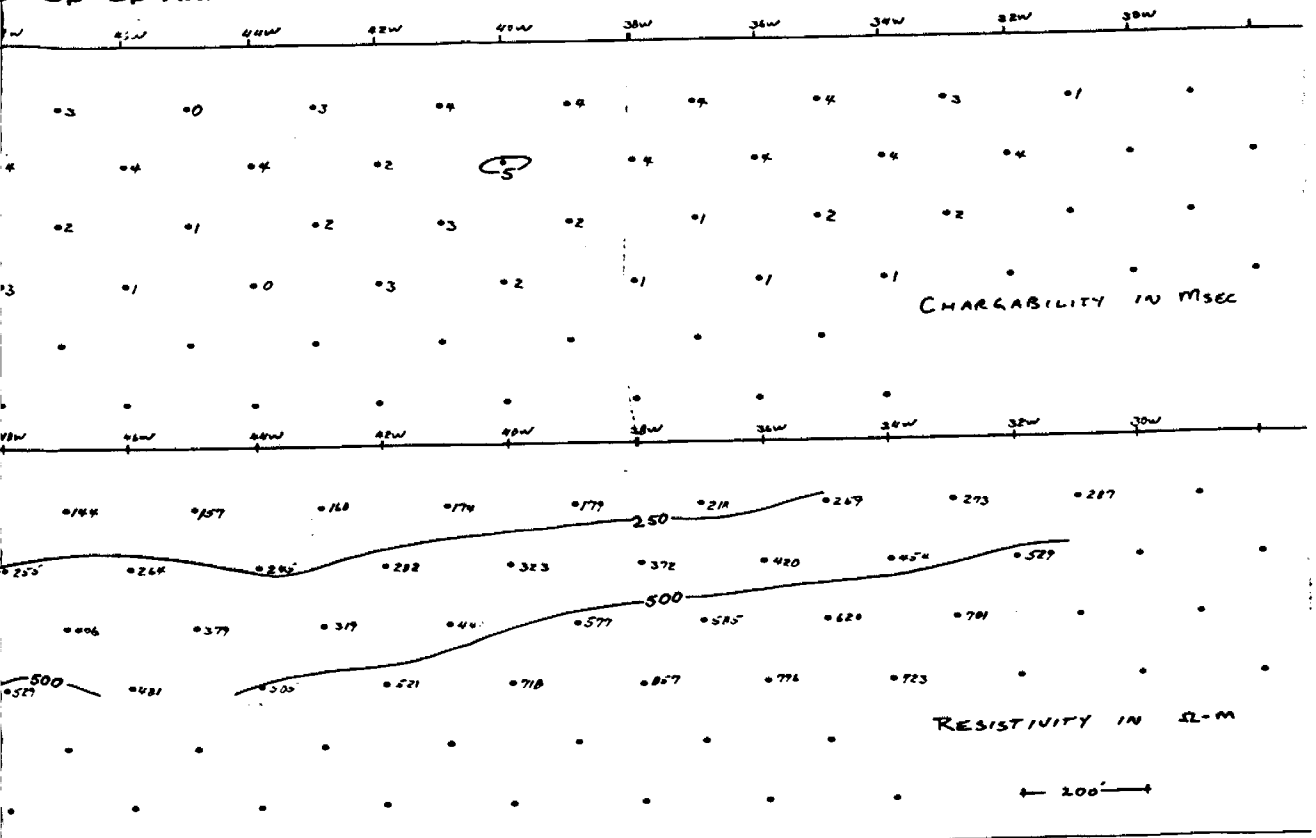
IP-CR DATA SHEET Dp-Dp ARRAY

Line : 112-N Scale : Comments :

Sheet ___ of ___ / ___ / ___ Array : a

ET Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp A

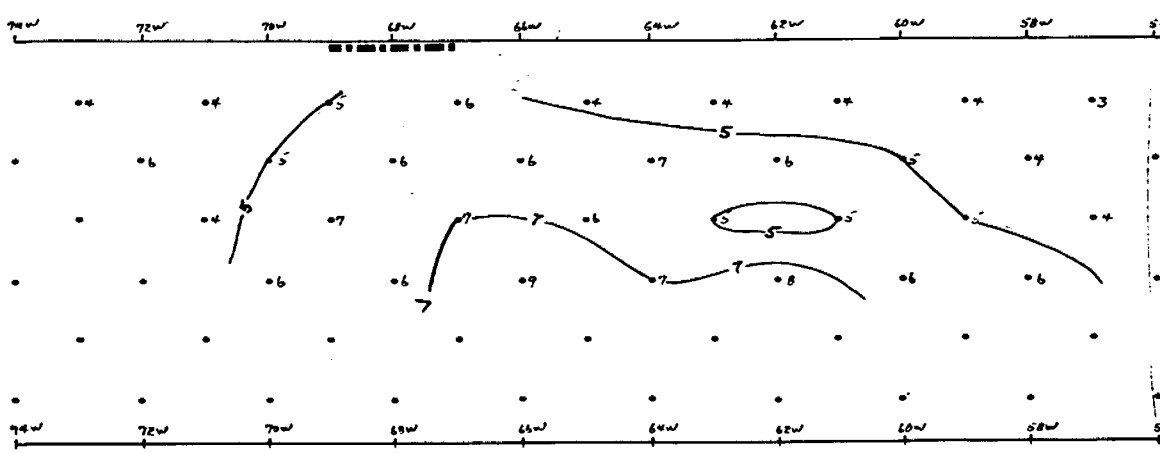


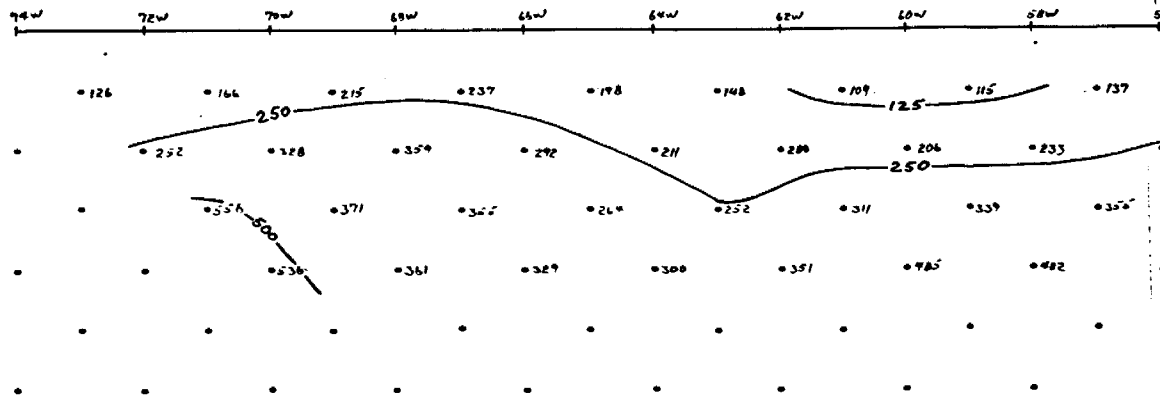
Comments : _____

Sheet __ of ___/___/___ Array: _____ a _____ Line : 108-N Scale : _____ Comments : _____

2.4L95

IP-CR DATA SHEET Dp-Dp ARRAY

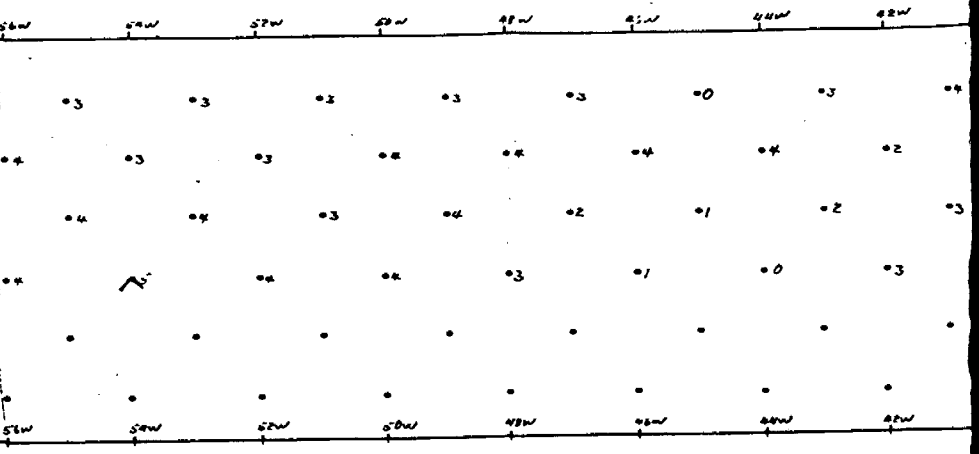


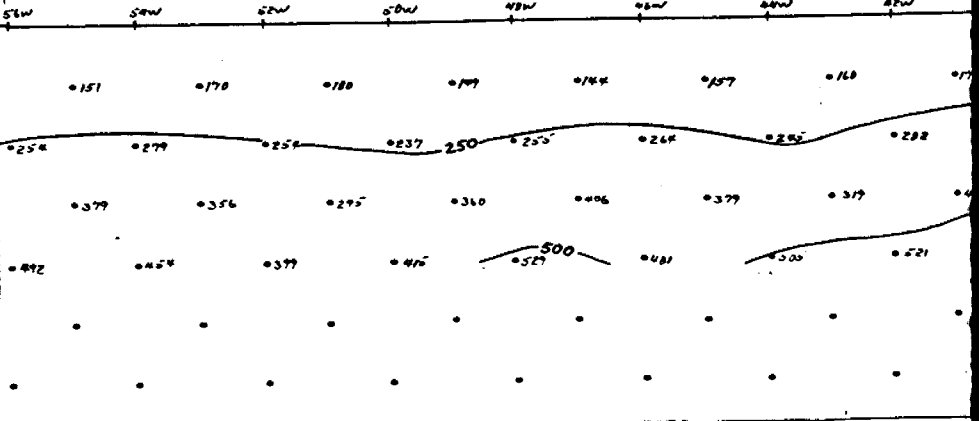


Area: Rosario Line: 108-W Scale: 1" = 200' Comments: NW CORNER

Date: 24 / 08 / 80 Array: P.-D.P.-X.D. a 400'

IP-CR DATA SHEET Dp-Dp ARRAY



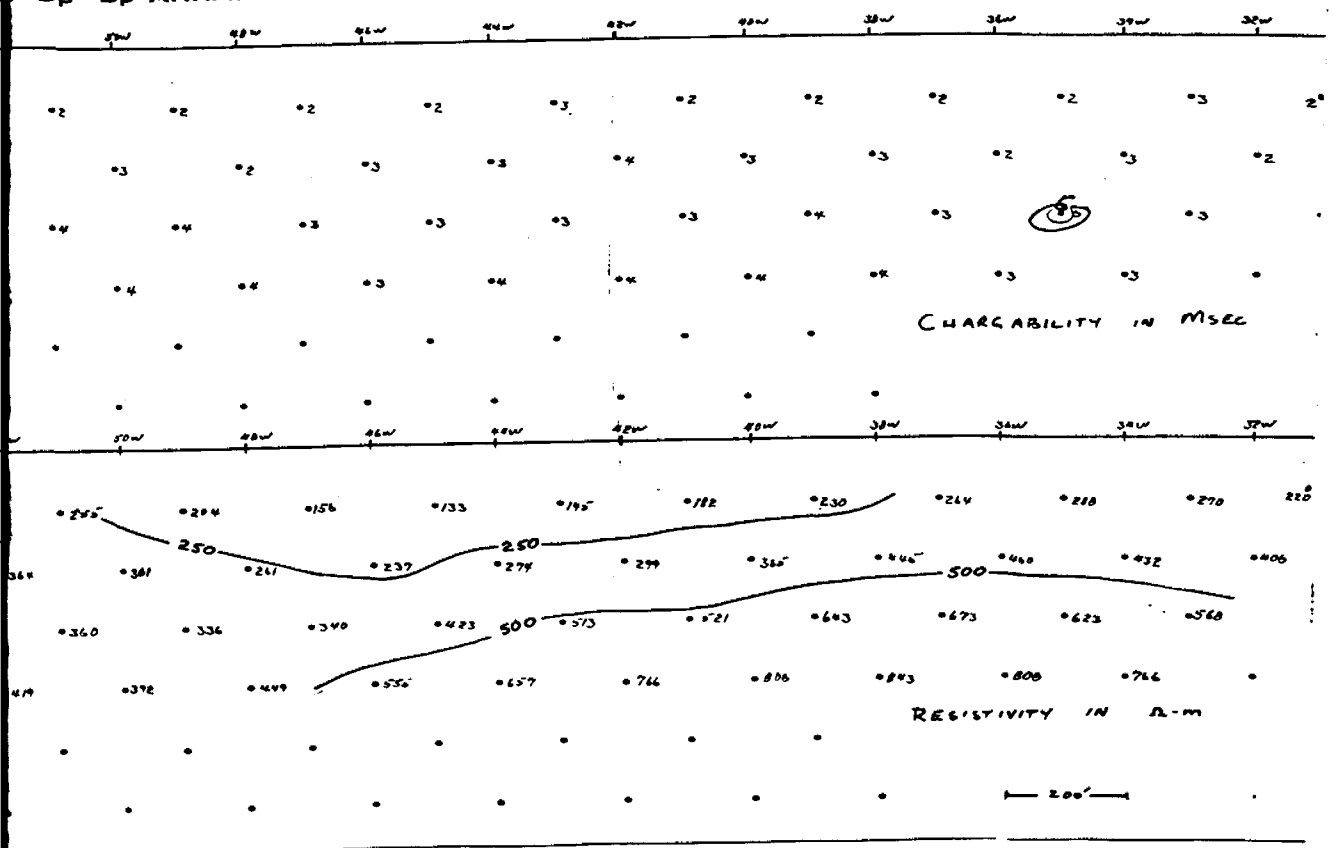


_____ Line: 108-W Scale: _____ Comments: _____

Sheet ___ of ___ / ___ / ___ Array: _____ a _____

T Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp A



Comments : _____

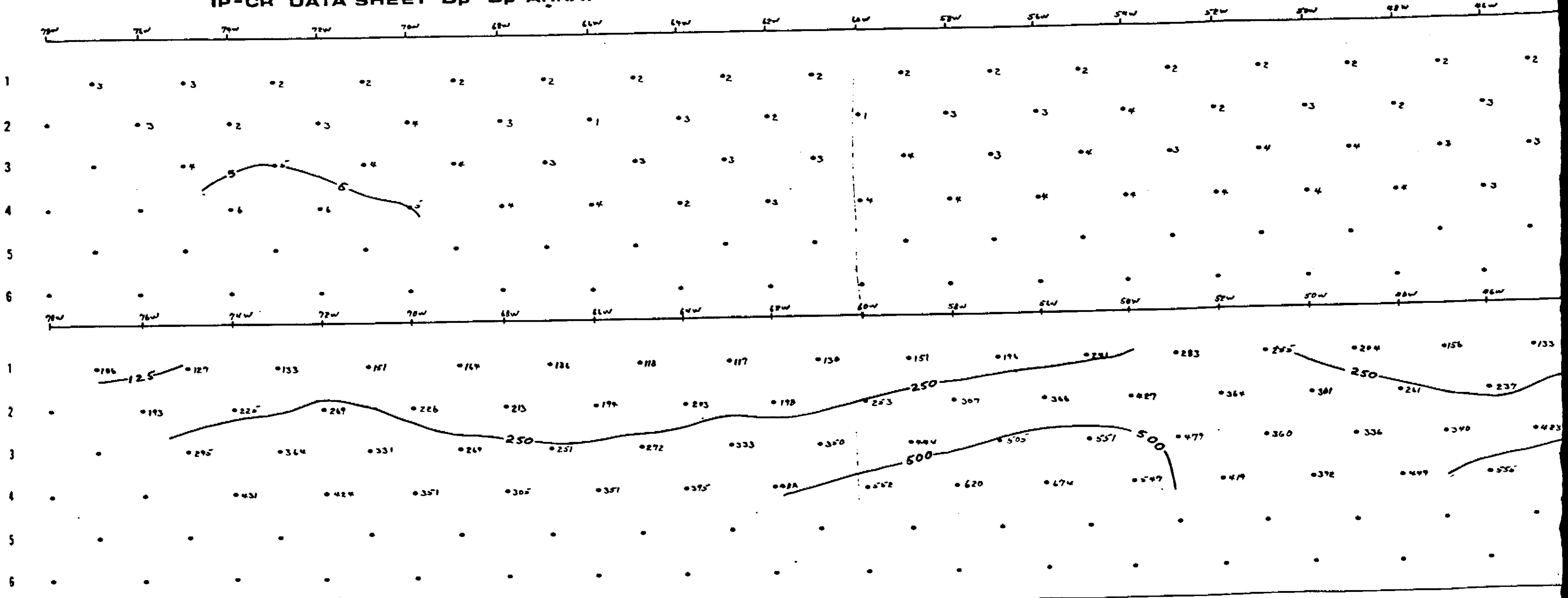
_____ Line : 104-N Scale : _____ Comments : _____

Sheet __ of ___/___/___ Array : _____ a = _____

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp ARRAY



Area: Aosmeto Line: 104-N Scale: 1" = 250' Comments:

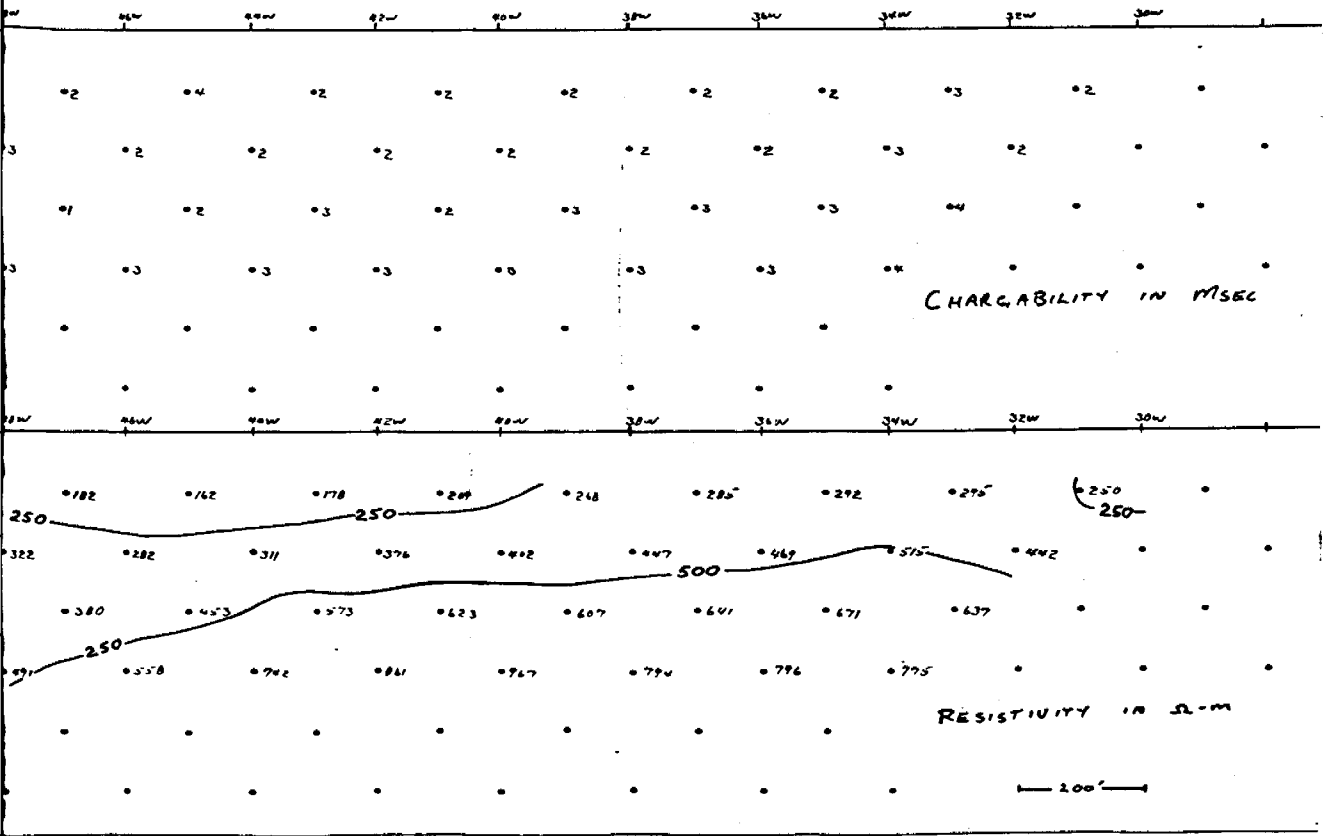
Date: 27 / 08 / 90 Array: P-DP-2P a 250'

Line: 104-N Scale: Comments:

Sheet ___ of ___/___/___ Array: a

ET Dp-Dp ARRAY

IP-CR DATA SHEET Dp-Dp A



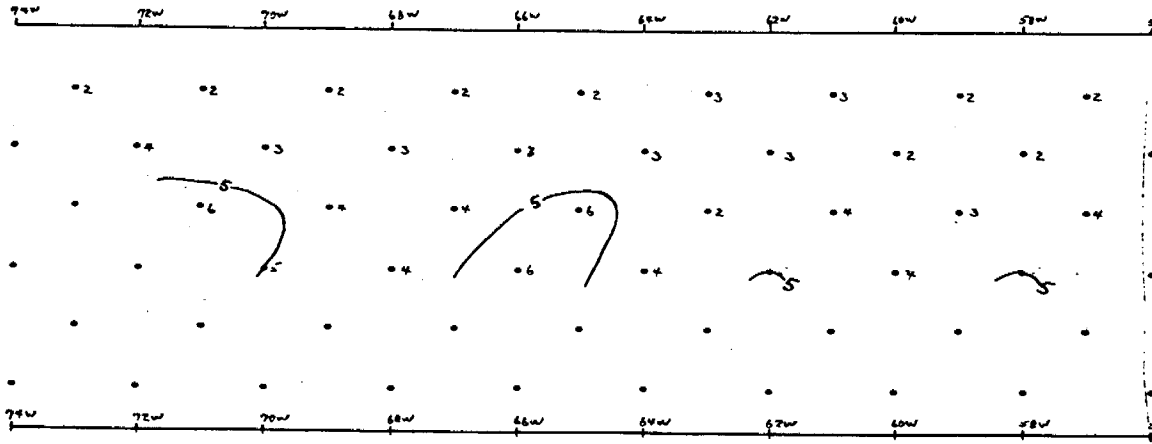
Comments : _____

_____ Line : 100-N Scale : _____ Comments : _____

Sheet ___ of ___/___/___ Array : _____ a _____

2.4695

IP-CR DATA SHEET Dp-Dp ARRAY



IP-CR DATA SHEET Dp-Dp ARRAY

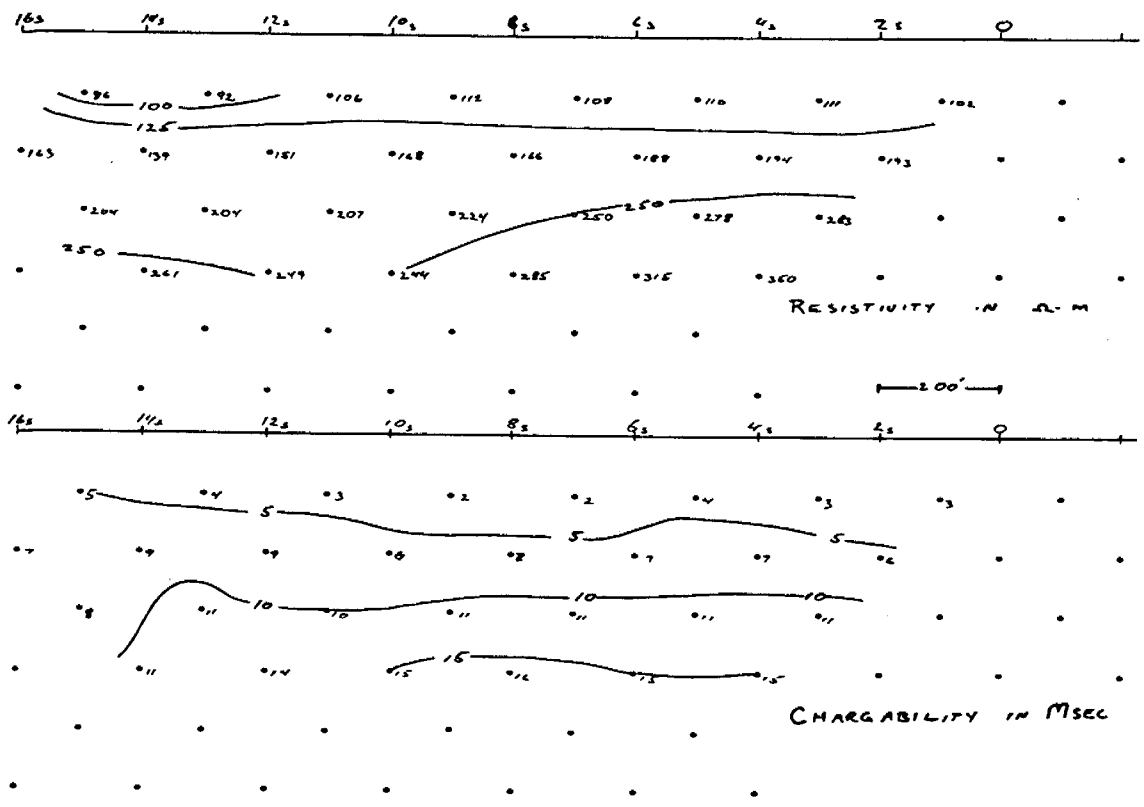
Area : ROSARITO Line : 130-N Scale : 1" = 200' Comments : _____

Date : 12 / 08 / 85 Array : B-O.R-T.R. a 200'

_____ Line : 100-N Scale : _____ Comments : _____

Sheet ___ of ___/___/___ Array : _____ a _____

IP-CR DATA SHEET Dp-Dp ARRAY



Area : ROSARIO Line : 100W Scale : _____ Comments : _____

Date : 8/7/80 Array : P. Dp a 200'

E

Sheet ___ of ___

2,4695

ROSARIO
76W DEEPEM

file:RA76WN

TRANSMITTER LOOP A

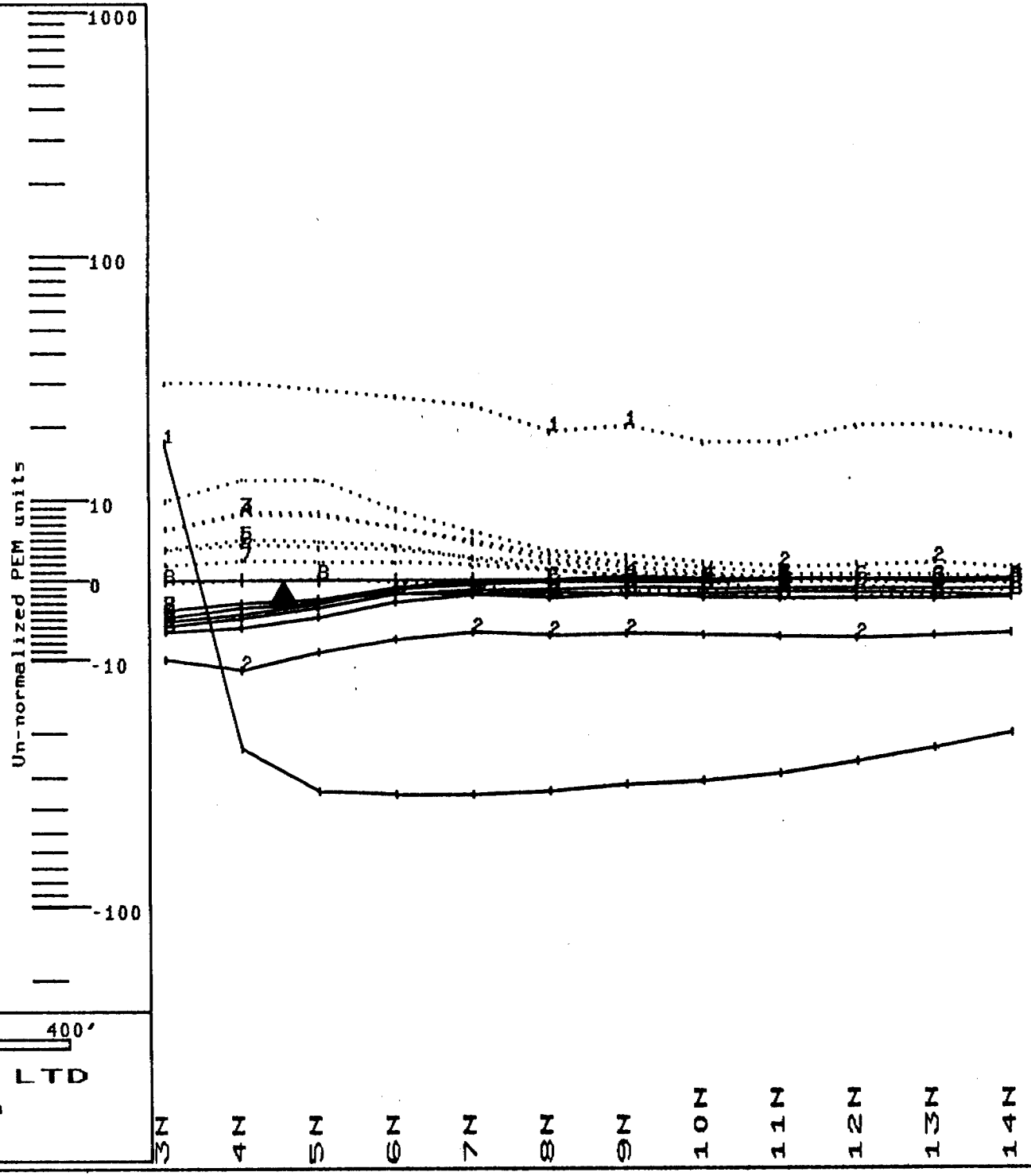
76WE	2S	0
76W	2N	0
80W	2N	0
80W	2S	0

Channel 1 to 8

—— Z component

..... X component

gain=500 zts=150 i=7.0



0 200' 400'

UTAH MINES LTD

Toronto, Canada

3/5/80

5/31

24695

ROSARIO
80W DEEPEM

file:RA80WN

TRANSMITTER LOOP A

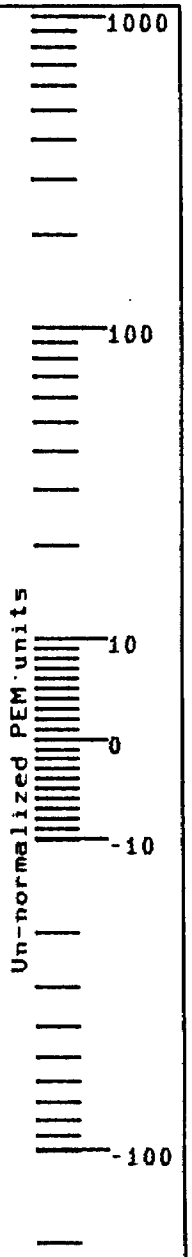
76W	2S	0
76W	2N	0
80W	2N	0
80W	2S	0

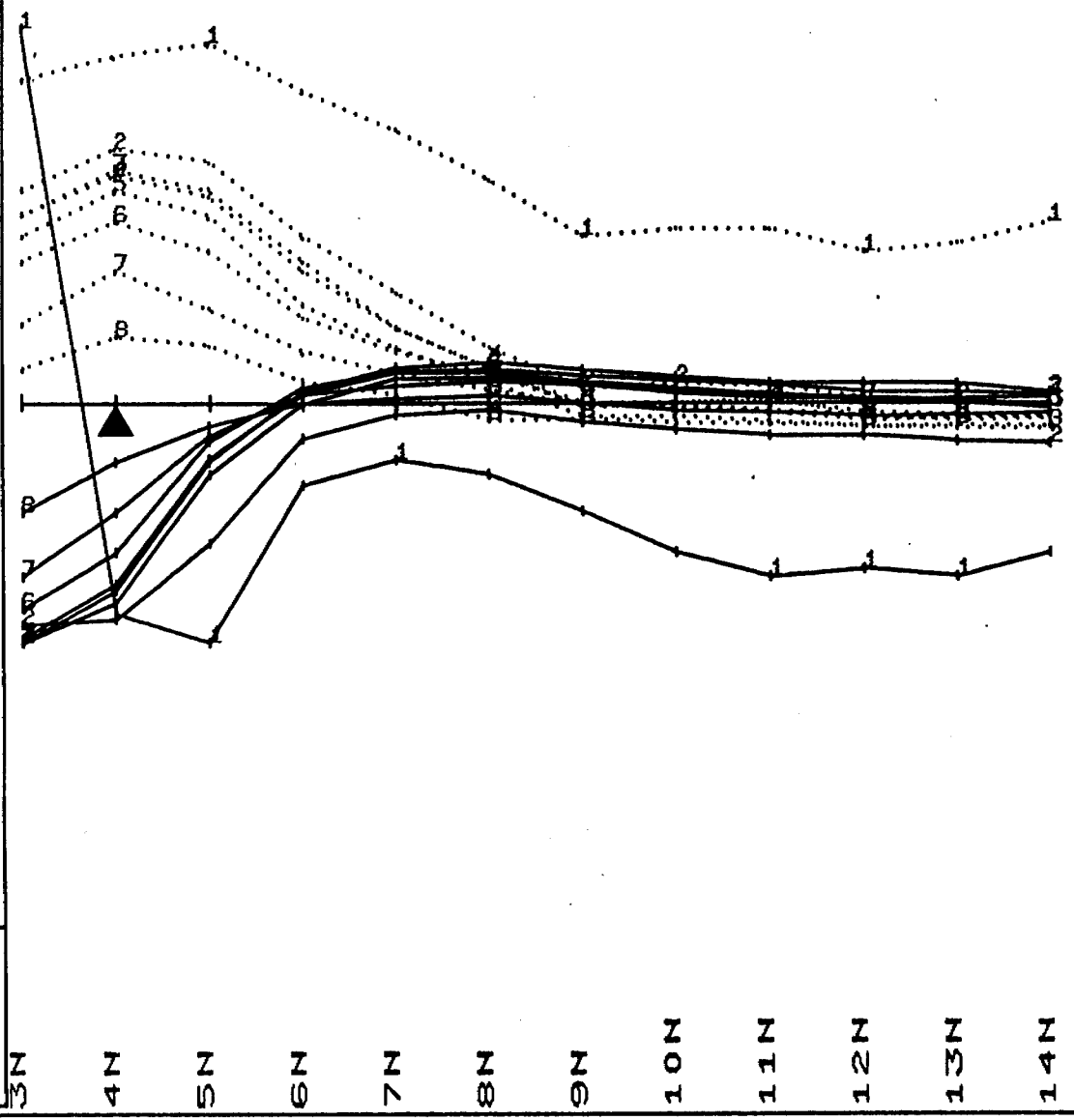
Channel 1 to 8

Z component

X component

gain=500 zts=150 i=7.0





0 200' 400'

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5/5/80

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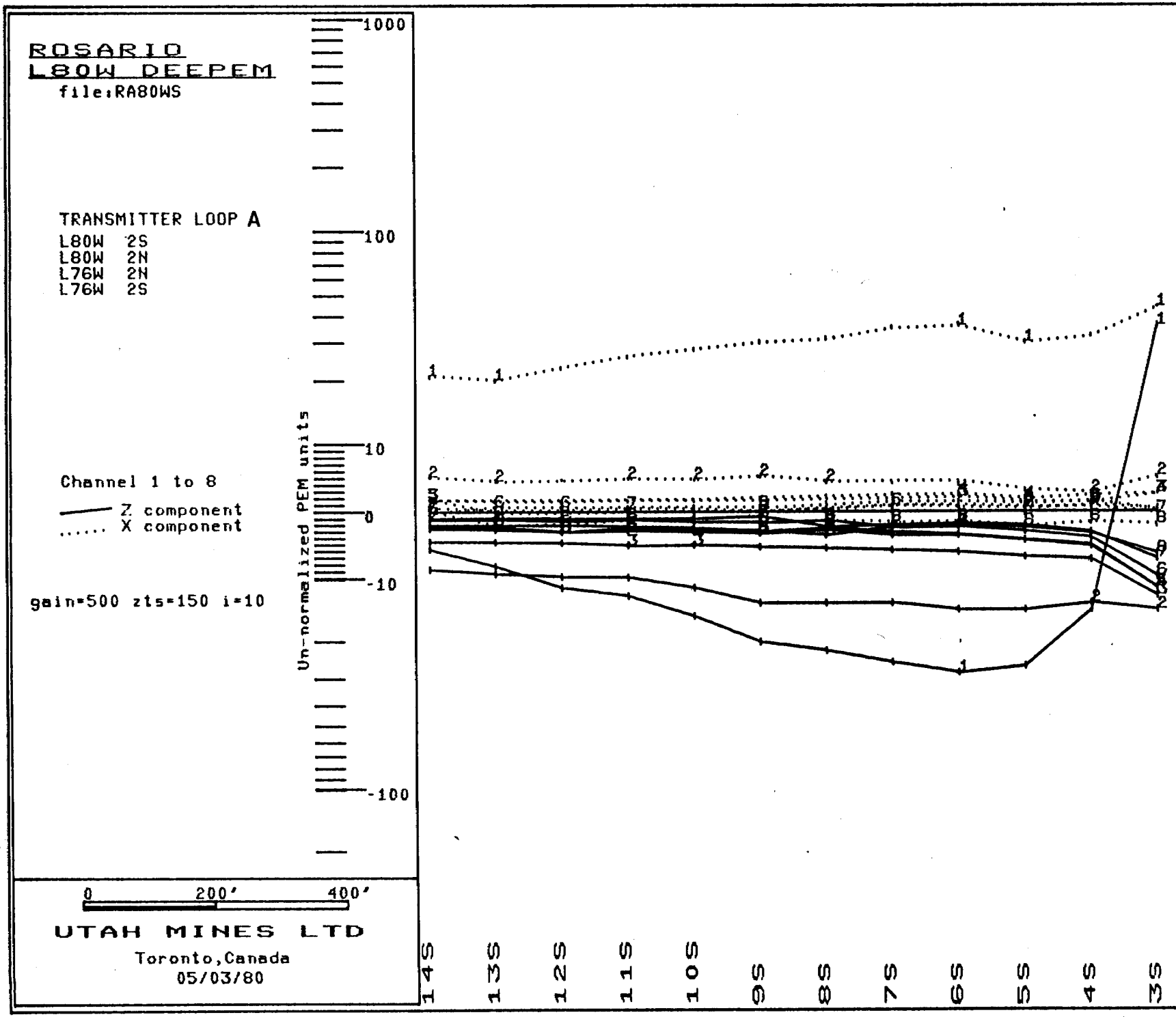
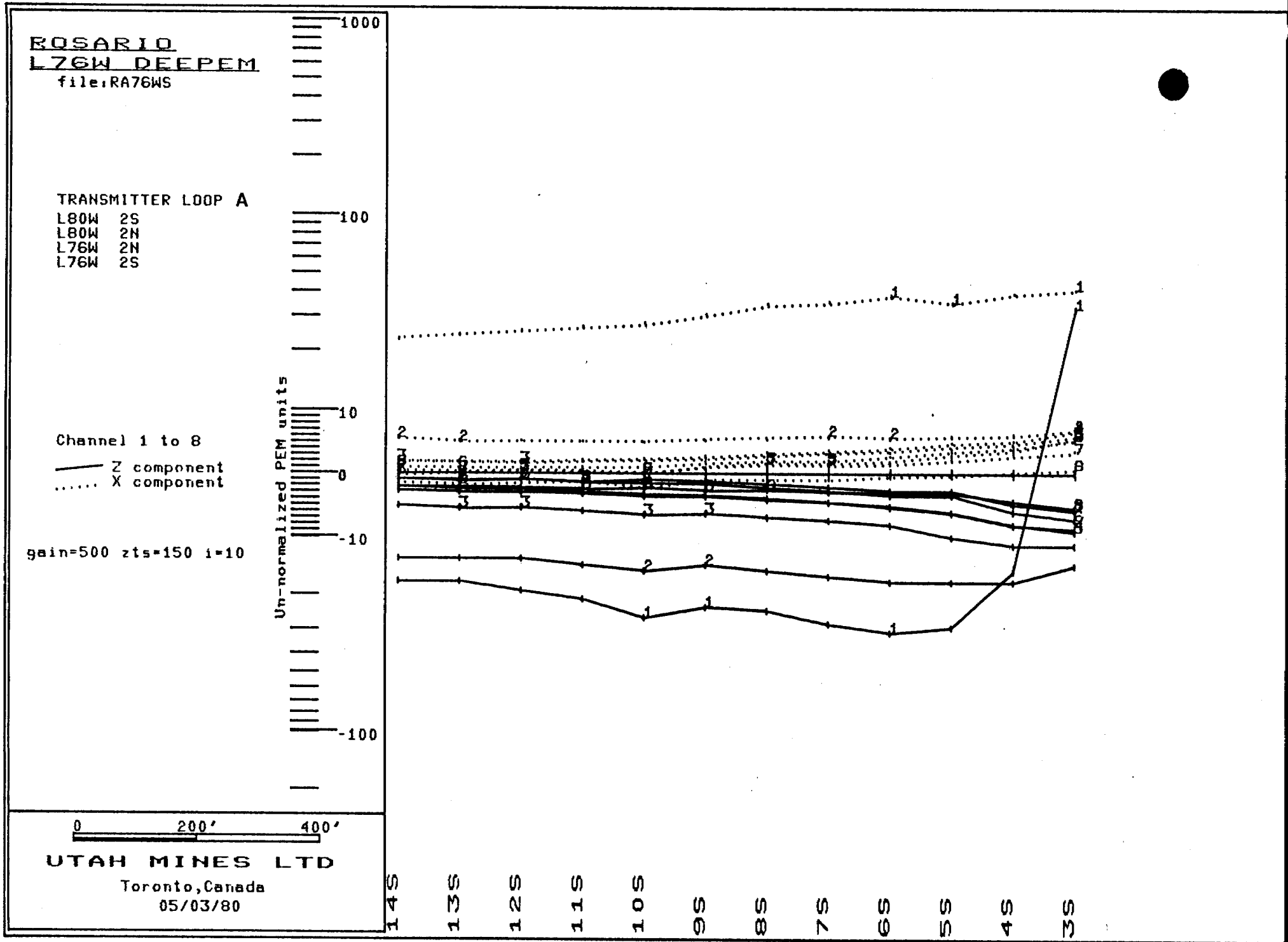

ROSARIO
L80W DEEPEM
file:RA80WS
TRANSMITTER LOOP A
L80W 2S
L80W 2N
L76W 2N
L76W 2S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
05/03/80
14S
13S
12S
11S
10S
9S
8S
7S
6S
5S
4S
3S

2.4695


ROSARIO
L76W DEEPEM
file:RA76WS
TRANSMITTER LOOP A
L80W 2S
L80W 2N
L76W 2N
L76W 2S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
1000
100
10
0
-10
-100
Un-normalized PEM units
0
200'
400'
UTAH MINES LTD
Toronto,Canada
05/03/80
14S
13S
12S
11S
10S
9S
8S
7S
6S
5S
4S
3S

ROSARIO
L76W DEEPEM

file:RB76WN

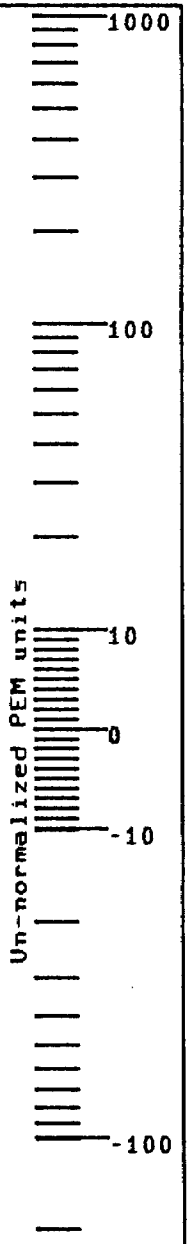
TRANSMITTER LOOP B

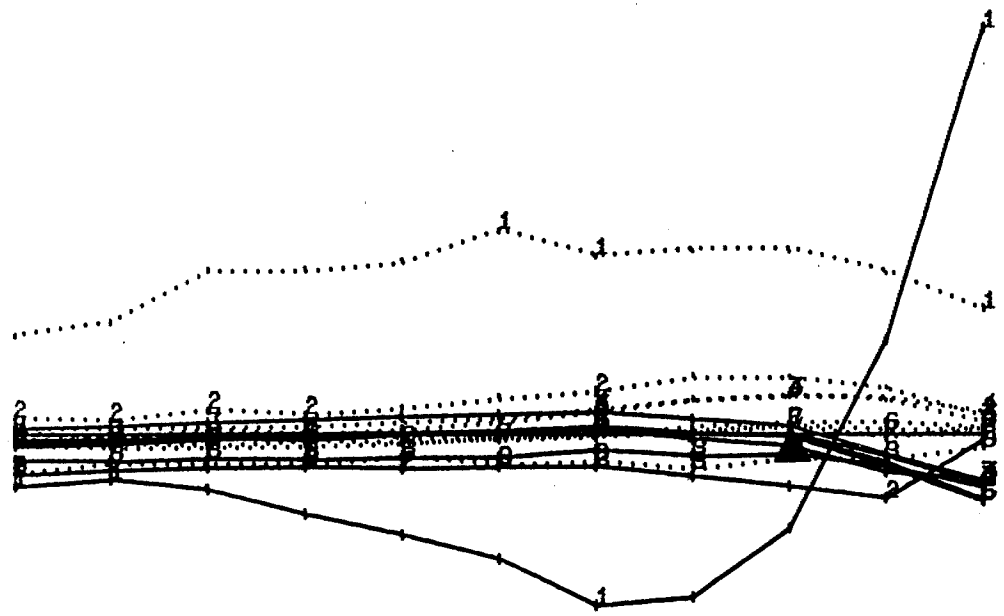
L80W 21N
L80W 25N
L76W 24N
L76W 20N

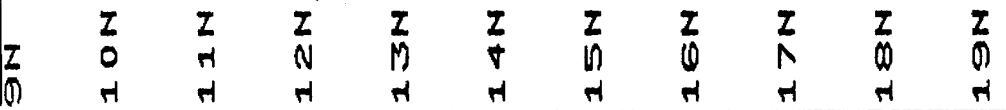
Channel 1 to 8

Z component
..... X component

gain=500 zts=150 i=10







0 200' 400'

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ROSARIO
L80W DEEPEM

file:RB80WN

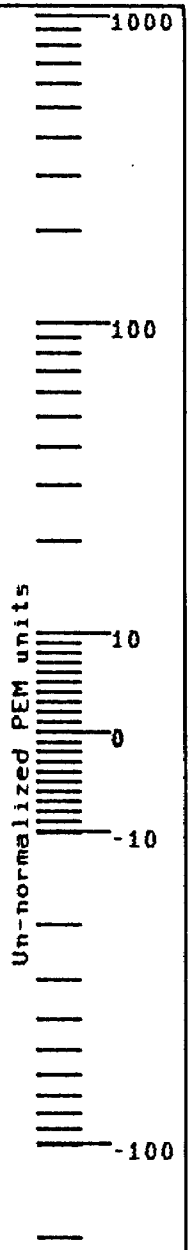
TRANSMITTER LOOP **B**

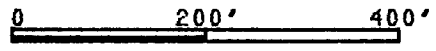
L80W 21N
L80W 25N
L76W 24N
L76W 20

Channel 1 to 8

—— Z component
..... X component

gain=500 zts=150 i=10





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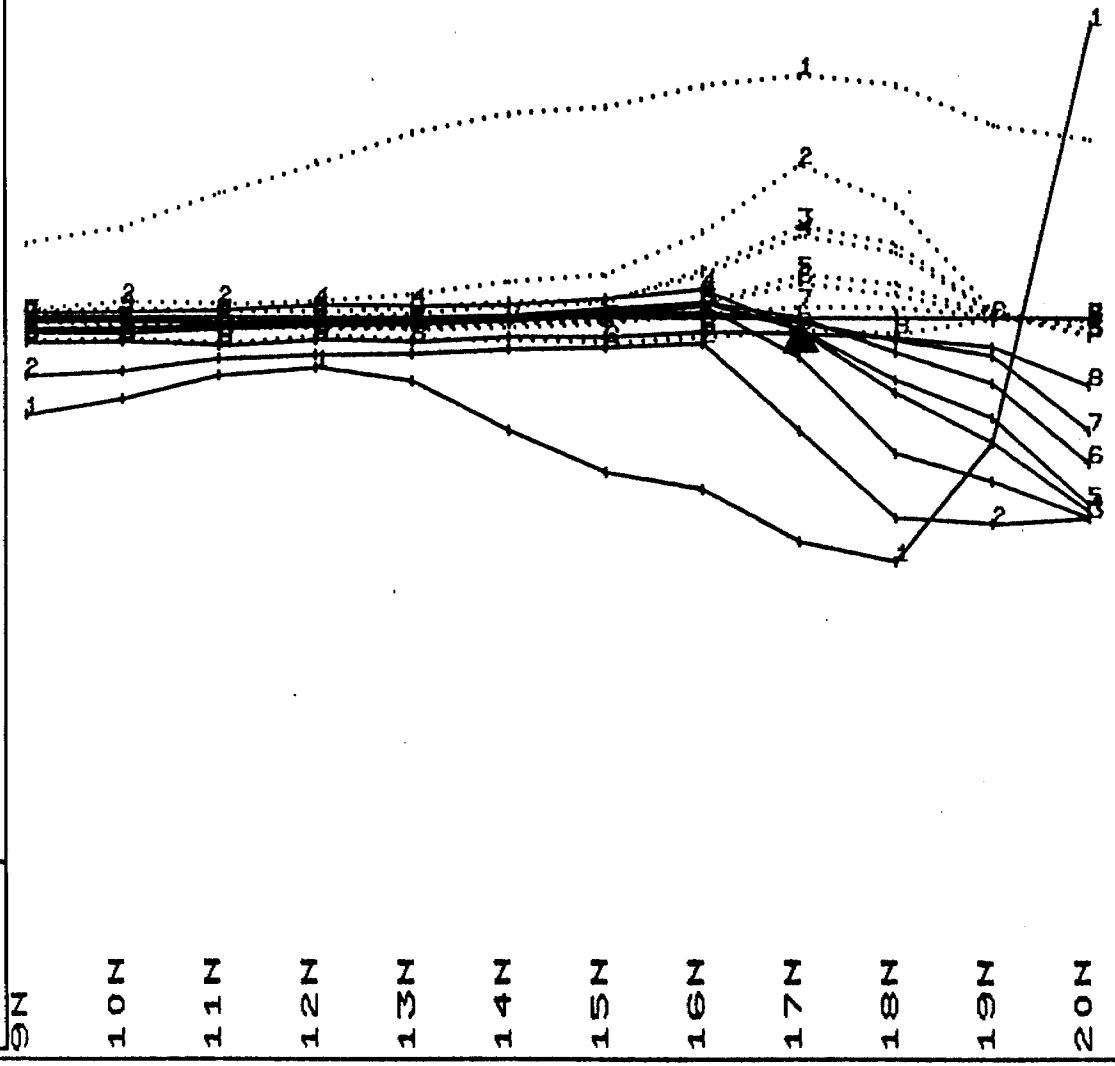

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ROSARIO
L68W DEEPEM

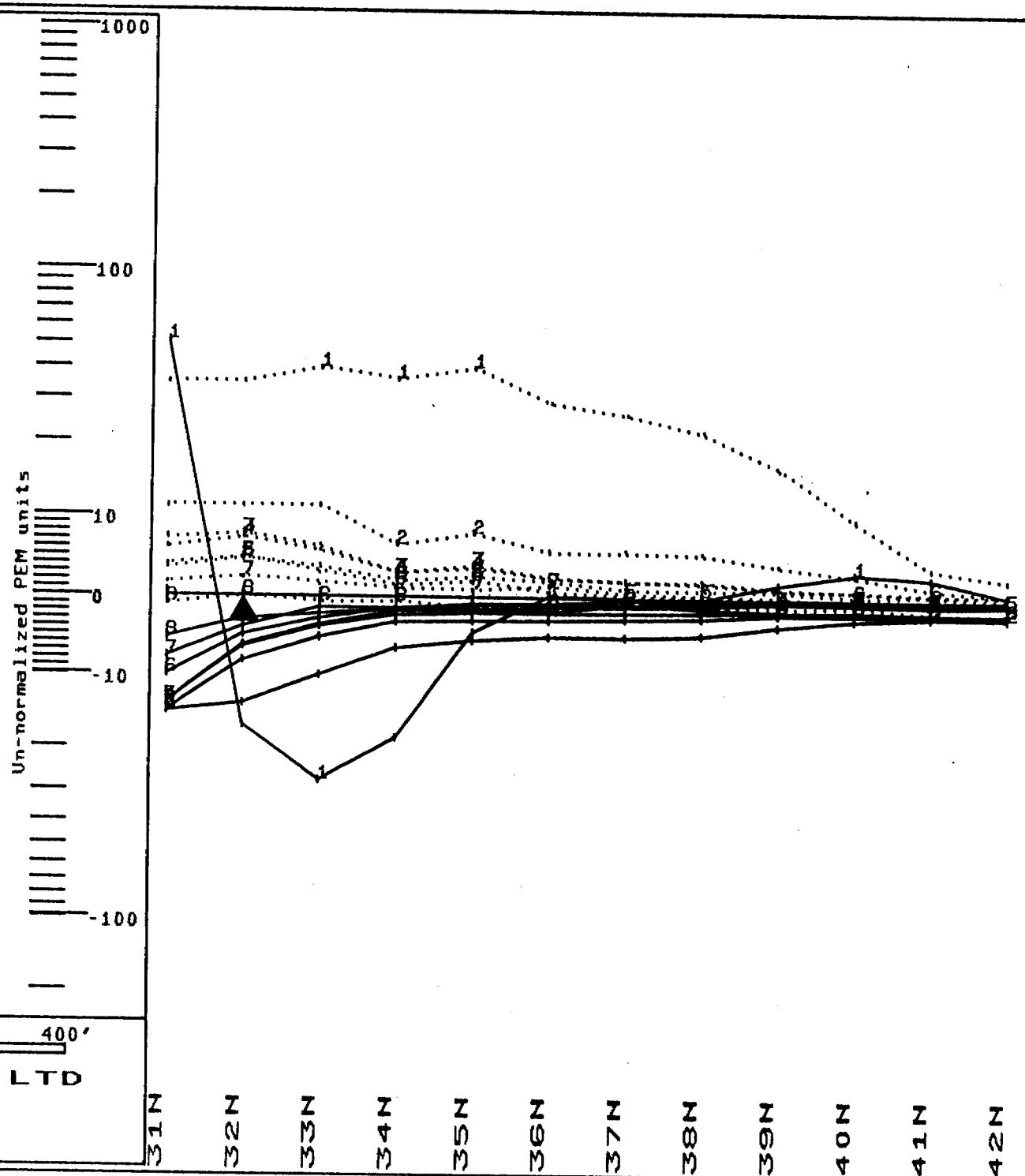
file:RC68WN

TRANSMITTER LOOP C
L68W 26N
L68W 30N
L64W 30N
L64W 26N

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10



0 200' 400'

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08/03/80

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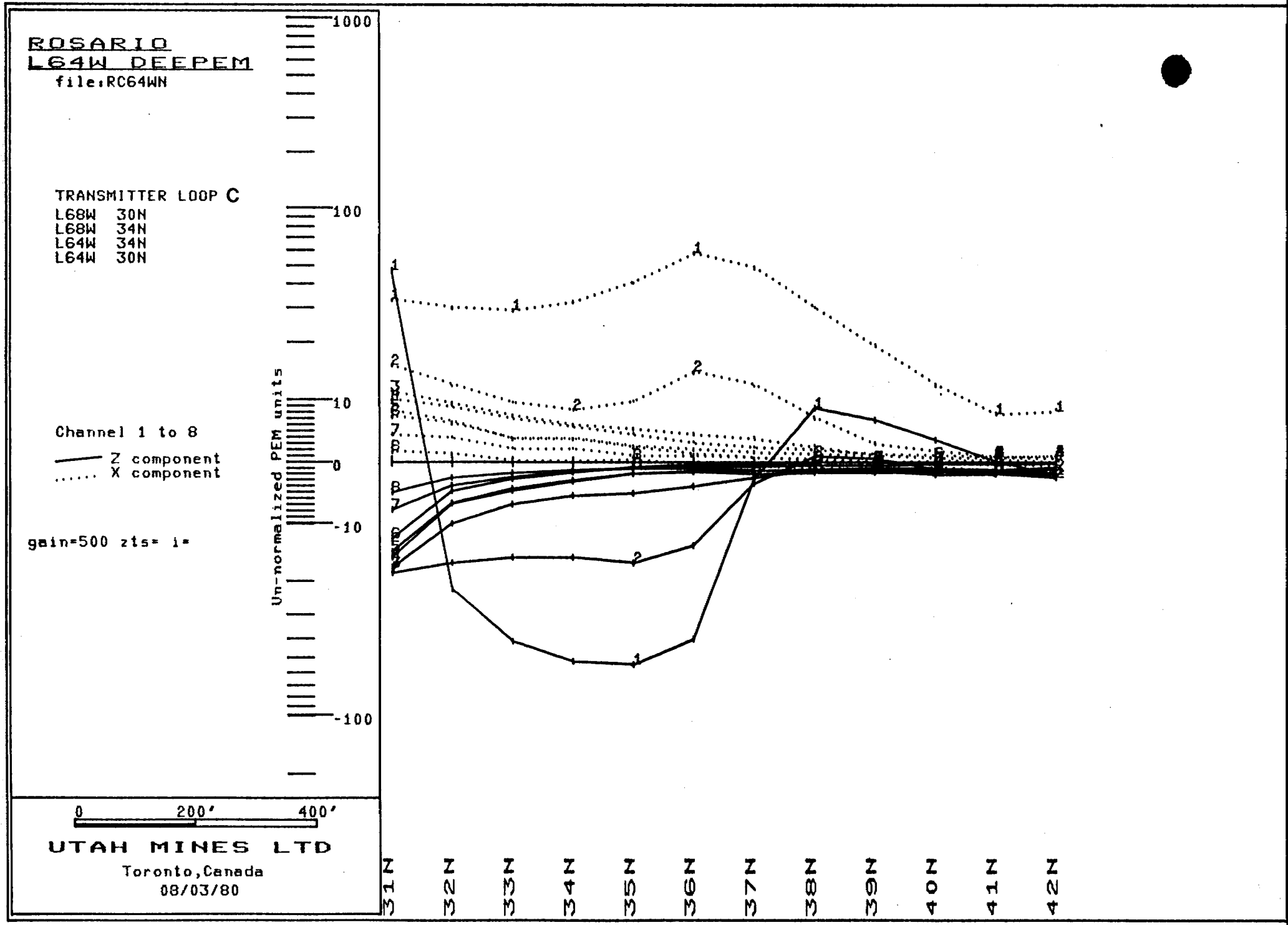
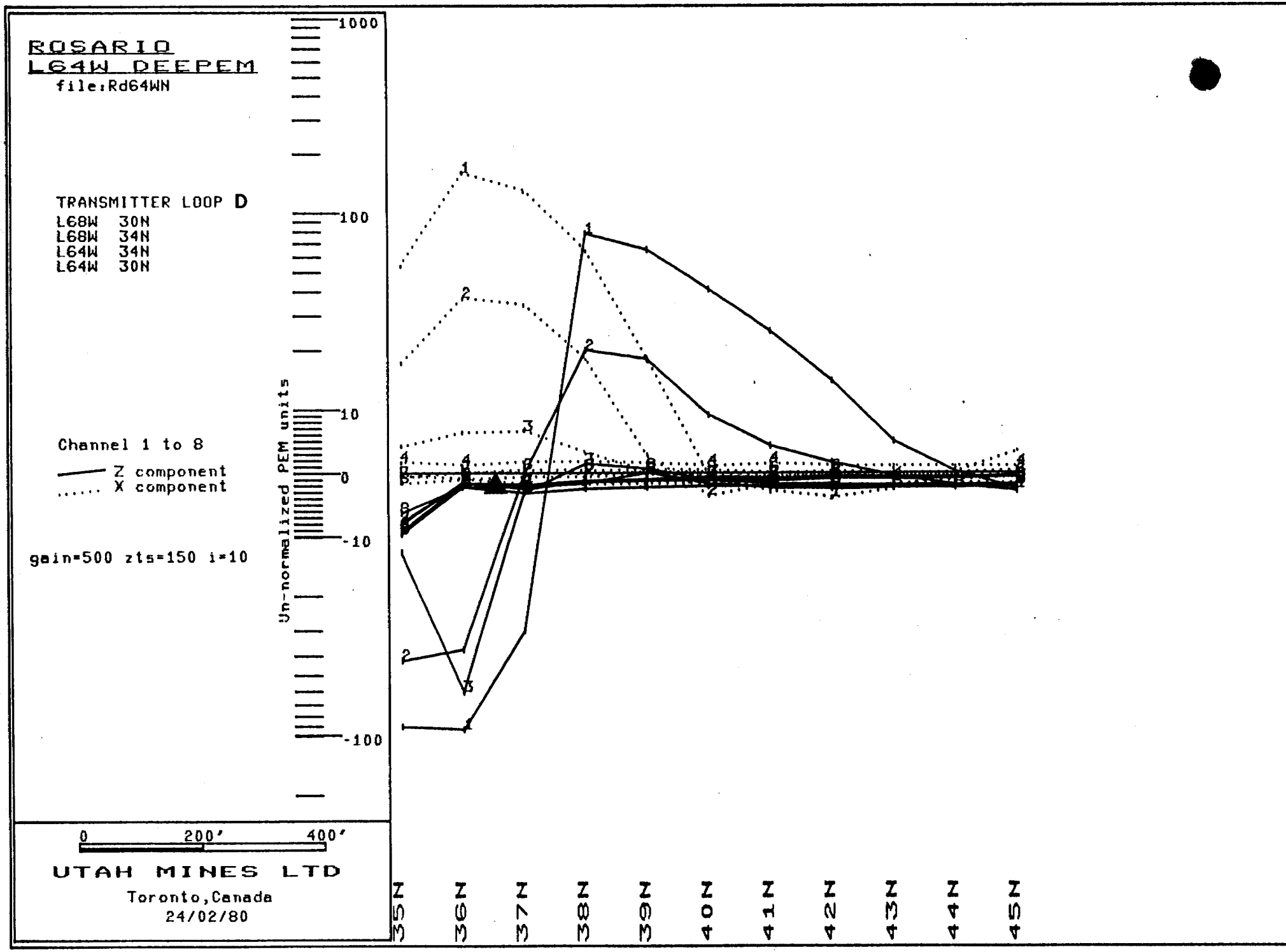

ROSARIO
L64W DEEPEM
file:RC64WN
TRANSMITTER LOOP C
L68W 30N
L68W 34N
L64W 34N
L64W 30N
Channel 1 to 8
Z component
X component
gain=500 zts= i=
1000
100
10
0
-10
-100
Un-normalized PEM units
0
200'
400'
UTAH MINES LTD
Toronto,Canada
08/03/80
31N
32N
33N
34N
35N
36N
37N
38N
39N
40N
41N
42N


ROSARIO
L64W DEEPEM
file:Rd64WN
TRANSMITTER LOOP D
L68W 30N
L68W 34N
L64W 34N
L64W 30N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
1000
100
10
0
-10
-100
Un-normalized PEM units
0
200'
400'
UTAH MINES LTD
Toronto,Canada
24/02/80
35N
36N
37N
38N
39N
40N
41N
42N
43N
44N
45N

ROSARIO
L64W DEEPEM

file:RD64WN

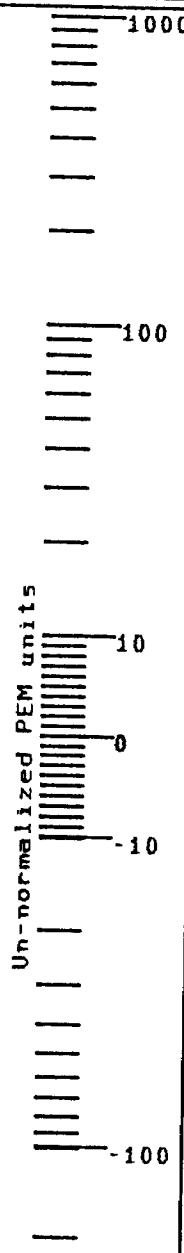
TRANSMITTER LOOP D

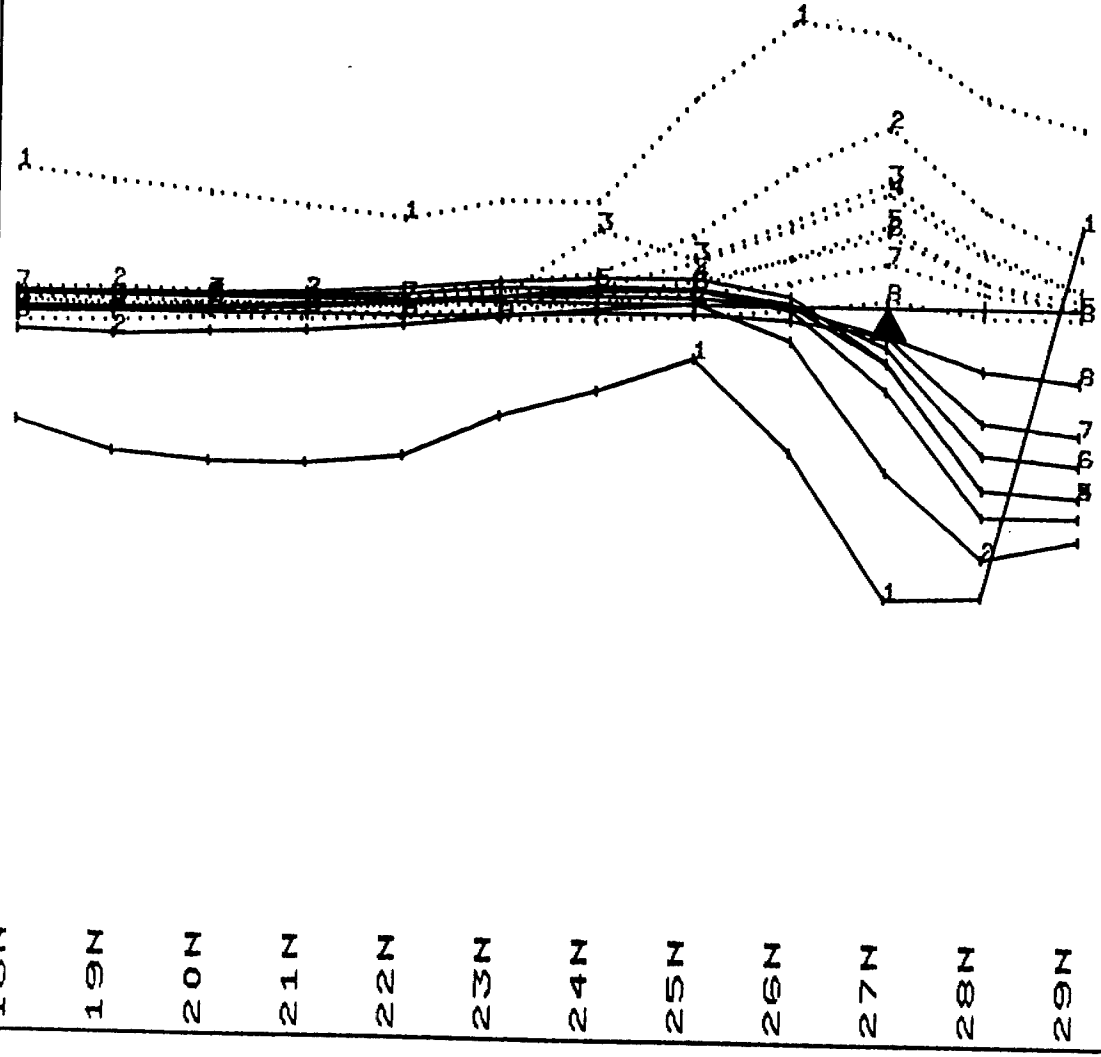
L68W 30N
L68W 34N
L64W 34N
L64W 30N

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10





0 200' 400'

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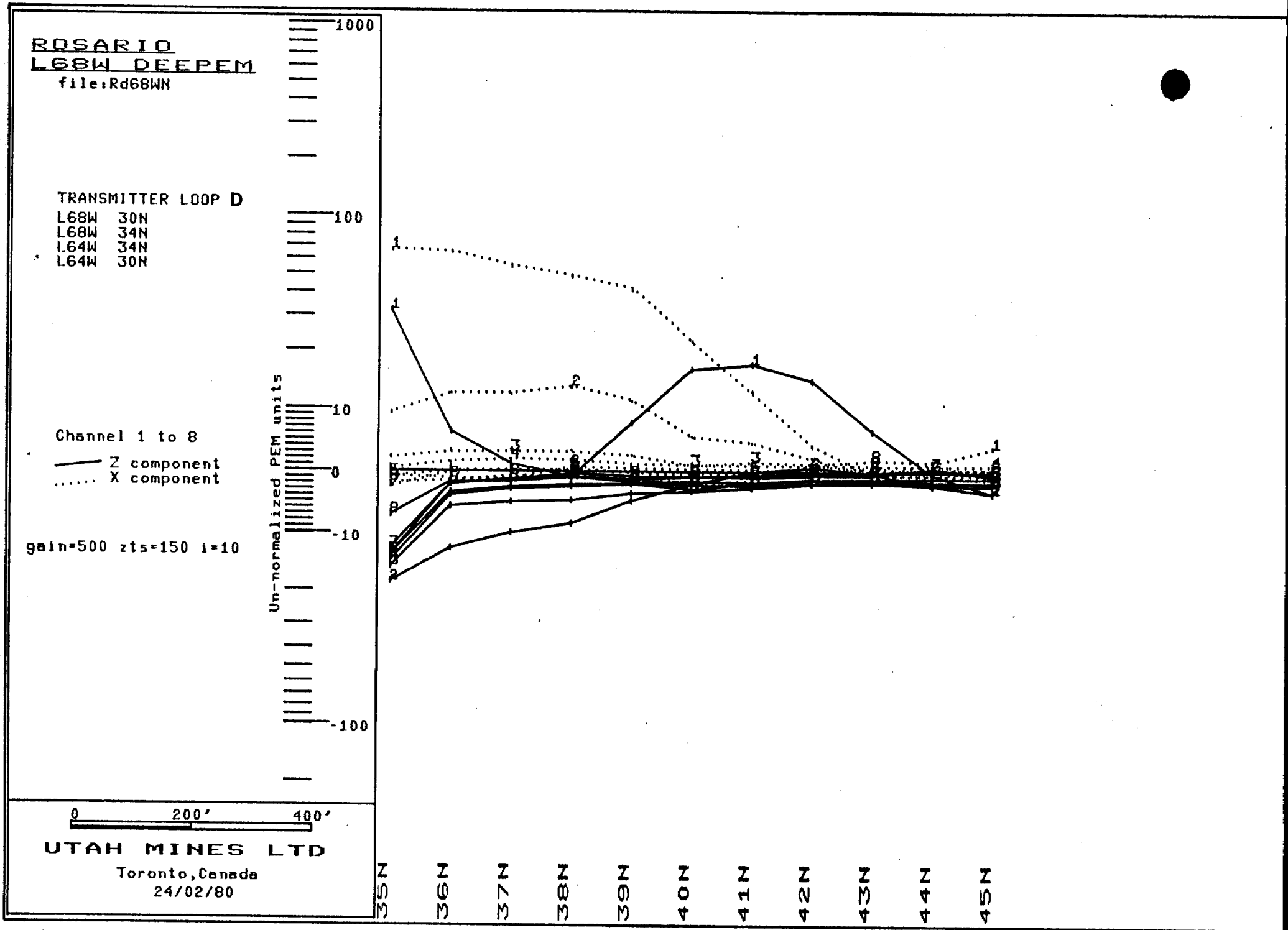
ROSARIO
L68W DEEPEM
file:Rd68WN
TRANSMITTER LOOP D
L68W 30N
L68W 34N
L64W 34N
L64W 30N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
24/02/80
35N
36N
37N
38N
39N
40N
41N
42N
43N
44N
45N

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ROSARIO
L68W DEEPEM

file:RD68WN

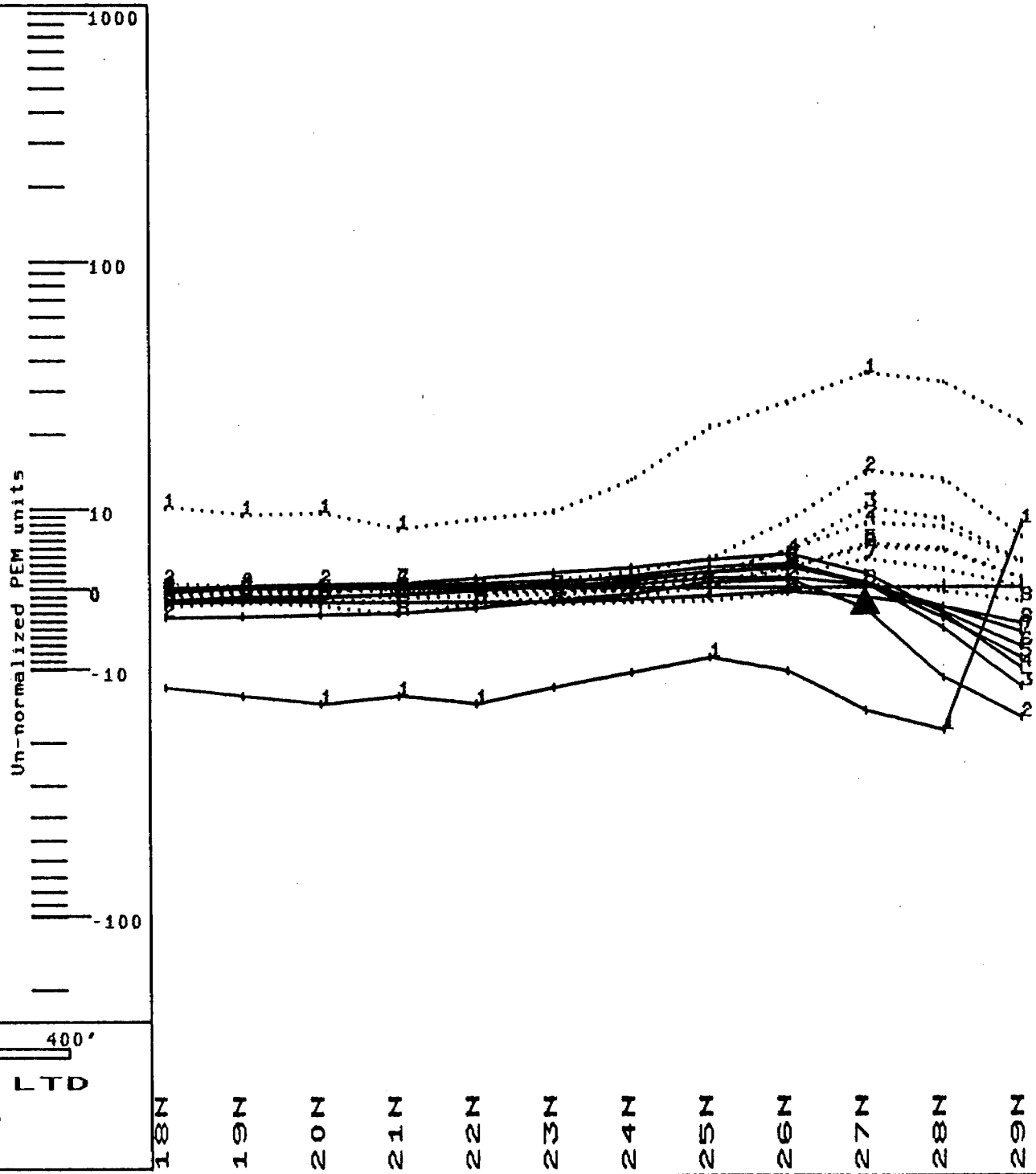
TRANSMITTER LOOP **D**

L68W 30N
L68W 34N
L64W 34N
L64W 30N

Channel 1 to 8

—— Z component
..... X component

gain=500 zts=150 i=10



0 200' 400'

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24/02/80

ROSARIO
L100N DEEPEM

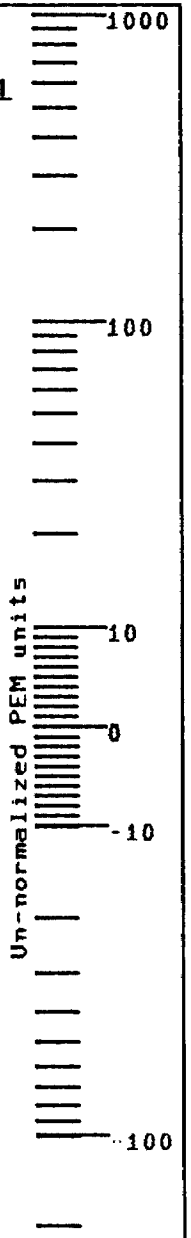
file:R100NE

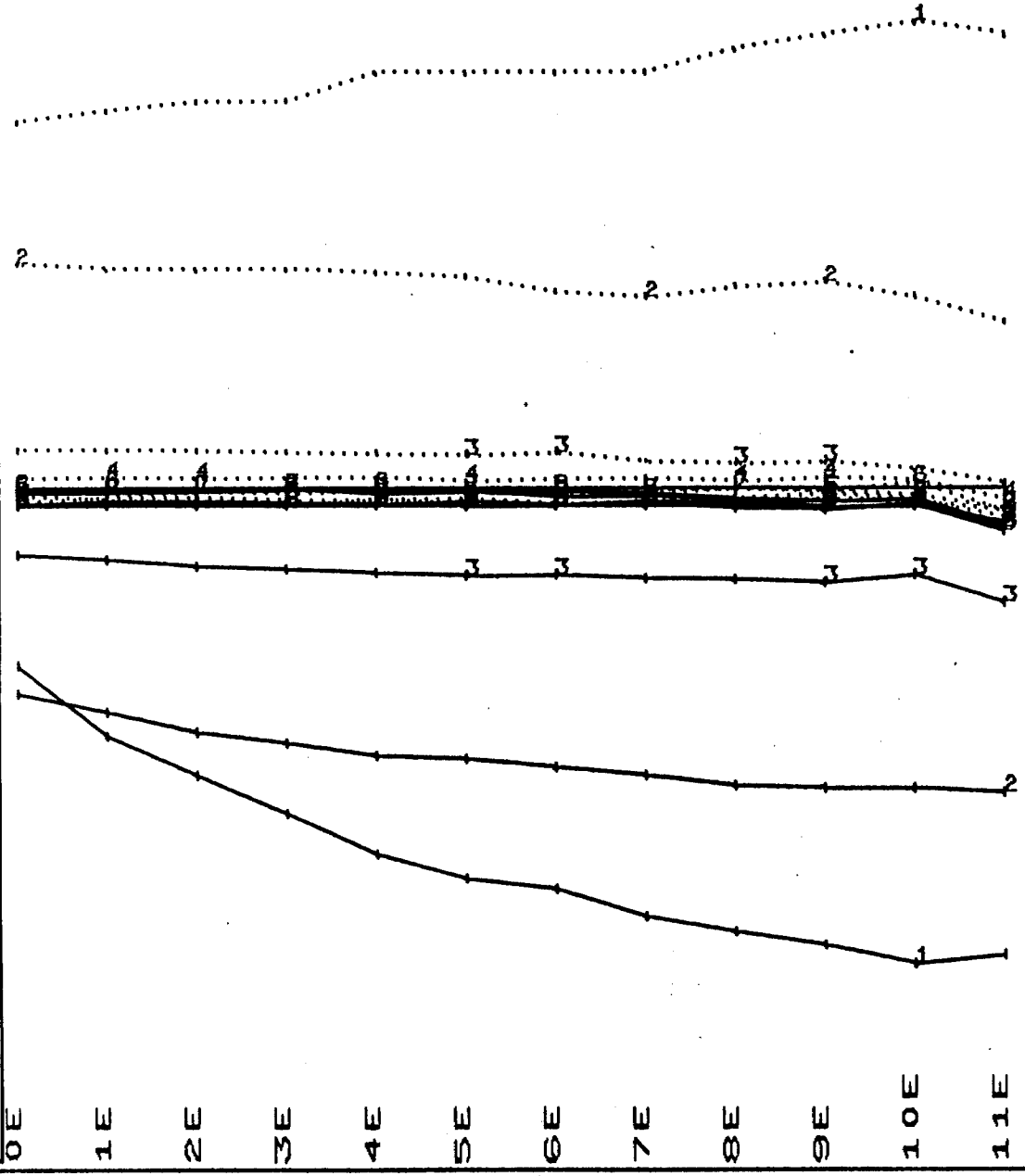
TRANSMITTER LOOP
L96N 10E
L100N 10E
L100N 12E
L96N 12E

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10





0 200' 400'

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Toronto, Canada
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ROSARIO
L96N DEEPEM

file:RE96NE

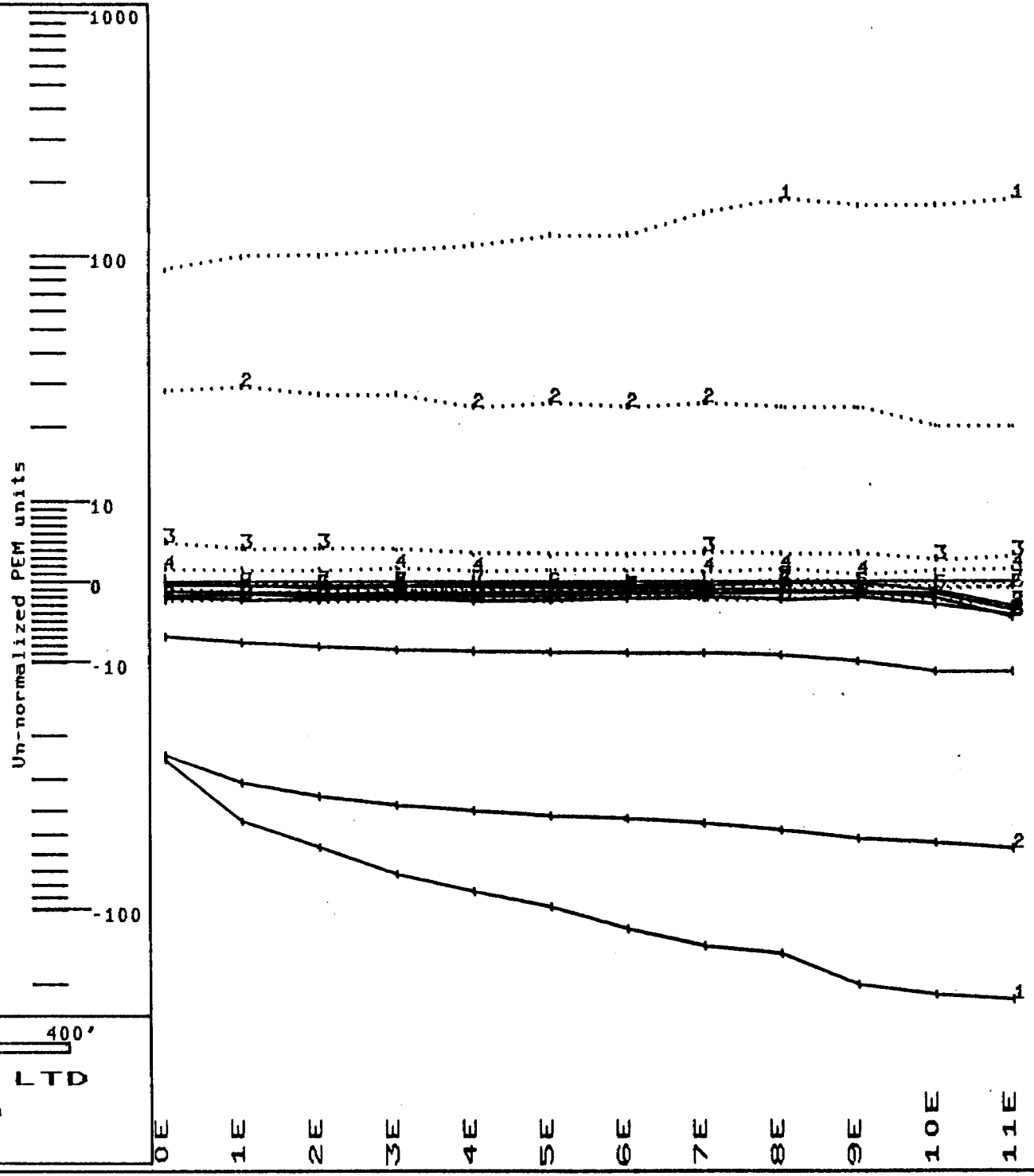
TRANSMITTER LOOP E

L96N 10E
L100N 10E
L100N 12E
L96N 12E

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10



0 200' 400'

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Toronto, Canada

22/02/80

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ROSARIO
L64N DEEPEM

file:RF64NW

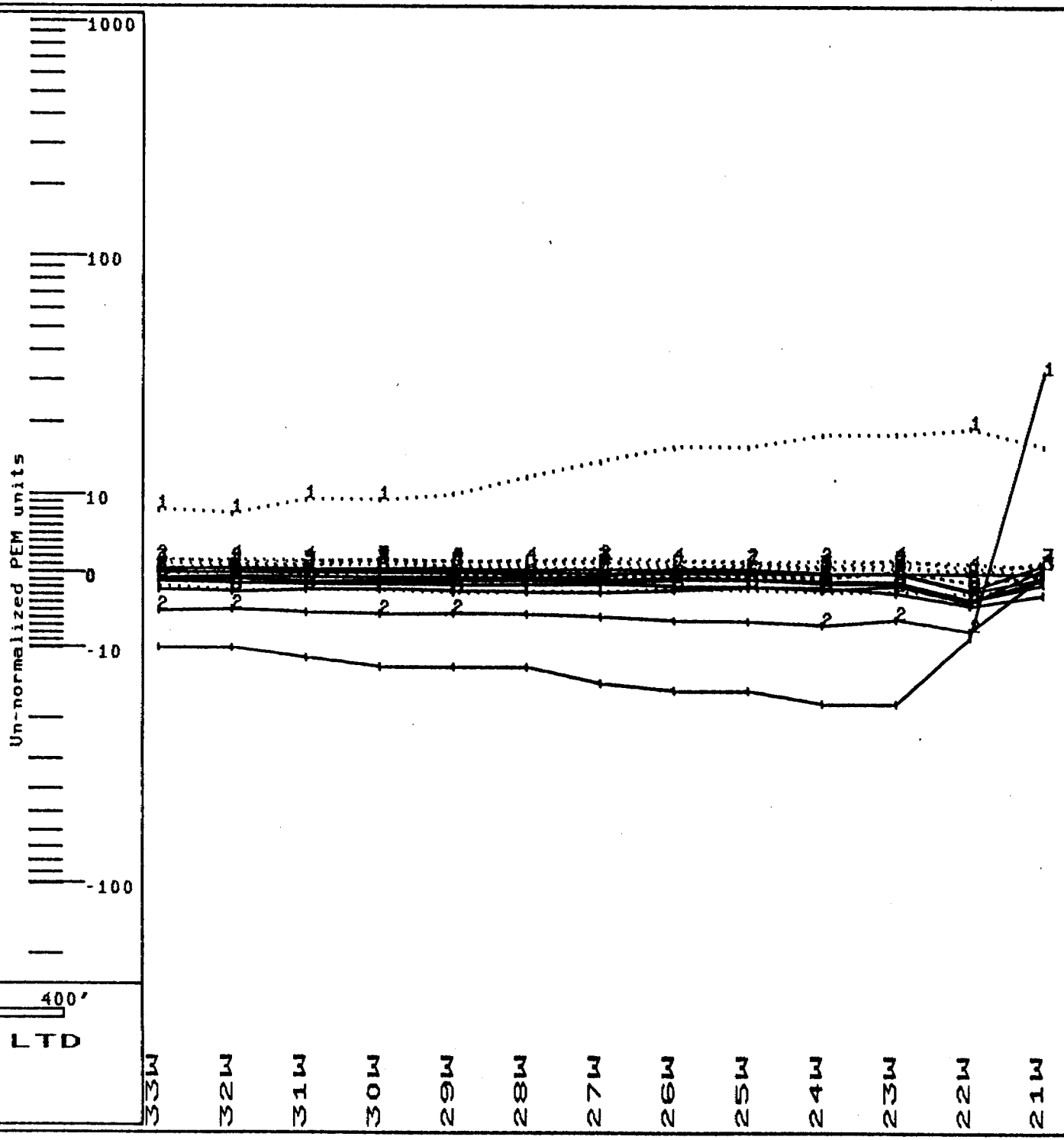
TRANSMITTER LOOP F

L60N 16W
L64N 16W
L64N 20W
L60N 20W

Channel 1 to 8

—— Z component
..... X component

gain=50 zts=150 i=10



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UTAH MINES LTD

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20/02/80

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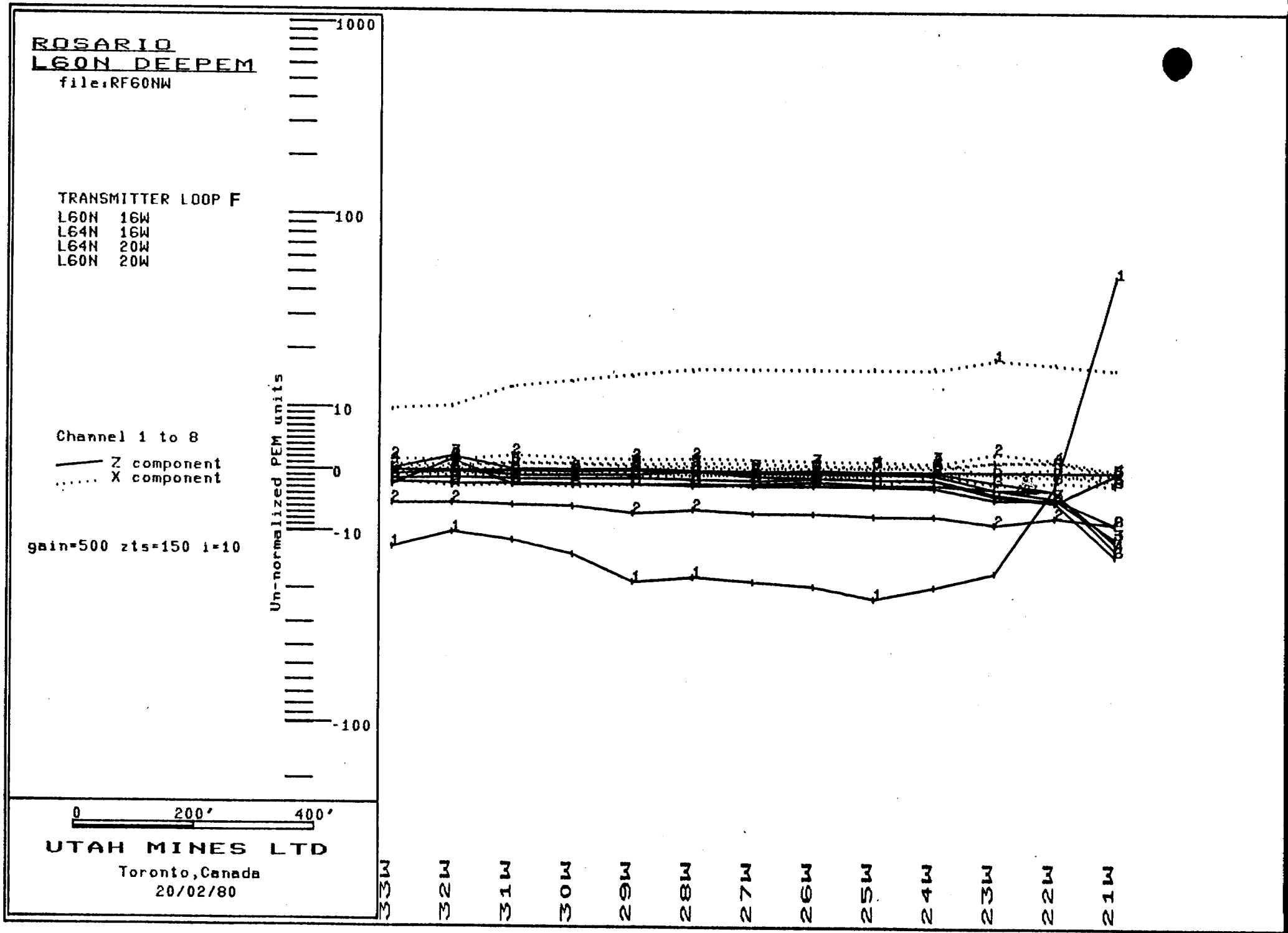
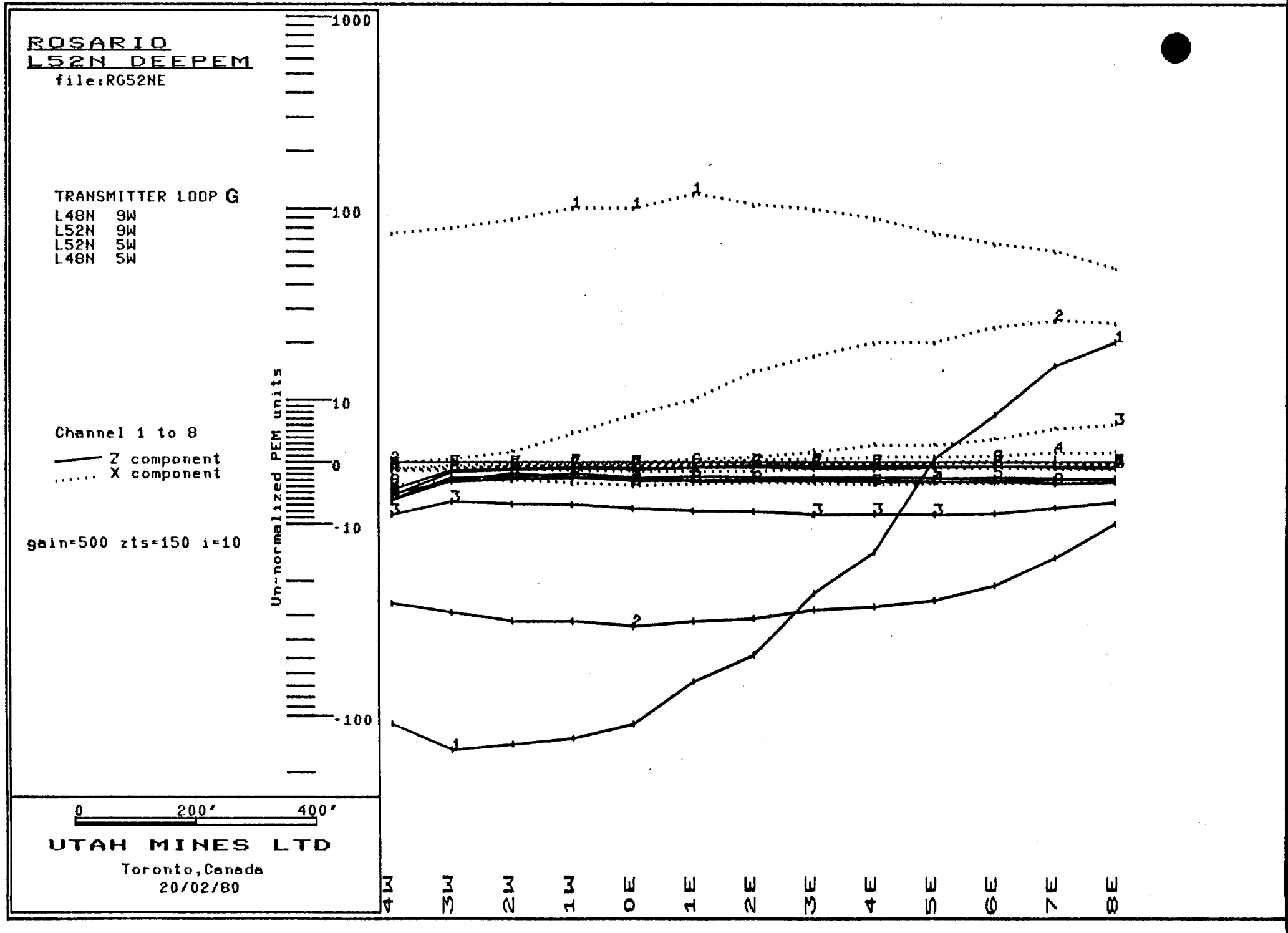
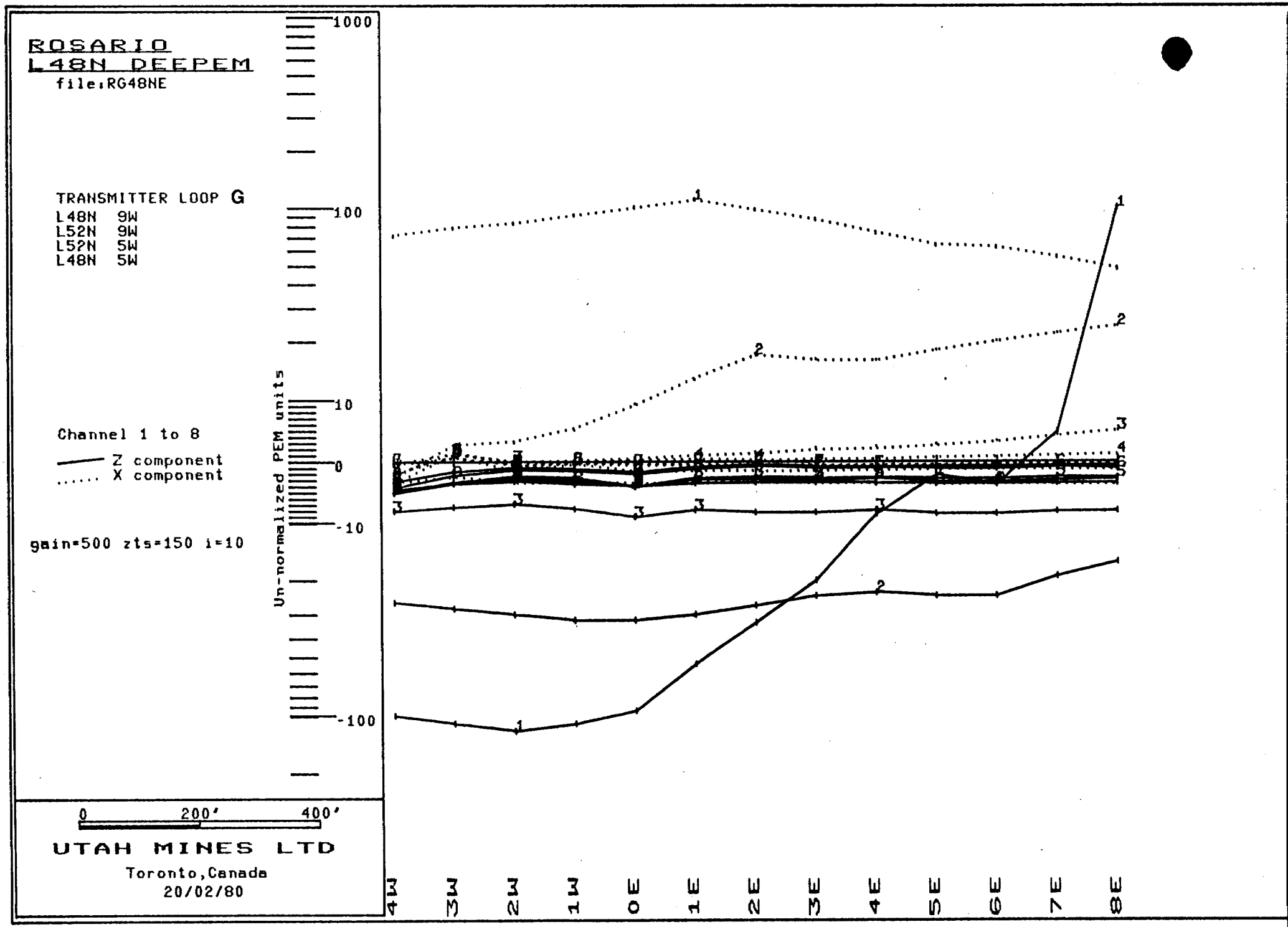
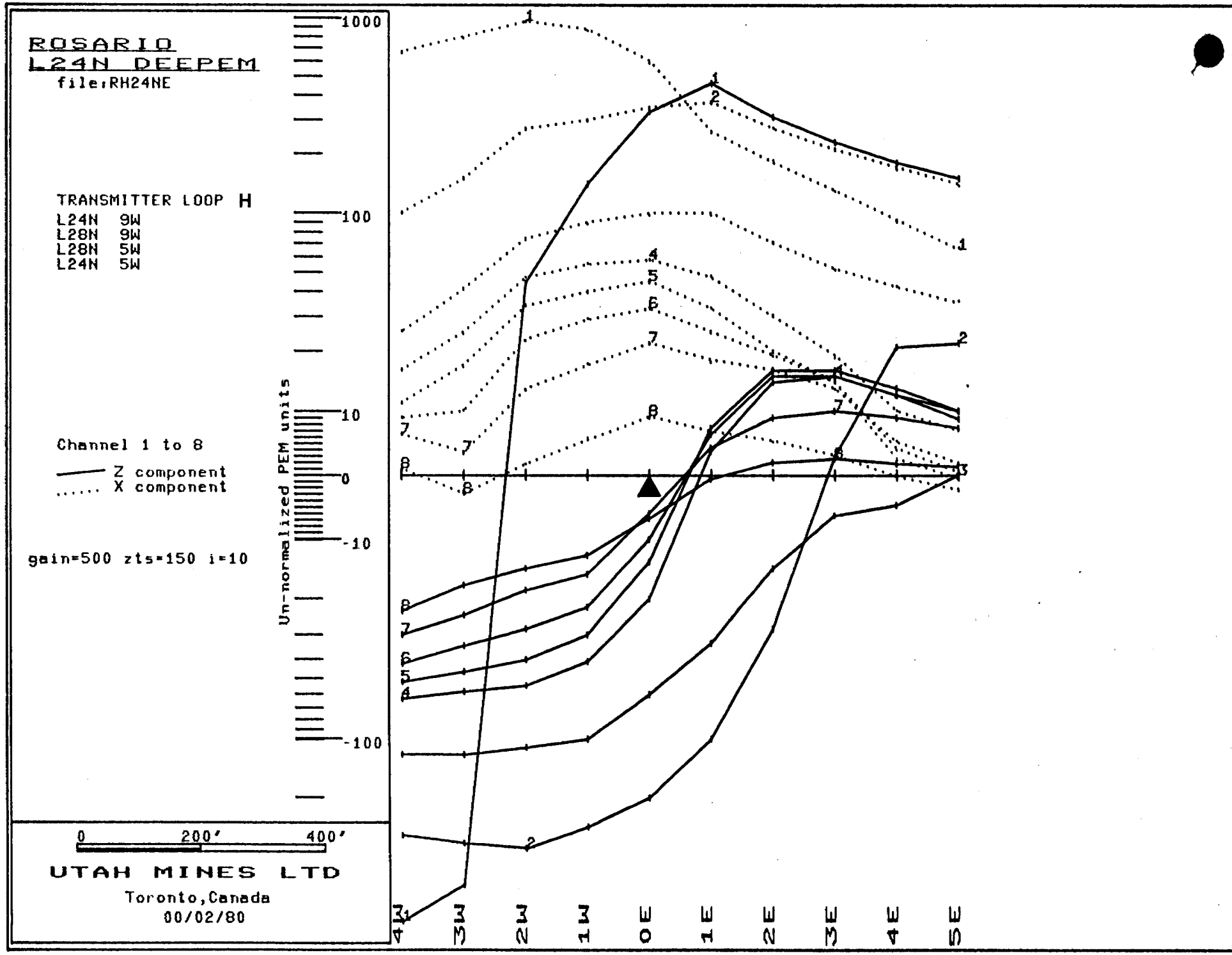
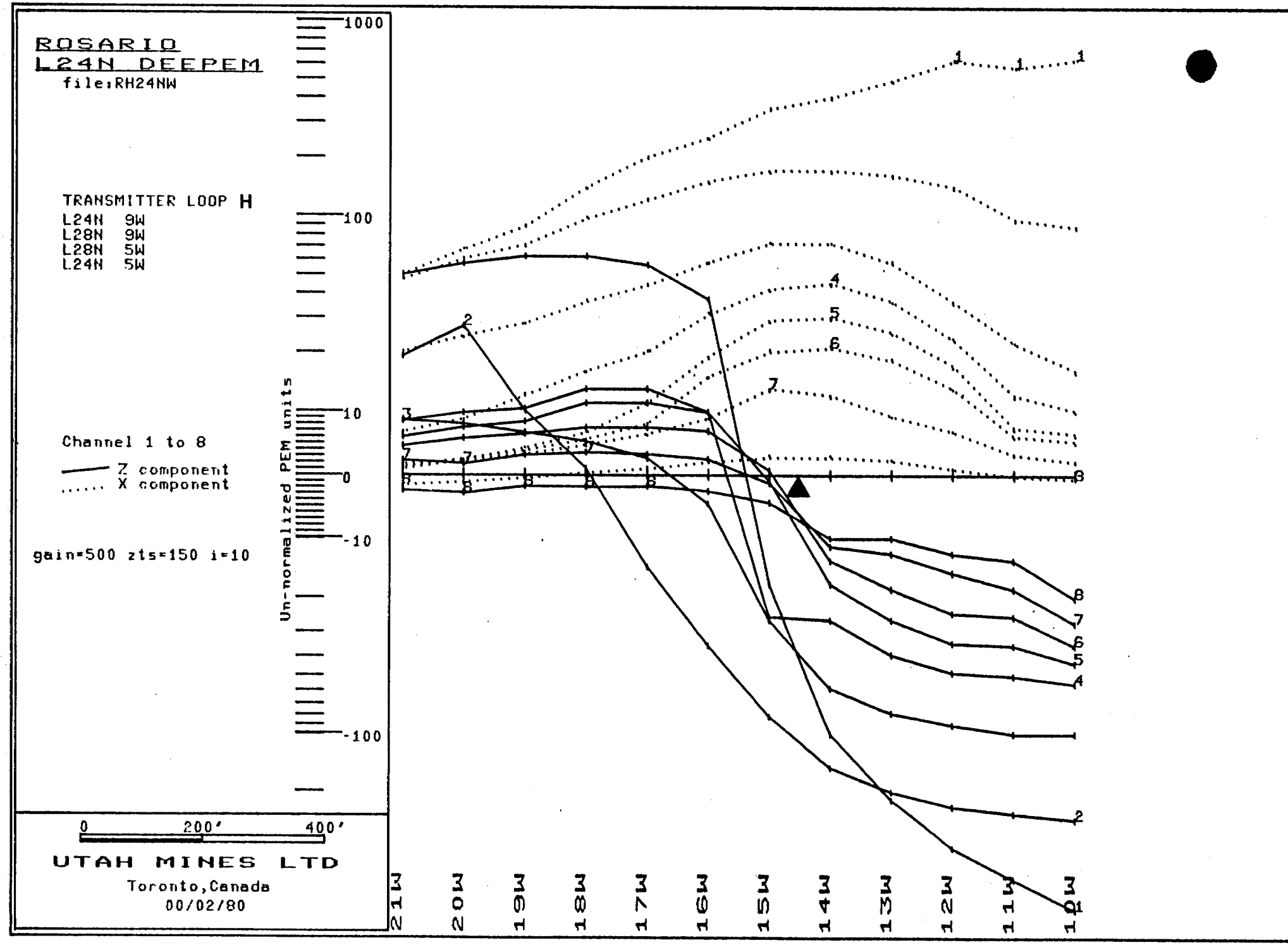

ROSARIO
L60N DEEPEM
file:RF60NW
TRANSMITTER LOOP F
L60N 16W
L64N 16W
L64N 20W
L60N 20W
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
20/02/80
33W
32W
31W
30W
29W
28W
27W
26W
25W
24W
23W
22W
21W

24695


ROSARIO
L52N DEEPEM
file:RG52NE
TRANSMITTER LOOP G
L48N 9W
L52N 9W
L52N 5W
L48N 5W
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
1000
100
10
0
-10
-100
Un-normalized PEM units
0
200'
400'
UTAH MINES LTD
Toronto,Canada
20/02/80
4W
3W
2W
1W
0E
1E
2E
3E
4E
5E
6E
7E
8E


ROSARIO
L48N DEEPEM
file:RG48NE
TRANSMITTER LOOP G
L48N 9W
L52N 9W
L52N 5W
L48N 5W
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
1000
100
10
0
-10
-100
Un-normalized PEM units
0
200'
400'
UTAH MINES LTD
Toronto,Canada
20/02/80
4W
3W
2W
1W
0E
1E
2E
3E
4E
5E
6E
7E
8E


ROSARIO
L24N DEEPEM
file:RH24NE
TRANSMITTER LOOP H
L24N 9W
L28N 9W
L28N 5W
L24N 5W
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
00/02/80
4W
3W
2W
1W
0E
1E
2E
3E
4E
5E


ROSARIO
L24N DEEPEM
file:RH24NW
TRANSMITTER LOOP H
L24N 9W
L28N 9W
L28N 5W
L24N 5W
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
00/02/80
21W
20W
19W
18W
17W
16W
15W
14W
13W
12W
11W
10W

ROSARIO
L26N DEEPEM

file:RH26NW

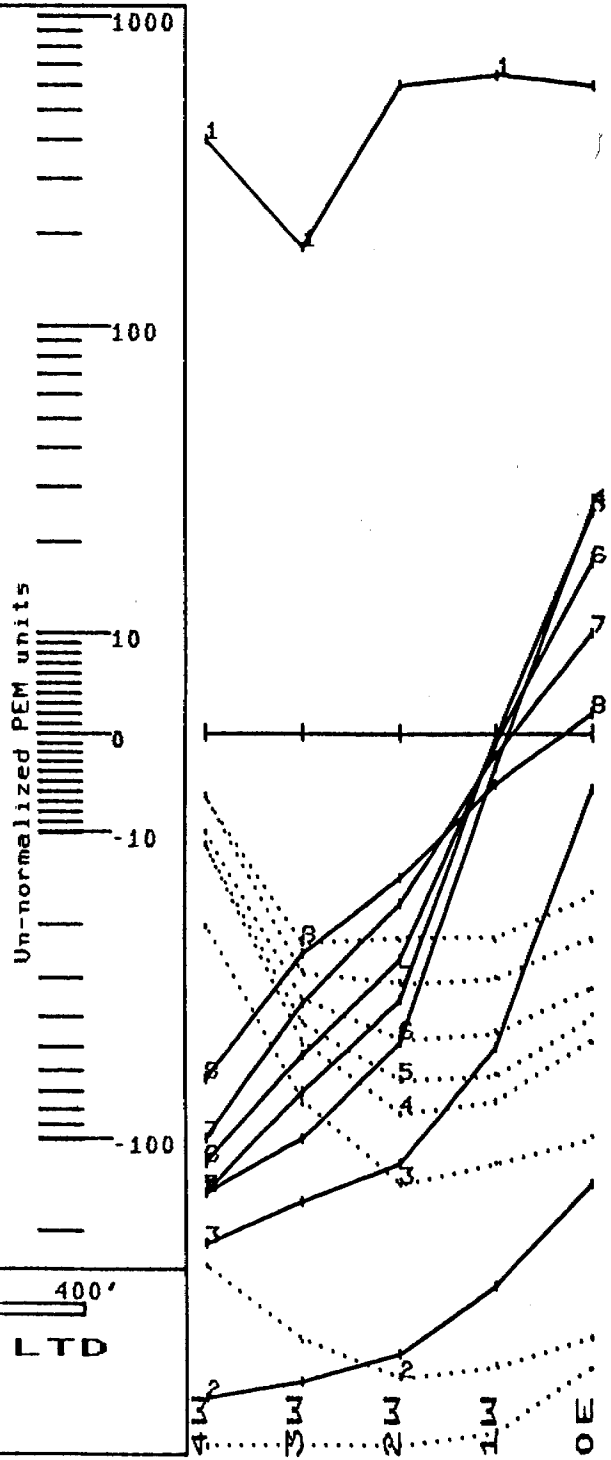
TRANSMITTER LOOP H

L24N 9W
L28N 9W
L26N 5W
L24N 5W

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10



0 200' 400'

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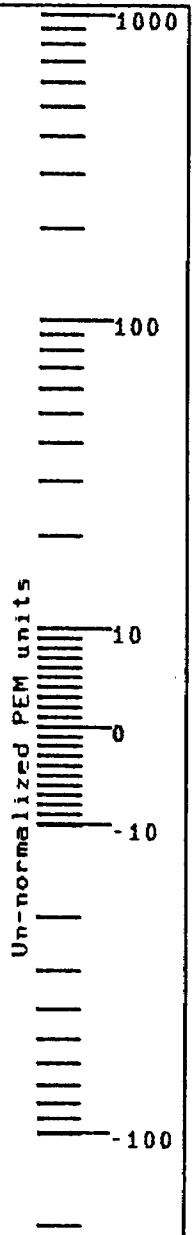
ROSARIO
L26N DEEPEM
file:Rh26NW

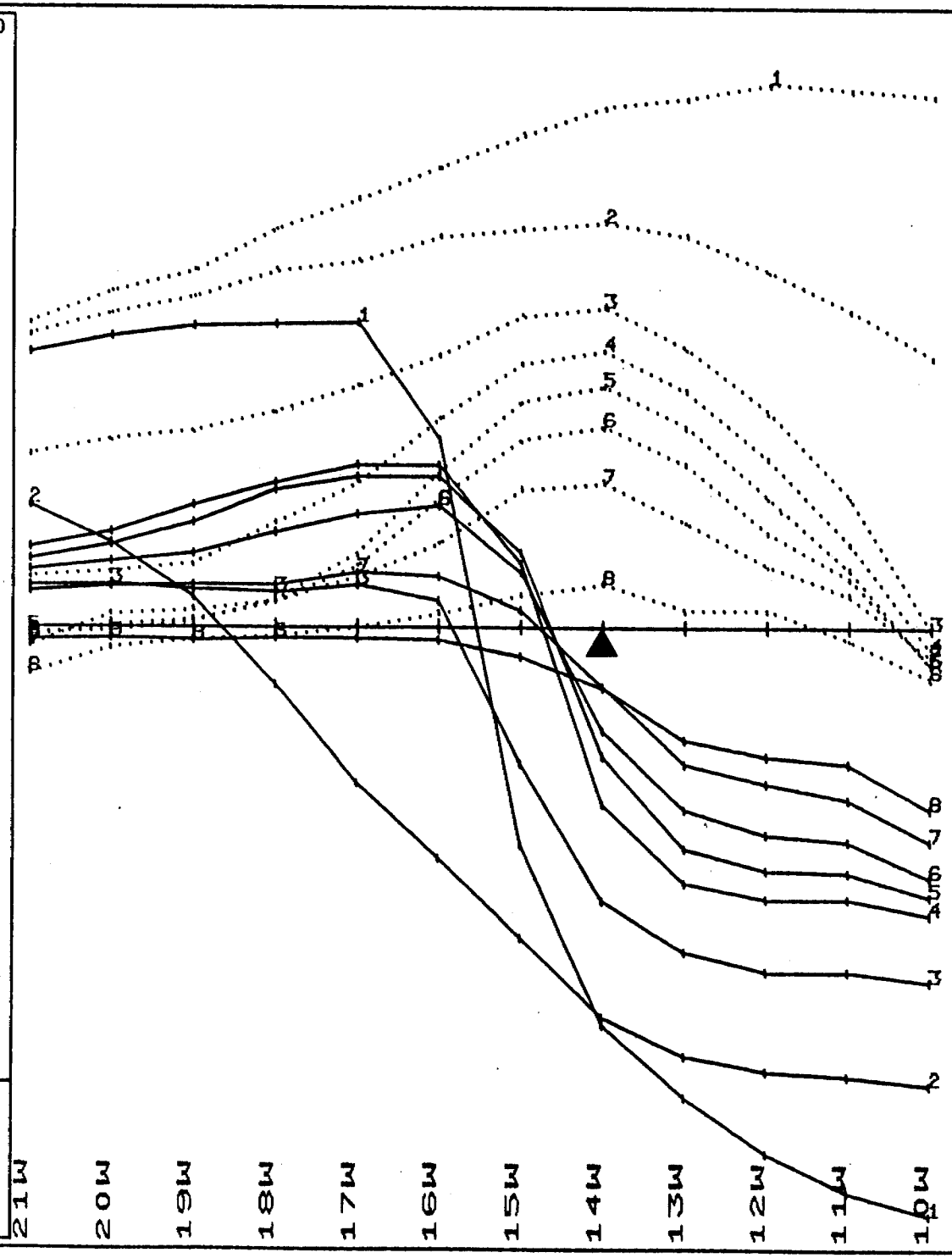
TRANSMITTER LOOP H
L24N 9W
L28N 9W
L28N 5W
L24N 5W

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10





0 200' 400'

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Toronto,Canada
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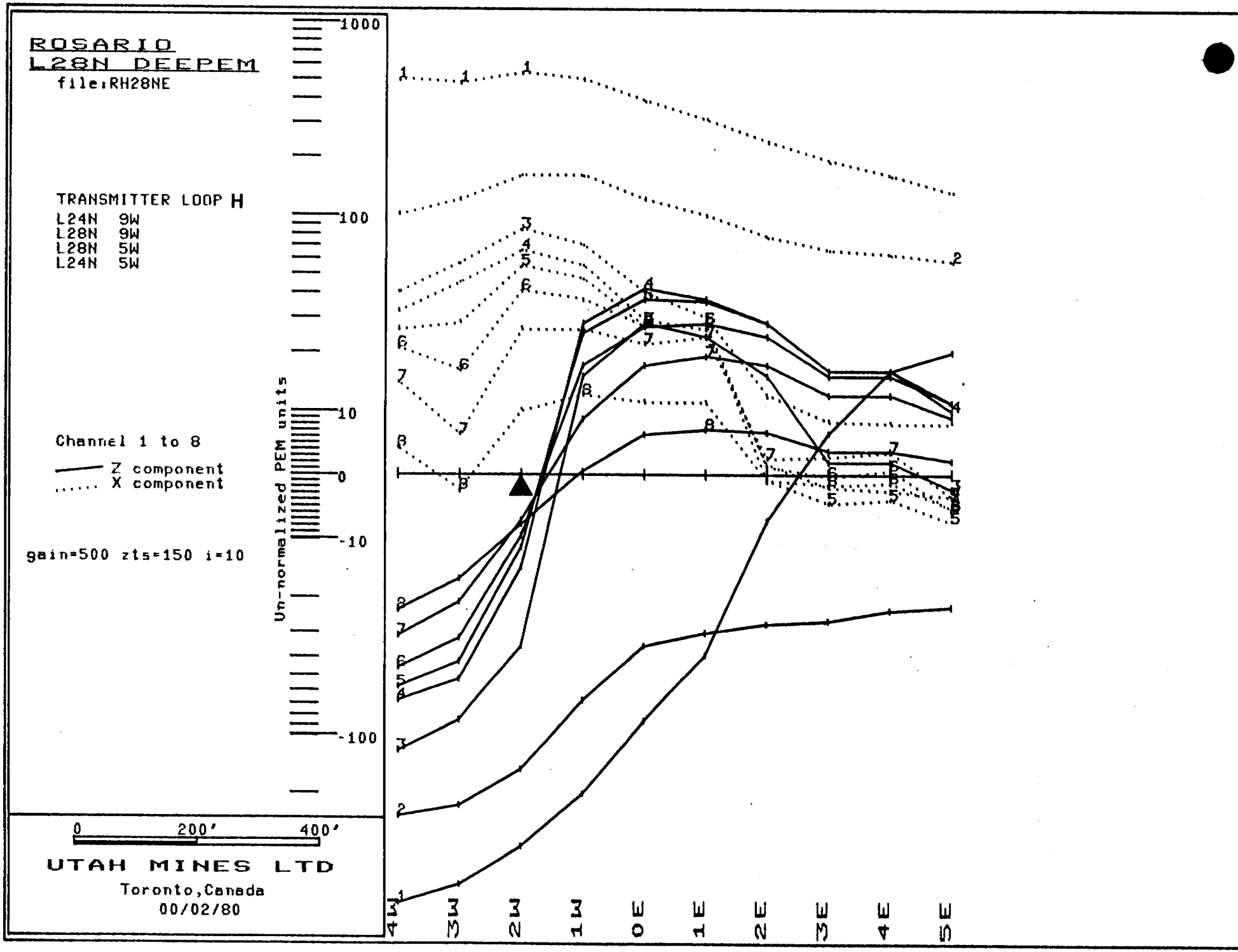
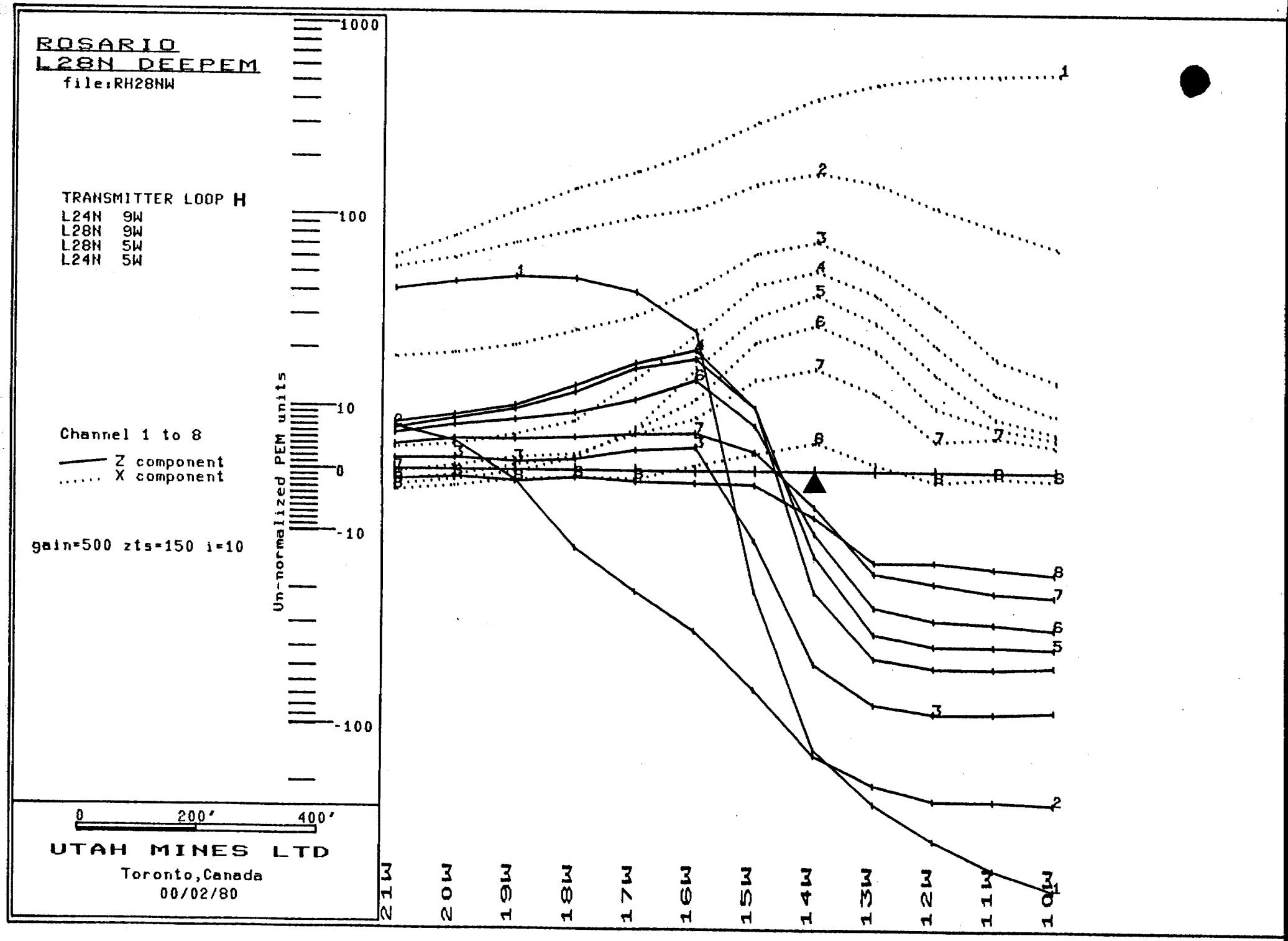
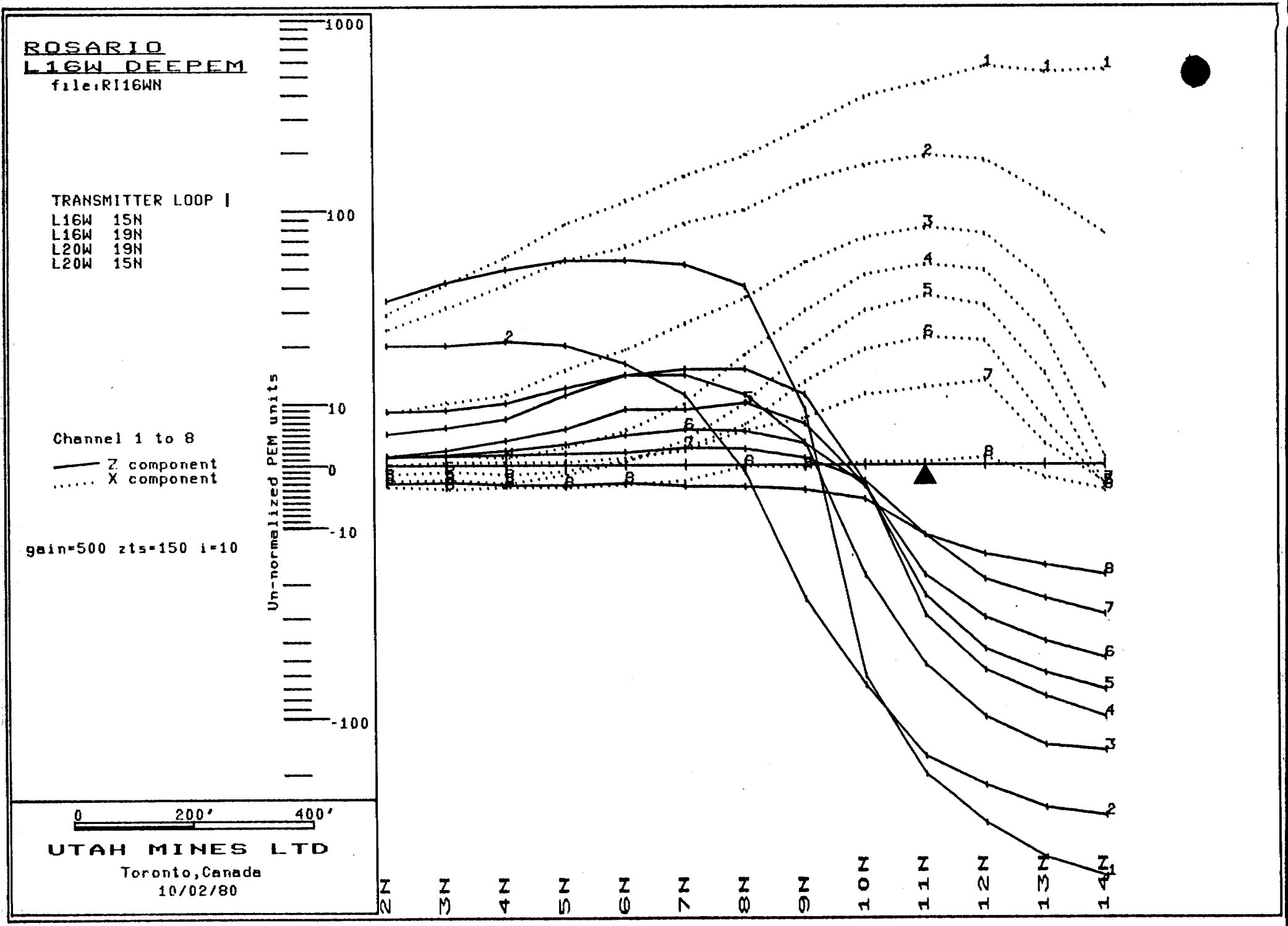
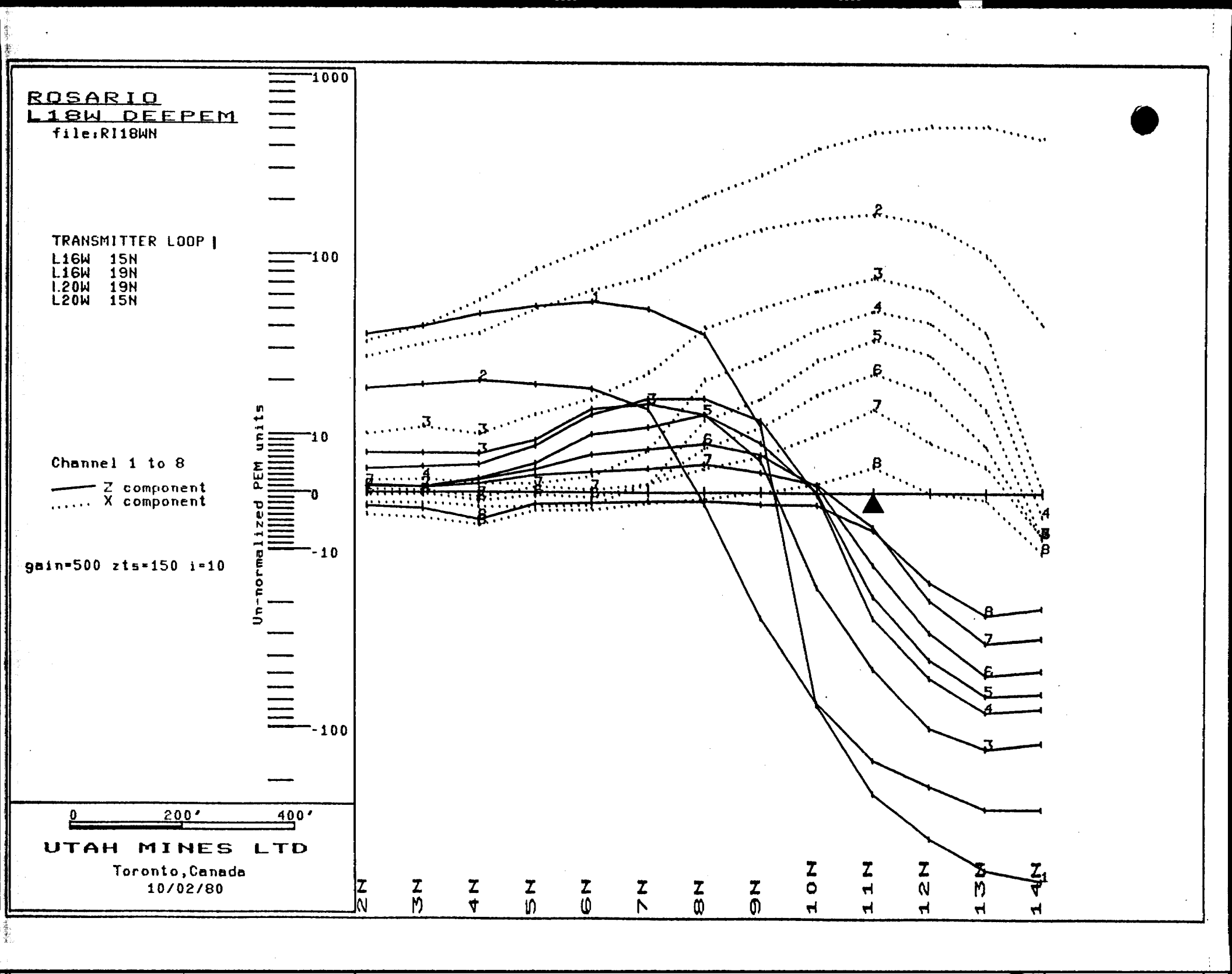
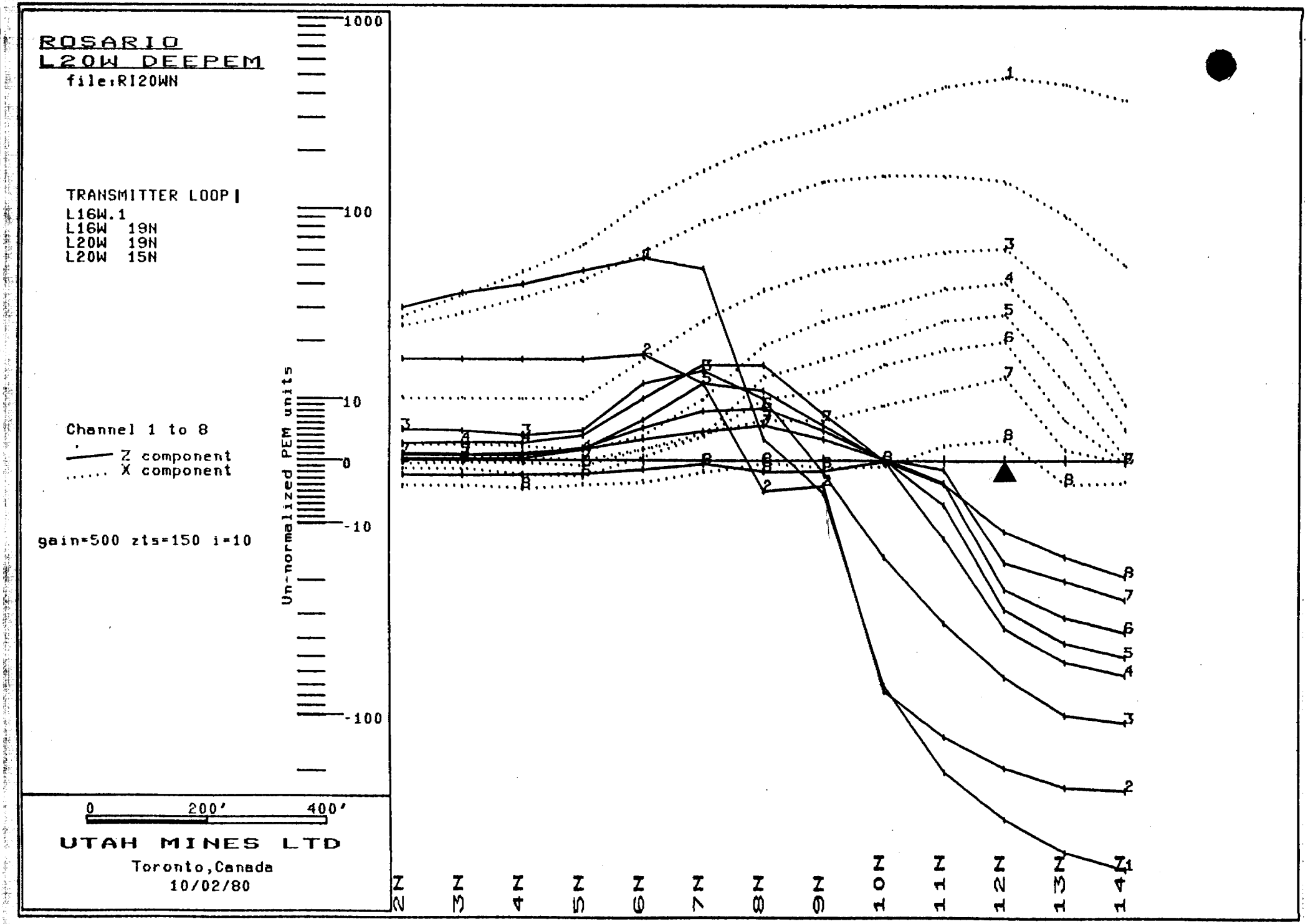
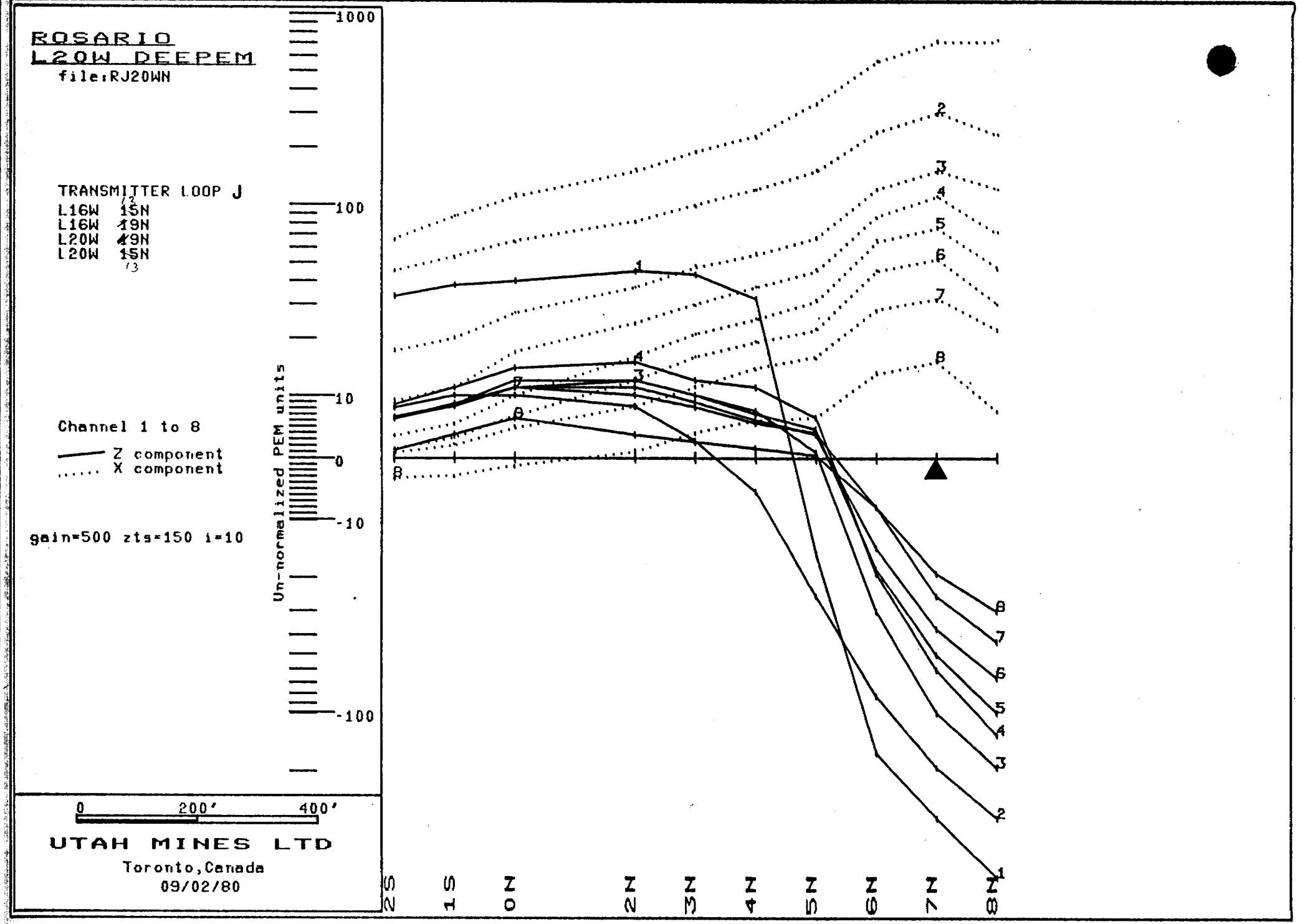

ROSARIO
L28N DEEPEM
file:RH28NE
TRANSMITTER LOOP H
L24N 9W
L28N 9W
L28N 5W
L24N 5W
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
00/02/80
4W
3W
2W
1W
0E
1E
2E
3E
4E
5E

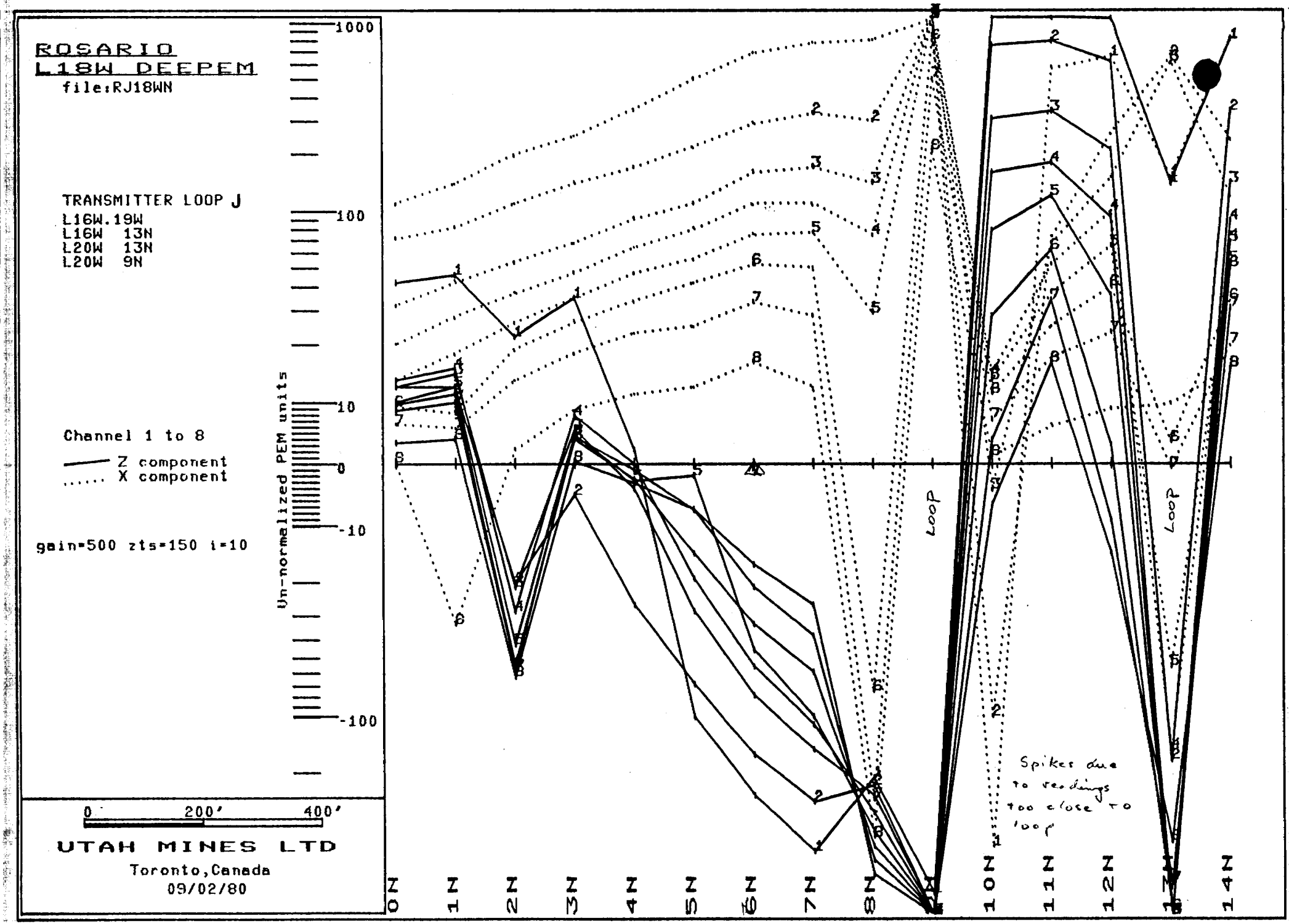

ROSARIO
L28N DEEPEM
file:RH28NW
TRANSMITTER LOOP H
L24N 9W
L28N 9W
L28N 5W
L24N 5W
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
00/02/80
21W
20W
19W
18W
17W
16W
15W
14W
13W
12W
11W
10W

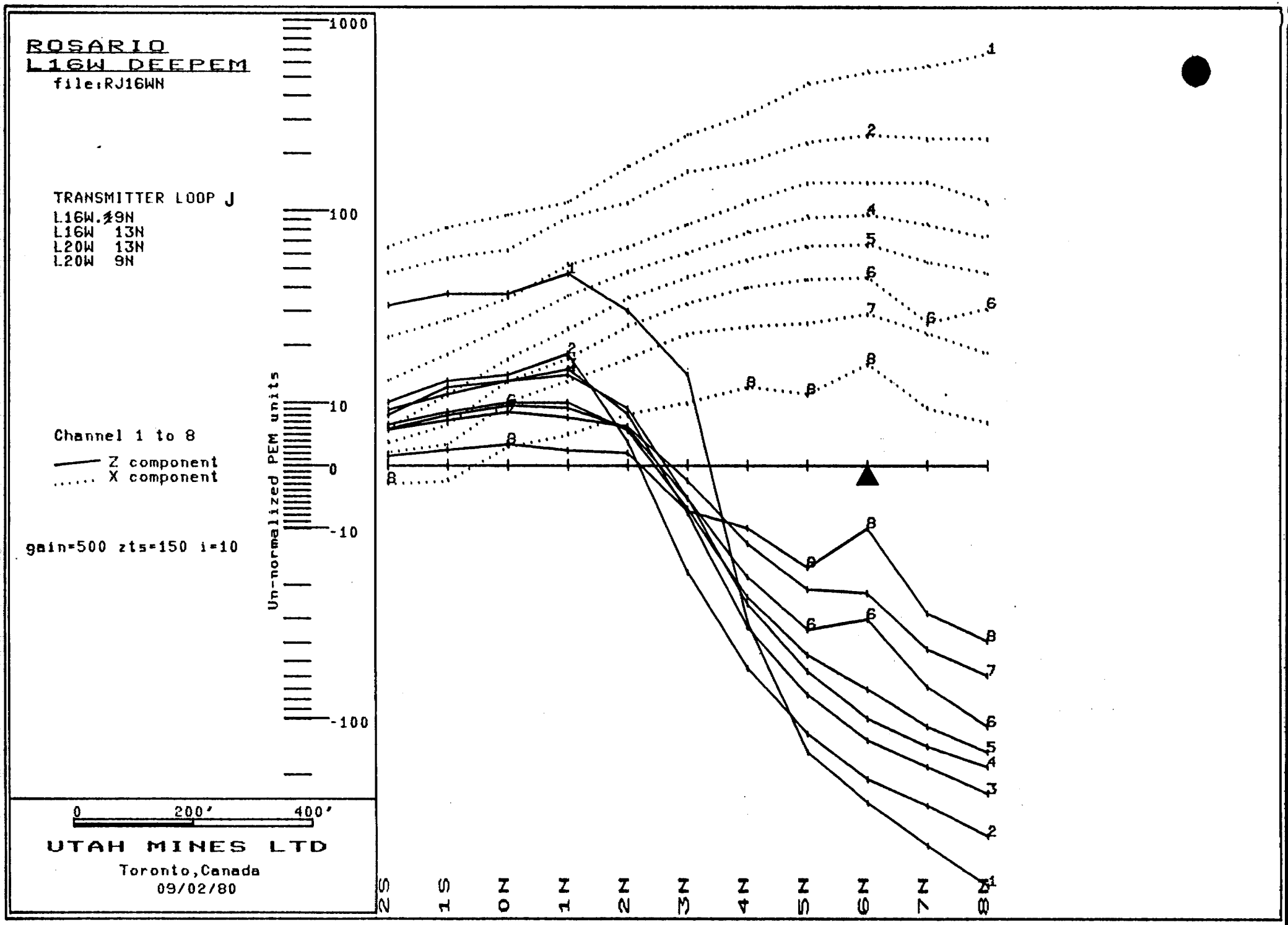

ROSARIO
L16W DEEPEM
file:RI16WN
TRANSMITTER LOOP
L16W 15N
L16W 19N
L20W 19N
L20W 15N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
10/02/80
2N
3N
4N
5N
6N
7N
8N
9N
10N
11N
12N
13N
14N

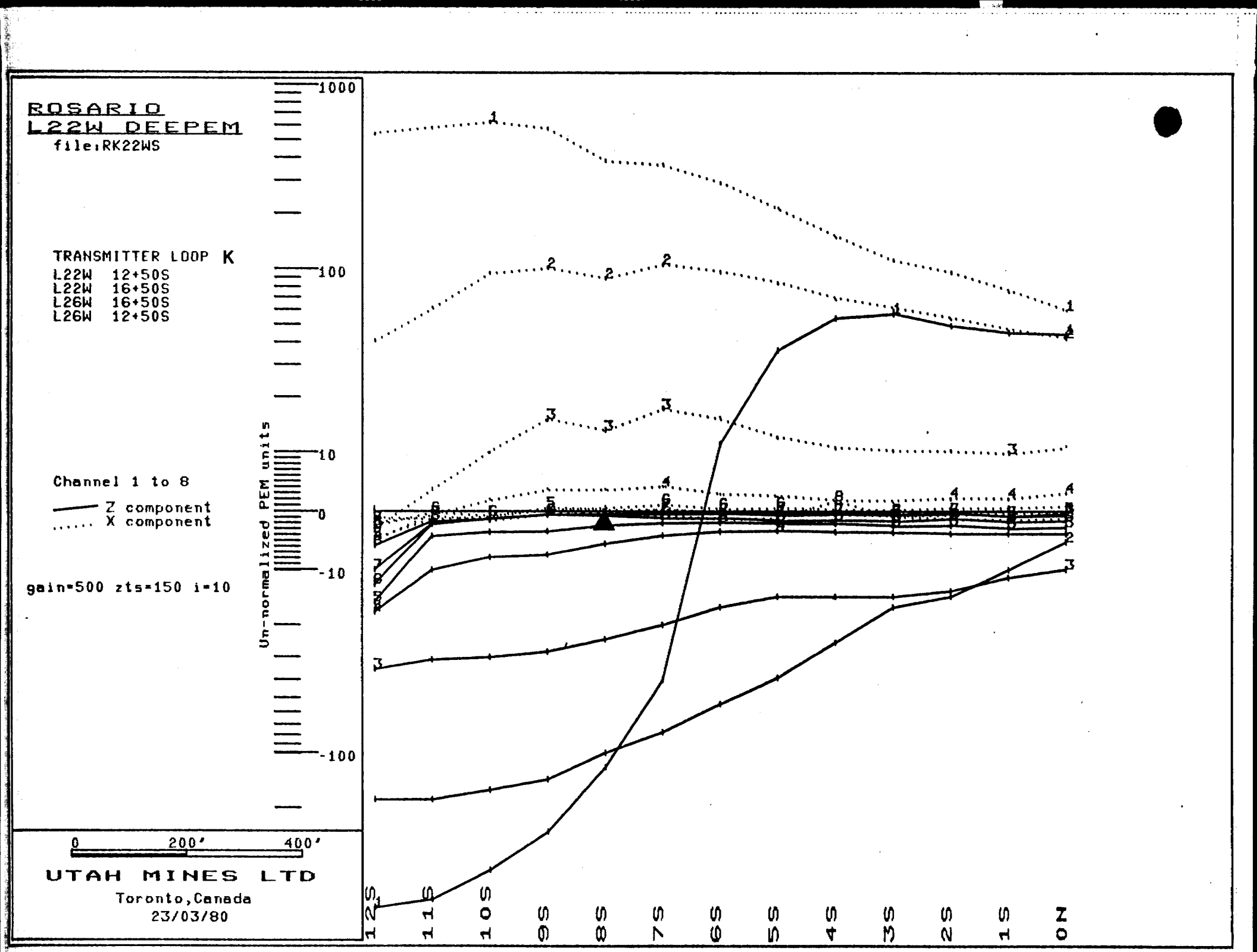

ROSARIO
L18W DEEPEM
file:RI18WN
TRANSMITTER LOOP
L16W 15N
L16W 19N
L20W 19N
L20W 15N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
10/02/80
2N
3N
4N
5N
6N
7N
8N
9N
10N
11N
12N
13N
14N

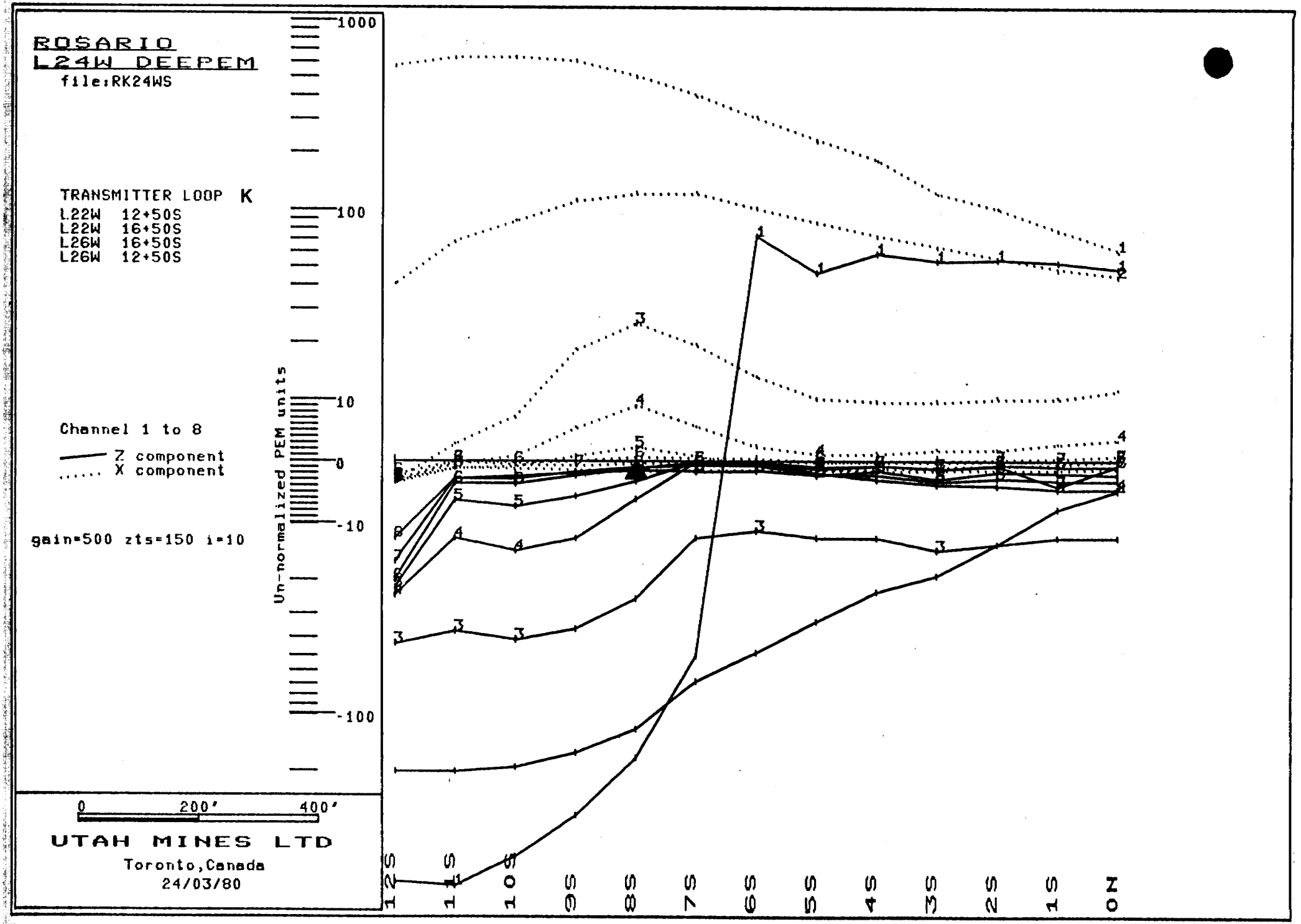

ROSARIO
L20W DEEPEM
file:RI20WN
TRANSMITTER LOOP
L16W.1
L16W 19N
L20W 19N
L20W 15N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
1000
100
10
0
-10
-100
Un-normalized PEM units
0
200'
400'
UTAH MINES LTD
Toronto,Canada
10/02/80
2N
3N
4N
5N
6N
7N
8N
9N
10N
11N
12N
13N
14N

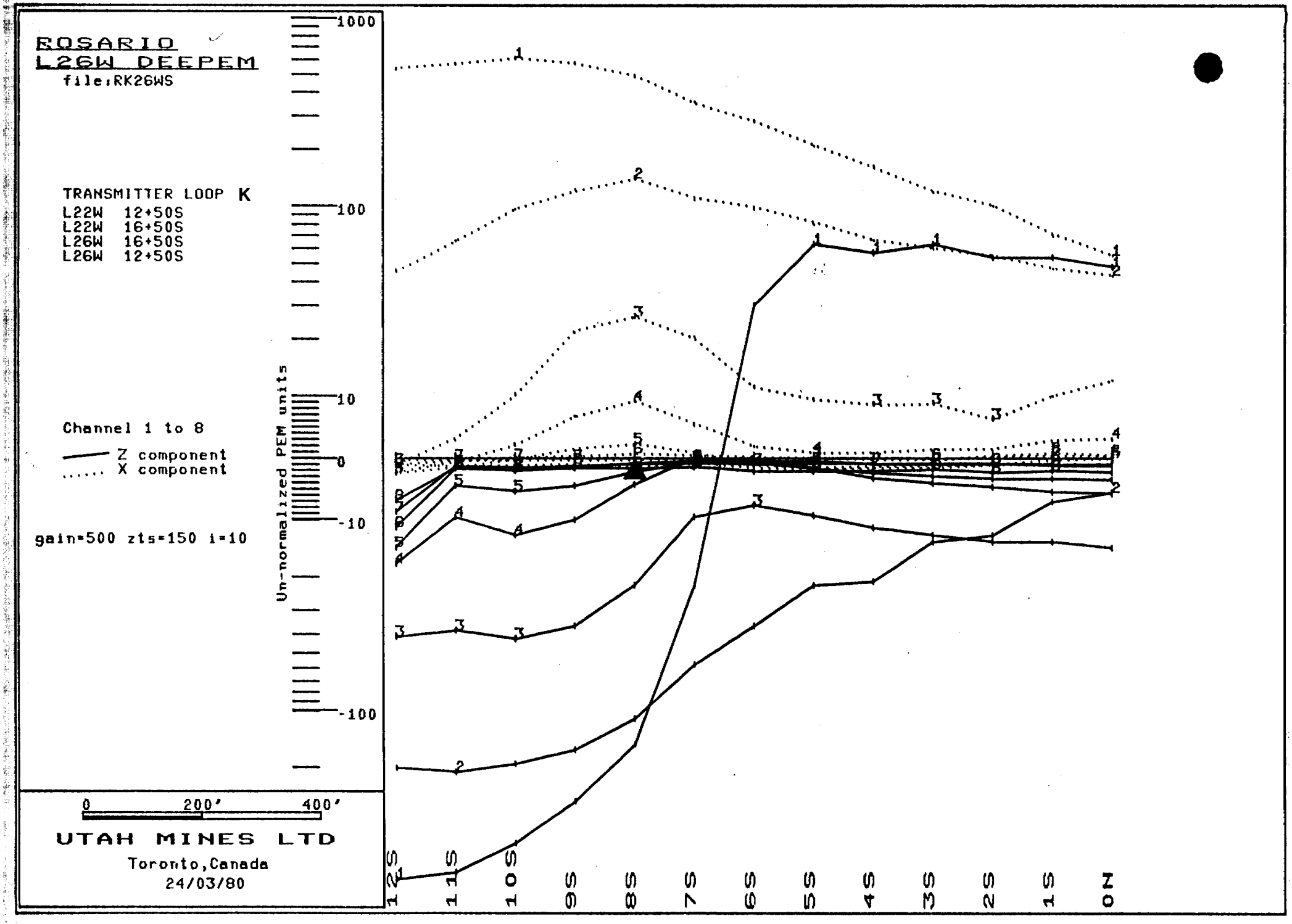

ROSARIO
L20W DEEPEM
file:RJ20WN
TRANSMITTER LOOP J
L16W 15N
L16W 19N
L20W 19N
L20W 15N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
1000
100
10
0
-10
-100
Un-normalized PEM units
0 200' 400'
UTAH MINES LTD
Toronto,Canada
09/02/80
2S
1S
0
2
3
4
5
6
7
8


ROSARIO
L18W DEEPEM
file:RJ18WN
TRANSMITTER LOOP J
L16W.19W
L16W 13N
L20W 13N
L20W 9N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0 200' 400'
UTAH MINES LTD
Toronto,Canada
09/02/80
LOOP
LOOP
Spikes due to readings too close to loop
0N
1N
2N
3N
4N
5N
6N
7N
8N
10N
11N
12N
13N
14N


ROSARIO
L16W DEEPEM
file:RJ16WN
TRANSMITTER LOOP J
L16W 9N
L16W 13N
L20W 13N
L20W 9N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0 200' 400'
UTAH MINES LTD
Toronto,Canada
09/02/80
2S 1S 0 1 2 3 4 5 6 7 8


ROSARIO
L22W DEEPEM
file:RK22WS
TRANSMITTER LOOP K
L22W 12+50S
L22W 16+50S
L26W 16+50S
L26W 12+50S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
23/03/80
12S
11S
10S
9S
8S
7S
6S
5S
4S
3S
2S
1S
0N


ROSARIO
L24W DEEPEM
file:RK24WS
TRANSMITTER LOOP K
L22W 12+50S
L22W 16+50S
L26W 16+50S
L26W 12+50S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
24/03/80
12S
11S
10S
9S
8S
7S
6S
5S
4S
3S
2S
1S
0N


ROSARIO
L26W DEEPEM
file:RK26WS
TRANSMITTER LOOP K
L22W 12+50S
L22W 16+50S
L26W 16+50S
L26W 12+50S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
24/03/80
12S
11S
10S
9S
8S
7S
6S
5S
4S
3S
2S
1S
0N

ROSARIO
L4W DEEPEM

file:RLL4WN

TRANSMITTER LOOP L

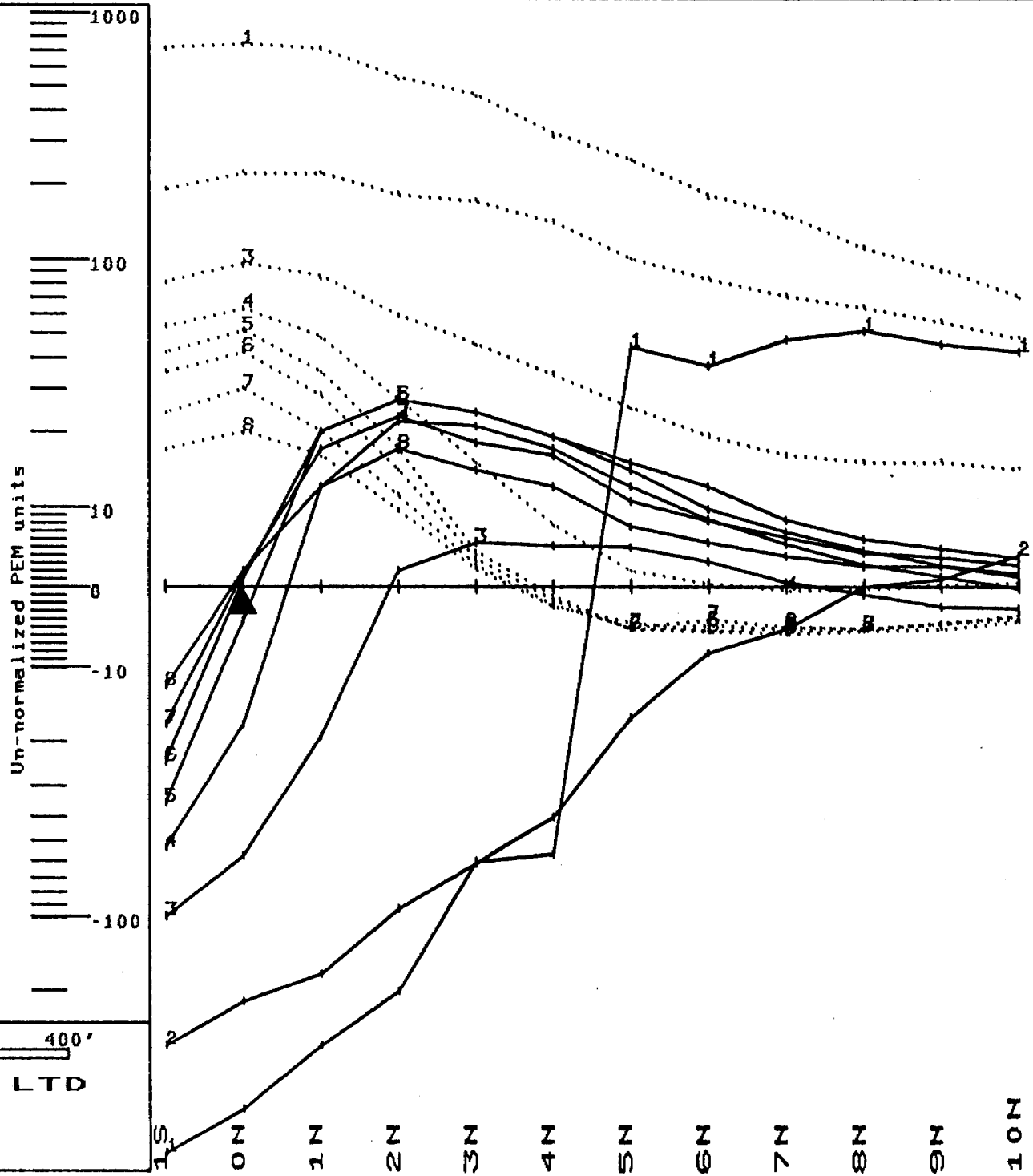
L0	2S
L0	6S
L4W	6S
L4W	2S

Channel 1 to 8

Z component

X component

gain=500 zts=150 i=10

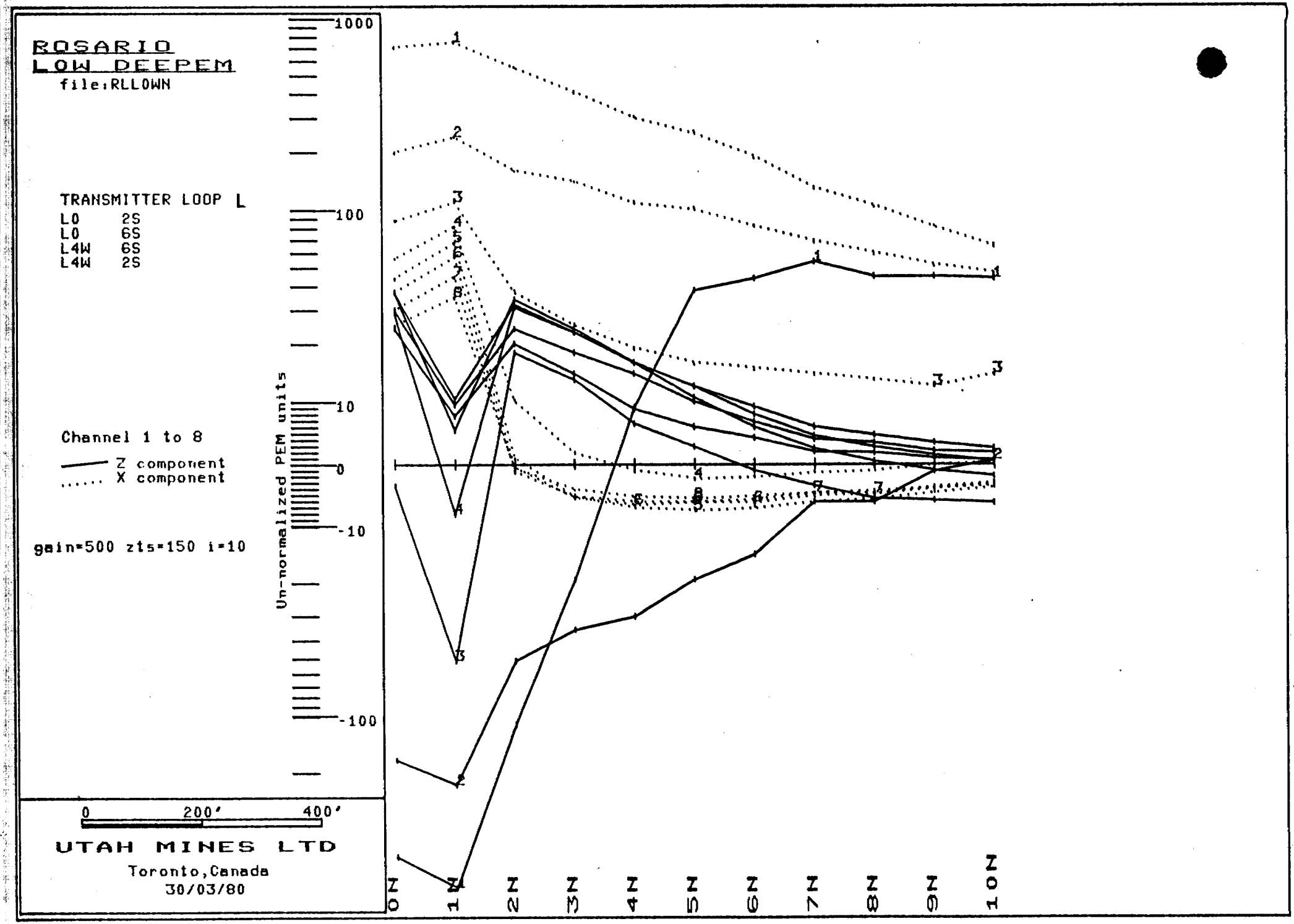


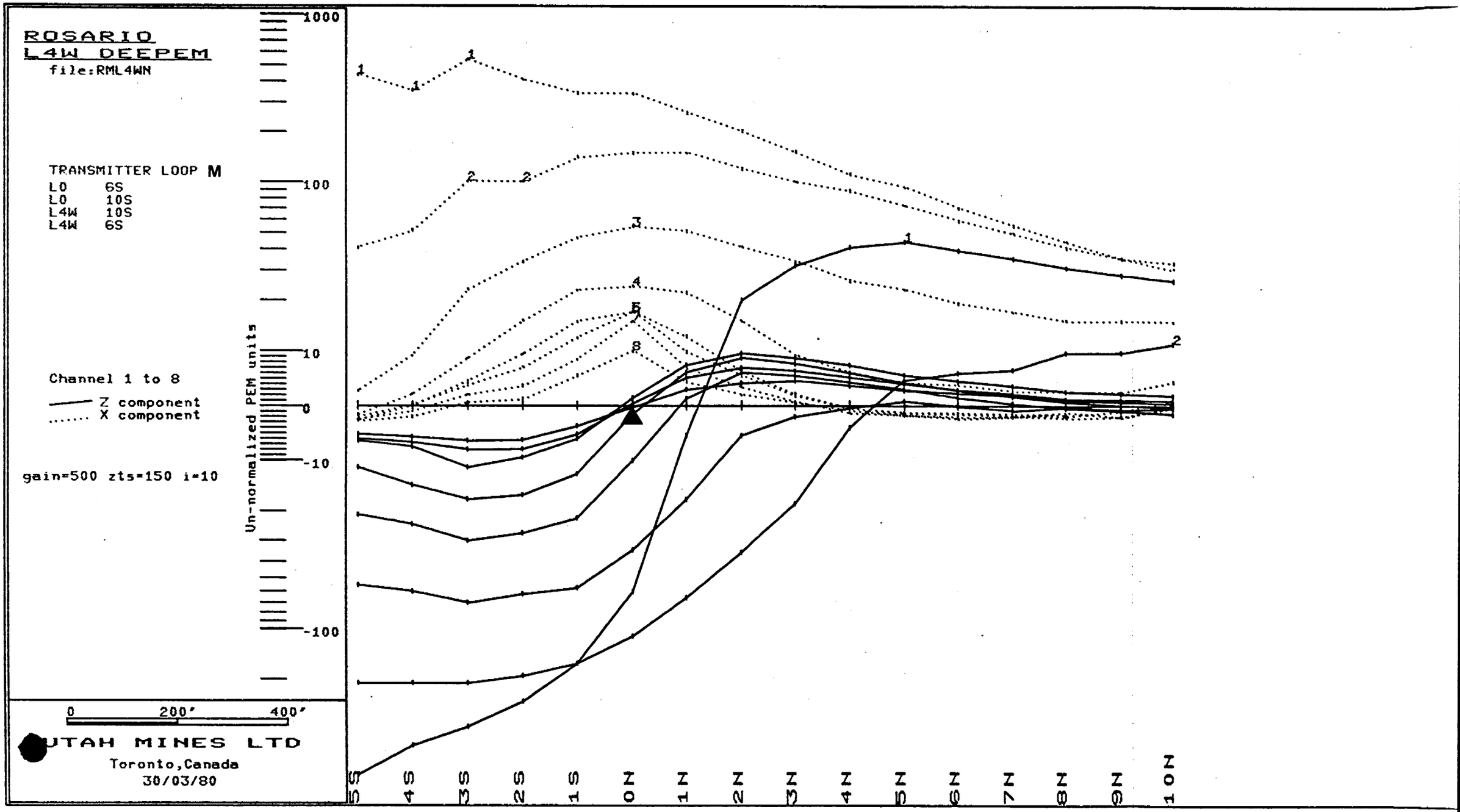
0 200' 400'

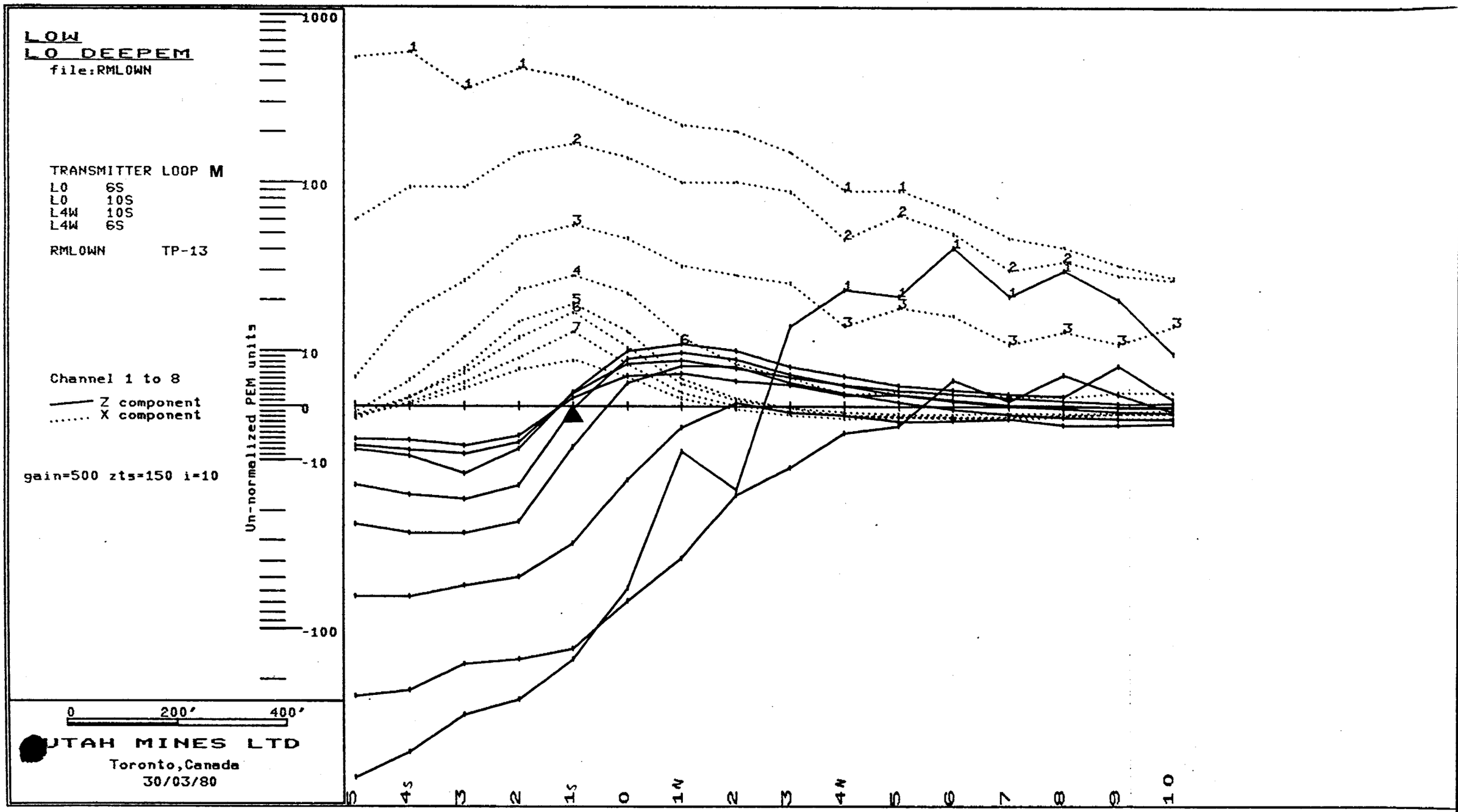
UTAH MINES LTD

Toronto, Canada

30/03/80


ROSARIO
LOW DEEPEM
file:RLLOWN
TRANSMITTER LOOP L
L0 2S
L0 6S
L4W 6S
L4W 2S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
1000
100
10
0
-10
-100
Un-normalized PEM units
0 200' 400'
UTAH MINES LTD
Toronto,Canada
30/03/80
0N
1N
2N
3N
4N
5N
6N
7N
8N
9N
10N


ROSARIO
L4W DEEPEM
file:RML4WN
TRANSMITTER LOOP M
L0 6S
L0 10S
L4W 10S
L4W 6S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0 200' 400'
UTAH MINES LTD
Toronto,Canada
30/03/80
5S 4S 3S 2S 1S 0 1N 2N 3N 4N 5N 6N 7N 8N 9N 10N


LOW
LO DEEPEM
file:RMLOWN
TRANSMITTER LOOP M
L0 6S
L0 10S
L4W 10S
L4W 6S
RMLOWN TP-13
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0 200' 400'
UTAH MINES LTD
Toronto,Canada
30/03/80
6S 4S 3 2 1S 0 1N 2 3 4N 5 6 7 8 9 10

ROSARIO
LOW DEEPEM

file:ROLOWN

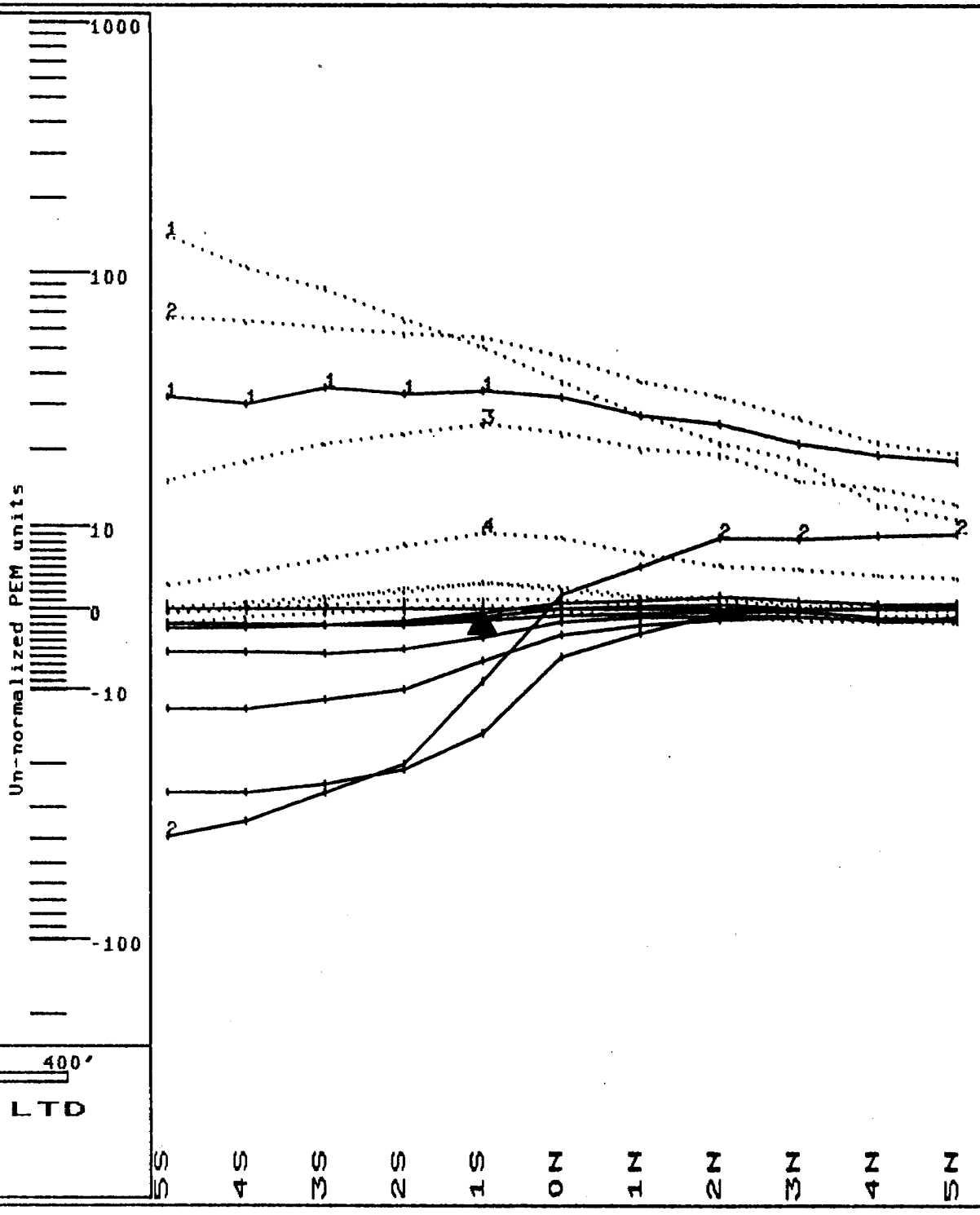
TRANSMITTER LOOP O

LOW 14S
LOW 18S
L4W 18S
L4W 14S

Channel 1 to 8

Z component
X component

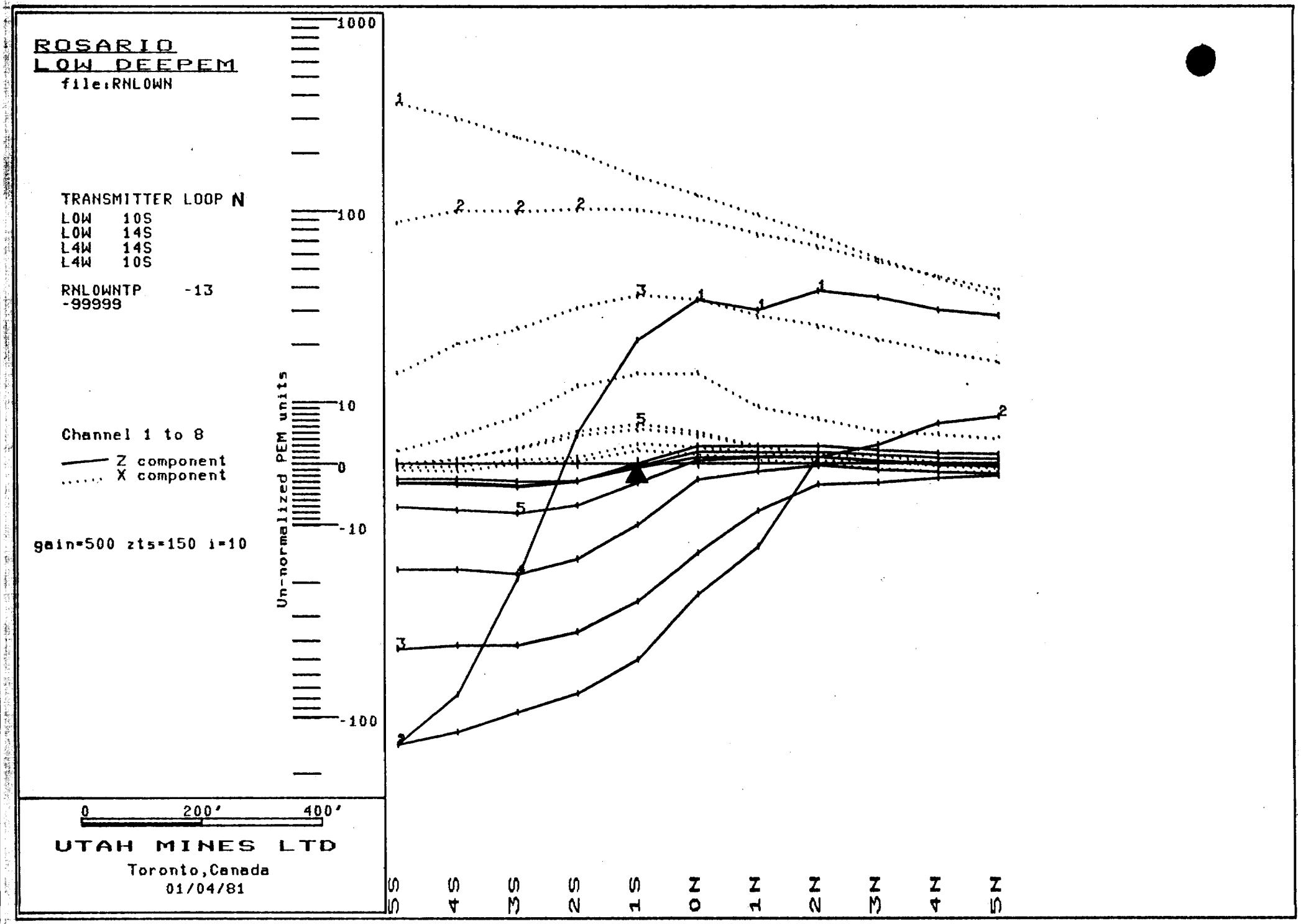
gain=500 zts=150 i=10

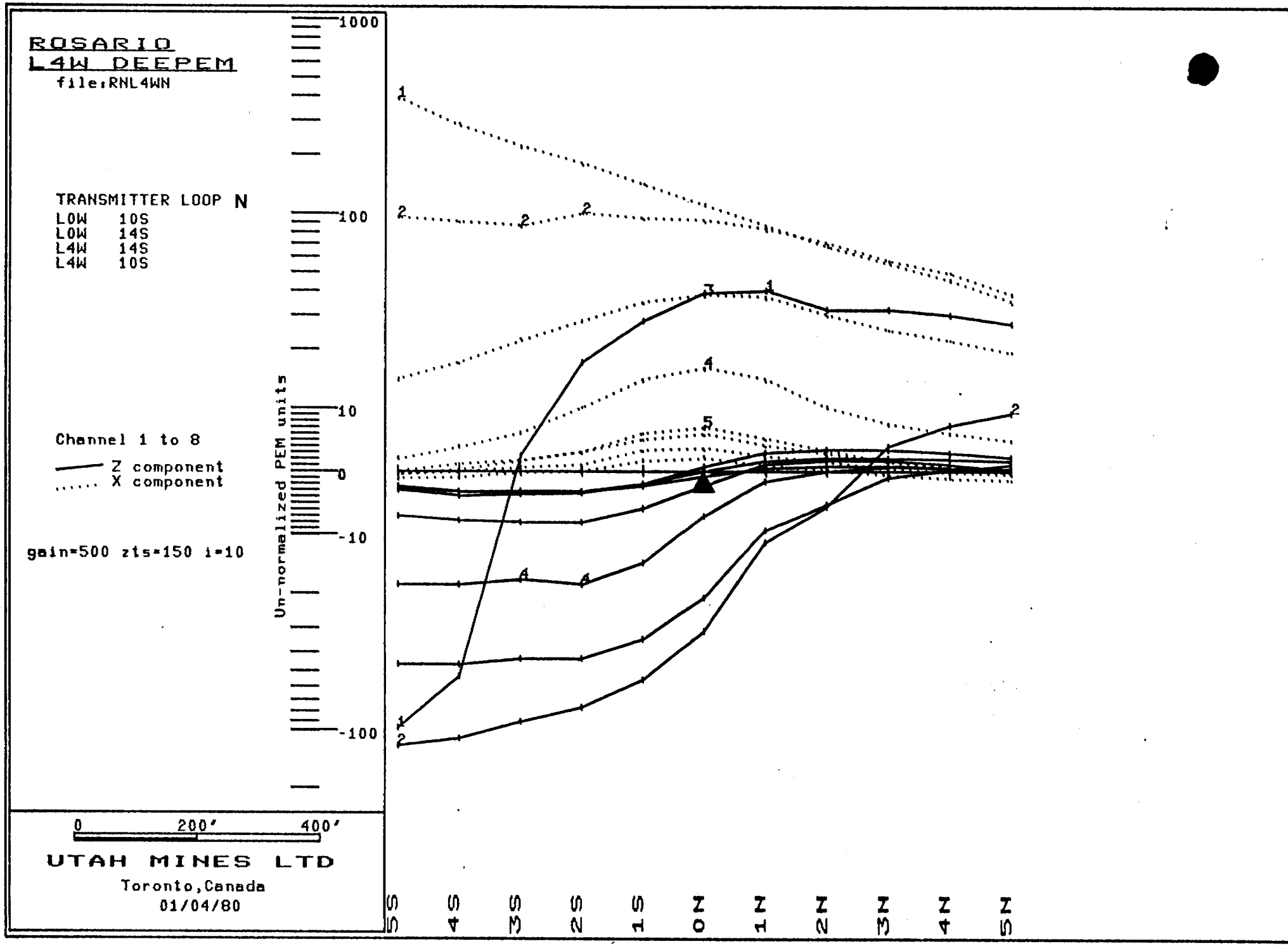


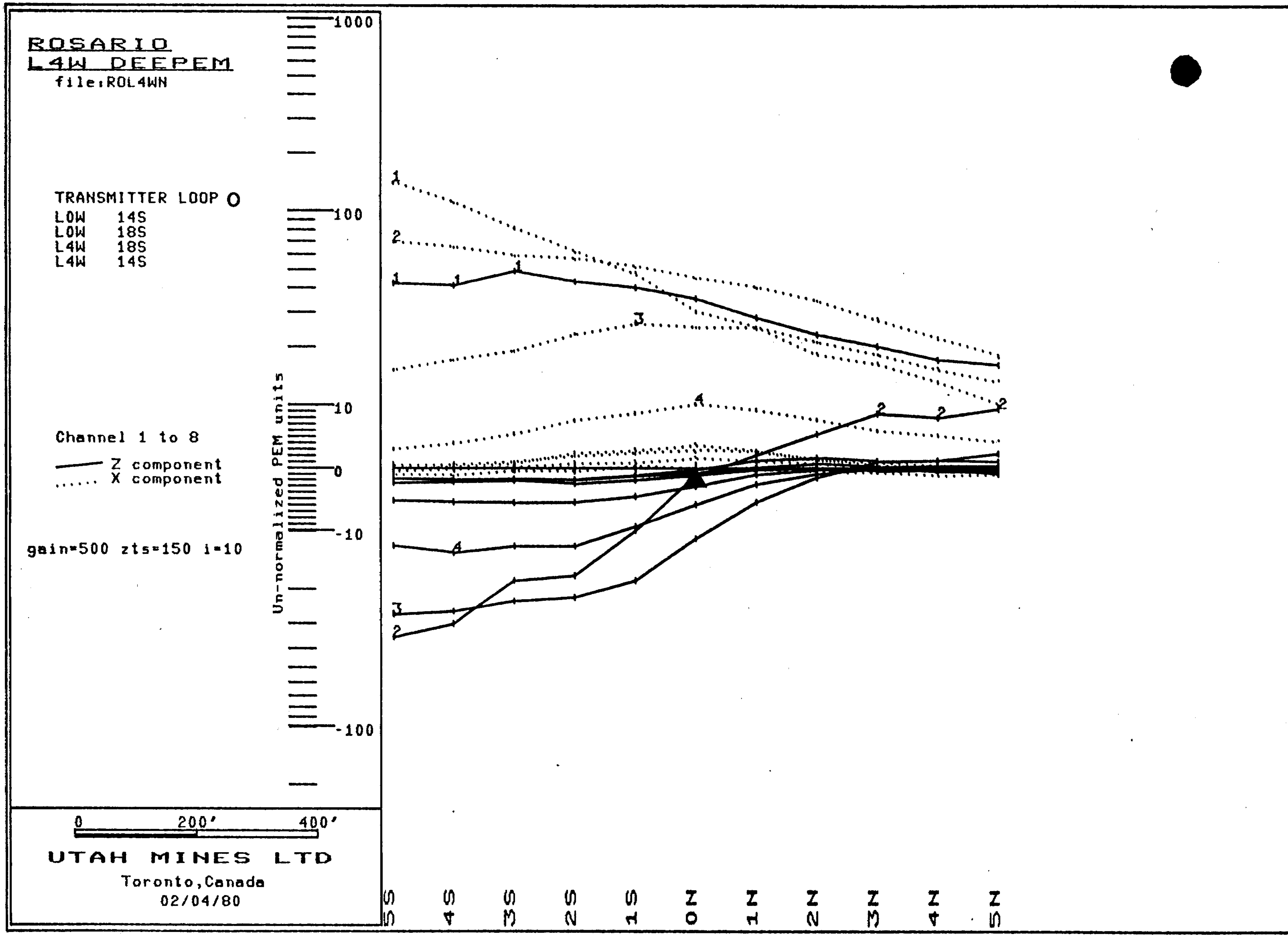
0 200' 400'

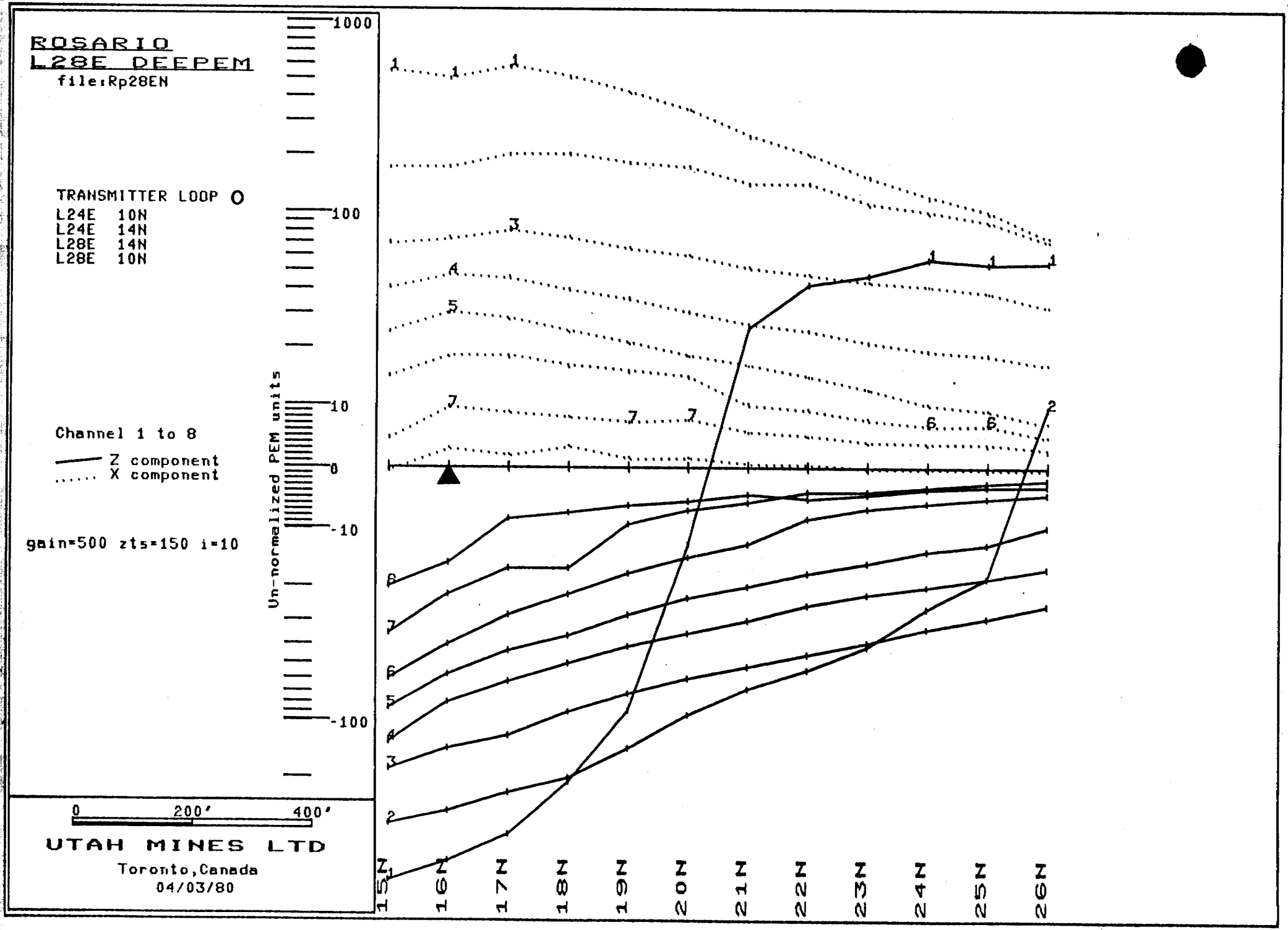
UTAH MINES LTD

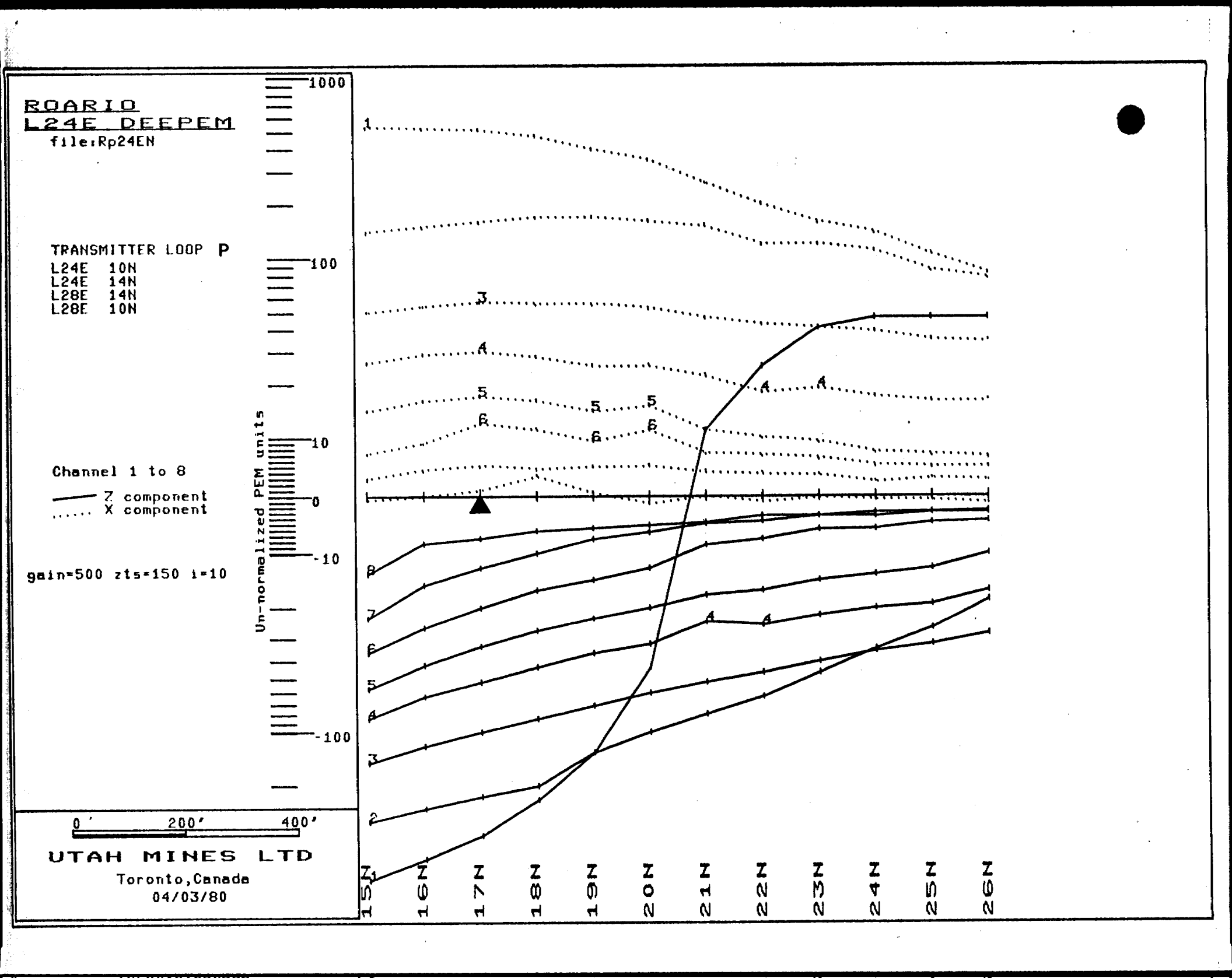
Toronto,Canada
02/04/80


ROSARIO
LOW DEEPEM
file:RNL0WN
TRANSMITTER LOOP N
L0W 10S
L0W 14S
L4W 14S
L4W 10S
RNL0WNTP -13
-99999
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0 200' 400'
UTAH MINES LTD
Toronto,Canada
01/04/81
1
2
3
5
5S
4S
3S
2S
1S
0
1N
2N
3N
4N
5N


ROSARIO
L4W DEEPEM
file:RNL4WN
TRANSMITTER LOOP N
L0W 10S
L0W 14S
L4W 14S
L4W 10S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
1000
100
10
0
-10
-100
Un-normalized PEM units
0 200' 400'
UTAH MINES LTD
Toronto,Canada
01/04/80
5S 4S 3S 2S 1S 0 1N 2N 3N 4N 5N


ROSARIO
L4W DEEPEM
file:ROL4WN
TRANSMITTER LOOP O
LOW 14S
LOW 18S
L4W 18S
L4W 14S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
02/04/80
5S
4S
3S
2S
1S
0N
1N
2N
3N
4N
5N


ROSARIO
L28E DEEPEM
file:Rp28EN
TRANSMITTER LOOP O
L24E 10N
L24E 14N
L28E 14N
L28E 10N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
04/03/80
15N
16N
17N
18N
19N
20N
21N
22N
23N
24N
25N
26N


ROARIO
L24E DEEPEM
file:Rp24EN
TRANSMITTER LOOP P
L24E 10N
L24E 14N
L28E 14N
L28E 10N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0'
200'
400'
UTAH MINES LTD
Toronto,Canada
04/03/80
15N
16N
17N
18N
19N
20N
21N
22N
23N
24N
25N
26N

ROSARIO
L24E DEEPEM

file:RP24EN

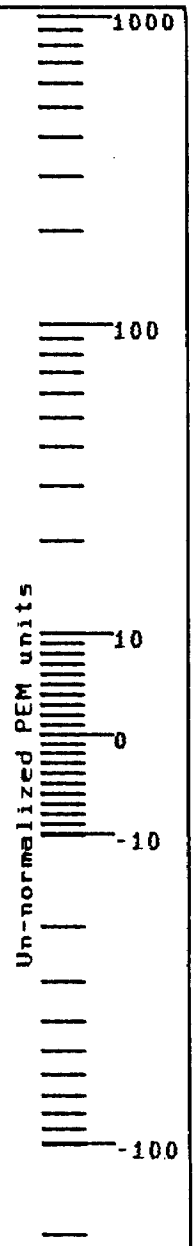
TRANSMITTER LOOP P

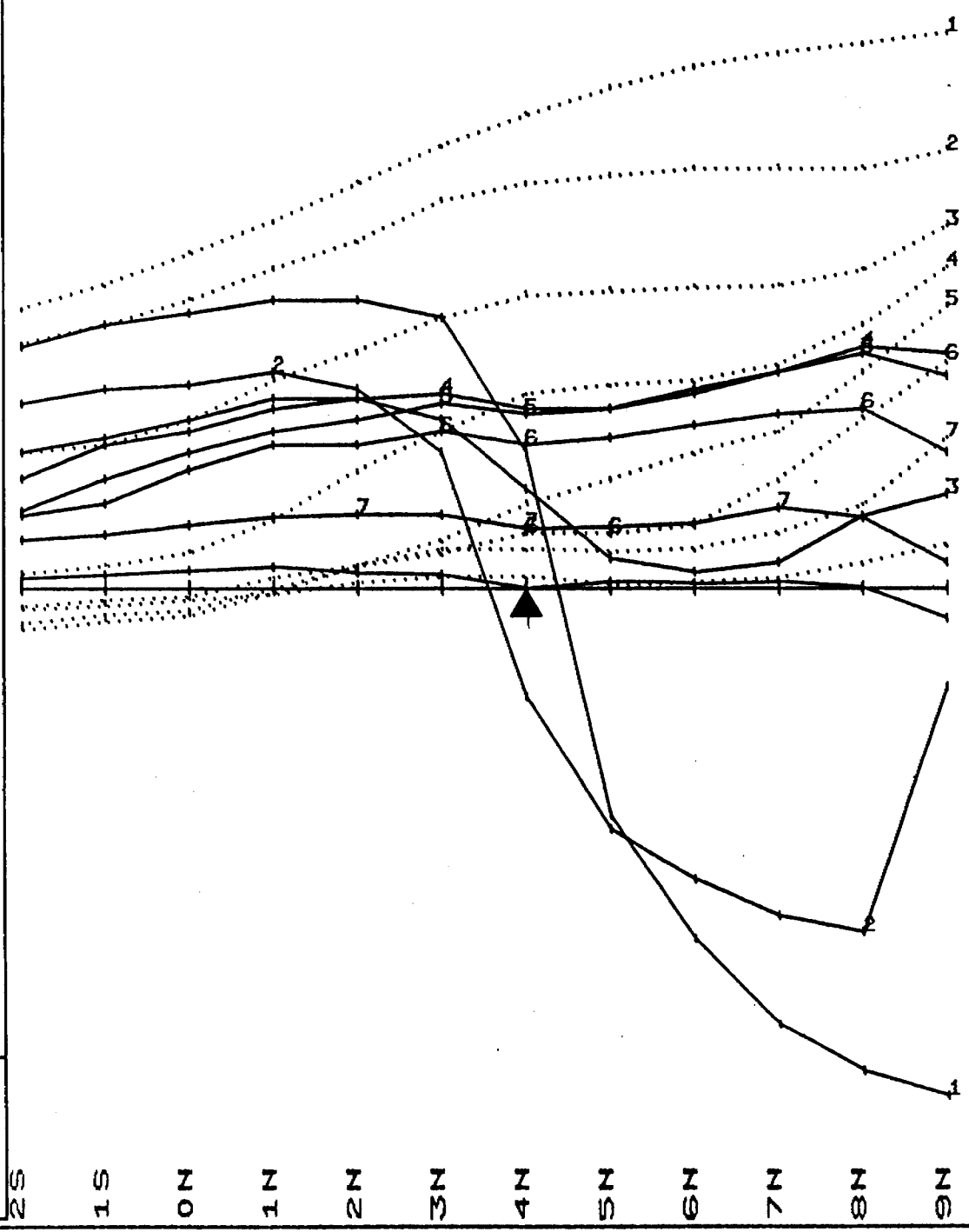
L24E 10N
L24E 14N
L28E 14N
L28E 10N

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10





0 200' 400'

UTAH MINES LTD

Toronto,Canada

04/03/80

ROSARIO
L28E DEEPEM

file:RP28EN

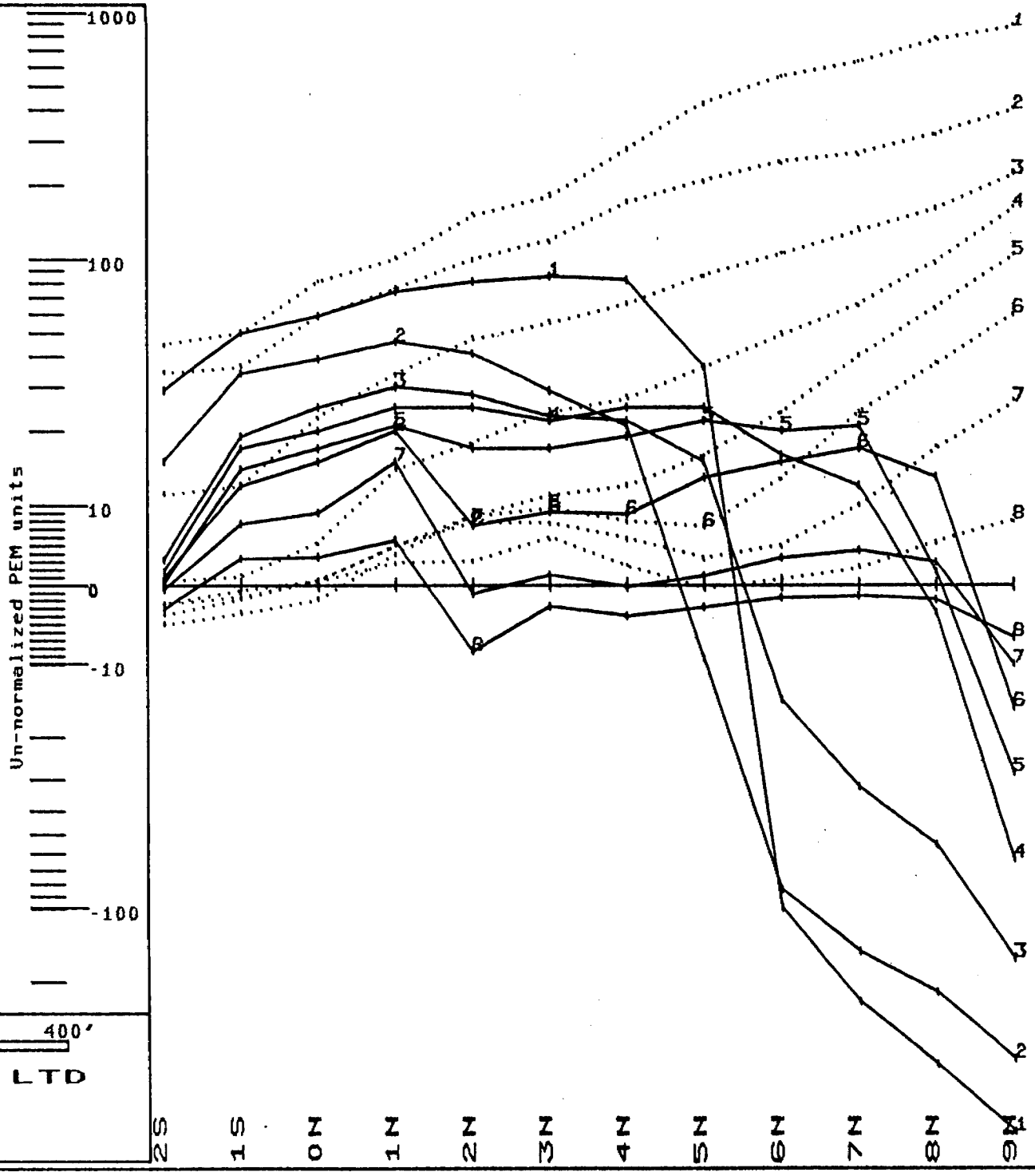
TRANSMITTER LOOP P

L24E 10N
L24E 14N
L28E 14N
L28E 10N

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10



0 200' 400'

UTAH MINES LTD

Toronto,Canada

04/03/80

ROSARIO
L32E DEEPEM
file:RQ32ES

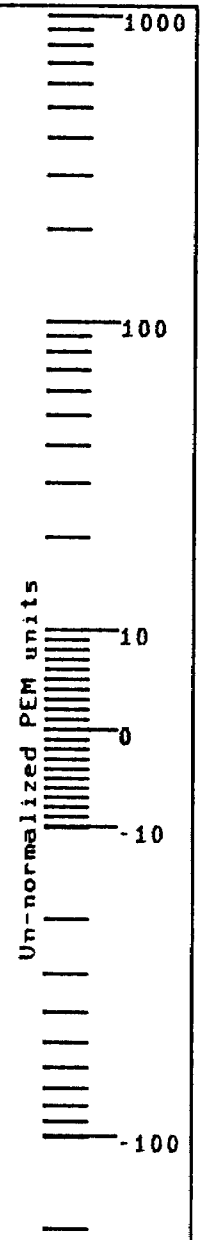
TRANSMITTER LOOP Q

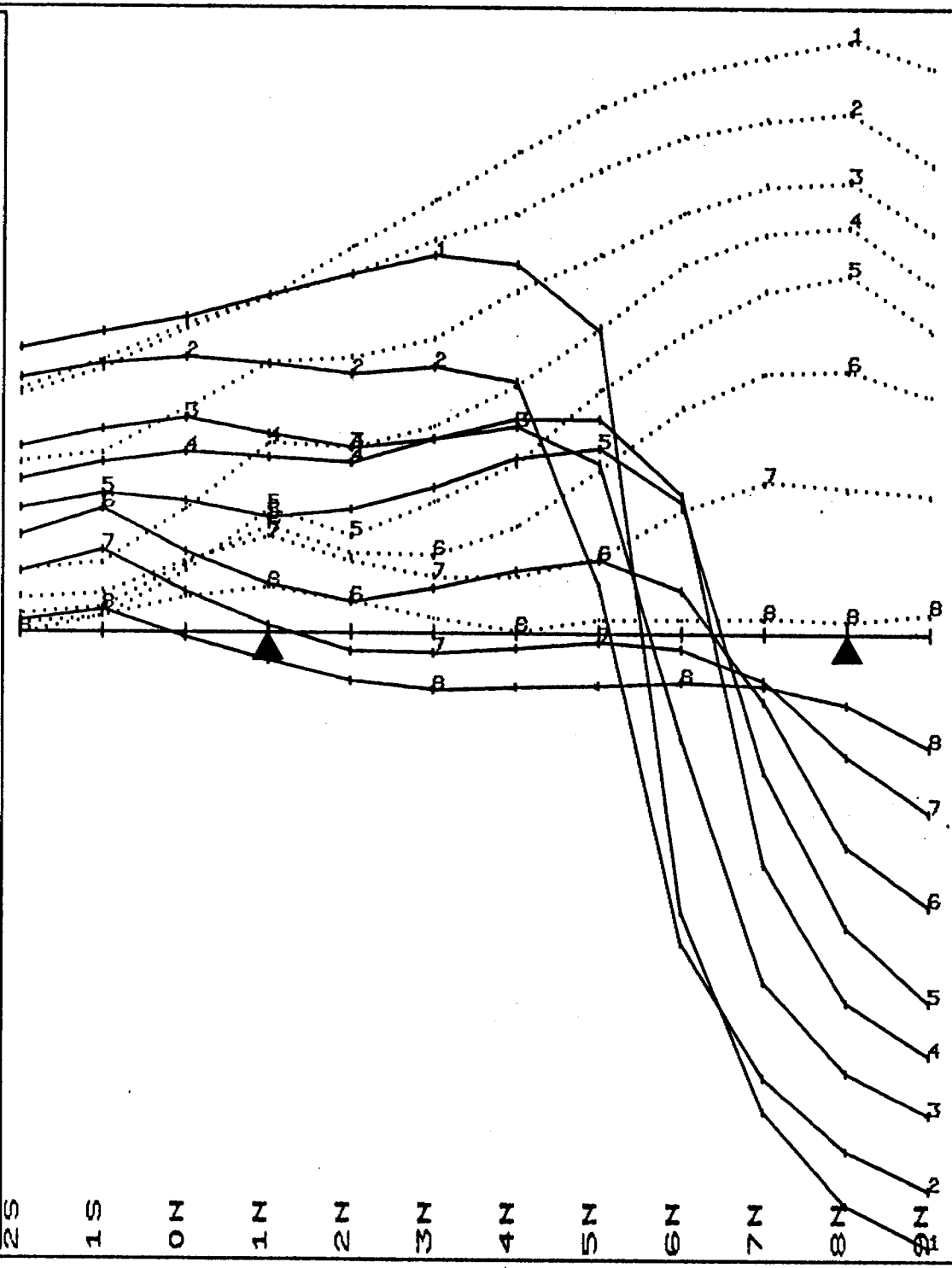
L32E	10N	0
L32E	14N	0
L28E	14N	0
L28E	10N	0

Channel 1 to 8

Z component
..... X component

gain=500 zts=150 i=7.0

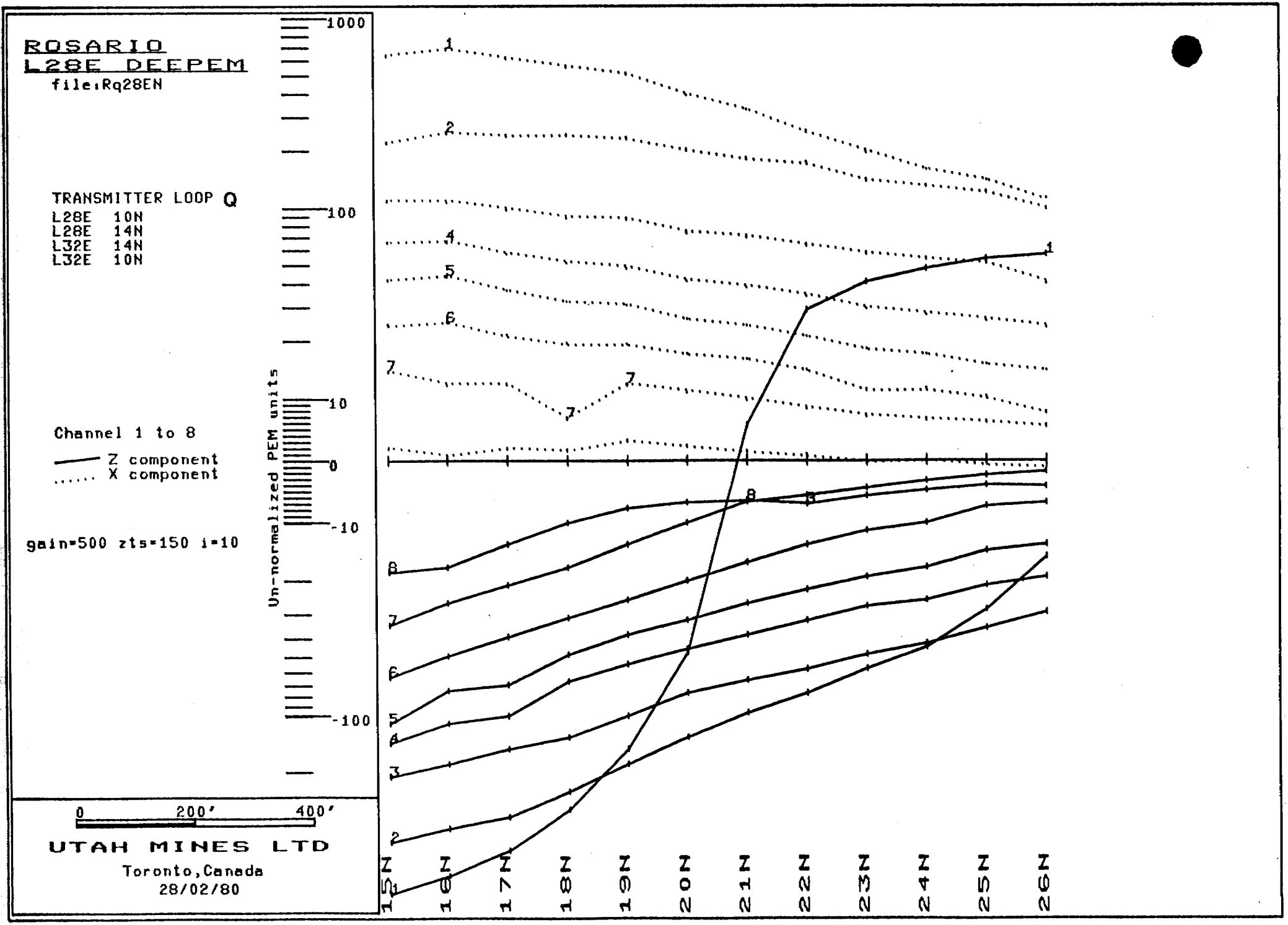


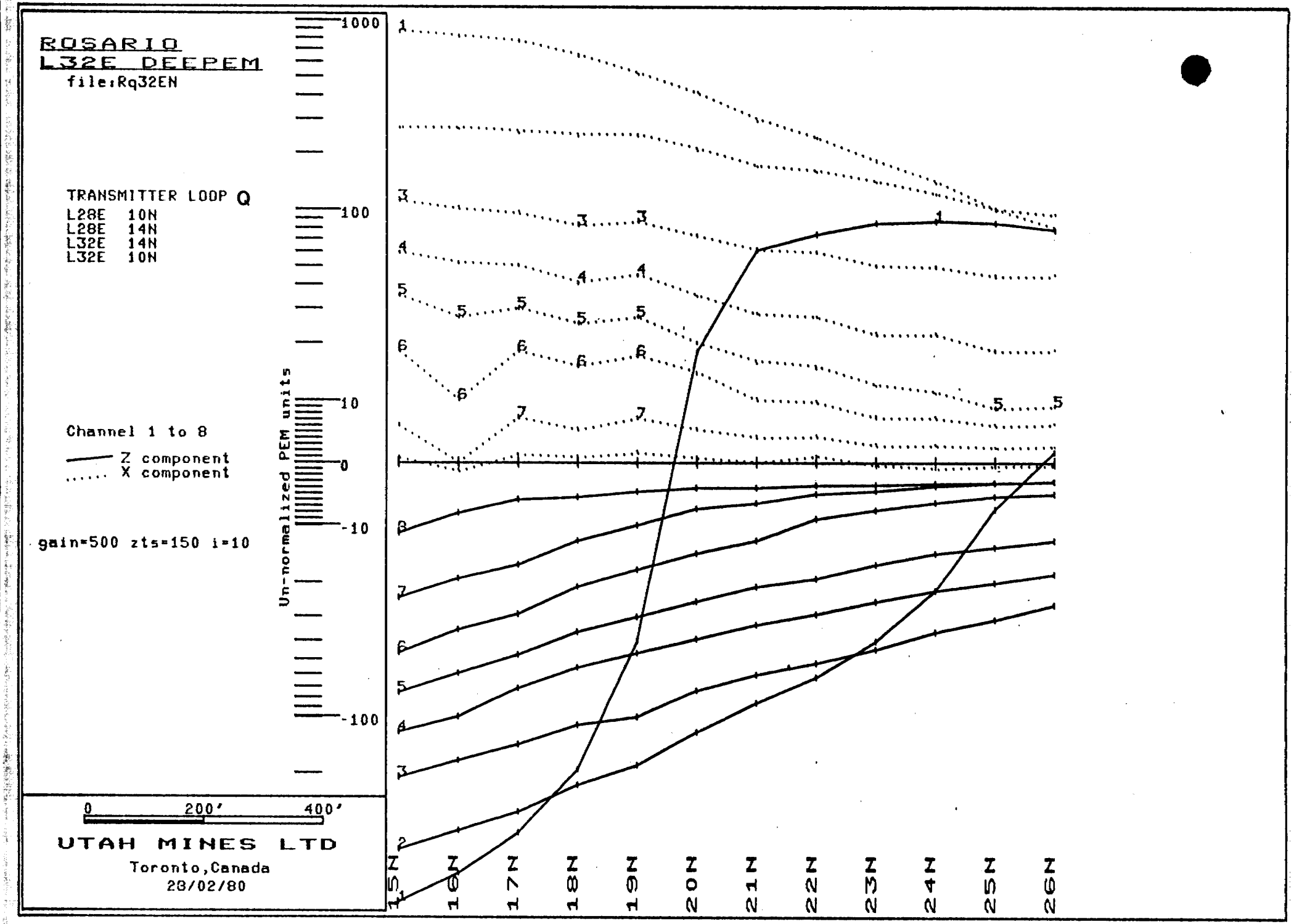


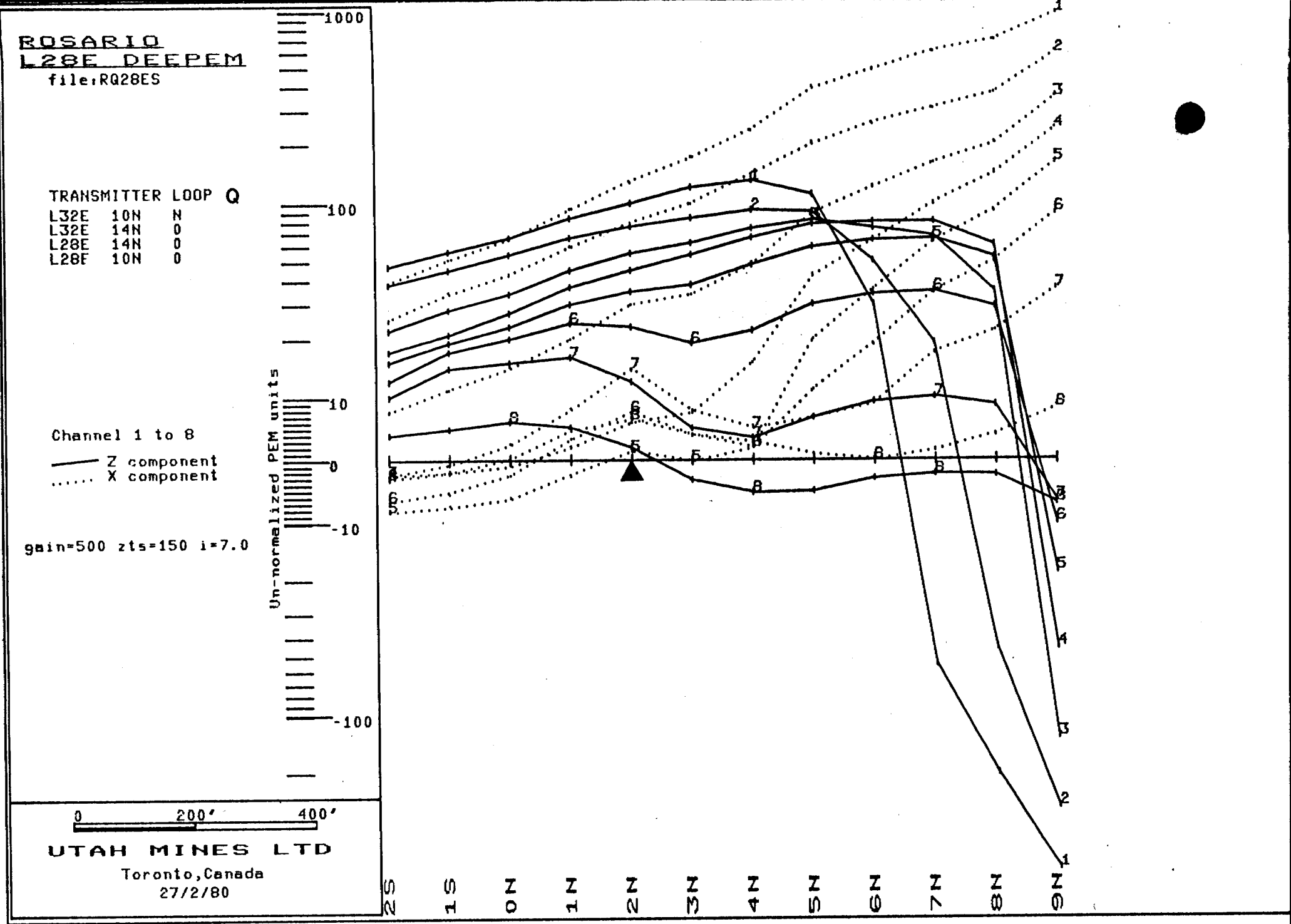
0 200' 400'

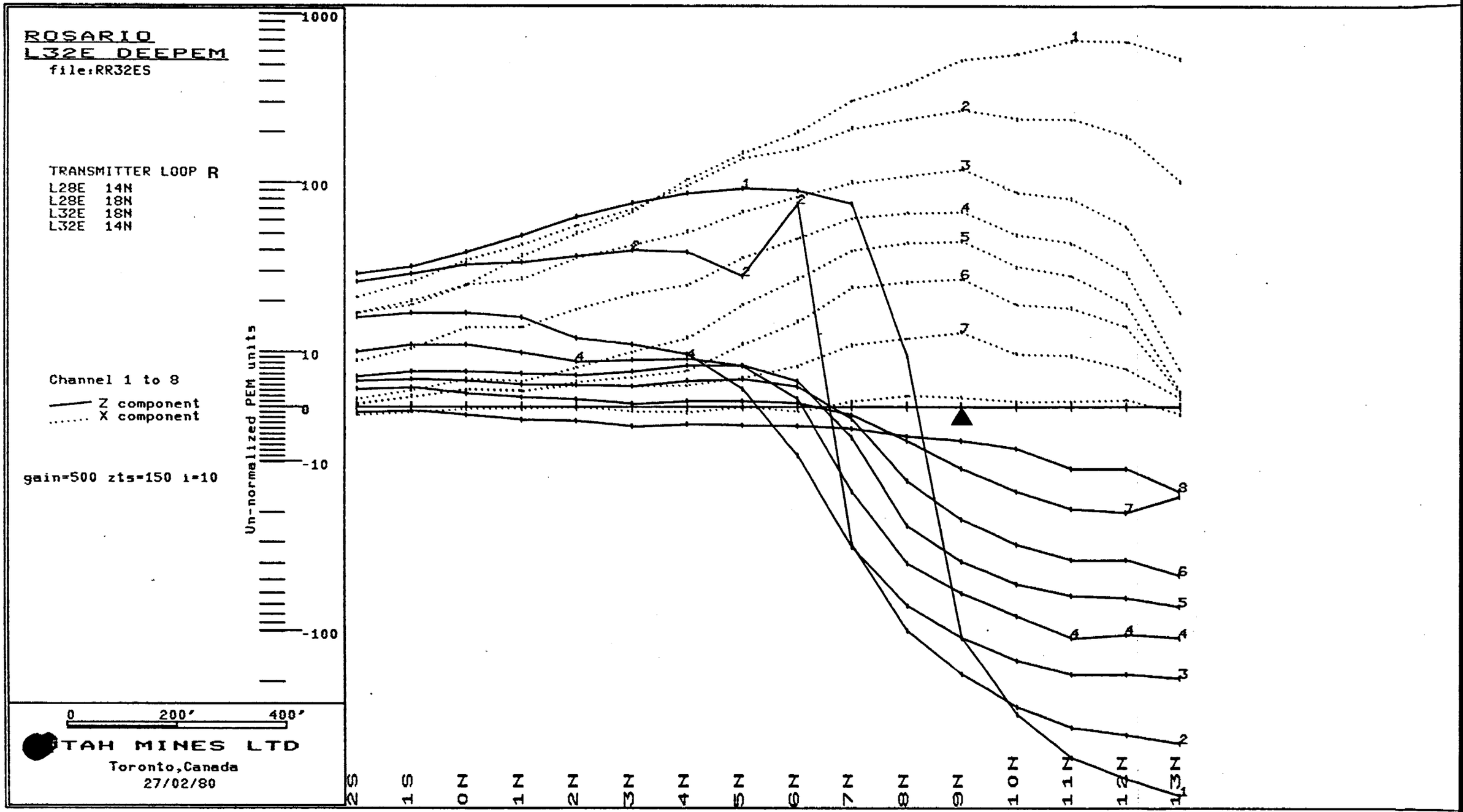
UTAH MINES LTD

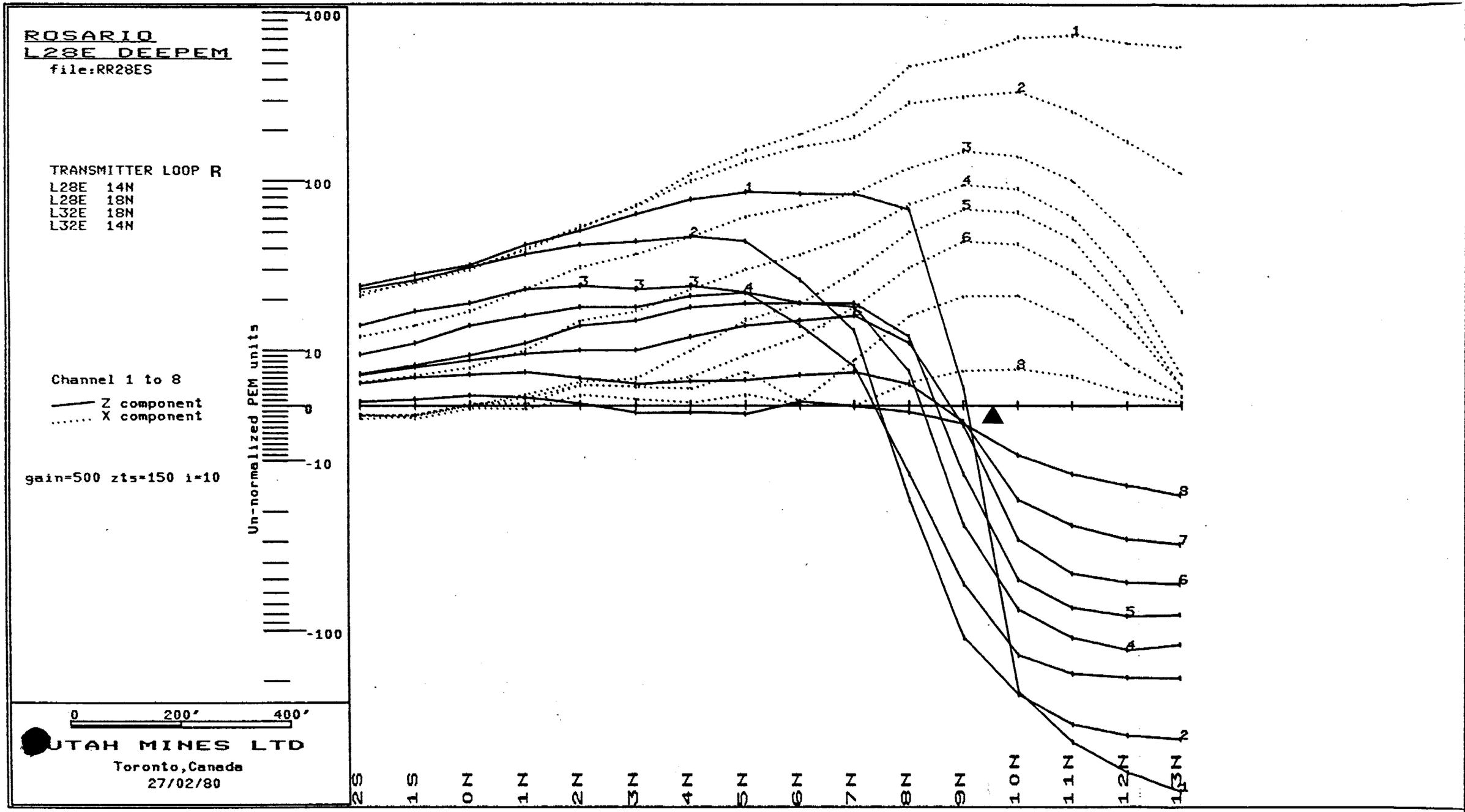
Toronto, Canada
27/2/80


ROSARIO
L28E DEEPEM
file:Rq28EN
TRANSMITTER LOOP Q
L28E 10N
L28E 14N
L32E 14N
L32E 10N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
28/02/80
15N
16N
17N
18N
19N
20N
21N
22N
23N
24N
25N
26N


ROSARIO
L32E DEEPEM
file:Rq32EN
TRANSMITTER LOOP Q
L28E 10N
L28E 14N
L32E 14N
L32E 10N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
28/02/80
15N
16N
17N
18N
19N
20N
21N
22N
23N
24N
25N
26N


ROSARIO
L28E DEEPEM
file:RQ28ES
TRANSMITTER LOOP Q
L32E 10N N
L32E 14N O
L28E 14N O
L28E 10N O
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=7.0
Un-normalized PEM units
1000
100
10
0
-10
-100
0 200' 400'
UTAH MINES LTD
Toronto,Canada
27/2/80
2S 1S 0 1N 2N 3N 4N 5N 6N 7N 8N 9N


ROSARIO
L32E DEEPEM
file:RR32ES
TRANSMITTER LOOP R
L28E 14N
L28E 18N
L32E 18N
L32E 14N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0 200' 400'
TAH MINES LTD
Toronto,Canada
27/02/80
2S 1S 0 1N 2N 3N 4N 5N 6N 7N 8N 9N 10N 11N 12N 13N


ROSARIO
L28E DEEPEM
file:RR28ES
TRANSMITTER LOOP R
L28E 14N
L28E 18N
L32E 18N
L32E 14N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
27/02/80
2S
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1N
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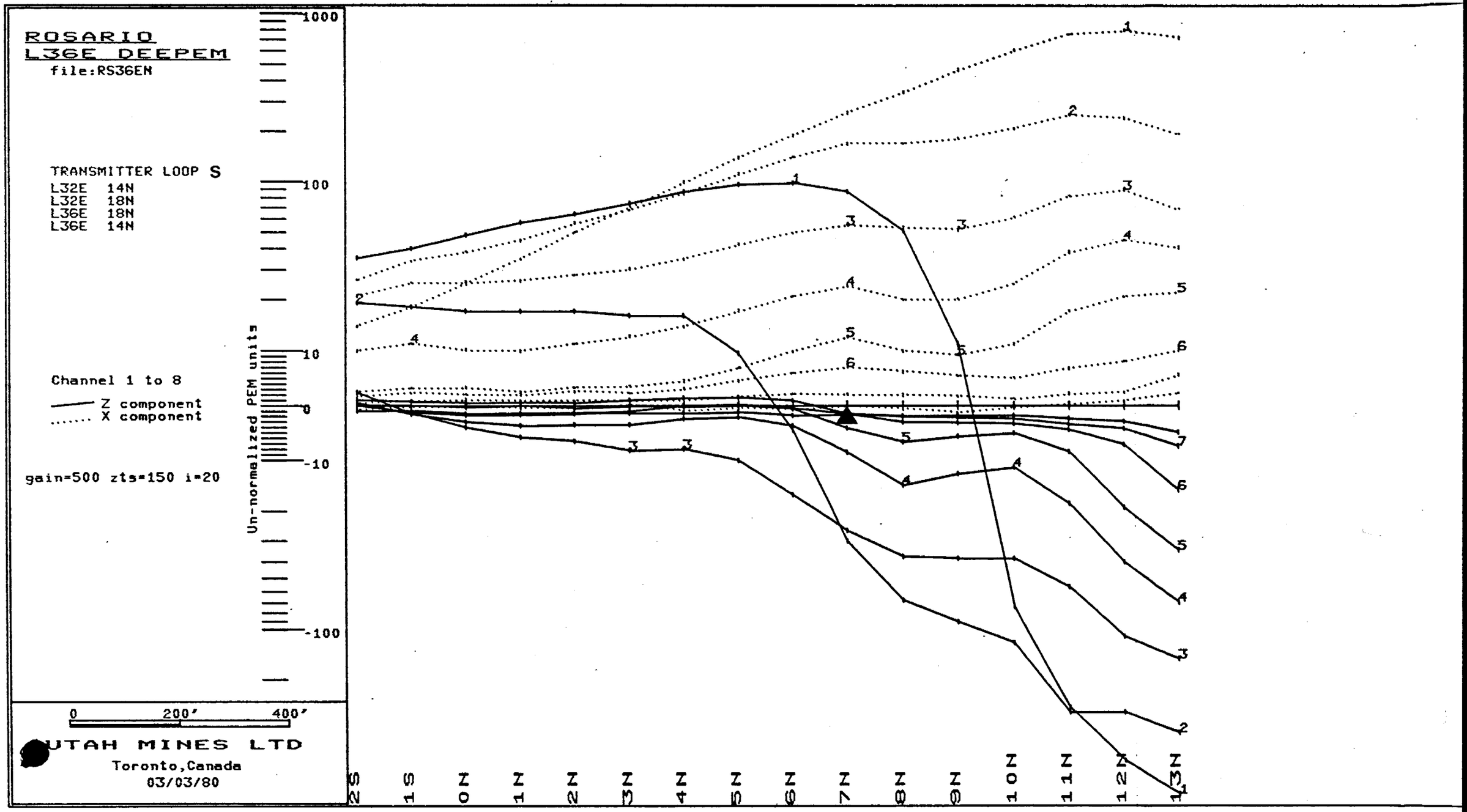
13N


ROSARIO
L36E DEEPEM
file:RS36EN
TRANSMITTER LOOP S
L32E 14N
L32E 18N
L36E 18N
L36E 14N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=20
1000
100
10
0
-10
-100
Un-normalized PEM units
0
200'
400'
UTAH MINES LTD
Toronto,Canada
03/03/80
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1S
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4
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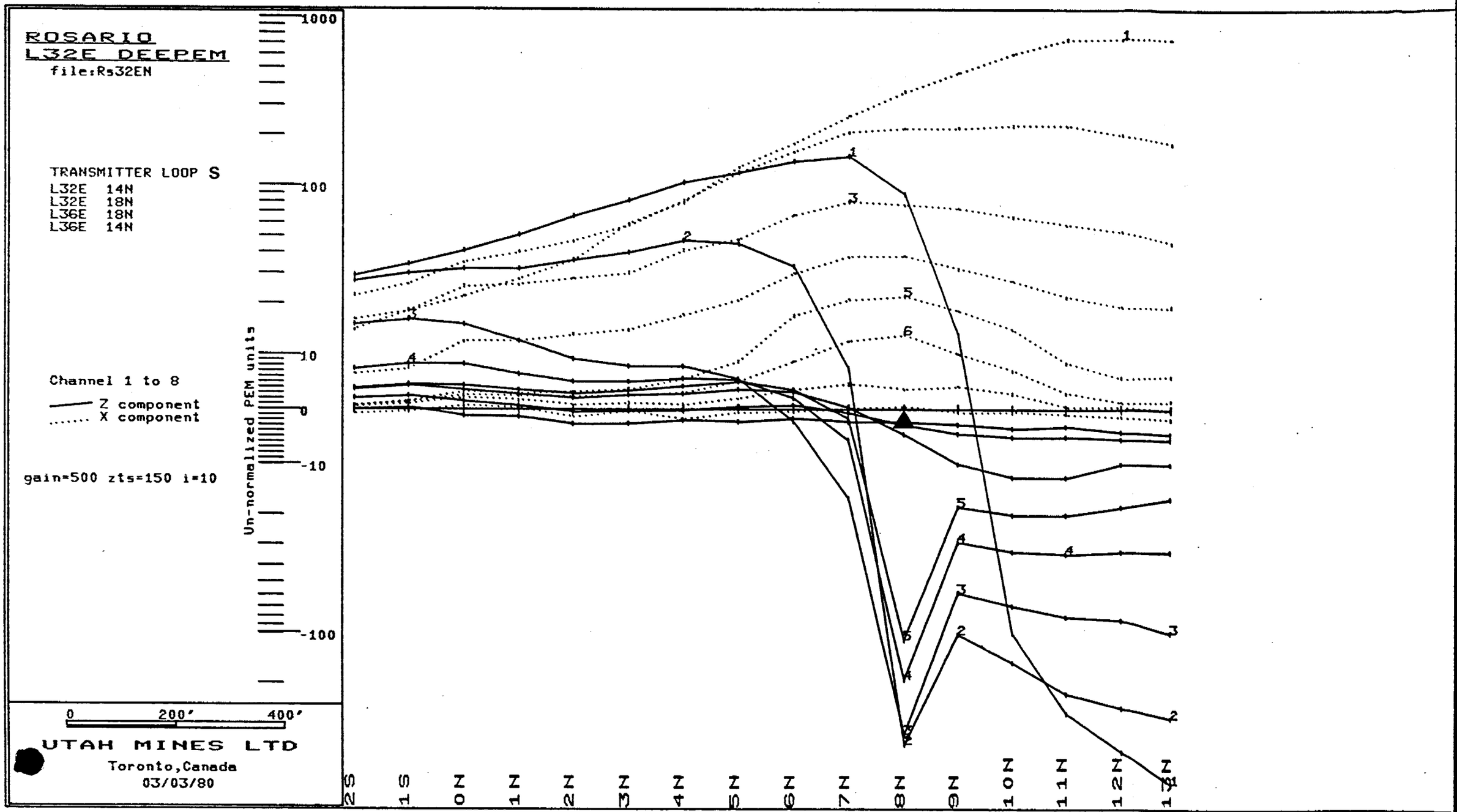
8
9
10N
11N
12N
13N


ROSARIO
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file:Rs32EN
TRANSMITTER LOOP S
L32E 14N
L32E 18N
L36E 18N
L36E 14N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
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10
0
-10
-100
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200'
400'
UTAH MINES LTD
Toronto,Canada
03/03/80
2S
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3N
4N
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6N
7N
8N
9N
10N
11N
12N
13N

ROSARIO
L32E DEEPEM

file:RS32EN

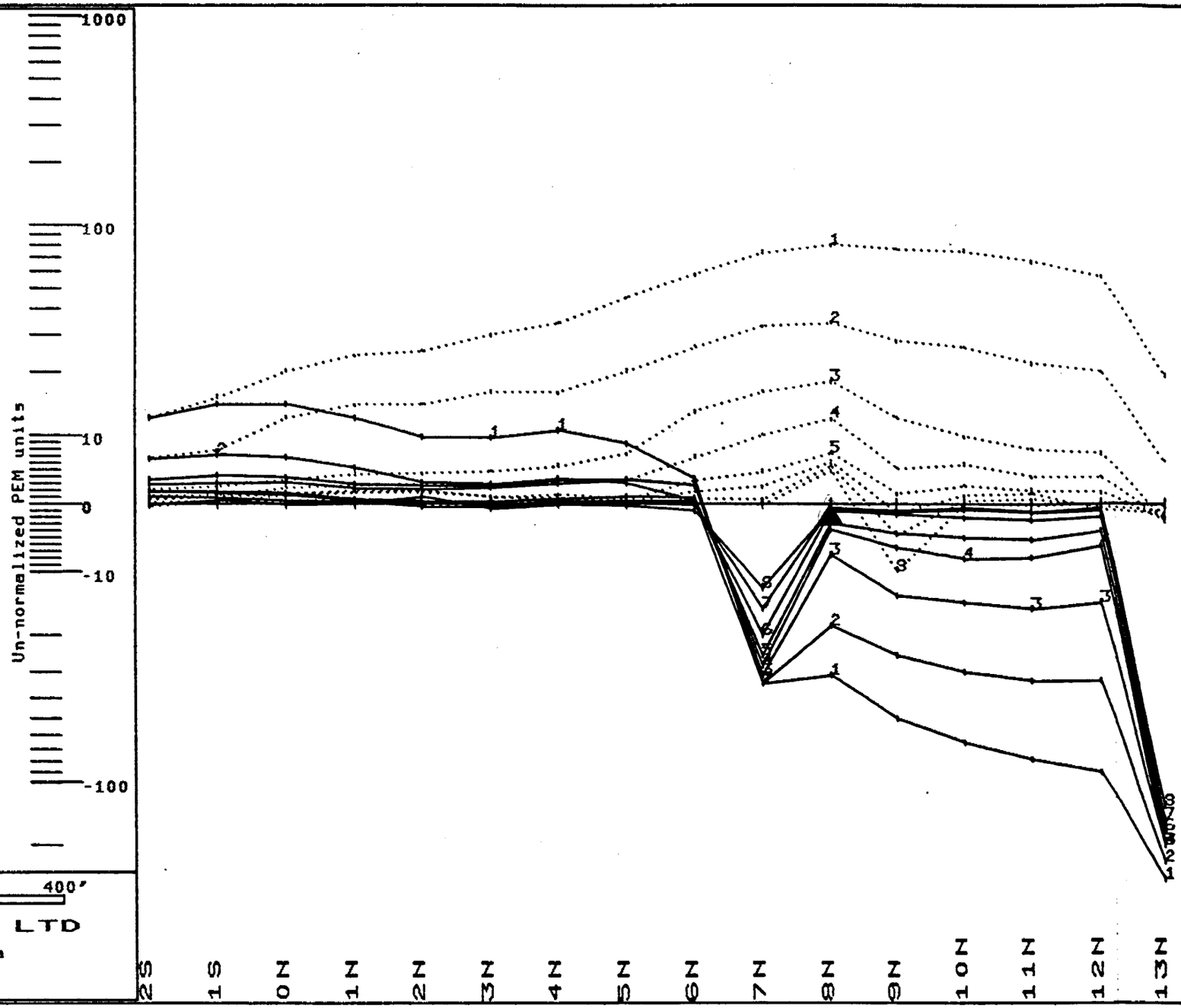
TRANSMITTER LOOP S

L32E 14N
L32E 18N
L36E 18N
L36E 14N

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=20



0 200' 400'

UTAH MINES LTD

Toronto,Canada

03/03/80

ROSARIO
L32E DEEPEM

file:RT32EN

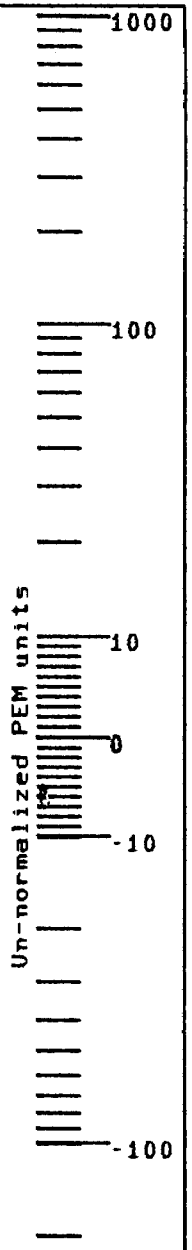
TRANSMITTER LOOP T

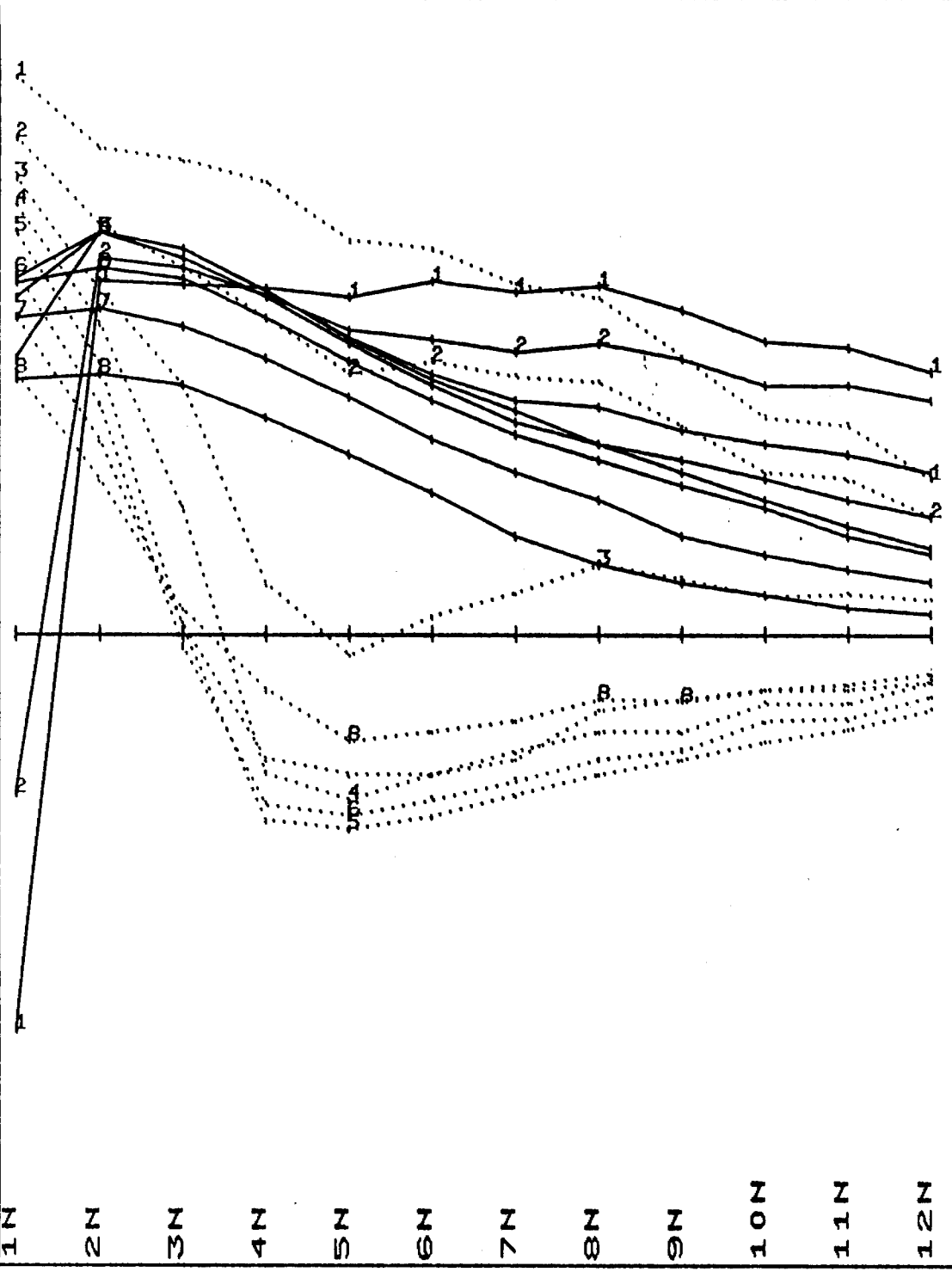
L28E 4S
L28E 0N
L32E 0N
L32E 4S

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10





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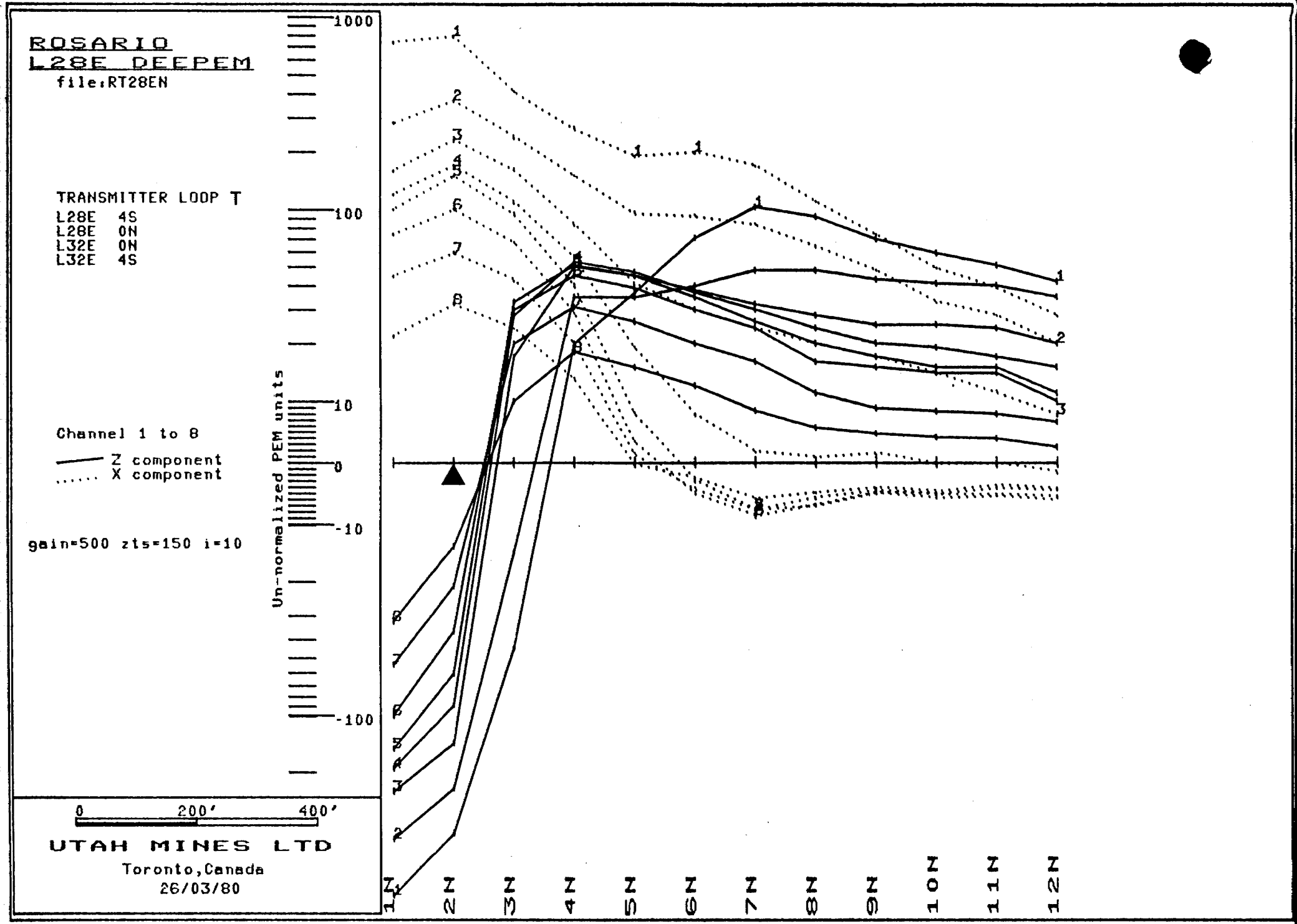
UTAH MINES LTD

Toronto,Canada
26/03/80


ROSARIO
L28E DEEPEM
file:RT28EN
TRANSMITTER LOOP T
L28E 4S
L28E 0N
L32E 0N
L32E 4S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
26/03/80
1N
2N
3N
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5N
6N
7N
8N
9N
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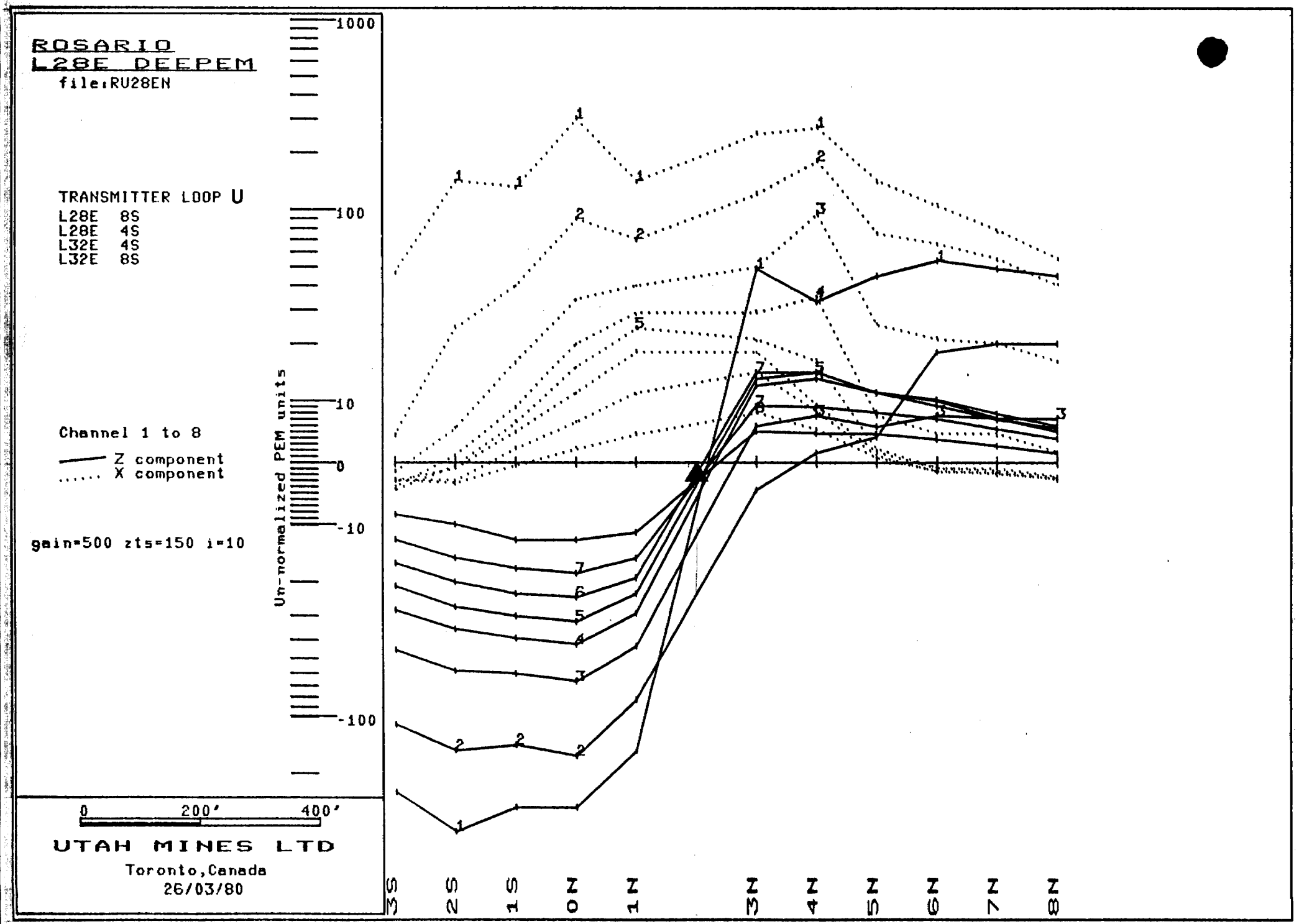
11N
12N


ROSARIO
L28E DEEPEM
file:RU28EN
TRANSMITTER LOOP U
L28E 8S
L28E 4S
L32E 4S
L32E 8S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
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0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
26/03/80
3S
2S
1S
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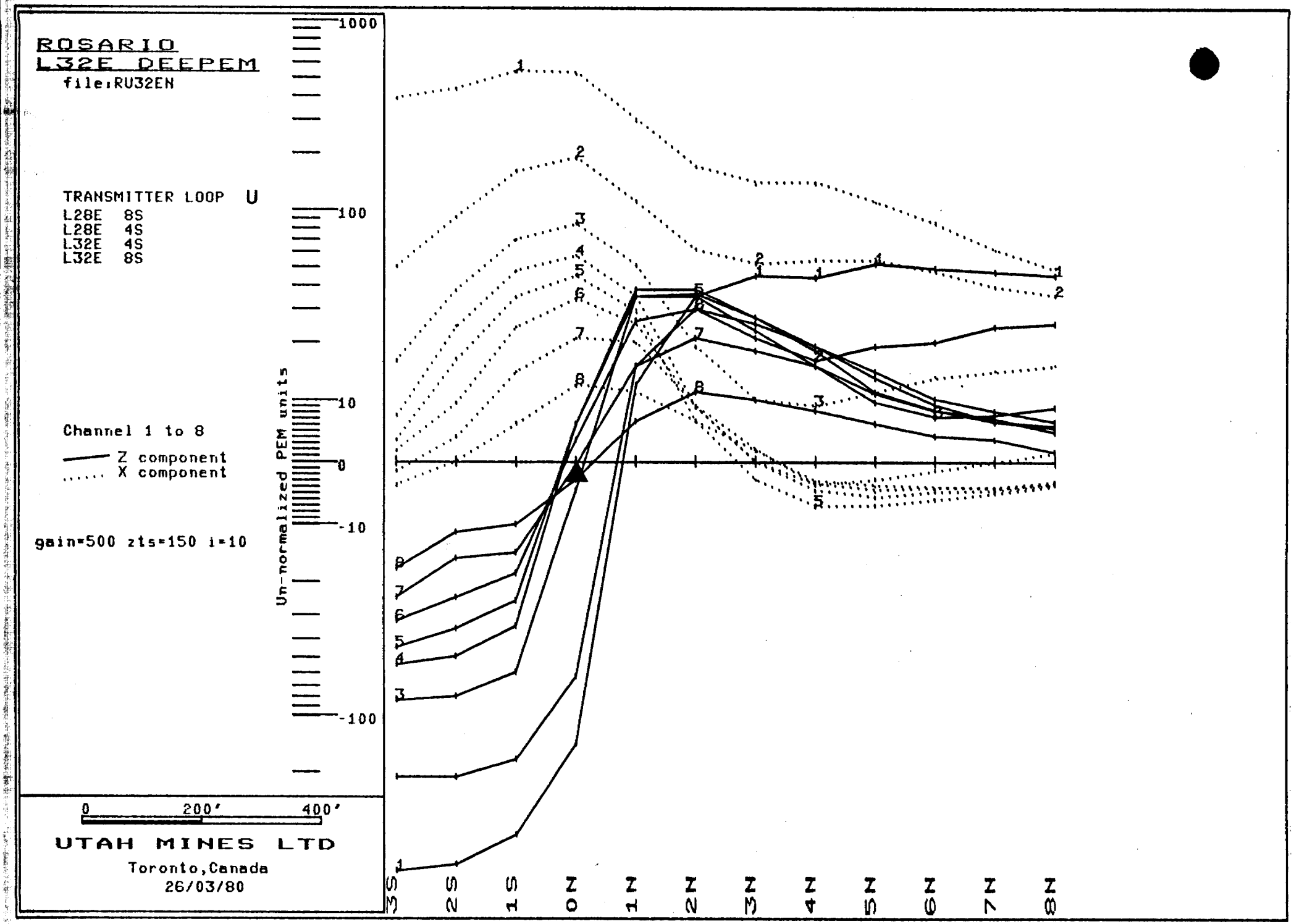
5E
6E
7E
8E


ROSARIO
L32E DEEPEM
file:RU32EN
TRANSMITTER LOOP U
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L28E 4S
L32E 4S
L32E 8S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
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-10
-100
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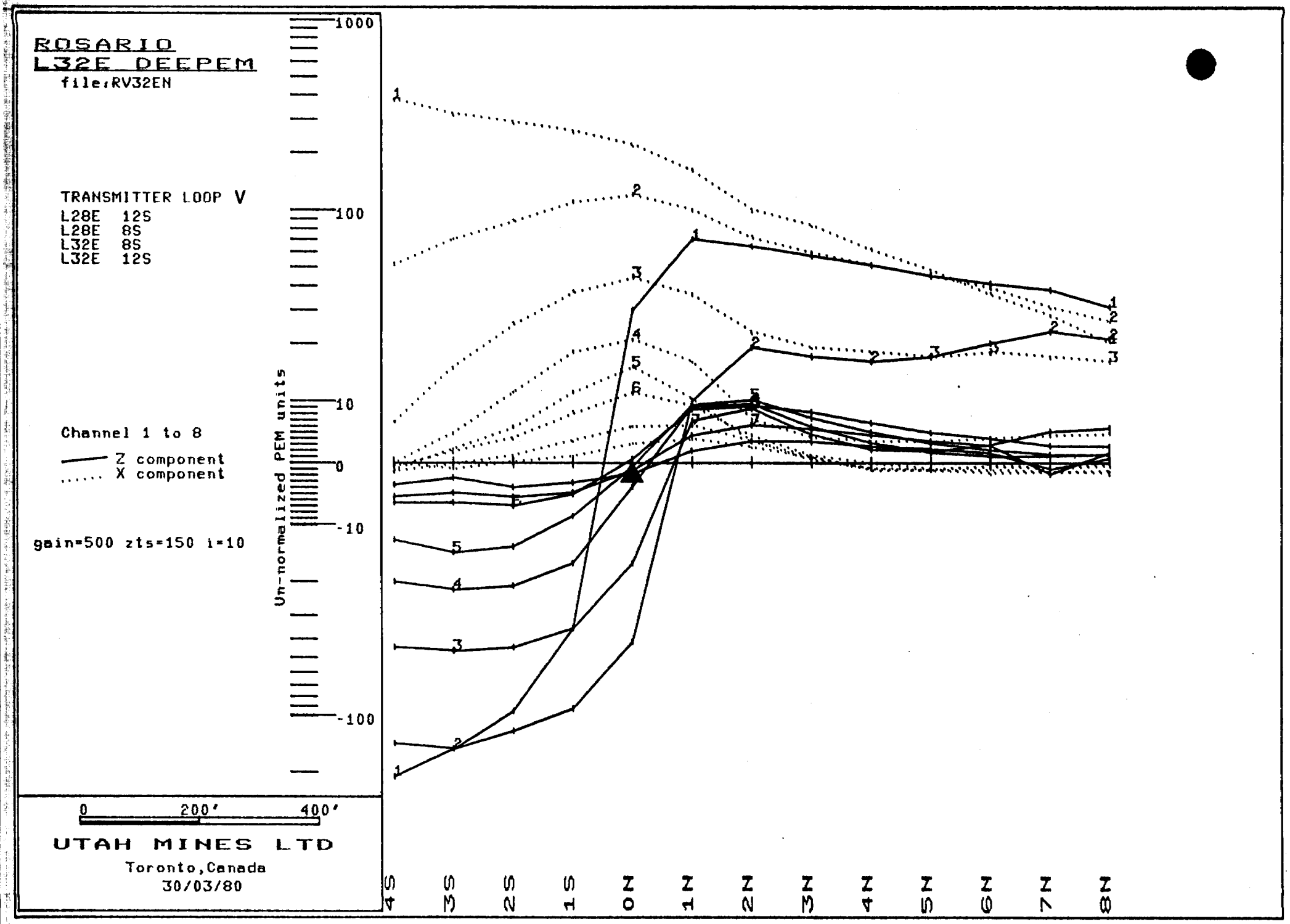
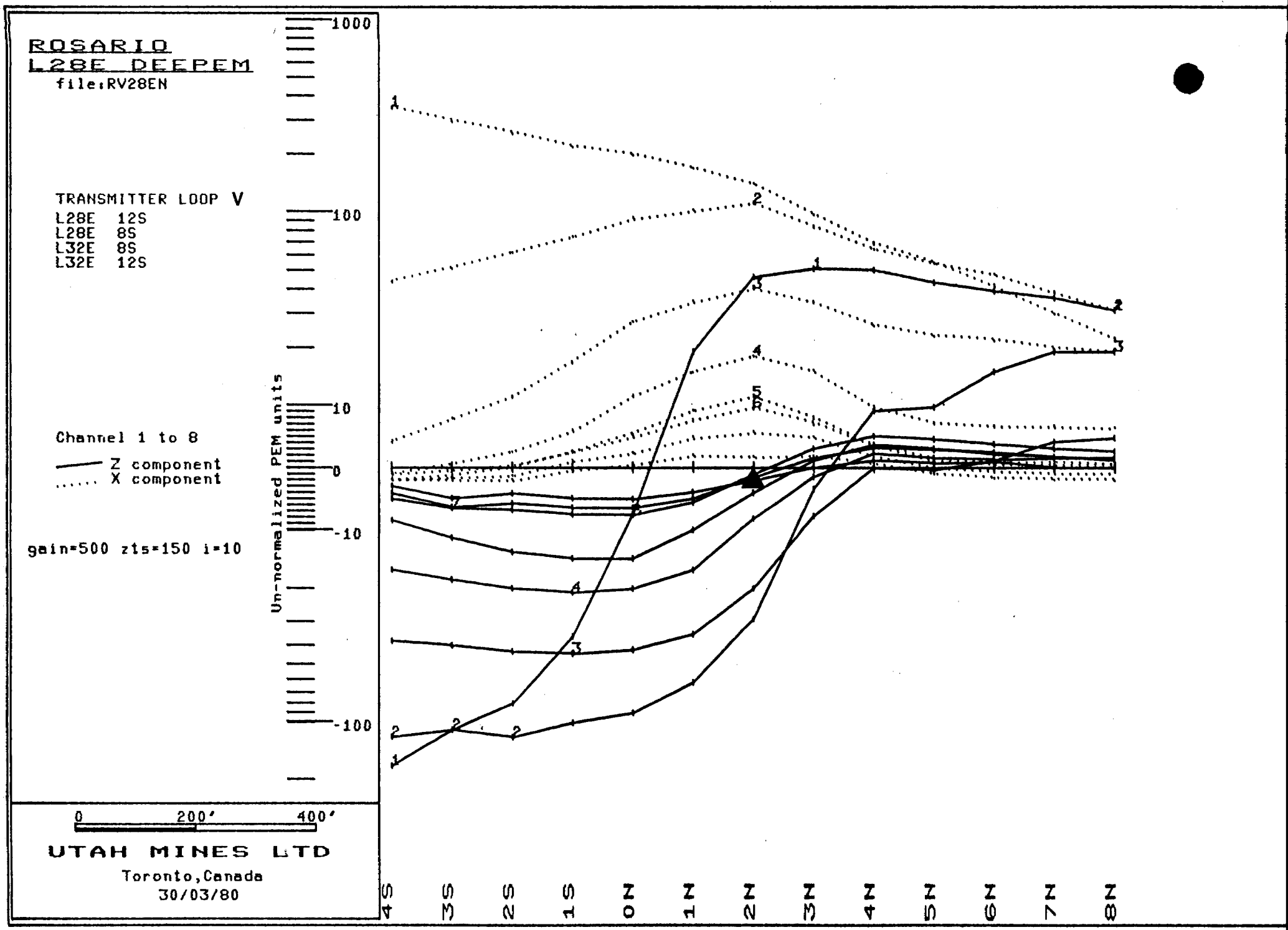
200'
400'
UTAH MINES LTD
Toronto,Canada
26/03/80
3S
2S
1S
0N
1N
2N
3N
4N
5N
6N
7N
8N


ROSARIO
L32E DEEPEM
file:RV32EN
TRANSMITTER LOOP V
L28E 12S
L28E 8S
L32E 8S
L32E 12S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
30/03/80
4S
3S
2S
1S
0
1N
2N
3N
4N
5N
6N
7N
8N


ROSARIO
L28E DEEPEM
file:RV28EN
TRANSMITTER LOOP V
L28E 12S
L28E 8S
L32E 8S
L32E 12S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
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200'
400'
UTAH MINES LTD
Toronto,Canada
30/03/80
4S
3S
2S
1S
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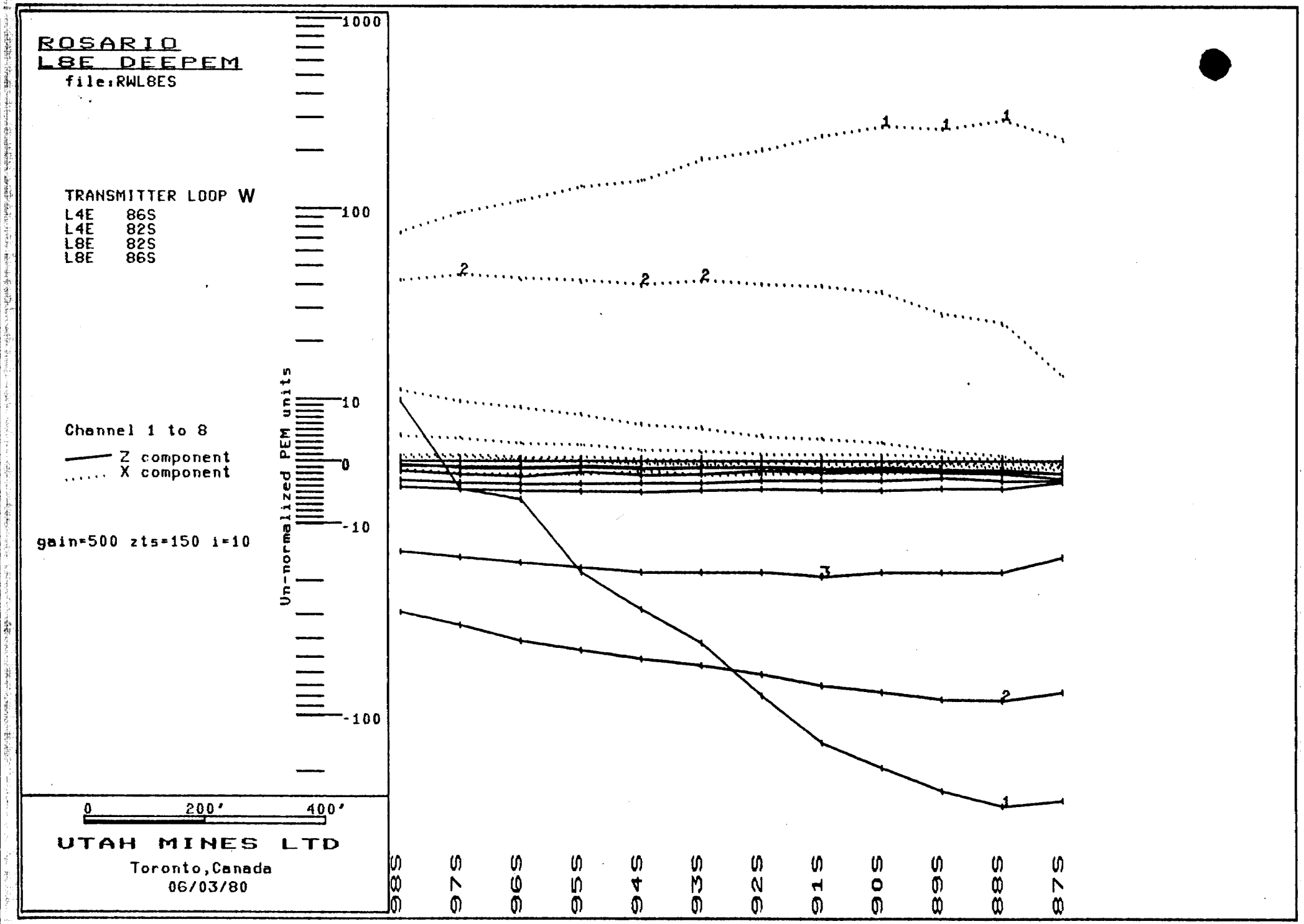
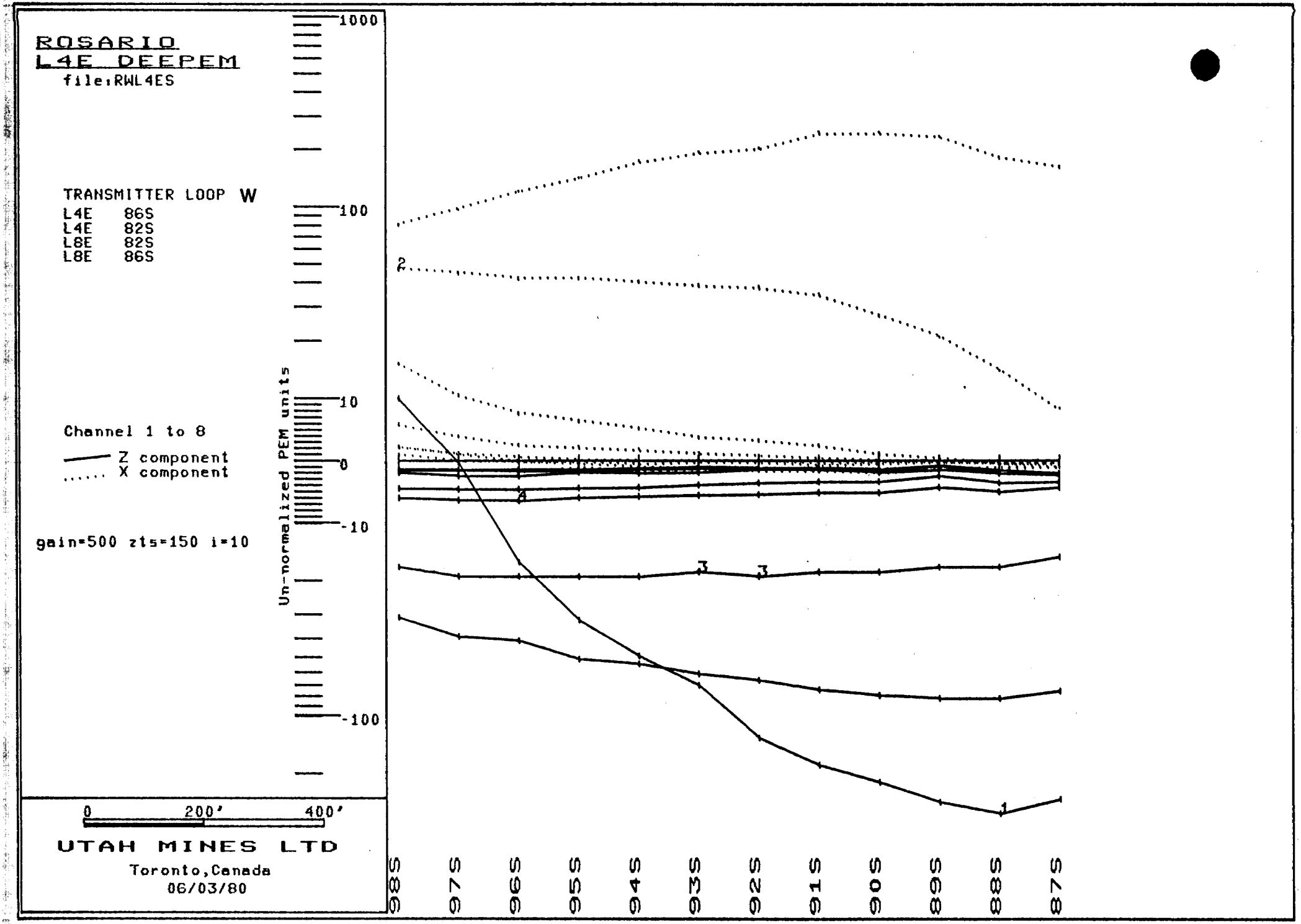
4
5
6
7
8


ROSARIO
L8E DEEPEM
file:RWL8ES
TRANSMITTER LOOP W
L4E 86S
L4E 82S
L8E 82S
L8E 86S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
1000
100
10
0
-10
-100
Un-normalized PEM units
0
200'
400'
UTAH MINES LTD
Toronto,Canada
06/03/80
685
675
665
655
645
635
625
615
605
865
885
875


ROSARIO
L4E DEEPEM
file:RWL4ES
TRANSMITTER LOOP W
L4E 86S
L4E 82S
L8E 82S
L8E 86S
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
0
200'
400'
UTAH MINES LTD
Toronto,Canada
06/03/80
68S
67S
66S
65S
64S
63S
62S
61S
60S
86S
88S
87S

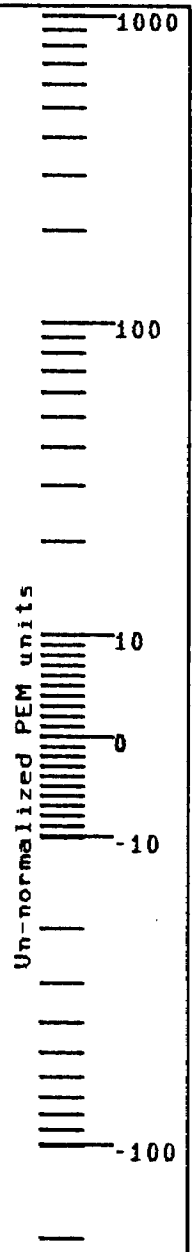
ROSARIO
L88W DEEPEM
file:RX88WN

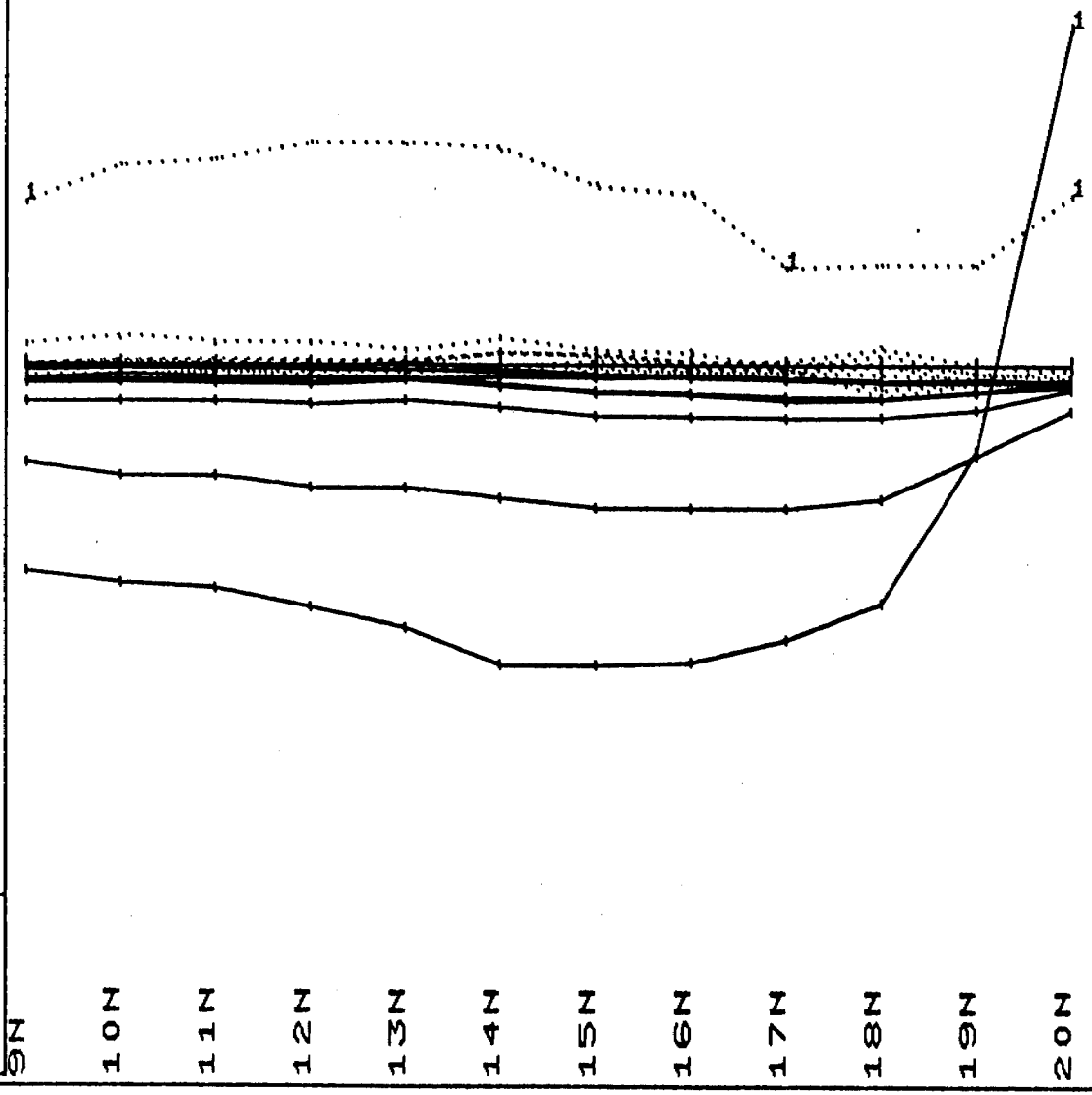
TRANSMITTER LOOP X
L84W 21N
L84W 25N
L88W 25N
L88W 21N

Channel 1 to 8

Z component
X component

gain=500 zts=150 i=10





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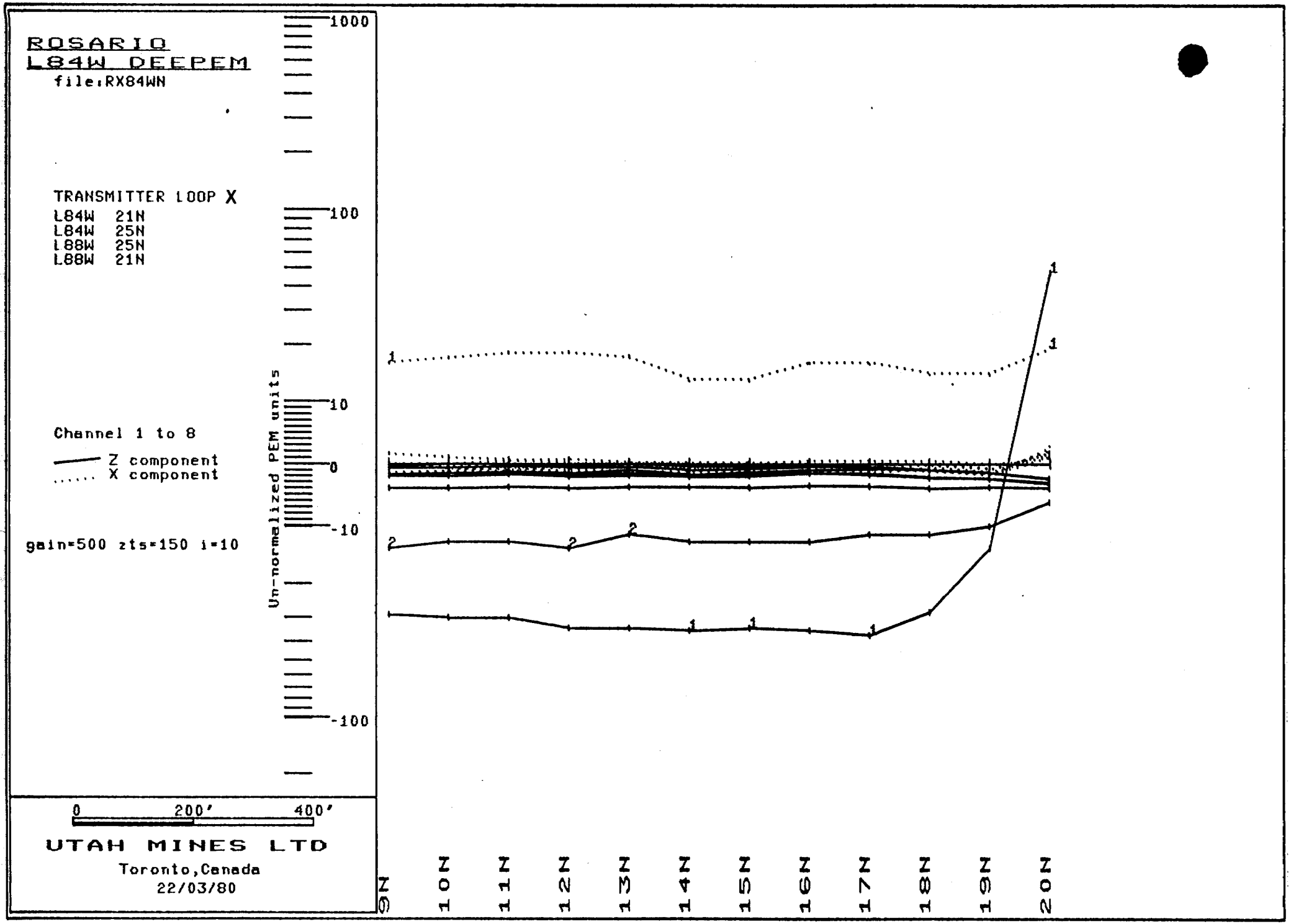
UTAH MINES LTD
Toronto,Canada
22/03/80


ROSARIO
L84W DEEPEM
file:RX84WN
TRANSMITTER LOOP X
L84W 21N
L84W 25N
L88W 25N
L88W 21N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
100
10
0
-10
-100
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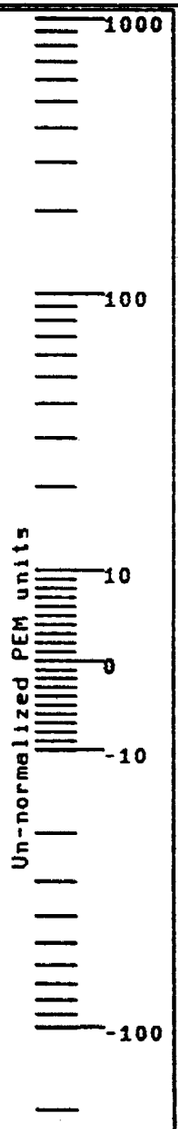
200'
400'
UTAH MINES LTD
Toronto,Canada
22/03/80
9N
10N
11N
12N
13N
14N
15N
16N
17N
18N
19N
20N

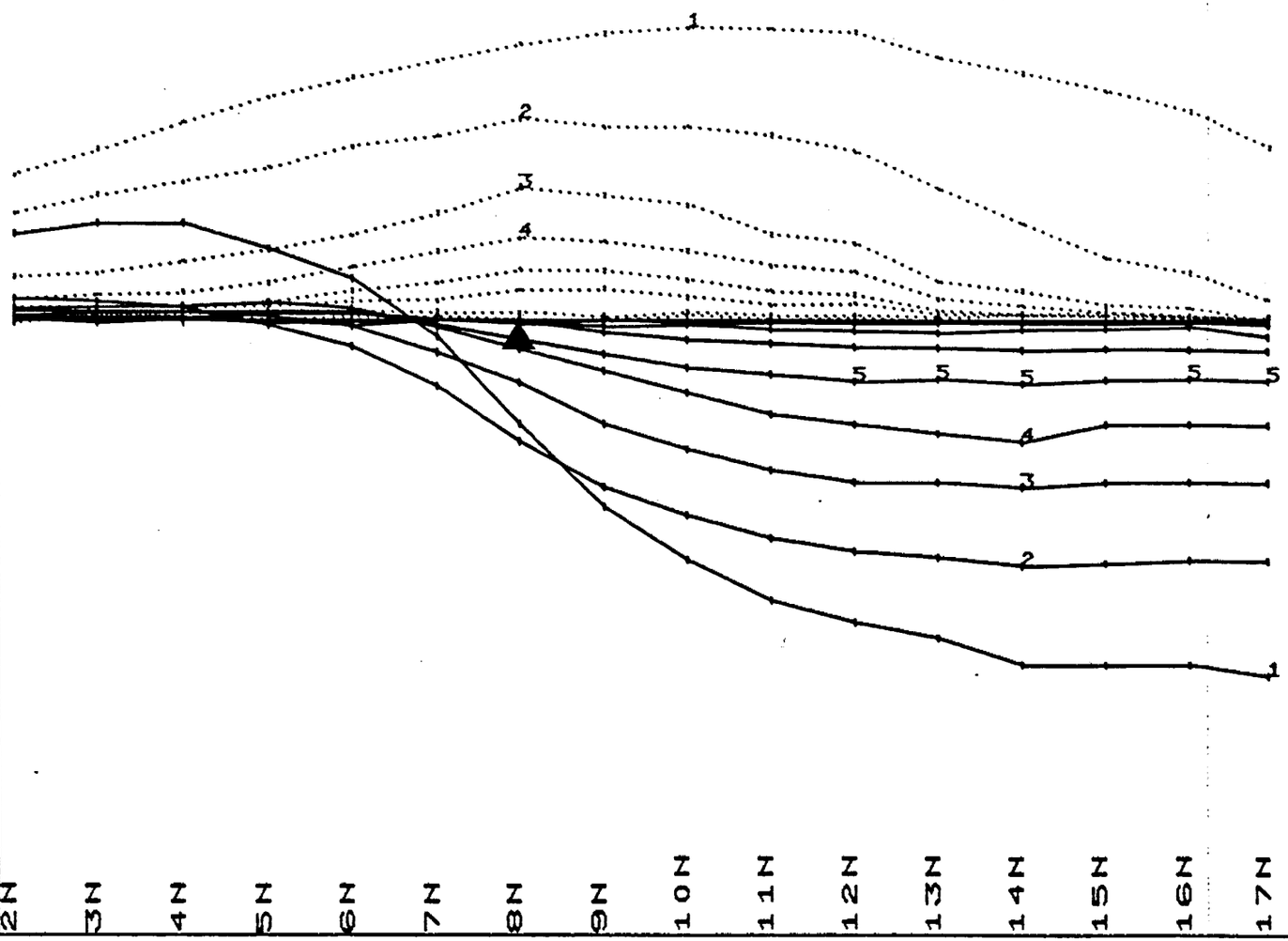
ROSARIO
L32E DEEPEM
file:Ry32EN

TRANSMITTER LOOP Y
L28E 18N
L28E 22N
L32E 22N
L32E 18N

Channel 1 to 8
Z component
X component

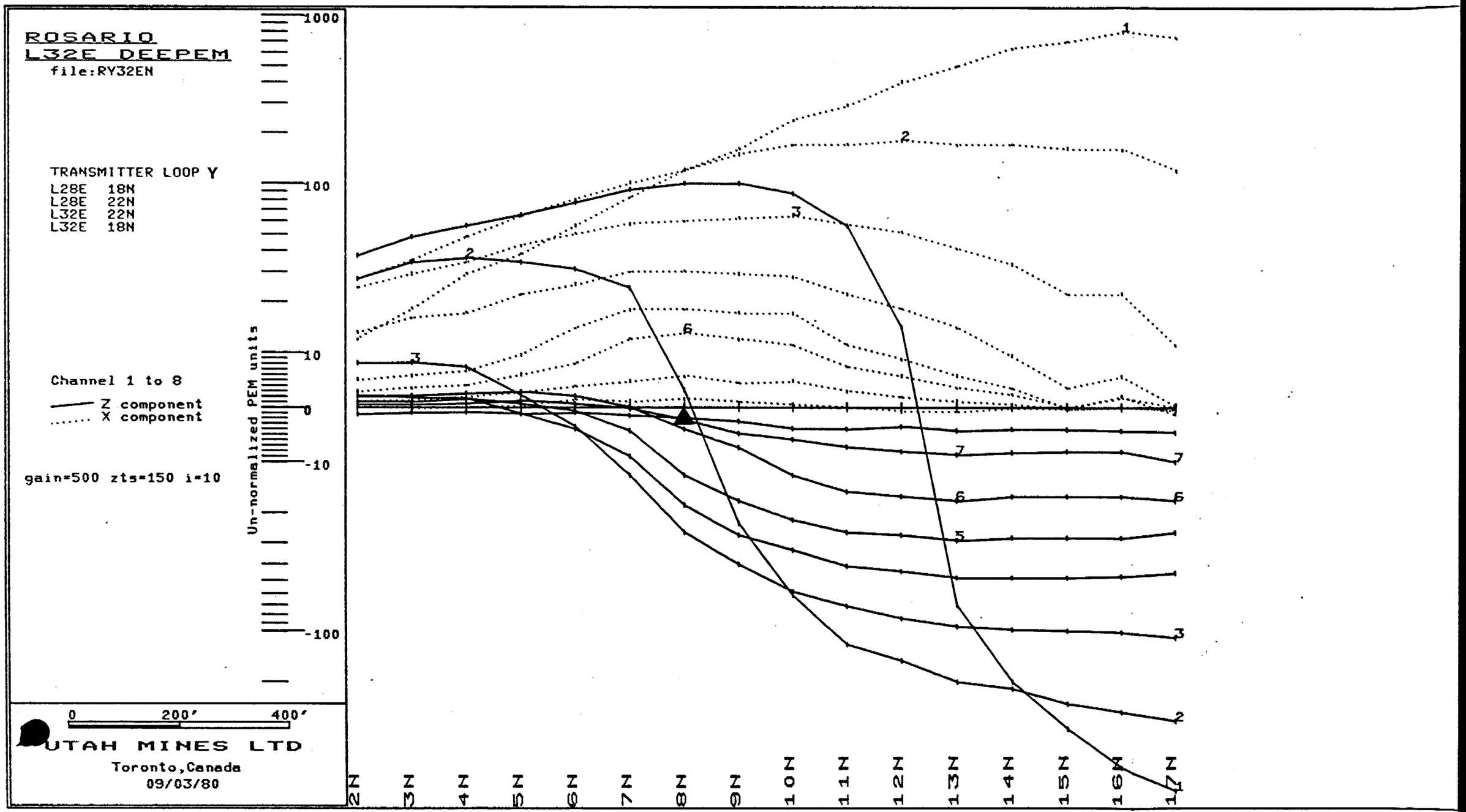
gain=500 zts=150 i=20





0 200' 400'

UTAH MINES LTD
Toronto, Canada
09/03/80


ROSARIO
L32E DEEPEM
file:RY32EN
TRANSMITTER LOOP Y
L28E 18N
L28E 22N
L32E 22N
L32E 18N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
1000
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0 200' 400'
UTAH MINES LTD
Toronto,Canada
09/03/80
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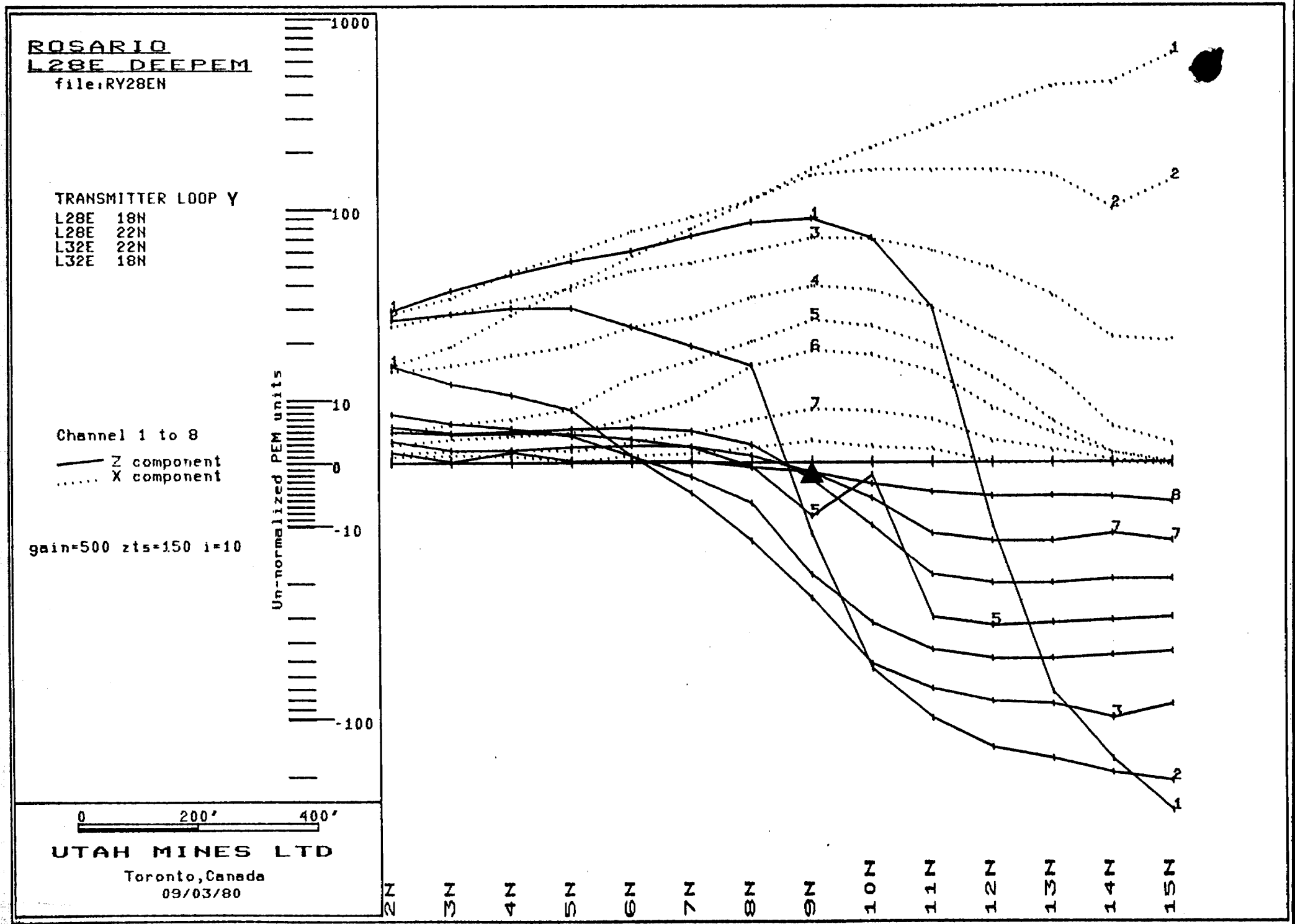
ROSARIO
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L28E 22N
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L32E 18N
Channel 1 to 8
Z component
X component
gain=500 zts=150 i=10
Un-normalized PEM units
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UTAH MINES LTD
Toronto,Canada
09/03/80
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ROSARIO
L28E DEEPEM

file:Ry28EN

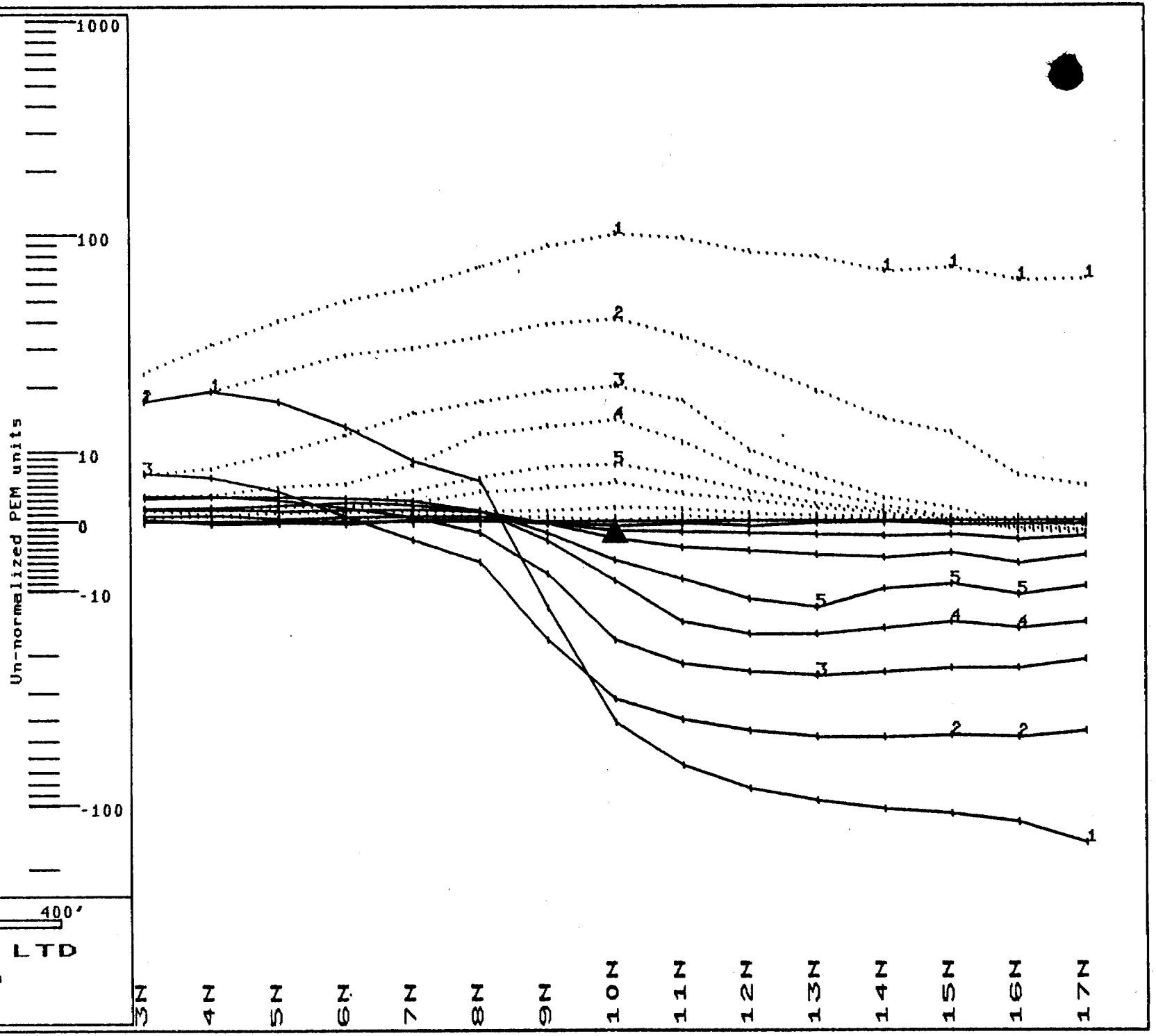
TRANSMITTER LOOP Y

L28E 18N
L28E 22N
L32E 22N
L32E 18N

Channel 1 to 8

Z component
..... X component

gain=500 zts=150 i=20



0 200' 400'

UTAH MINES LTD

Toronto, Canada

09/03/80

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

#148

The Min

42A13SE0049 2.4695 REID

900

Type of Survey(s)
DEEPEM time domain electromagnetic survey

Township or Area
Reid Mahaffy

Claim Holder(s)
Rosario Resources Ltd.

Prospector's Licence No.
2.4695

Address
c/o AMAX Minerals Exploration, 14th Floor, 7 King St. East, Toronto, Ontario M5C 1A2

Survey Company
Utah Mines Ltd.

Date of Survey (from & to)
8 02 80 (Day Mo. Yr.) — 6 04 82 (Day Mo. Yr.)

Total Miles of line Cut

Name and Address of Author (of Geo-Technical report)
Peter A. Diorio, Utah Mines Ltd., 4 King Street, West, Suite 1406, Toronto, Ontario

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	· Electromagnetic	
	· Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	· Radiometric	
	· Other	
	Geological	
	Geochemical	
Man Days		**Days per Claim**
Complete reverse side and enter total(s) here	Geophysical	
	· Electromagnetic	22.1
	· Magnetometer	
	· Radiometric	
	· Other	
	Geological	
	Geochemical	
Airborne Credits		**Days per Claim**
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	499 582	
	499 598	
	499 599	
	499 601	
	499 621	
	499 628	
	499 629	
	499 630	
	499 633	
	499 634	
	499 636	
	499 638	
	499 639	
	499 641	
	499 642	
	499 643	
	499 644	
	499 645	
	499 646	
	499 647	
	499 648	
	499 649	
	499 653	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	499 654	
	499 655	
	499 656	
	499 658	
	499 663	
	499 664	
	499 665	
	499 672	
	499 673	
	501 594	
	501 597	
	506 824	
	517 029	

RECEIVED
MAY 25 1982
MINING LANDS SECTION

RECORDED
APR 16 1982
Receipt No. .....

Total number of mining claims covered by this report of work. 36

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

PORCUPINE MINING DIVISION
RECEIVED
APR 16 1982
AM

Calculation of Expenditure Days Credits

Total Expenditures: $ 7 8 9 10 11 12 1 2 3 4 5 6 PM = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded: 7956

Date Recorded: Apr. 30/82

Date Approved as Recorded: 83.04.25

Mining Recorder

Regional Mining Recorder

Date: 6 April 1982

Recorded Holder or Agent (Signature)

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
Peter Diorio, Utah Mines Ltd.

4 King St. West, Suite 1406, Toronto, Ontario

Date Certified: 6/04/82

Certified by (Signature)

2.4695

2.4695 — 499597

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

#149

The Mining Act

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s)	Township or Area
IP Survey	Reid Mahaffy

Claim Holder(s) — Prospector's Licence No.

Rosario Resources Ltd.

Address

c/o AMAX Minerals Exploration, 14th Floor, 7 King St. East, Toronto, Ontario

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
Utah Mines Ltd.	8 08 80 (Day Mo. Yr.) 6 4 82 (Day Mo. Yr.)	

Name and Address of Author (of Geo-Technical report)

Peter A. Diorio, Utah Mines Ltd., 4 King St. West, Suite 1406, Toronto, Ontario

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	· Electromagnetic	
	· Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	· Radiometric	
	· Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical	
	· Electromagnetic	
	· Magnetometer	
	· Radiometric	
	· Other IP	20.43
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

RECEIVED
PORCUPINE MINING DIVISION
MAY 17 1982

Calculation of Expenditure Days Credits

Total Expenditures $ ____ + PH 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Date	Recorded Holder or Agent (Signature)
6 April 1982	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	499 601	
	499 602	
	499 622	
	499 625	
	499 626	
	499 627	
	499 628	
	499 629	
	499 630	
	499 633	
	499 634	
	499 639	
	499 654	
	499 655	
	499 656	
	499 657	
	499 658	
	499 659	
	501 588	
	501 589	
	501 594	
	501 597	
	501 598	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	501 599	
	506 824	
	506 825	
	506 826	
	506 827	
	506 828	
	506 829	
	506 830	
	506 831	
	517 029	
	517 030	
	539 937	
	539 938	
	539 939	

RECEIVED
MAY 25 1982
MINING LANDS SECTION

RECORDED
APR 16 1982
Receipt No.....

Total number of mining claims covered by this report of work. 37

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
75591	Apr. 16/82	
	Date Approved as Recorded 83.04.25	Branch Director

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying

Peter Diorio, Utah Mines Ltd.

4 King St. West, Suite 1406, Toronto, Ontario

Date Certified 6/04/82

Certified by (Signature)

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Induced Polarization

Township or Area Reid and Mahaffy Townships

Claim Holder(s) Rosario Resources Ltd.

Survey Company Utah Mines Ltd.

Author of Report Peter A. Diorio

Address of Author 4 King St. West, #1406, Toronto, Ont.

Covering Dates of Survey 8/08/80 to 6/04/82
(linecutting to office)

Total Miles of Line Cut _____

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
–Electromagnetic _____
–Magnetometer _____
–Radiometric _____
–Other _____
Geological _____
Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: 06/04/82 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED
APR 15 1982
MINING LANDS SECTION

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
499 601	501 594
499 602	501 597
499 622	501 598
499 625	501 599
499 626	506 824
499 627	506 825
499 628	506 826
499 629	506 827
499 630	506 828
499 633	506 829
499 634	506 830
499 639	506 831
499 654	517 029
499 655	517 030
499 656	539 937
499 657	539 938
499 658	539 939
499 659	
501 588	
501 589	

TOTAL CLAIMS 37

If space insufficient, attach list

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations 502 Number of Readings 1678 chargeabil[illegible] 1678 Resistivity

Station interval 200' dipole Line spacing 800, 400'

Profile scale N/A

Contour interval as shown

MAGNETIC

Instrument

Accuracy – Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument

Coil configuration

Coil separation

Accuracy

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency (specify V.L.F. station)

Parameters measured

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument IPR-7 Receiver / Elliot 2 Kw Transmitter

Method ☒ Time Domain ☐ Frequency Domain

Parameters – On time 2 Sec Frequency

– Off time 2 Sec Range

– Delay time .45 Sec

– Integration time .65 Sec

Power 2000 watts

Electrode array Pole - Dipole

Electrode spacing 200'

Type of electrode steel stake

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

_____

_____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

_____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

_____

Drainage Development _____

Estimated Range of Overburden Thickness _____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

_____

_____

_____

General _____

_____

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ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

_____

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_____

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) "DEEPEM" Electromagnetic Survey

Township or Area Reid and Mahaffy Townships

Claim Holder(s) Rosario Resources Ltd.

Survey Company Utah Mines Ltd.

Author of Report Peter A. Diorio

Address of Author 4 King St. West, #1406, Toronto

Covering Dates of Survey 8/02/80 to 6/04/82
(linecutting to office)

Total Miles of Line Cut _____

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
--Electromagnetic _____
--Magnetometer _____
--Radiometric _____
--Other _____
Geological _____
Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: 06/04/82 SIGNATURE: P Diorio
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED
APR 15 1982
MINING LAND ...ION

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
499 582	499 648
499 598	499 649
499 599	499 653
499 601	499 654
499 621	499 655
499 628	499 656
499 629	499 658
499 630	499 663
499 633	499 664
499 634	499 665
499 636	499 672
499 638	499 673
499 639	501 594
499 641	501 597
499 642	506 824
499 643	517 029
499 644	
499 645	
499 646	
499 647	

TOTAL CLAIMS 36

If space insufficient, attach list

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations 832 Number of Readings 832

Station interval 100' Line spacing 400'

Profile scale linear / logrithmic as shown

Contour interval

MAGNETIC

Instrument

Accuracy – Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument Crone PEM

Coil configuration Large loop fixed transmitter

Coil separation N/A

Accuracy Repeatable to .02% of maximum reading

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency Time domain with 10.8 m sec "on" and 10.8 m sec "off". Ramp shut-off in 1.4 m sec
(specify V.L.F. station)

Parameters measured Vertical and horizontal magnetic component of secondary field at 8 sample windows (.15, .30, .55,.90, 1.45,2.40,4.00 and 6.40 m sec after shut-off).

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

– Integration time

Power

Electrode array

Electrode spacing

Type of electrode

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

Drainage Development _____

Estimated Range of Overburden Thickness _____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

General _____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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Type of Survey(s) Induced Polarization

Township or Area Reid and Mahaffy Townships

Claim Holder(s) Rosario Resources Ltd.

Survey Company Utah Mines Ltd.

Author of Report Peter A. Diorio

Address of Author 4 King St. West, #1406, Toronto, Ontario

Covering Dates of Survey 8/08/80 to 6/04/82
(linecutting to office)

Total Miles of Line Cut _____

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
–Electromagnetic _____
–Magnetometer _____
–Radiometric _____
–Other _____
Geological _____
Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: 06/04/82 SIGNATURE: P. Diorio
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED
APR 15 1982
MINING LANDS SECTION

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
499 601	501 594
499 602	501 597
499 622	501 598
499 625	501 599
499 626	506 824
499 627	506 825
499 628	506 826
499 629	506 827
499 630	506 828
499 633	506 829
499 634	506 830
499 639	506 831
499 654	517 029
499 655	517 030
499 656	539 937
499 657	539 938
499 658	539 939
499 659	
501 588	
501 589	

If space insufficient, attach list

TOTAL CLAIMS 37

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations 502 Number of Readings 1678 chargeability / 1678 Resistivity

Station interval 200' dipole Line spacing 800, 400'

Profile scale N/A

Contour interval as shown

MAGNETIC

Instrument

Accuracy – Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument

Coil configuration

Coil separation

Accuracy

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency (specify V.L.F. station)

Parameters measured

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument IPR-7 Receiver / Elliot 2 Kw Transmitter

Method ☒ Time Domain ☐ Frequency Domain

Parameters – On time 2 Sec Frequency

– Off time 2 Sec Range

– Delay time .45 Sec

– Integration time .65 Sec

Power 2000 watts

Electrode array Pole - Dipole

Electrode spacing 200'

Type of electrode steel stake

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

_____

_____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

_____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

_____

Drainage Development _____

Estimated Range of Overburden Thickness _____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

_____

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_____

General _____

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ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

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Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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Type of Survey(s) "DEEPEM" Electromagnetic Survey

Township or Area Reid and Mahaffy Townships

Claim Holder(s) Rosario Resources Ltd.

Survey Company Utah Mines Ltd.

Author of Report Peter A. Diorio

Address of Author 4 King St. West, #1406, Toronto

Covering Dates of Survey 8/02/80 to 6/04/82
(linecutting to office)

Total Miles of Line Cut _____

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
--Electromagnetic _____
--Magnetometer _____
--Radiometric _____
--Other _____
Geological _____
Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: 06/04/82 SIGNATURE: P. Diorio
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED
APR 15 1982
MINING LANDS SECTION

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
499 582	499 648
499 598	499 649
499 599	499 653
499 601	499 654
499 621	499 655
499 628	499 656
499 629	499 658
499 630	499 663
499 633	499 664
499 634	499 665
499 636	499 672
499 638	499 673
499 639	501 594
499 641	501 597
499 642	506 824
499 643	517 029
499 644	
499 645	
499 646	
499 647	

If space insufficient, attach list

TOTAL CLAIMS 36

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS -- If more than one survey, specify data for each type of survey

Number of Stations 832 Number of Readings 832

Station interval 100' Line spacing 400'

Profile scale linear / logrithmic as shown

Contour interval

MAGNETIC

Instrument

Accuracy -- Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument Crone PEM

Coil configuration Large loop fixed transmitter

Coil separation N/A

Accuracy Repeatable to .02% of maximum reading

Method: ☒ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency Time domain with 10.8 m sec "on" and 10.8 m sec "off", Ramp shut-off in 1.4 m sec
(specify V.L.F. station)

Parameters measured Vertical and horizontal magnetic component of secondary field at 8 sample windows (.15,.30,.55,.90,1.45, 2.40,4.00 and 6.40 m sec after shut-off).

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters -- On time Frequency

-- Off time Range

-- Delay time

-- Integration time

Power

Electrode array

Electrode spacing

Type of electrode

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

_____

_____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

_____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

_____

Drainage Development _____

Estimated Range of Overburden Thickness _____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

_____

_____

_____

General _____

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ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

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2.4695

UTAH MINES LTD.

MINERAL EXPLORATION

SUITE 1406, 4 KING STREET WEST, TORONTO, ONTARIO, CANADA M5H 1B6
(416) 368-3884

February 24, 1983

RECEIVED
FEB 25 1983
MINING LANDS SECTION

Mr. E.F. Anderson
Director,
Land Management Branch,
Whitney Block; Room 6450
Queens Park
Toronto, Ontario
M7A 1W3

Re: Your file 2.4695

Dear Sir;

As per your attached request dated February 21, 1983, the enclosed maps have been signed in order to comply with requirements for submission of assessment data. Also enclosed is a brief resume of the author of the report.

Yours truly,

P. Diorio

P. Diorio
PD/bm

February 23, 1983

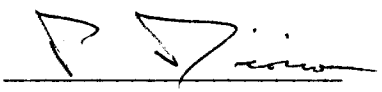
RESUME

NAME: Peter A. Diorio

EDUCATION: Honours B Sc in Geology and Physics from Carleton University, Ottawa. (1976)

EMPLOYMENT HISTORY: 1976 to 1980 - Geophysicist with Sander Geophysics Ltd., Kanata, Ontario

1980 to present - Geophysicist with Utah Mines Ltd., Toronto, Ontario

Per 

P. Diorio

PD/bm

1983 02 21 2.4695

Utah Mines Limited
Suite 1406
4 King Street West
Toronto, Ontario
M5H 1B6

Attention: Mr. P.D. Diorio.

Dear Sirs:

RE: Geophysical (Electromagnetic) and Induced Polarization Survey submitted on Mining Claims P 499601 et al in the Townships of Reid and Mahaffy

---

Enclosed are the plans, in duplicate, for the above mentioned survey. In order to complete your submission we require that all maps be signed.

Enclosed also is the requirements re: Qualifications of author of Geotechnical report, please provide a brief resume for our records.

For further information, please contact Mr. F.W. Matthews at 416/965-1380.

Yours very truly

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

A. Barr:sc

Encls:

cc: Rosario Resources Limited
Toronto, Ontario

cc: Mining Recorder
Timmins, Ontario

Ontario Resources

Report Approval

2.4695

Mining Lands Comments

mod work breakdown - see report-7.

~~EM maps have no numbers~~

☑ To: Geophysics Mr. Barlow.

Comments

- maps not signed

☑ Approved ☐ Wish to see again with corrections | Date Jan 3/83 | Signature Roger Barlow

☐ To: Geology - Expenditures

Comments

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Geochemistry

Comments

(1)

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1982 04 19 2.4695

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

We have received reports and maps for a Geophysical (Electromagnetic) and Induced Polarization Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims P 499601 et al in the Townships of Reid and Mahaffy.

This material will be examined and assessed and a statement of assessment work credits will be issued.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316

J. Skura/amc

cc: Utah Mines Ltd.
Toronto, Ontario

UTAH MINES LTD.

MINERAL EXPLORATION

SUITE 1406, 4 KING STREET WEST, TORONTO, ONTARIO, CANADA M5H 1B6

(416) 368-3884

April 14, 1982

Mr. J.C. Smith,
Supervisor
Mining Land Section,
Ministry of Natural Resources,
Rm. 6451 Whitney Block,
99 Wellesly St. West,
Toronto, Ontario
M78 1W3

Dear Mr. Smith:

Please find enclosed 2 copies of the Geophysical Report on IP and EM surveys covering claims in Reid and Mahaffy townships in the Porcupine Mining Division. Geophysical plans and technical data statements are appended.

Yours truly,

P.D. Diorio
Geophysicist

PDD/ca

Enclosures:

FILE no. 2.4695

IP

P499 601	✓		501 594	✓	
602	✓		597	✓	
622	✓		598	✓	
625	✓		599	✓	
626	✓		506 824	✓	
627	✓		825	✓	
628	✓		826	✓	
629	✓		827	✓	
630	✓		828	✓	
633	✓		829	✓	
634	✓		830	✓	
639	✓		831	✓	
654	✓		517 029	✓	
655	✓		030	✓	
656	✓		539 937	✓	
657	✓		539 938	✓	
658	✓		539 939	✓	
659	✓				
501 588	✓		37 claims		
501 589	✓				

FILE 2.4695

	EM
P 499 582	✓
598	✓
599	✓
601	✓
621	✓
628	✓
629	✓
630	✓
633	✓
634	✓
636	✓
638	✓
639	✓
641	✓
642	✓
643	✓
644	✓
645	✓
646	✓
647	✓
648	✓
649	✓
653	✓

499 654	✓
655	✓
656	✓
658	✓
663	✓
664	✓
665	✓
672	✓
673	✓
501 594	✓
597	✓
506 824	✓
517 029	✓

36 claims

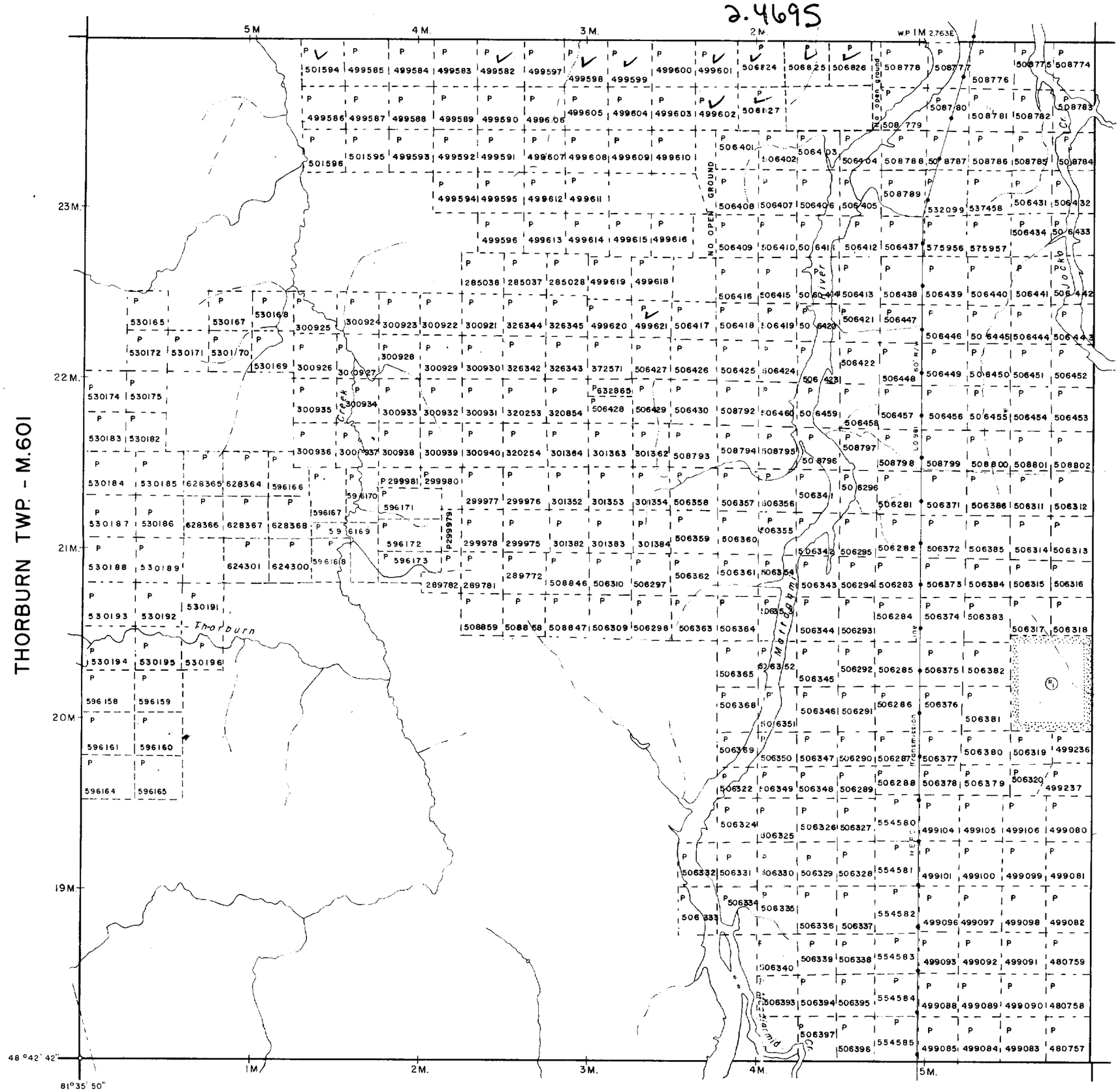
MAHAFFY TWP. - M.540

2.4695

THORBURN TWP. - M.601

CARNEGIE TWP. - M.441

MACDIARMID TWP. - M. 294



THE TOWNSHIP OF

REID

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.
PATENTED FOR S.R.O.	

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

Subdivision of this twp. into lots and concessions annulled Aug. 19, 1953.

Flooding rights for areas along Mattagami River are reserved to Ontario Hydro. L.O.7085

Areas withdrawn from staking under Section 36 of the Mining Act (R.S.O. 1980.)

Order No.	File	Date	Disposition
(R1) W.5/82	188543	3/8/82	S.R.&M.R.

DATE OF ISSUE
JAN 11 1983
Ministry of Natural Resources
TORONTO

PLAN NO. M.575

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

42A13SE0049 2.4695 REID

200

b.k.

NOTES

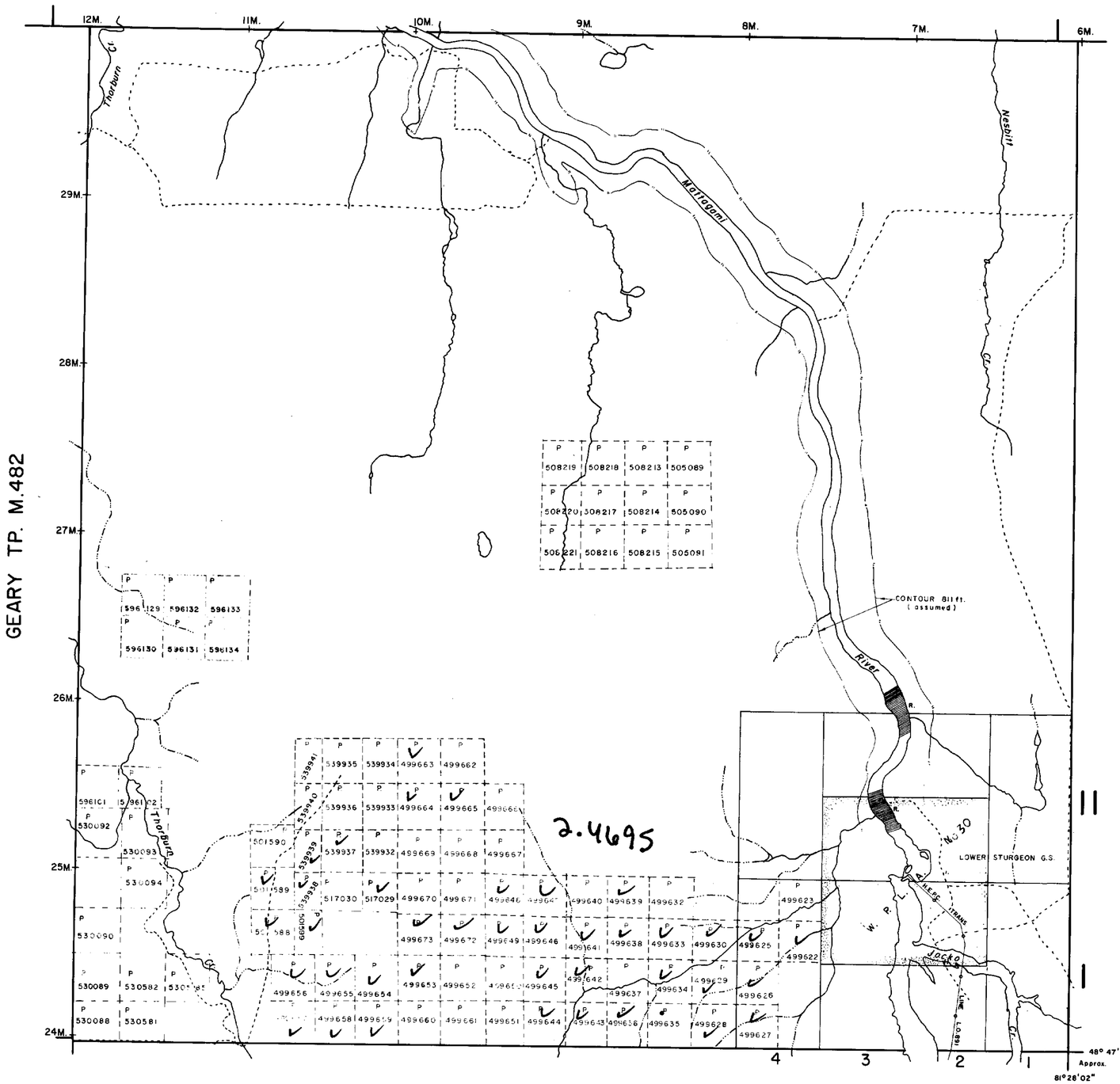
400' surface rights reservation along the shores of all lakes and rivers.

Subdivision of this township into lots and consessions is partially annalled July 2,63.

L.O. 7085 - Flooding Rights in lots 1,2 and 3, Con. I to Ontario Hydro.

Flooding rights to contour elevation 811 ft. on Mattagami River reserved to Ontario Hydro.

AUBIN TP. M.407



GEARY TP. M.482

CRAWFORD TP. M.457

REID TP. M.575

LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	◒
" MINING RIGHTS ONLY	◒
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	◨
" MINING RIGHTS ONLY	◨
LICENCE OF OCCUPATION	▼
CROWN LAND SALE	C.S.
ORDER-IN-COUNCIL	OC
RESERVATION	⊕
CANCELLED	⊗
SAND & GRAVEL	S

SCALE : 1 INCH 40 CHAINS

FEET 0 500 1000 2000 4000 6000 8000

METRES 0 200 400 600 800 1 KM 2 KM

ACRES	HECTARES
40	16

TOWNSHIP

MAHAFFY

DISTRICT

COCHRANE

MINING DIVISION

PORCUPINE

Ministry of Natural Resources

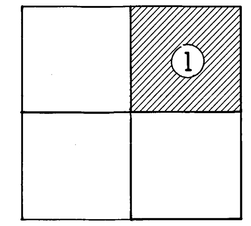
Ontario Surveys and Mapping Branch

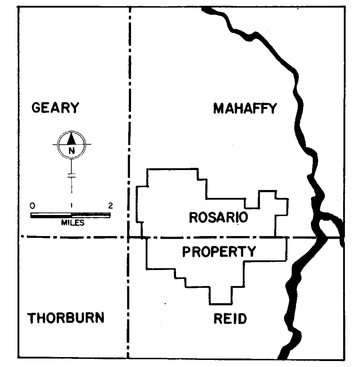
Date MAY 3, 1973

Whitney Block Queen's Park, Toronto

Plan No. M.540

SHEET INDEX





LEGEND

- CONDUCTOR
- DRILL HOLE
- GRID LINE SURVEYED, UNSURVEYED
- TRANSMITTER LOOP

N

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

UTAH-ROSARIO JOINT VENTURE

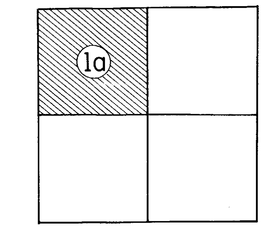
DEEPEM SURVEY

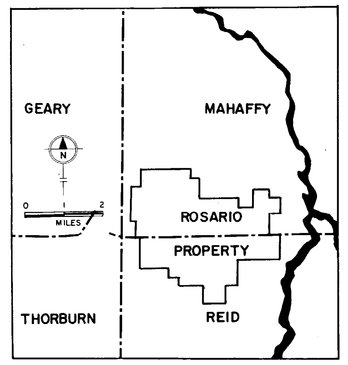
DATE	DRAWN	CHECKED	REVISED	NTS	FILE	MAP
AUG. '90						1 OF 4

0 400 800 1200 1600 FEET

23/4/91

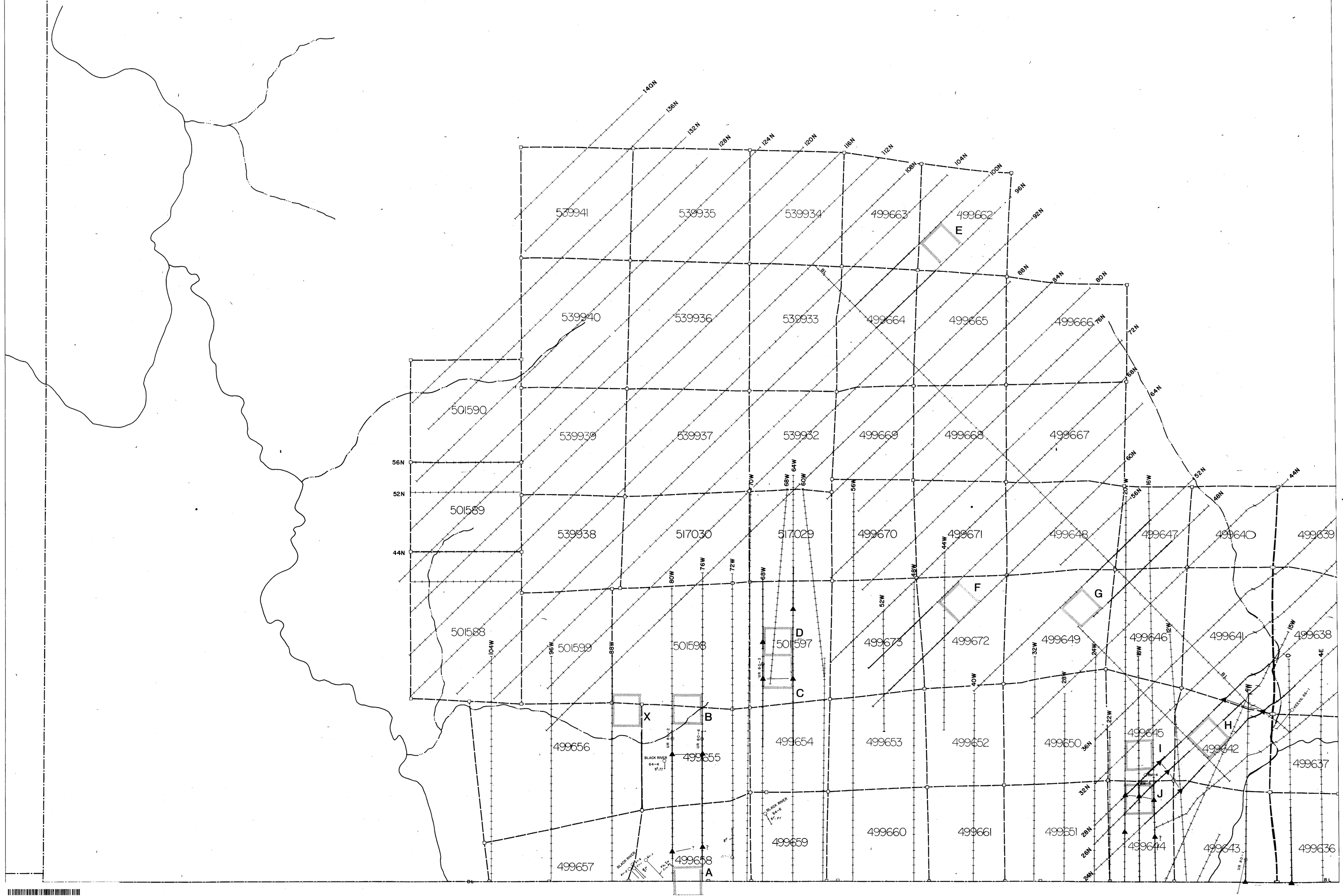
SHEET INDEX

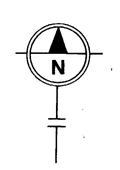




LEGEND

- CONDUCTOR
- DRILL HOLE
- GRID LINE SURVEYED, UNSURVEYED
- TRANSMITTER LOOP





UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

1a

UTAH-ROSARIO JOINT VENTURE

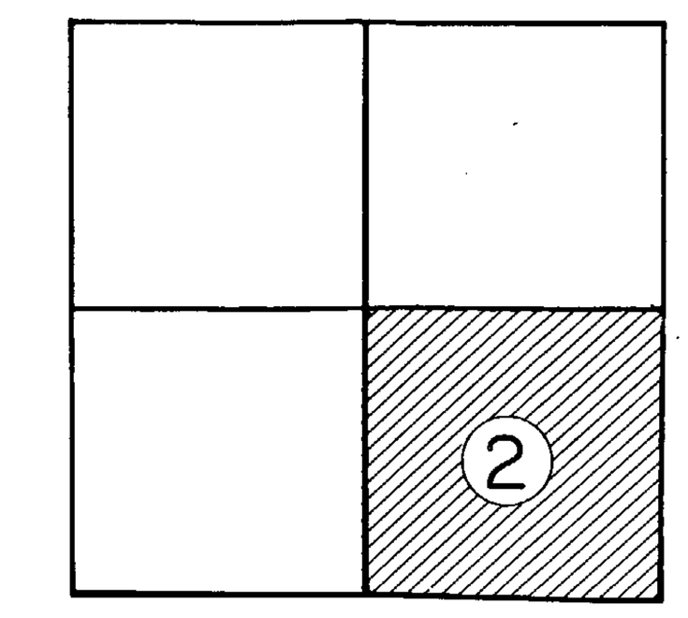
DEEPEM SURVEY

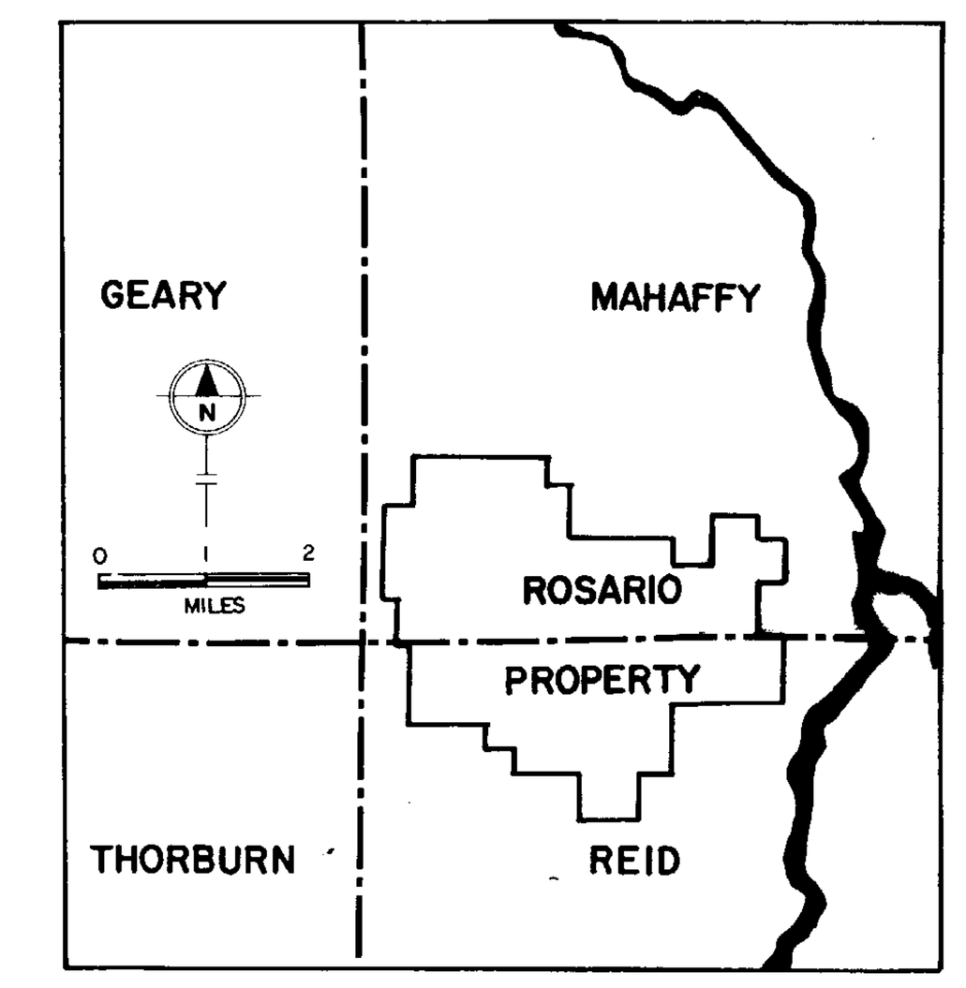
DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
AUG '80						1 OF 4

0 400 800 1200 1600
FEET

23/01/81

SHEET INDEX





LEGEND

- ▼ CONDUCTOR
- DRILL HOLE
- GRID LINE SURVEYED, UNSURVEYED
- TRANSMITTER LOOP

N

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA
2

UTAH-ROSARIO JOINT VENTURE

DEEPEM SURVEY

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
AUG. '80						1 OF 4

0 400 800 1200 1600
FEET

P. Dirio 23/02/83 2.469

240

CALTOR 72-EQ
CALTOR 72-AQ
CALTOR 72-I

A

501594 | 499585 | 499584 | 499583 | 499582 | 499597 | 499598 | 499599

499586 | 499587 | 499588 | 499589 | 499590 | 499606 | 499605 | 499604

501596 | 501595 | 499593 | 499592 | 499591 | 499601 | 499608 | 499609

499594 | 499595 | 499612 | 499611 | 501591

501593 | 499596 | 499613 | 499614 | 499615

285038 | 285037 | 285028 | 499618

300925 | 300924 | 300923 | 300922 | 300921 | 326344 | 326345 | 499621 W

300926 | 300927 | 300928 | 300929 | 300930 | 326342 | 326343 | 372571

88W 84W 80W 76W 72W 68W 64W 60W 56W 52W 48W 44W 40W 36W 32W 28W 24W 20W 16W 12W 10W 8W 6W 4W 4E

K L M N O BL

SHEET INDEX

2a

GEARY | MAHAFFY | ROSARIO | PROPERTY | THORBURN | REID

0 1 2 MILES

LEGEND

- CONDUCTOR
- DRILL HOLE
- GRID LINE SURVEYED, UNSURVEYED
- TRANSMITTER LOOP

N

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

29

UTAH-ROSARIO JOINT VENTURE

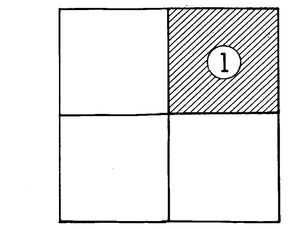
DEEPEM SURVEY

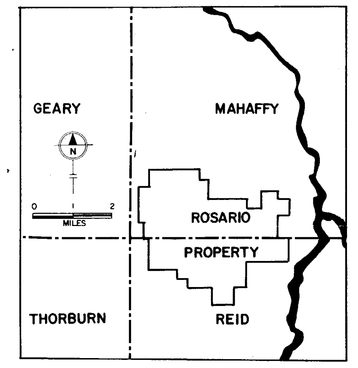
DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
AUG. '80						1 OF 4

0 400 800 1200 1600 FEET

23/02/83

SHEET INDEX





R

R

DAM

STURGEON FALLS

H.E.P.C.

H.E.P.C.

501601

501600

501601

501602

499632

499631

499624

499633

499630

499625

499622

499634

499629

499626

506831

499639

499628

499627

506830

60E

64E

68E

72E

48E

52E

36N

28N

24N

20N

24E

28E

32E

36E

40E

8E

12E

16E

20E

CUR 80-5

CUR 80-4

CRM-2

CRD 152-7

DU PORC#3

DU PORC#2

BL

LEGEND

ANOMALOUS ZONE DEFINITE, PROBABLE

DRILL HOLE

GRID LINE SURVEYED, UNSURVEYED

N

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

UTAH-ROSARIO JOINT VENTURE

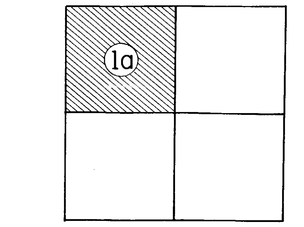
INDUCED POLARIZATION

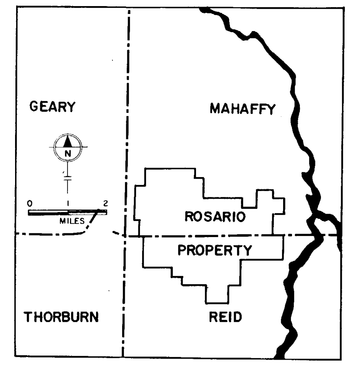
DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
						0F

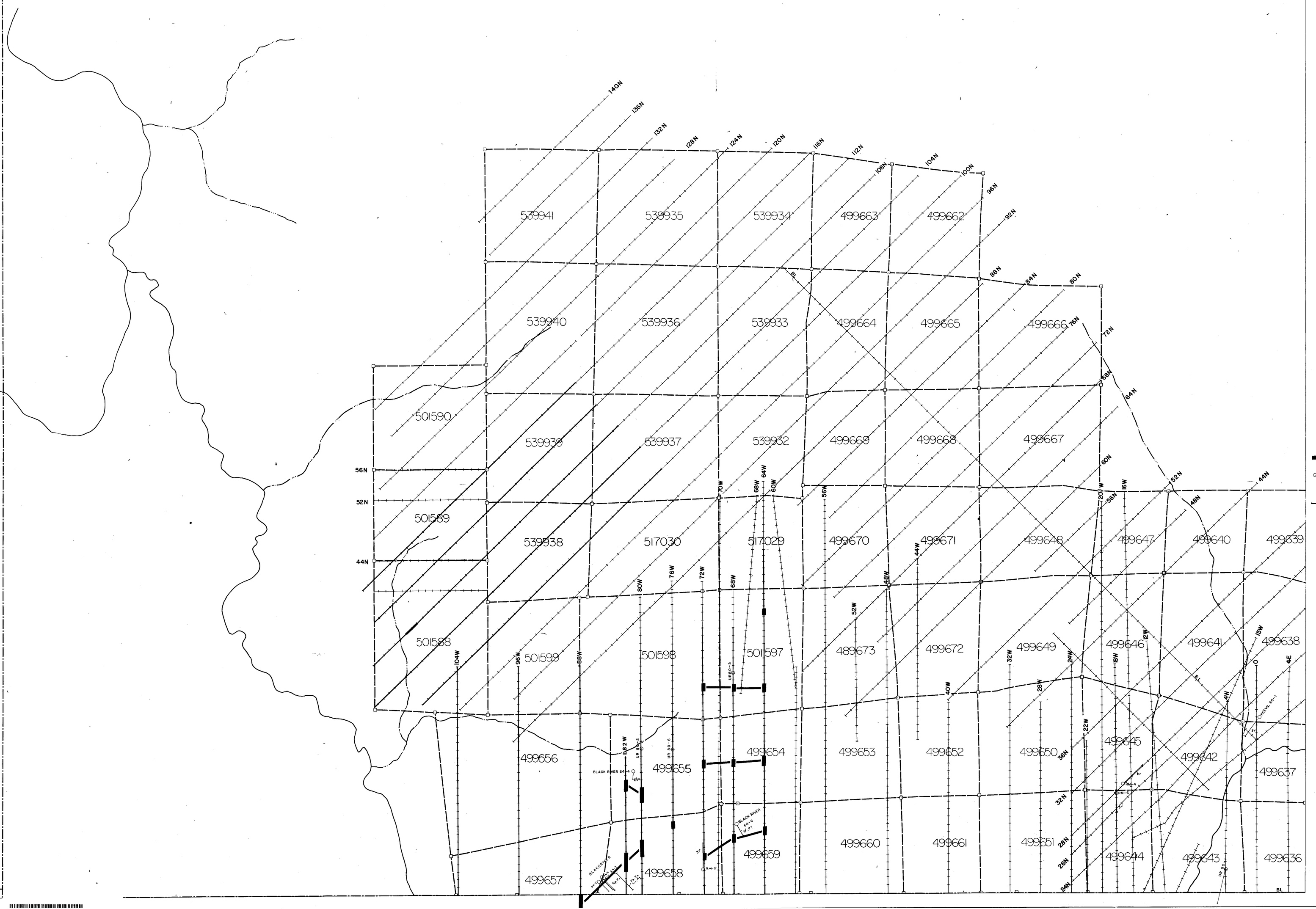
0 400 800 1200 1600
FEET

2400
23/01/81

SHEET INDEX







LEGEND

- ANOMALOUS ZONE DEFINITE, PROBABLE
- DRILL HOLE
- GRID LINE SURVEYED, UNSURVEYED

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

1a

UTAH-ROSARIO JOINT VENTURE

INDUCED POLARIZATION

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
						OF

0 400 800 1200 1600
FEET

P. 4675
2/04/83

BL

20E

499600 | 499601 | 506824 | 506825 | 506826

28E

499603 | 499602 | 506827 | 506828 | 506829

24E | 32E | 36E | 40E | 44E | 48E | 52E | 56E | 60E | 64E | 68E

499610

16E

501592

499616

499618 | 499617

16E | 20E

499621

8E | 12E

372570

MATTAGAMI RIVER

H.E.P.C.

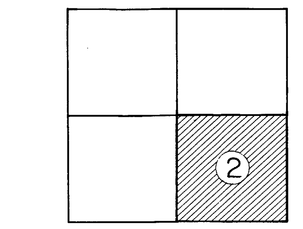
JOCKO CREEK

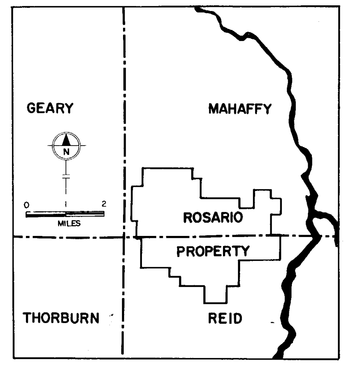
495323 | 495324

495326 | 495325

H.E.P.C.

SHEET INDEX





LEGEND

ANOMALOUS ZONE
DEFINITE, PROBABLE

DRILL HOLE

GRID LINE
SURVEYED, UNSURVEYED

N

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

2

UTAH-ROSARIO JOINT VENTURE

INDUCED POLARIZATION

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
						OF

0 400 800 1200 1600
FEET

2469

CALTOR 72-3
CALTOR 72-4S
CALTOR 72-1

501594 | 499585 | 499584 | 499583 | 499582 | 499597 | 499598 | 499599

499586 | 499587 | 499588 | 499589 | 499590 | 499606 | 499605 | 499604

501596 | 501595 | 499593 | 499592 | 499591 | 499601 | 499608 | 499609

499594 | 499595 | 499612 | 499611 | 501591

501593 | 499596 | 499613 | 499614 | 499615

285038 | 285037 | 285028 | 499618

300925 | 300924 | 300923 | 300922 | 300921 | 326344 | 326345 | 499621

300926 | 300927 | 300928 | 300929 | 300930 | 326342 | 326343 | 372571

70W 56W 32W 28W 24W 20W 16W 12W 8W 4W 0 4E

88W 84W 80W 76W 72W 68W 64W 60W

52W 48W 44W 40W 28W 24W 20W 16W 12W 10W 8W 6W 4W

BL

SHEET INDEX

2a

GEARY
MAHAFFY
ROSARIO
PROPERTY
THORBURN
REID
0 1 2 MILES

LEGEND

ANOMALOUS ZONE DEFINITE, PROBABLE

DRILL HOLE

GRID LINE SURVEYED, UNSURVEYED

N

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

2a

UTAH-ROSARIO JOINT VENTURE

INDUCED POLARIZATION

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
						OF

0 400 800 1200 1600 FEET

2695
23/6/72