COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 82F/8

GEOPHYSICAL REPORT

UTEM SURVEY ON THE

L E W C L A I M S

Fort Steele Mining Division

Latitude : 49°17'N; Longitude : 116°04'W

Work Performed by: Dr. J. J. Lajoie, Tom Eadie & Bob Holroyd

Claim Owner and Operator : Cominco Ltd.

Part 1 of 2

DECEMBER 1980

E. Tom Eadie

8844

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COMINCO LTD.

EXPLORATION WESTERN DISTRICT

GEOPHYSICAL REPORT

UTEM SURVEY ON THE LEWIS CREEK CLAIMS

List of Claims

Cominco Interest = 100%

Adjoining Cominco's "VINE GROUP" to the west, Fort Steele M.D., B.C.:

Property:- 20 Claims (342 units) + 1 claim (18 units) = (360 units)

Name	Number of Units	Record Numbers	Date Recorded	Assessment Work Due
LEW 1	16	906	May 5, 1980	May 5, 1981
LEW 2	16	907	May 5, 1980	May 5, 1981
LEW 3	20	908	May 5, 1980	May 5, 1981
LEW 4	20	909	May 5, 1980	May 5, 1981
LEW 5	20	910	May 5, 1980	May 5, 1981
LEW 6	20	911	May 5, 1980	May 5, 1981
LEW 7	20	912	May 5, 1980	May 5, 1981
LEW 8	20	913	May 5, 1980	May 5, 1981
LEW 9	20	914	May 5, 1980	May 5, 1981
LEW 10	15	915	May 5, 1980	May 5, 1981
LEW 11	16	916	May 5, 1980	May 5, 1981
LEW 12	20	917	May 5, 1980	May 5, 1981
LEW 13	20	918	May 5, 1980	May 5, 1981
LEW 14	10	919	May 5, 1980	May 5, 1981
LEW 15	20	920	May 5, 1980	May 5, 1981
LEW 16	20	921	May 5, 1980	May 5, 1981
LEW 17	10	922	May 5, 1980	May 5, 1981
LEW 18	9	923	May 5, 1980	May 5, 1981
LEW 19	10	924	May 5, 1980	May 5, 1981
LEW 20	20	925	May 5, 1980	May 5, 1981
LEW 21	18	1001	July 28, 1980	July 28, 1981

INTRODUCTION

The Lewis Creek claims are located about 32 km S.W. of Cranbrook, B.C. (see Plate 200-80-1). The access to the west of the grid is along Highway 3 from Cranbrook and then along the Lumberton Road, the Moyie River Road and then the Lewis Creek Road. Access to east end is via Highway 3, turning off to go through the Moyie Lake Provincial Park and then following the Lamb Creek and Rabbit Foot Creek roads.

All of the lines to the northwest are accessible by a myriad of logging roads. The lines to the south are reached only by foot.

The Lewis Creek claims were staked in 1980 by Cominco Ltd. They are underlain by the clastic sediments of the Middle and Lower Aldridge Formation of Proterozoic age. These rocks have been intruded by the Moyie gabbros. The sediments of the Aldridge Formation are known to host the Sullivan orebody near Kimberley, B.C.

This report describes a UTEM electromagnetic survey which had the objective of locating electrical anomalies which may be caused by economic mineralization. It was intended to cover an area 5.5 km by 4.3 km with lines every 500 meters. The whole project would have included 82.6 km of linecutting and 58.6 km of surveying. However, because of the early onset of winter at this high elevation (1,500 to more than 2,000 meters), the survey was suspended after 78.7 km of linecutting and 36.6 km of geophysics. Twenty-five km of wire were laid out and retrieved in 5 transmitter loops (1,500 meters x 1,000 meters).

The station interval was 50 meters for a total of about 732 stations. Nine channels of information were acquired and plotted at each station for a total of about 6,600 data entries.

DESCRIPTION OF THE UTEM SYSTEM

UTEM is an acronym for "University of Toronto Electromagnetometer". The system was developed by Dr. Y. Lamontagne (1975) while he was a graduate student at that unversity. It was rented from the university for this survey.

The field procedure consists of laying out a large loop of single-strand insulated wire and energizing it with a transmitter powered by a motor generator. The loop is generally square shaped, wherever possible, with sides between 500 meters and 1,500 meters long. In this survey, the loop dimensions were 1,500 x 1,000 meters. Survey lines are located outside the loop and are generally oriented perpendicular to the side of the loop. The field procedure is very similar to Turam, a better known electromagnetic surveying method.

The transmitter loop is energized with a saw-tooth current at a carefully controlled frequency (30.5 Hz for this survey). The receiver consists of one sensor coil, associated electronics, and a facility for digital recording on a cassette magnetic tape. The time synchronization between transmitter and receiver is achieved through quartz crystal clocks in both units. Reduction of the data requires that the relative positions of the transmitter loop and receiver stations be known with an accuracy of about 1%.

The receiver sensor coil measures the vertical component of the magnetic field and it responds to the time derivative of the magnetic field. Since the transmitter current wave form is a saw-tooth, the receiver coil will sense a perfect square wave in the absence of geologic conductors. Deviations from a perfect square wave are caused by electrical conductors which may be geologic or cultural in origin.

The UTEM receiver gathers and records 9 channels of data at each station. The later number channels (7-8-9) correspond to short time or high frequency while the lower numbered channels (1-2-3) correspond to long time or low frequency. Therefore, poor or weak conductors will respond on channels 9, 8, 7 and 6. Progressively better conductors will give responses on progressively lower number channels as well. For example, massive, highly conducting sulphides or graphite will produce a response on all nine channels.

It was mentioned above that the UTEM receiver records data digitally on a cassette. This tape is played back into a mini computer at the base camp. The mini computer processes the data and controls the plotting on a small (11" x 15") graphics plotter. Data are portrayed as profiles of each of the nine channels, shown for each survey line of each transmitter loop. These profiles, and an interpretive plan are appended to this report.

FIELD WORK

A field report including personnel is in Appendix I. All surveying was done in the period from September 26 to November 6, 1980. Numerous equipment breakdowns and the early advent of snowy winter conditions, caused a suspension of the survey before the completion of the project.

These same problems, especially equipment breakdown, caused the field work to proceed at a very slow rate. For example, as can be seen in Appendix I, both the receiver and transmitter broke down twice. One of these breakdowns, which was caused by lightning, forced a delay of six days.

The grid is in the metric system. Therefore, 15N, 4E means for example, line 1,500 meters north, and station 400 meters east.

DATA PRESENTATION

The results of the survey are presented in one location map, one compilation map and 30 data sections.

The maps are listed as follows:-

Plate 200-80-1 (in envelope)	Location Map Scale 1:50,000
Plate 200-80-2 (in envelope)	UTEM Compilation Sheet Scale 1:20,000

Legends for both the UTEM compilation map and the data sections are also attached.

The data sections are arranged in order of loop number (loop 801, 802, 803, 804, 806).

In order to reduce the field data, the theoretical primary field of the loop must be computed at each station. The normalization of the data is as follows:-

a) For channel 1:

$$\% \text{ Ch 1 anomaly} = \frac{\text{Ch.1} - P}{P} \times 100\%$$

where P is the primary field from the loop at the station and Ch.1 is the observed amplitude of channel 1

b) For remaining channels (n = 2 to 9)

$$\% \text{ Ch.n anomaly} = \frac{(\text{Ch.n} - \text{Ch 1})}{\text{Ch.1}} \times 100\%$$

where Ch.n is the observed amplitude of channel n (2 to 9)

INTERPRETATION

All of the field results are displayed in the data section on 30 diagrams, with a compilation of all of the relative points on Plate 200-80-2. The transmitter loop is positioned on the east side of the lines for all of the diagrams.

Since the UTEM system measures during the transmitter ON time, the measurements are susceptible to errors in chaining and station location. However, because all readings are normalized to channel 1, the noise from orientation errors is seen only on this channel. Because channel 1 responds only to highly conductive bodies and because there were none of these bodies found in this survey, the extra noise in channel 1 is not a problem in this case.

The data sections show typical background response. This is a gradual increase in response with increasing distance from the loop. Depending on the background conductivity, the early channels (first 9, then 8 and so on) reach a maximum and then begin to decrease and go negative, one by one. The later channels (1 - 4) do not reach this maximum unless the host rock and/or overburden are very conductive.

A typical anomaly from a steeply dipping conductor is characterized by a crossover type of anomaly with the positive shoulder on the loop side and the negative shoulder on the side away from the loop. All channels affected by the anomaly cross over from the positive to the negative (taking background into account) at the same location. An example of such an anomaly, unfortunately caused by a power line is seen on Loop 801, Line 10N, Station 5W, shown in Data Section (D.S.) 4.

Power lines besides causing anomalies as shown on D.S. 3-8, also are the source of electrical noise, necessitating the use of more averaging time, thereby slowing the survey down.

A number of crossovers indicating weak conductors were found in this survey. These are indicated by an X in the data sections and compilation map with the superscript showing the latest anomalous channel. As most are channel 7 anomalies, the conductances are estimated at 0.5 mhos or less. The depths are shallow. The only remotely interesting anomaly runs from Line 10N, at 10.75E to Line 20N at 10.75E (D.S. 14-16). The poor conductivity of this body suggests that it could be a thin sulphide vein. The anomaly could also possibly have been caused by a change in the bedrock lithology, such as a contact with intrusives, or a fault.

Three other very weak anomalies on D.S. 9, 13, and 20, could be caused by similar geological structures with less strike extent.

CONCLUSION

A UTEM electromagnetic survey was completed on the Lew Claims in 1980. No highly conductive targets were found. One poorly conductive zone (≤ 0.5 mhos) with a strike length of over 1,000 meters was detected. It is possibly related to a weakly conductive sulphide vein, a change in bedrock lithology (possibly a contact with a gabbro), or a fault. Three other small weak anomalies were also seen.

Because large massive sulphides are the exploration target, based on the geophysics alone no further work is recommended on the lines already completed.

However, the rest of the lines should definitely be surveyed with UTEM to check for good conductors.

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Exploration Admin.
Technical Support

REFERENCES

1) Lamontagne, Y., 1975 Applications of Wideband, Time Domain EM Measurements in Mineral Exploration: Doctoral Thesis, University of Toronto

LINECUTTING FOR THE UTEM GRID

A grid for a UTEM survey is superficially very similar to grids for other geophysical surveys. There are three types of lines:-

1) Base Line: This is the first line to be cut and forms the basis for all other lines.

2) Tie Lines: Lines parallel to the base line, spaced 1,000 meters apart at Lewis Creek.

3) Survey Lines: Lines for geophysical surveying, perpendicular to the base line and tie lines. At Lewis Creek, the survey lines are 500 meters apart with a station interval of 50 meters.

However, in order to make full use of the depth penetration capabilities of the UTEM system, a high standard of linecutting and chaining is essential. Station locations must be known to within 0.2 meters in both the horizontal and vertical directions.

The first step in achieving this level of accuracy, is to cut the lines well enough so that it is possible to have a clear line of view from station to station. This is necessary for three reasons. First of all, it is necessary to take average slope inclination readings from station to station. The second reason is that the chain has to be kept very straight when measuring distances. Distances between stations must be corrected to ensure that they are the actual station interval apart in the horizontal direction. This ensures that the grids are rectangular (i.e., tie lines intersect approximately the same station on all lines), and that the grids are easily superimposed on a normal topographic map. An example of a slope correction is for the case of a 60% slope from one station to the next, and a 50 meter station interval. Instead of placing the pickets 50 meters apart as measured along slope with the chain, the pickets should be 58.3 meters apart to make the horizontal separation 50 meters. Charts with all corrections should be carried along by the surveyor.

The third reason for a clear view along line is in order to backsight on at least two pickets to keep the line straight. This is much more accurate than using a compass, especially in areas where there is magnetic rock. Of course, care must be taken to place the pickets vertically or the line will be crooked. Compasses should be used only when the preceding stations are not visible because of large slope variations (e.g., the crest of a hill), or because of trees that are too large to cut (>5-6 inches in diameter). Compasses may also be used to start new lines from the base line although a turning board is preferred.

When viewing along the line from picket to picket is not possible, an intermediate picket (or pickets) must be placed in a position visible to both sides. Slopes and distances must be measured to and from any intermediate pickets. This is referred to as "break chaining". Intermediate pickets should also be placed at any feature, such as a road, power line or river, that would be on a topographic map to help with grid location.

One final essential aspect of the surveying of UTEM grids is proper note taking. All distances and slopes between every picket (intermediate or regular) must be recorded clearly and accurately. All of this information is needed later to process the UTEM readings correctly.

APPENDIX I

APPENDIX I

Lewis Creek UTEM Survey - Field Report

DR - Data Reduction

LF - Loop Fixing : quoted below when this activity cuts into survey time.

LL - Loop Laying : quoted below when this activity cuts into survey time. Loop laying and retrieving was continuously carried out during the survey by helpers.

ODC - Operating Day Charge : for days when useful data is acquired which will subsequently be drafted and reported on.

LP 801, LN 25N, 20N : indicates that lines 25N and 20N were surveyed from loop 801.

Note : field crew normally consisted of one geophysicist and two helpers (one on the coil and the other on the wire) while the other geophysicist worked on data reduction.

1980 Date	ODC	Field Personnel	Computer Personnel	Remarks
Sept. 25				Travel Day for JJL, GKN
26		JJL, GKN		LL
27				Travel Day for ETE
28		JJL, ETE		LF
29		JJL, ETE, RWH, GKN		Equipment Arrives - Minor Repairs
30	1	JJL, ETE, RWH, GKN		LP 801, LN-10N
Oct. 1		ETE, DA, GKN	RWH, JJL	Data Not Recorded Properly
2		RWH, GKN	ETE, JJL	Transmitter Problems
3		ETE, GKN, DA	RWH, JJL	Noisy, Noisy Data

1980 Date		ODC	Field Personnel	Computer Personnel	Remarks
Oct.	4	1	RWH, GKN	ETE, JJL	LP 801, LN-0, 5N, 15N
	5	1	ETE, GKN	RWH, JJL	LP 801, LN-20N, 25N
	6	½	RWH, GKN, GH	ETE	AM : LF
					PM : LP 802, LN 0
	7	1	ETE, GH, GKN	RWH	LP 802, LN-5N, 10N
	8		RWH, GH, GKN	ETE	LF
	9	½	ETE, GH, GKN	RWH	AM : LF
					PM : LP 802, LN-25N
	10	1	RWH, GH, GKN	ETE	LP 802, LN-15N, 20N
	11		GKN		LL
	12		ETE, GH, GKN	RWH	Receiver Broke Down
	13				Equipment Repairs
	14		RWH, GH, GKN	ETE	Receiver Fails Field Test
	15		ETE, GH, GKN	RWH	Receiver Again Fails Field Test
	16		RWH, GH, GKN	ETE	Transmitter Breaks Down
	17				Equipment Repairs
	18	1	ETE, RWH, JJL		LP 803, LN 0, 5N
	19	1	RWH, GH, JJL, GKN	ETE	LP 803, LN 20N, 25N
	20		ETE, GH, GKN	RWH	Rain, Receiver Doesn't Work
	21		RWH, GH, GKN	ETE	Lightning Hits Loop, Burns Transmitter
	22				Equipment Repairs
	23				Equipment Repairs
	24				Equipment Repairs
	25				Equipment Repairs
	26				Equipment Repairs
	27	1	ETE, GH, GKN	RWH	LP 803, LN 10N, 15N
	28	1	RWH, GH, GKN	ETE	LP 804, LN 0, 5N
	29	1	ETE, GH, GKN	RWH	LP 804, LN 20N, 25N
	30	1	RWH, GH, GKN	ETE	LP 804, LN 10N, 15N
	31		ETE, GH, GKN	RWH	Bad Fall Wrecks Receiver
Nov.	2				Repairing Equipment, Travel Day for RWH

1980 Date		ODC	Field Personnel	Computer Personnel	Remarks
Nov.	3	1	JJL, GH, GKN	ETE	LP 806, LN 5S, 10S
	4	1	ETE, GH, GKN	JJL	LP 806, LN 15S, 20S
					GKN hurt Himself Because of Snow so Survey is Cut Short
	5	1	JJL, GH	ETE	LP 806, LN 25S, 30S
	6		GH	ETE	Picking Up Loop
	8				Preparing Equipment for Shipment and Travel Day for ETE
	9				Travel Day for GKN, JJL, GH

****

JJL	Dr. Jules J. Lajoie	Geophysicist, Cominco Ltd. 853-409 Granville St., Vancouver, B.C.
ETE	Ernest T. Eadie	Geophysicist, Cominco Ltd. 853-409 Granville St., Vancouver, B.C.
RWH	Robert W. Holroyd	Geophysicist, Cominco Ltd. 120 Adelaide St. W., Toronto, Ont.
GKN	Glen K. Nolan	Geophysical Technician, Cominco Ltd. 853-409 Granville St., Vancouver, B.C.
GH	Geoff Heminsley	Helper, 5124 Winskill Drive, Delta, B.C.
DA	Dave Ambry	Helper, Kootenay Exploration 2450 Cranbrook St., Cranbrook, B.C.
	D. Wilson	Linecutter, Kootenay Exploration, 2450 Cranbrook St., Cranbrook, B.C.
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APPENDIX II

APPENDIX II

LEGEND

UTEM DATA SECTIONS

ORDINATE: Amplitude scale is given in %.

ABSCISSA: Station or Picket numbers in hundreds of meters

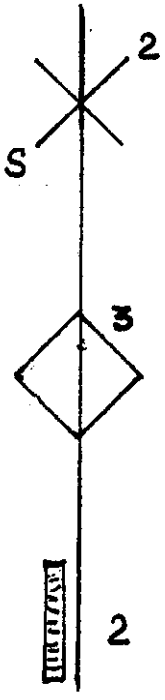
LEGEND: The legend to the first data section is explained as follows:-

LEWIS CREEK 1980	:	Survey area and year
30.50 Hz	:	Base frequency of the transmitter
(C-P)/P	:	Channel 1 reduction as explained in the section on "Data Presentation"
(C-C1)/C1	:	Reduction for channels 2 to 9 as explained in the section on "Data Presentation"
Hz	:	Denotes the vertical (z) component of the magnetic (H) field
10N	:	the line number, 10N
801	:	the loop area number

LEGEND

UTEM COMPILATION MAPS

SYMBOL	CHANNEL	MEAN DELAY TIME	
		15 Hz	30 Hz
1	1	25.6 ms	12.8 ms
2	2	12.8	6.4
3	3	6.4	3.2
4	4	3.2	1.6
5	5	1.6	0.8
6	6	0.8	0.4
7	7	0.4	0.2
8	8	0.2	0.1
9	9	0.1	0.05
10	10	0.05	

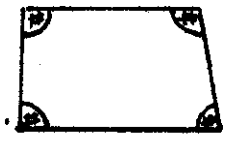


Axis of a crossover anomaly. The number indicates the latest anomalous channel.

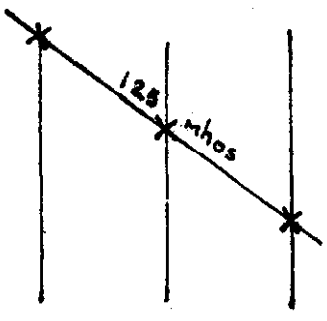
Depth indicated by: S - Shallow (30m)
M - Moderate (30-75m)
D - Deep (75m)

Axis of reversed crossover anomaly produced when a small conductor dips at less than 70° towards the transmitter. In normal crossover the positive response is towards the transmitter; reversed one, it is away from the transmitter.

Indicates a negative anomaly of width shown by the dash. The latest anomalous channel is shown. Can sometimes be confused with the negative part of a crossover anomaly.



Outline of a transmitter loop.



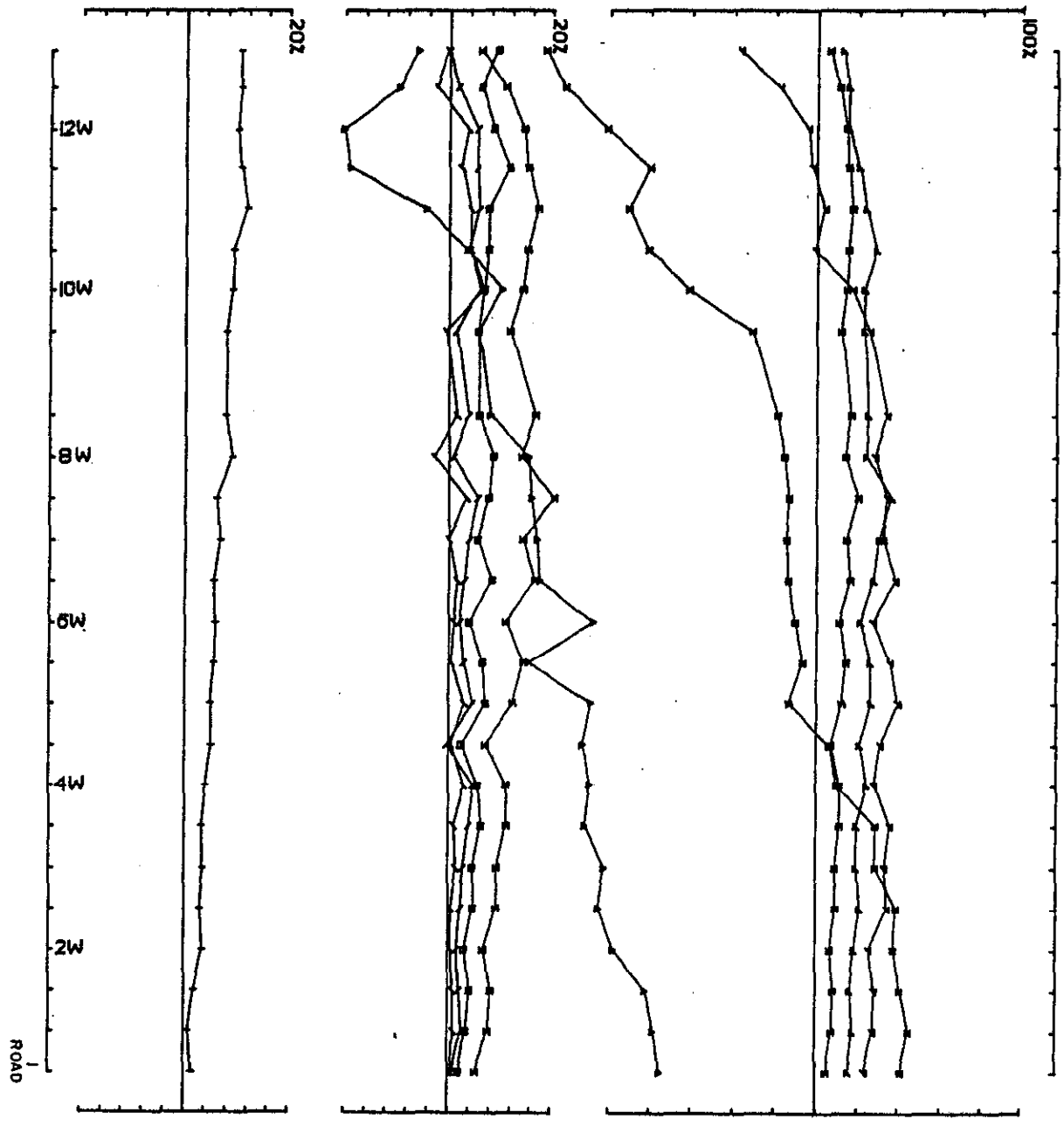
Conductor axis located by crossover anomalies with a conductance determination. The conductance is the interpreted conductivity x thickness of the conductor in mhos (same as Siemens).

Only the principal crossovers are indicated.

APPENDIX III

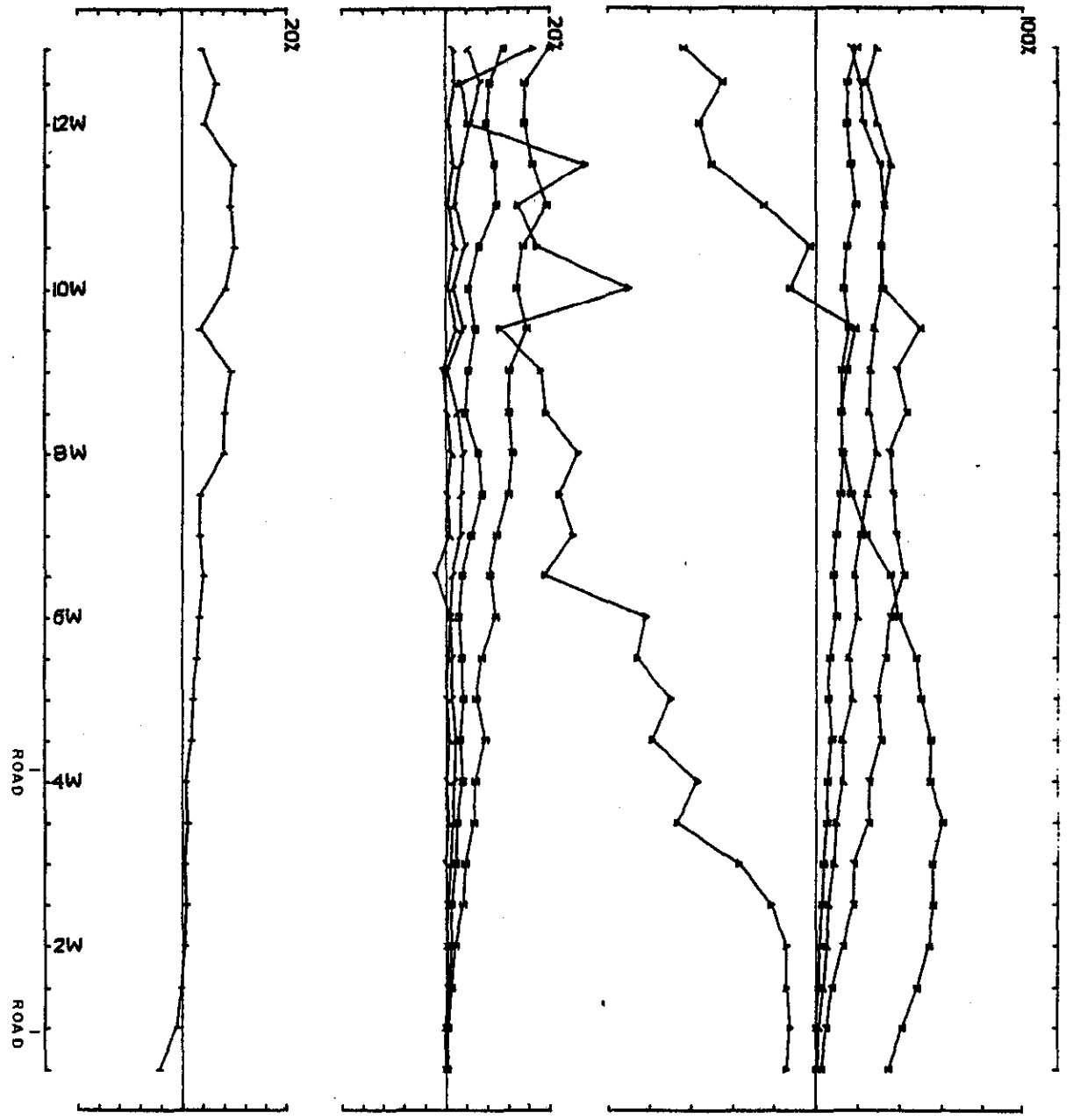
D A T A S E C T I O N S

D.S. 1 - 30



LEWIS CREEK 80 30.50 HZ C-P)/P C-C1)/C1 Hz 25N 80I

D.S. 1



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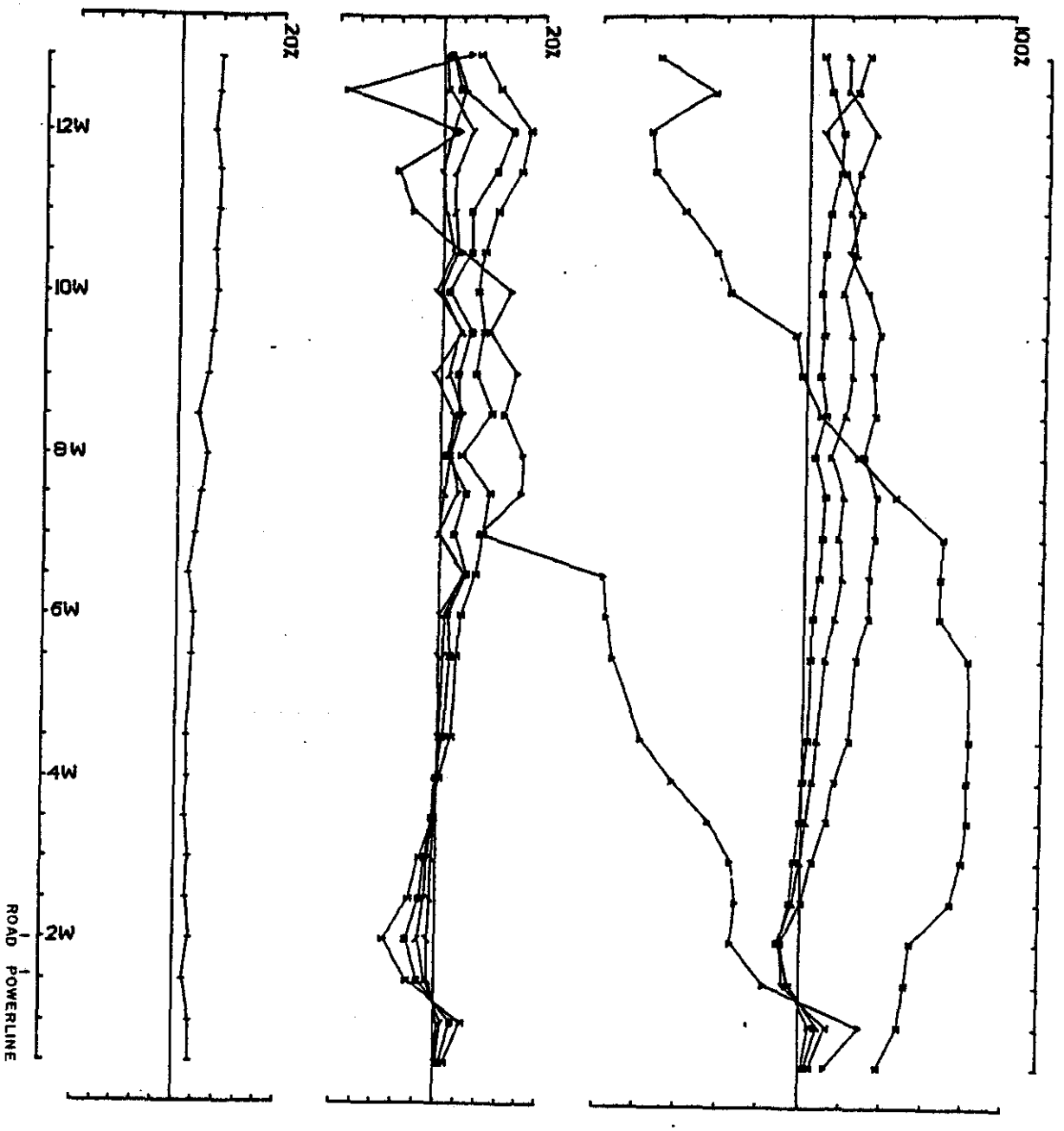
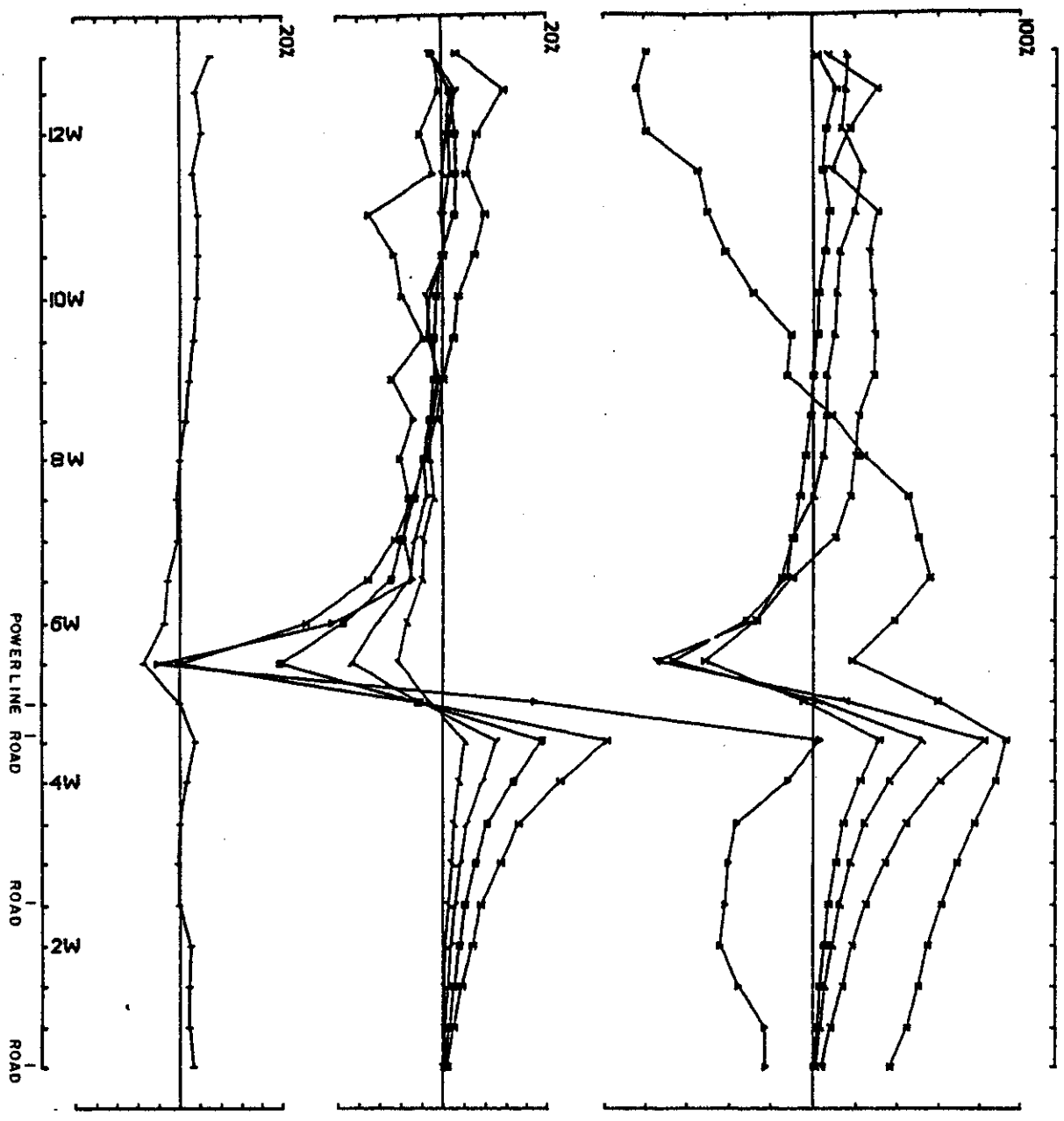
D.S. 2



LEWIS CREEK 80 30.50 HZ C-P)/P C-C0/C1 . Hz ISN 801

D.S. 3



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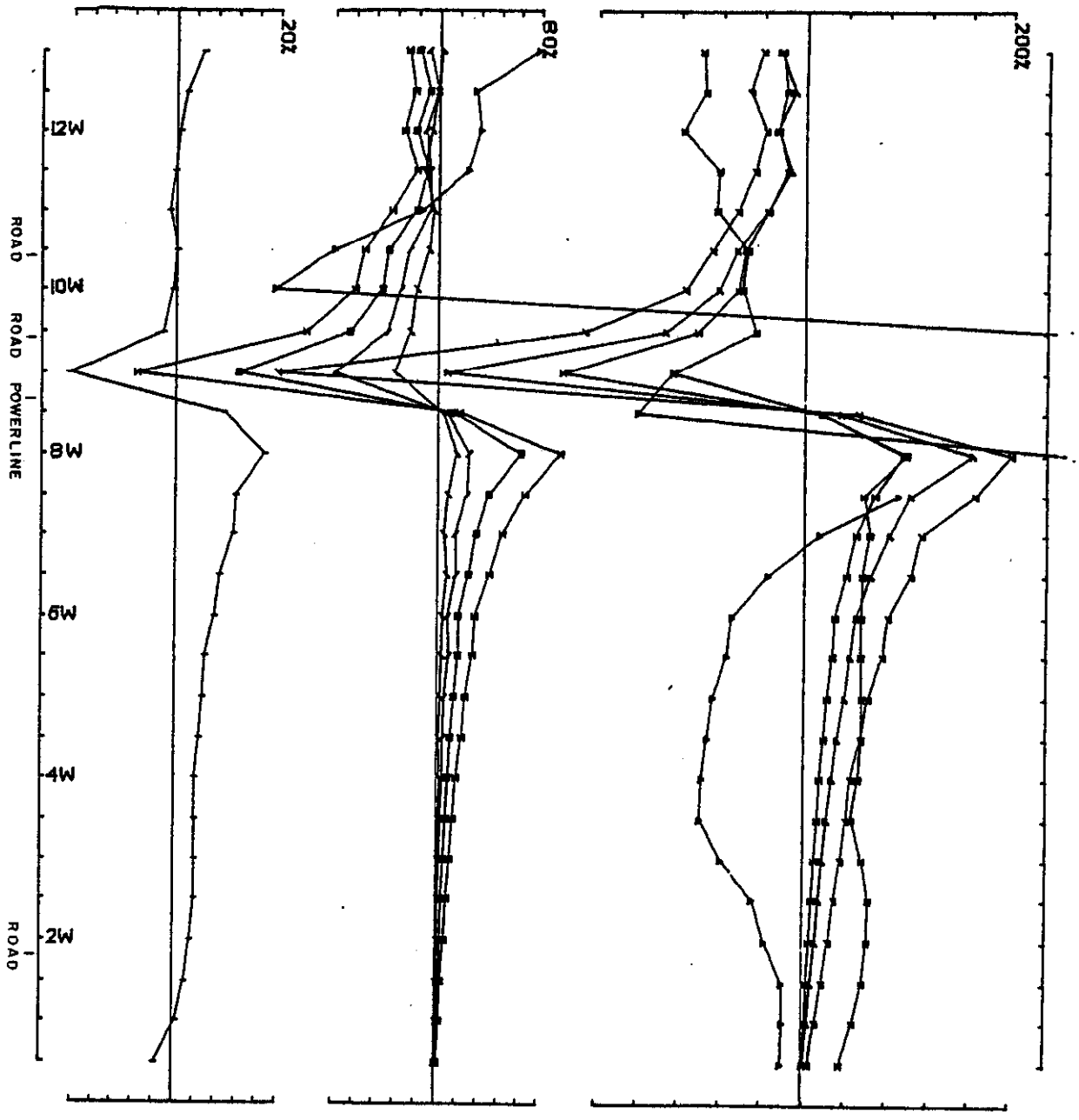
D.S. 4



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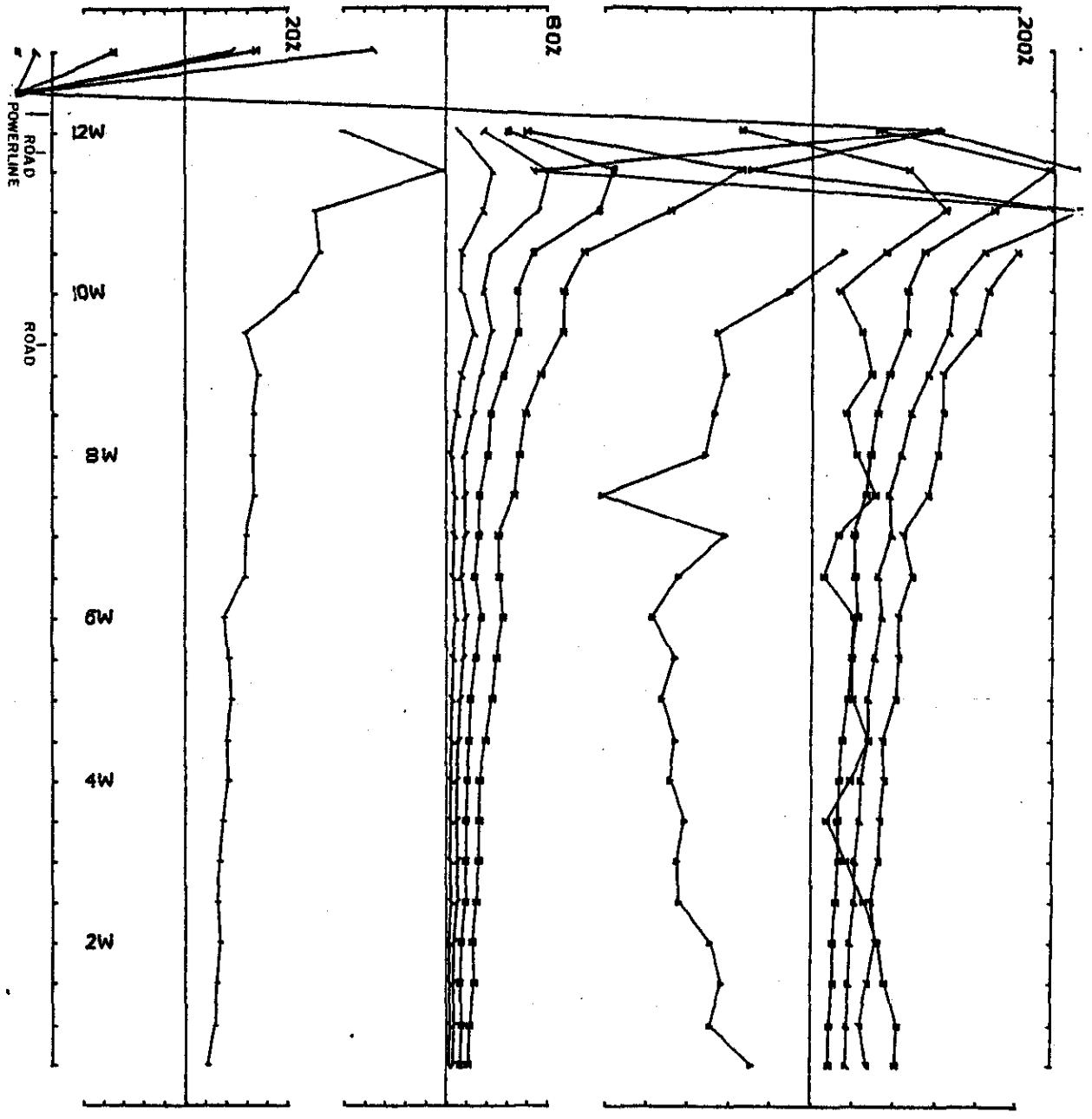
D.S. 5



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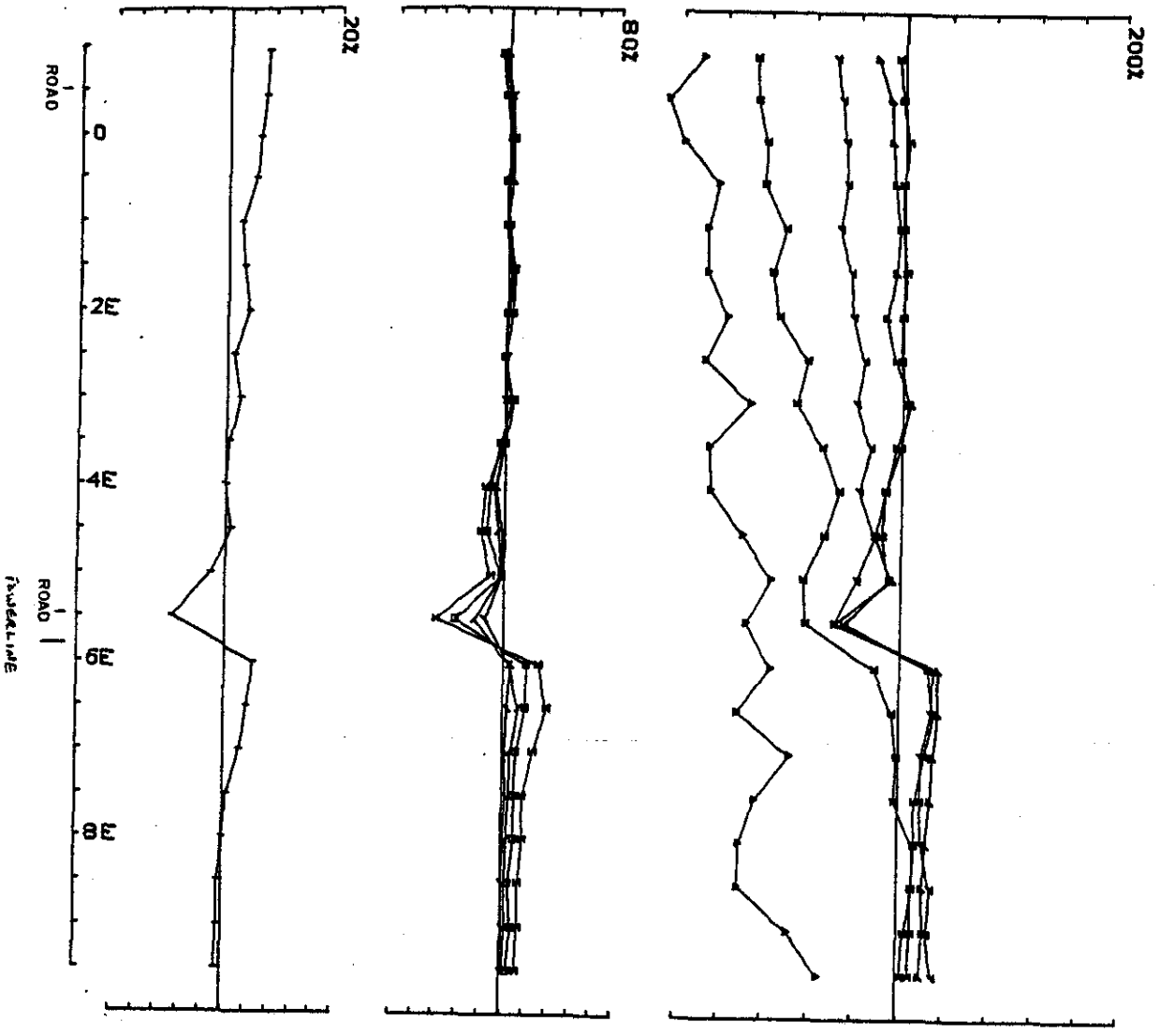
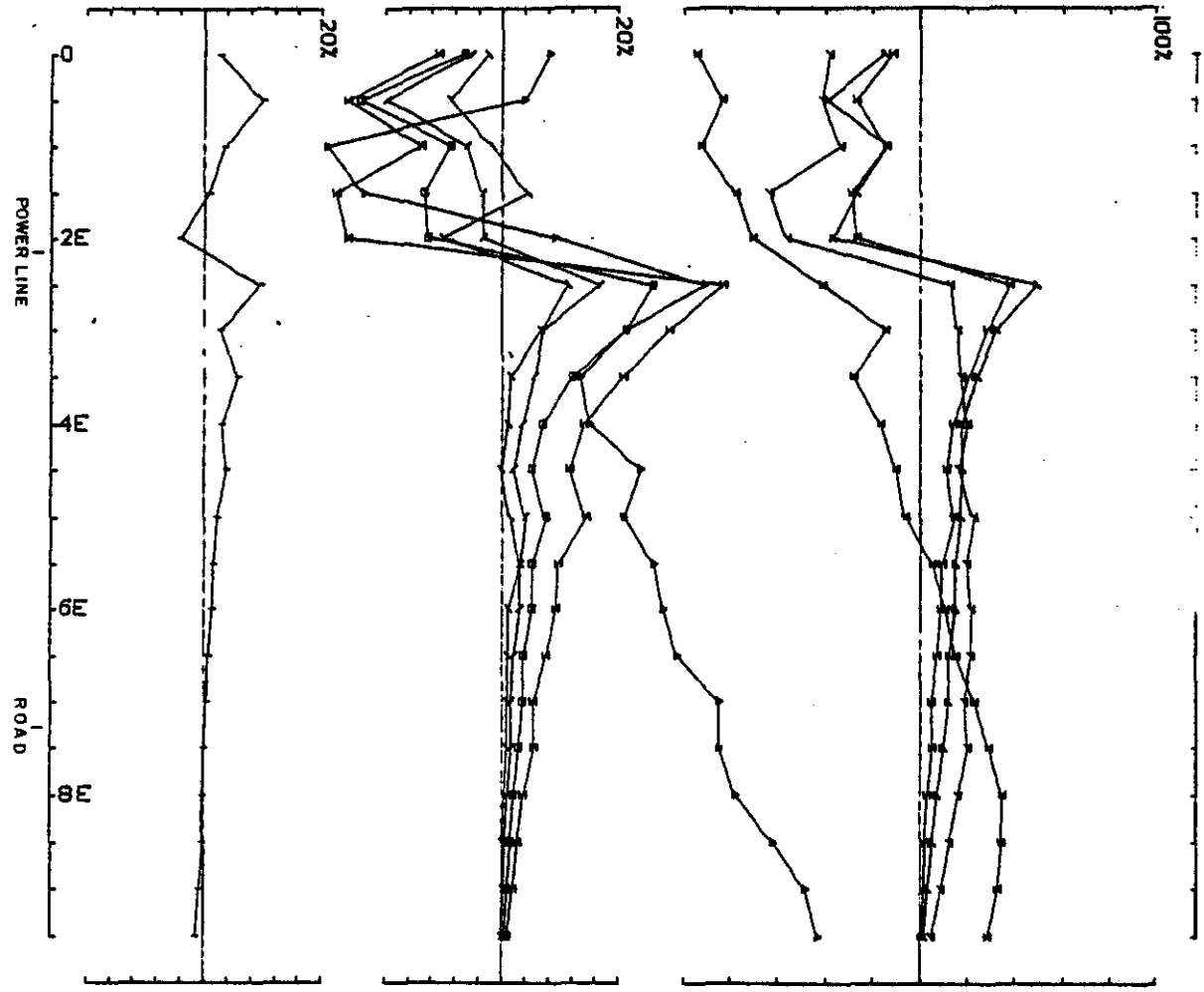
D.S. 6



LEWIS CREEK 80 30.50 HZ C-P)/P C-C1)/C1 Hz 25N 802

D.S. 7



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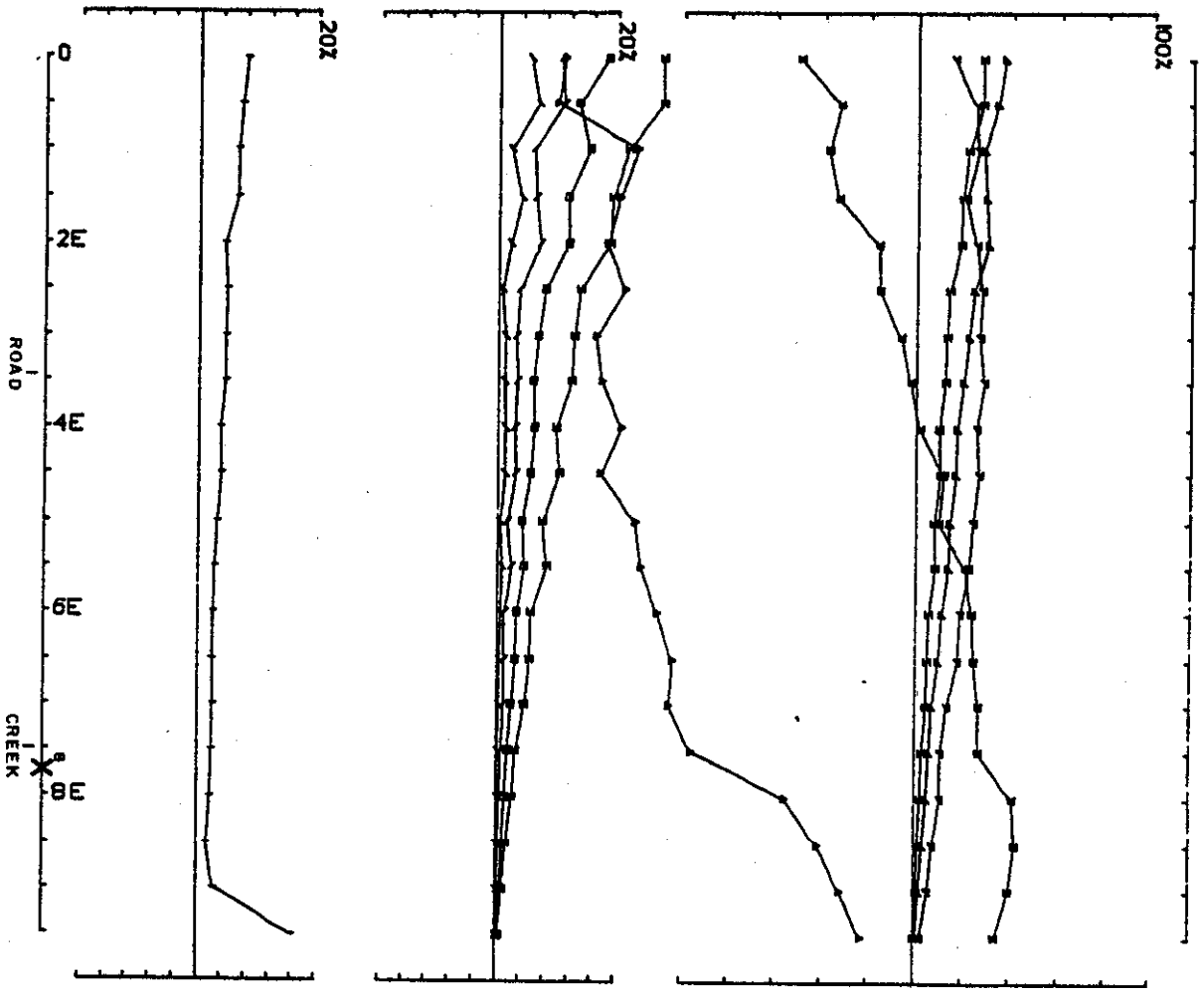
D.S. 8



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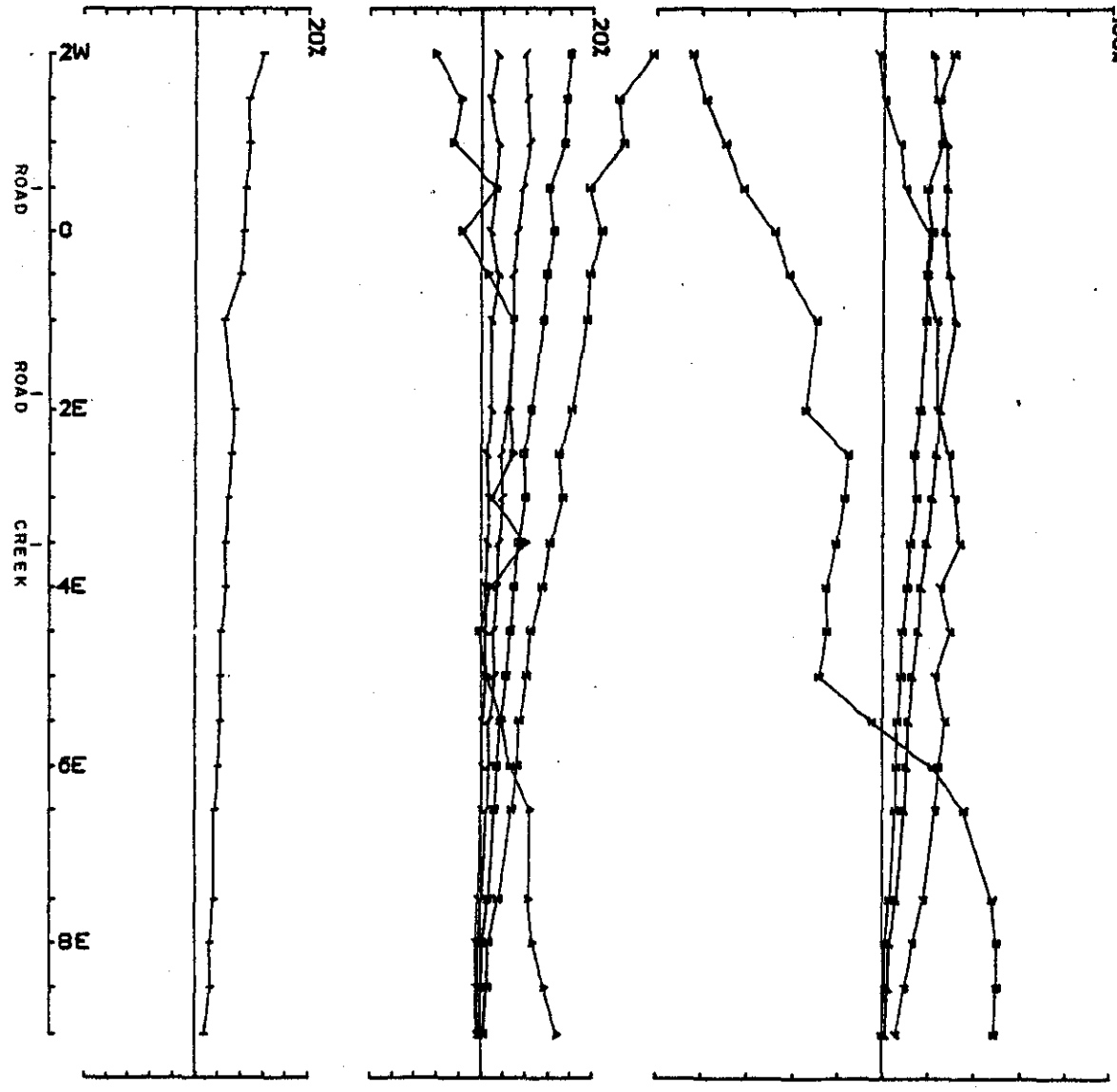
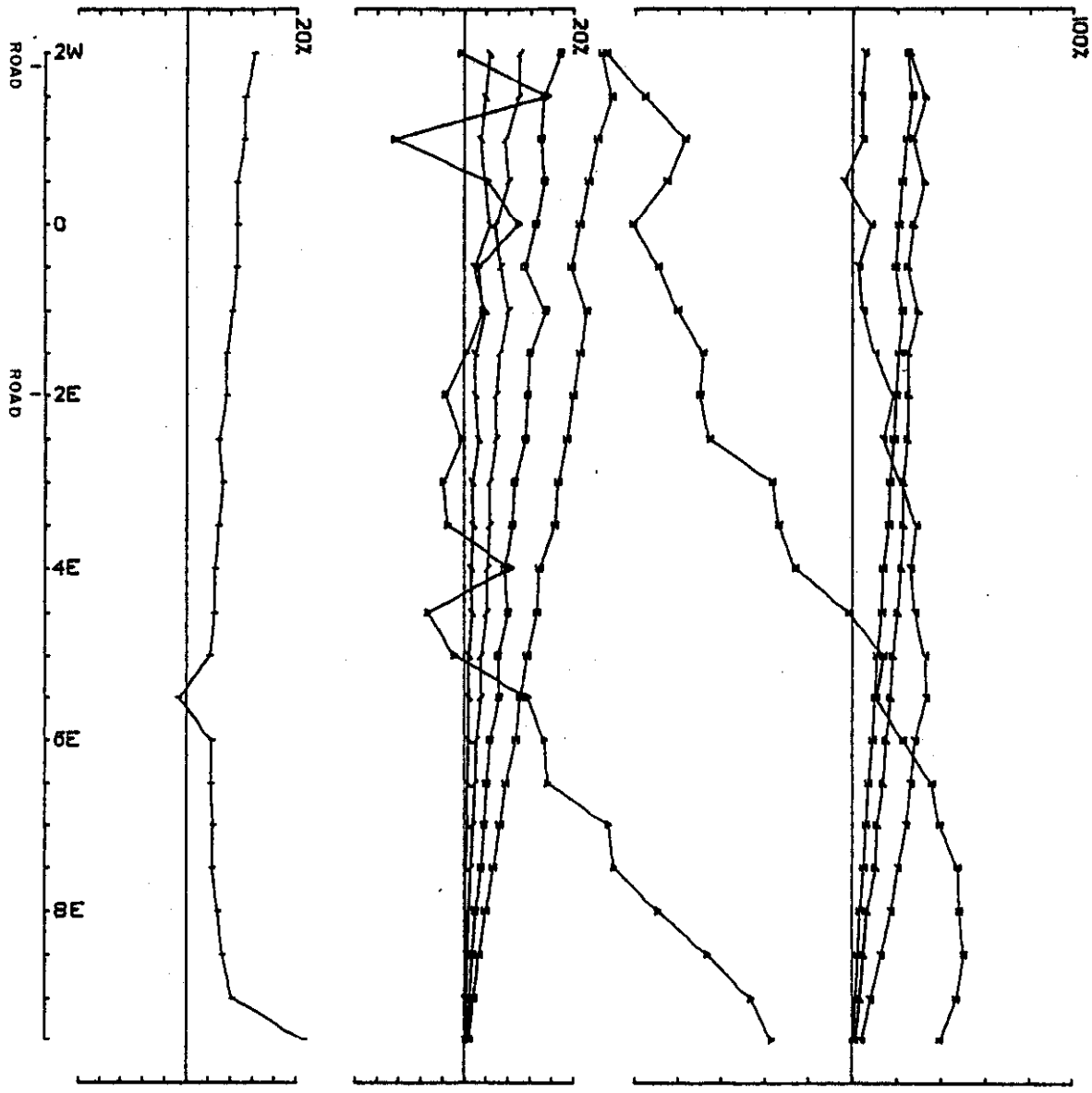
D.S. 9



LEWIS CREEK 80 30.50 HZ C-P)/P C-C1)/C1 Hz ION 802

D.S. 10



LEWIS CREEK 80 30.50 HZ C-P)/P C-CD/CI Hz 5N 802

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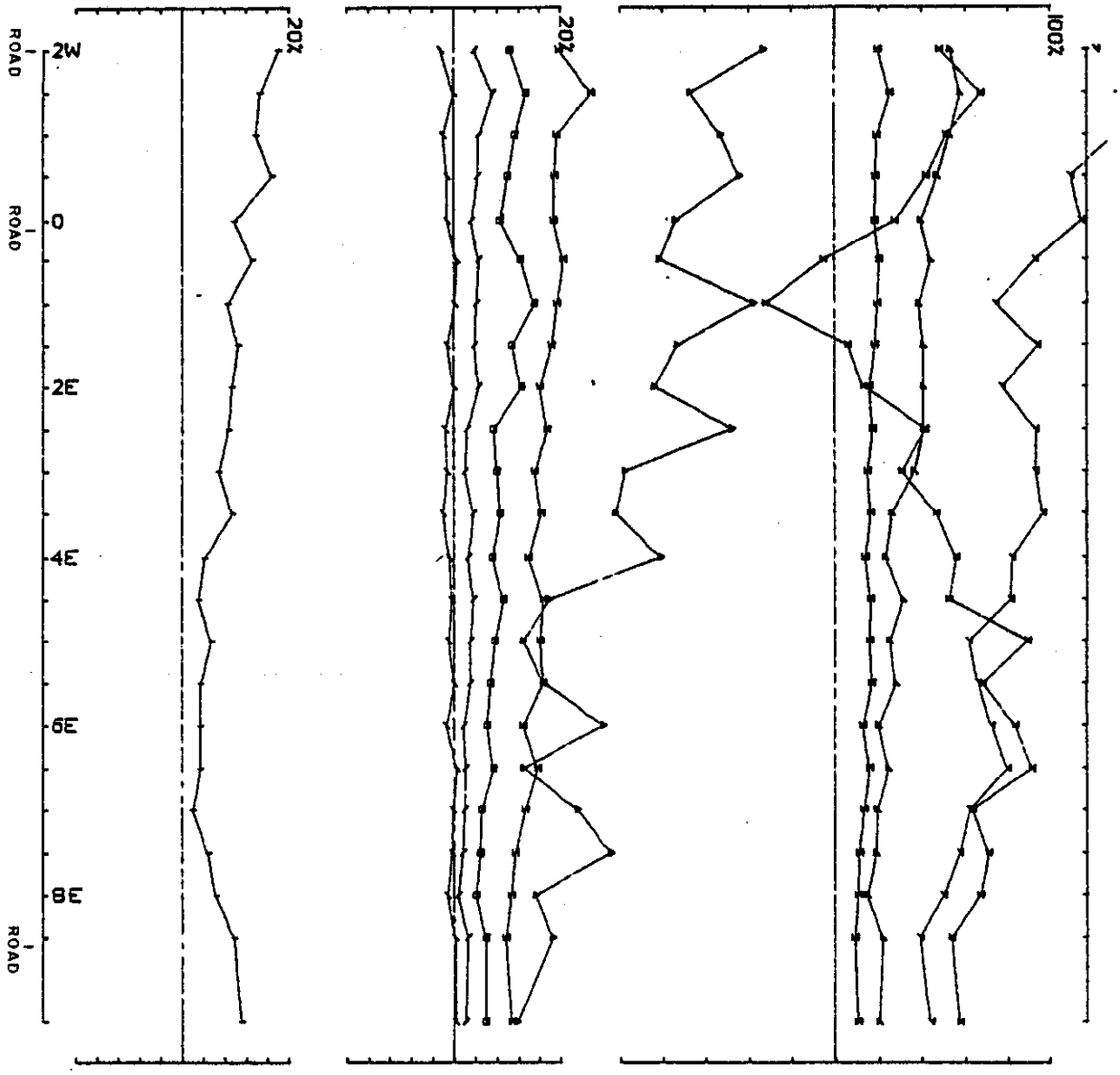

LEWIS CREEK 80 30.50 HZ C-P)/P C-C1)/C1 Hz 0 802

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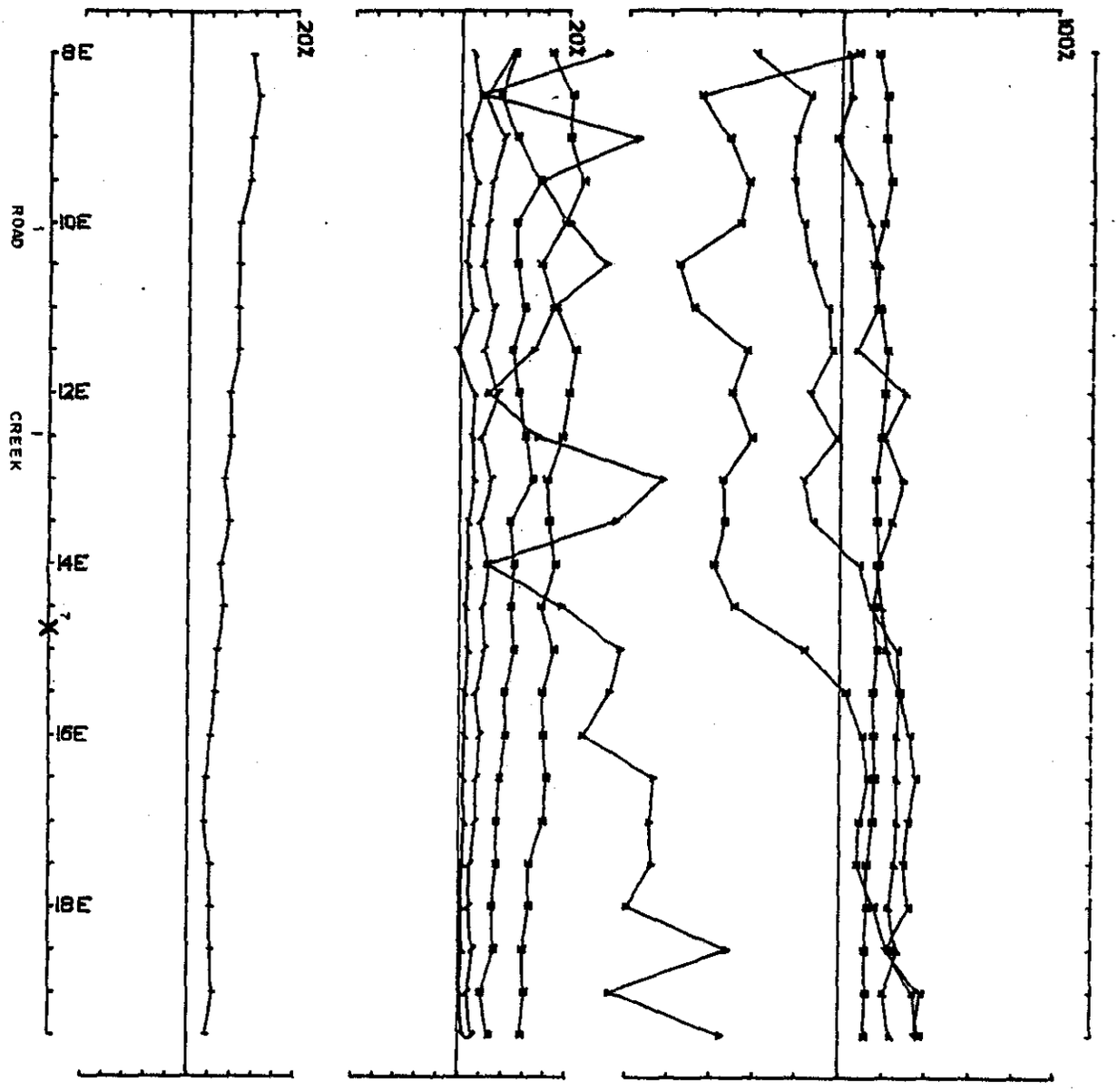

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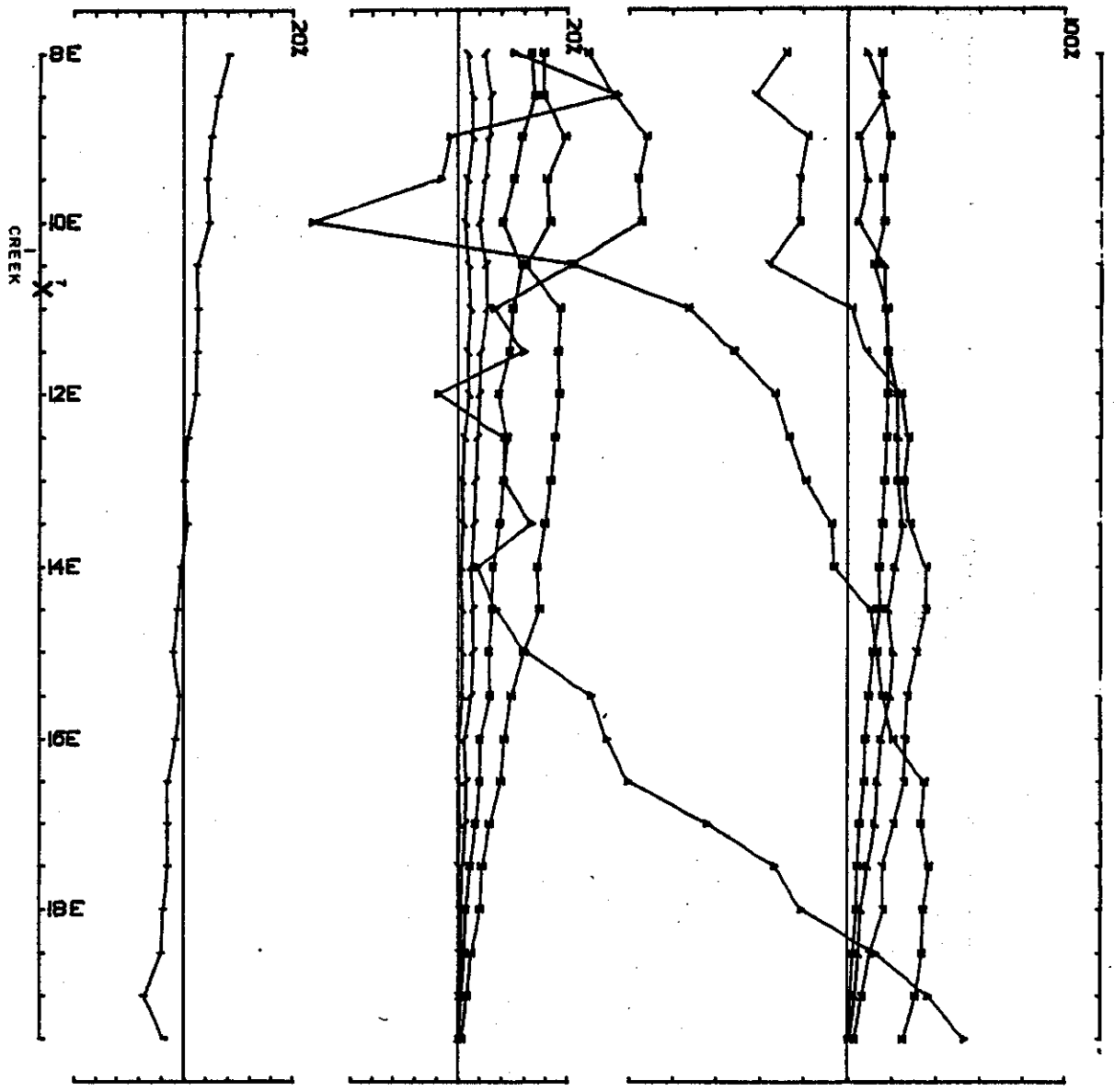

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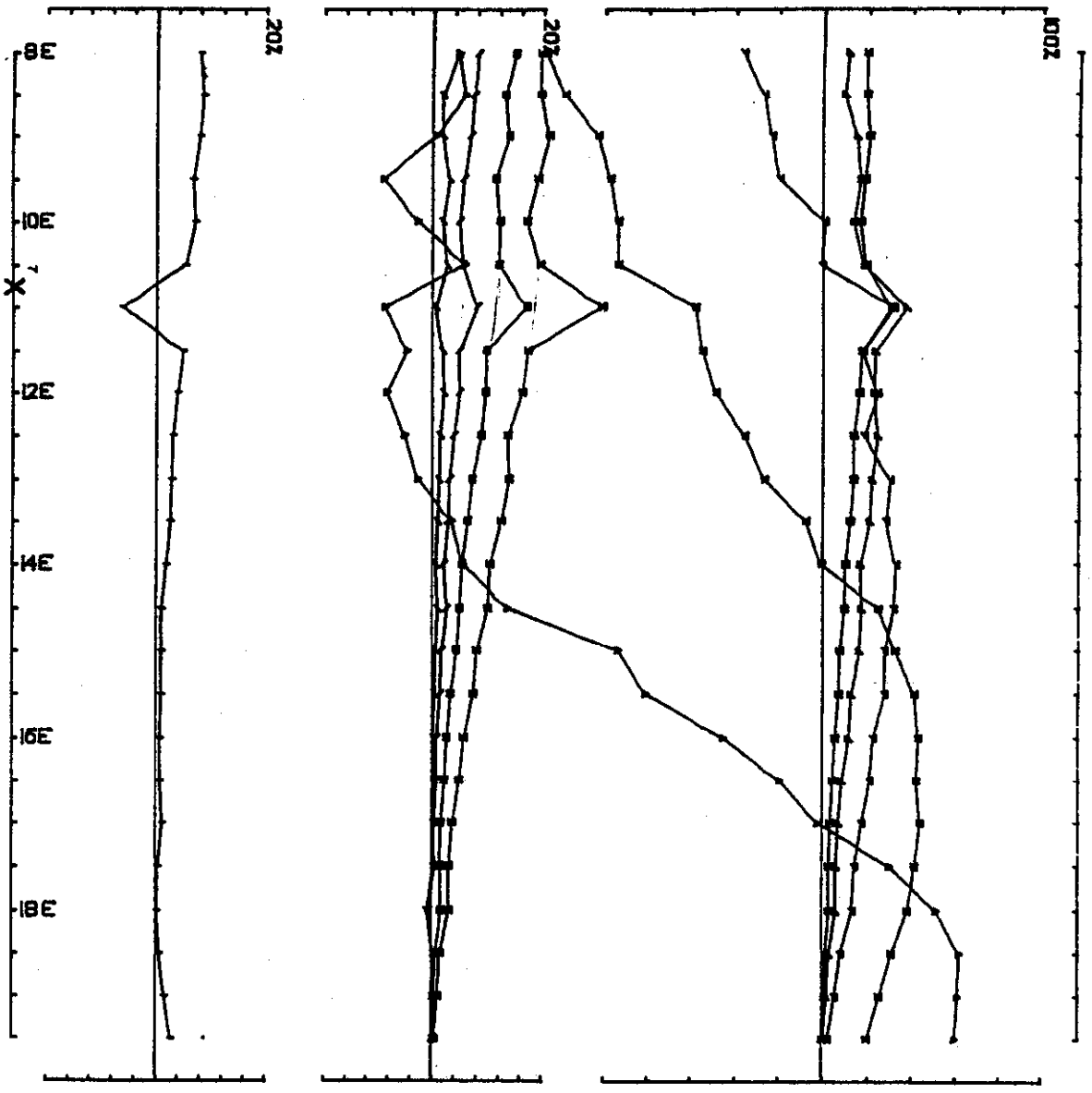

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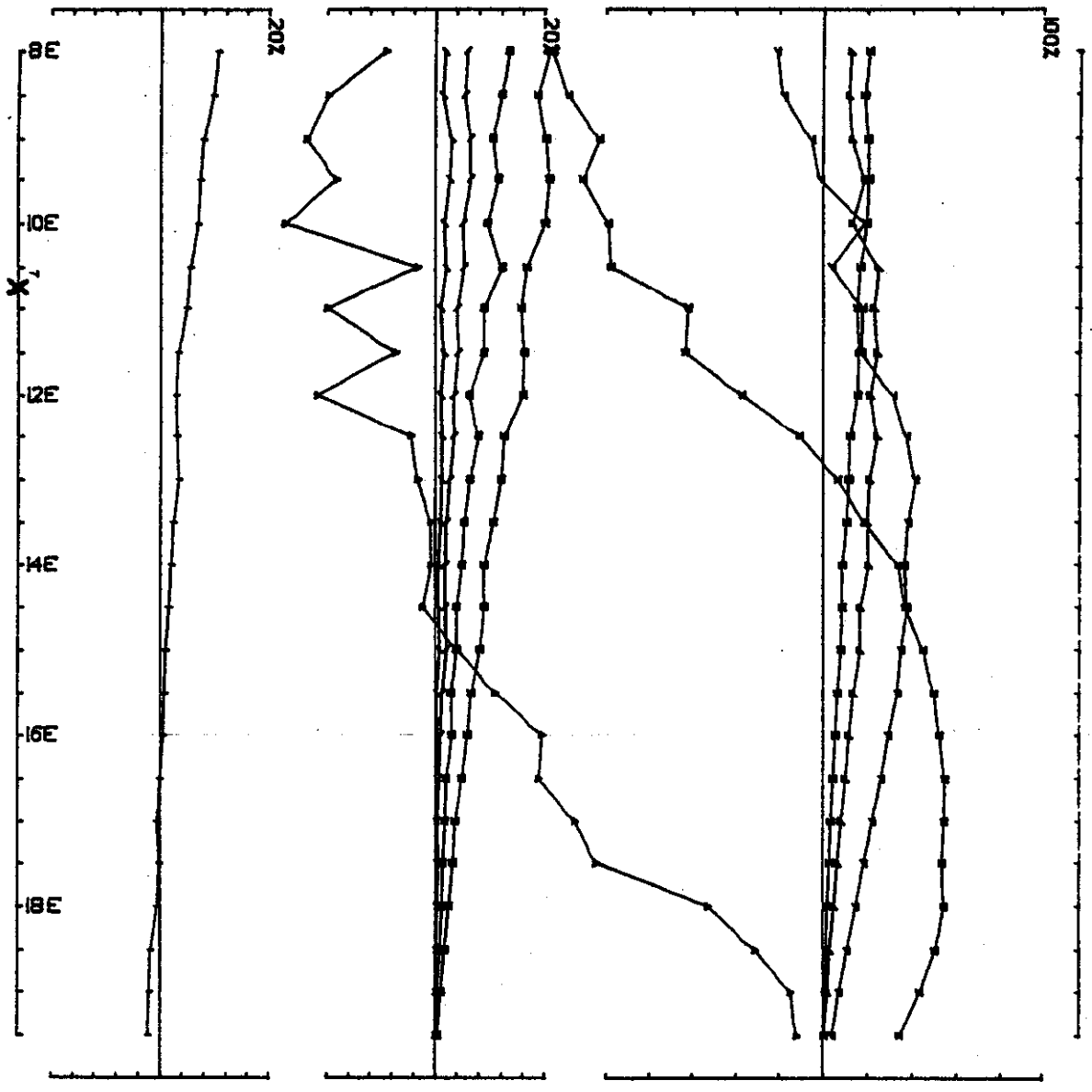

LEWIS CREEK 80 30.50 HZ C-P)/P C-CD/CI Hz ION 803

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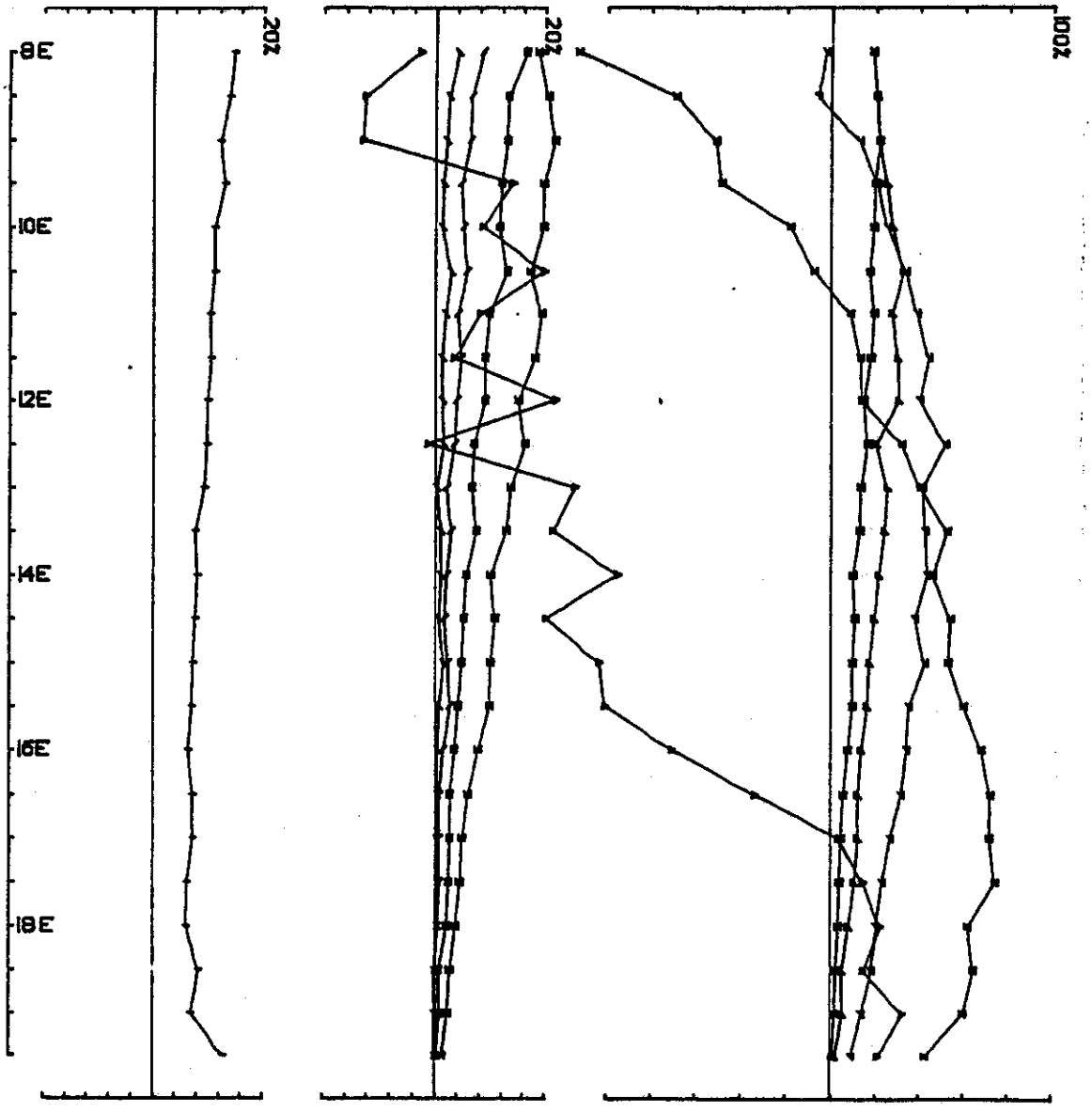

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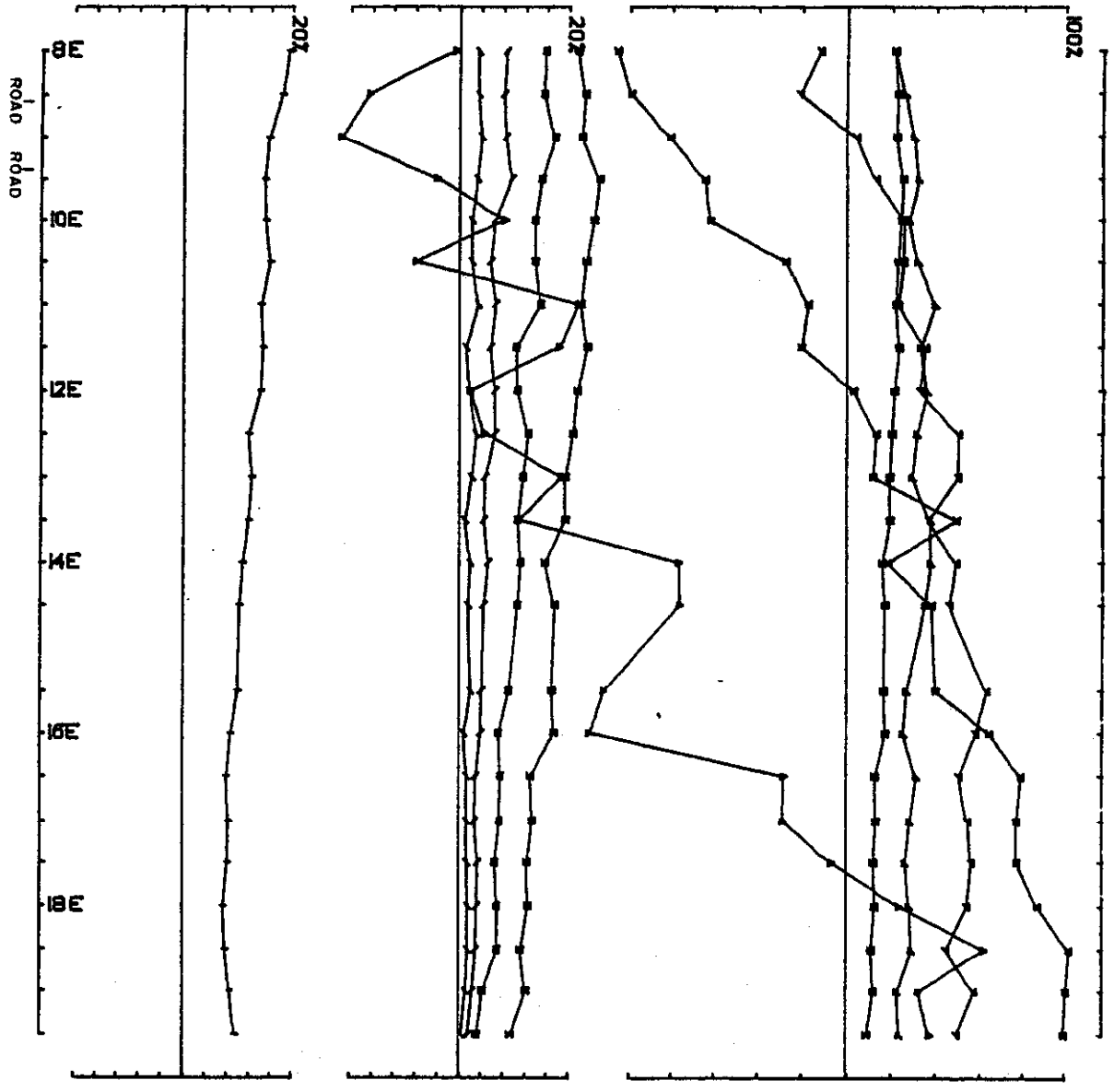

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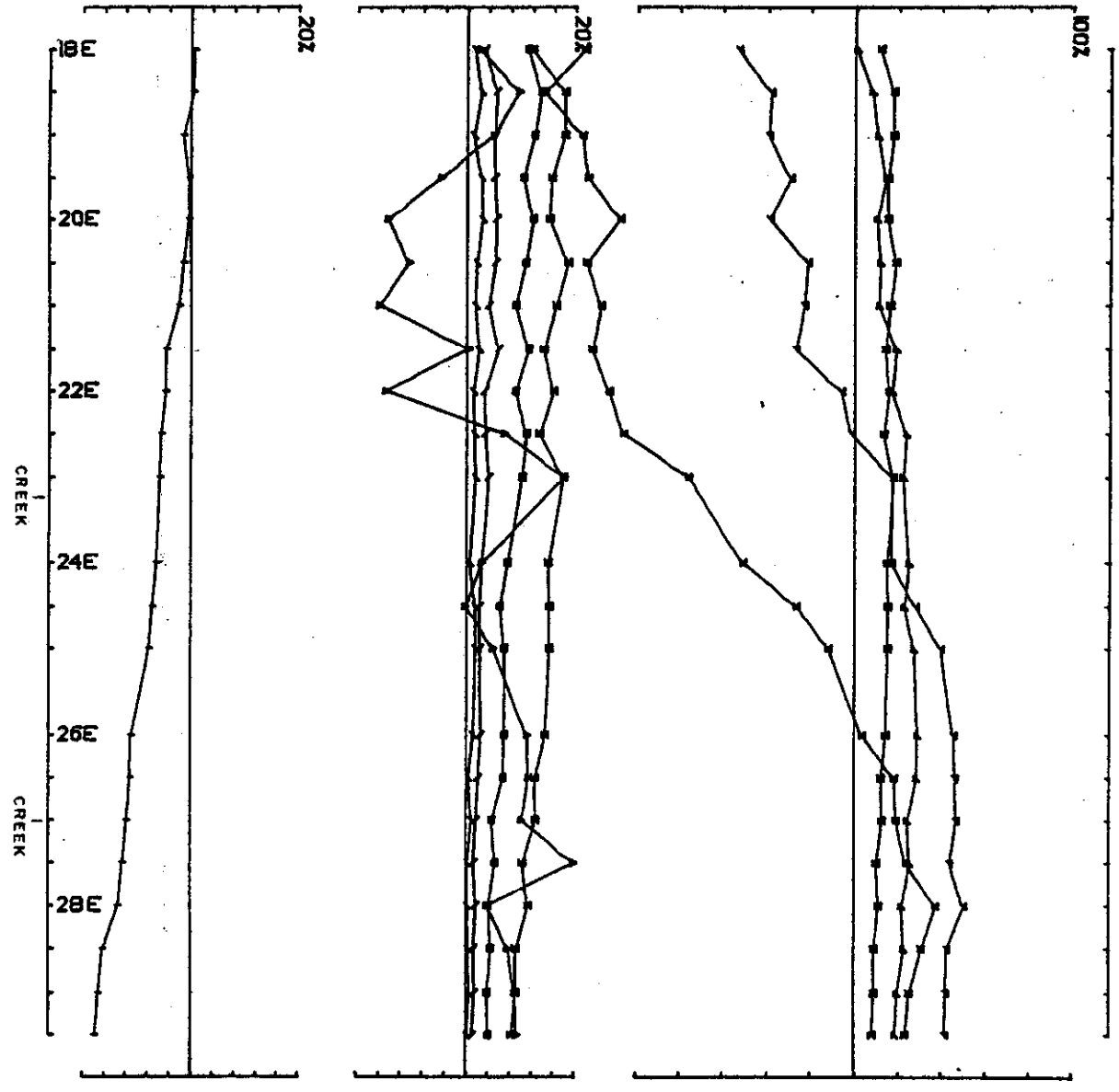

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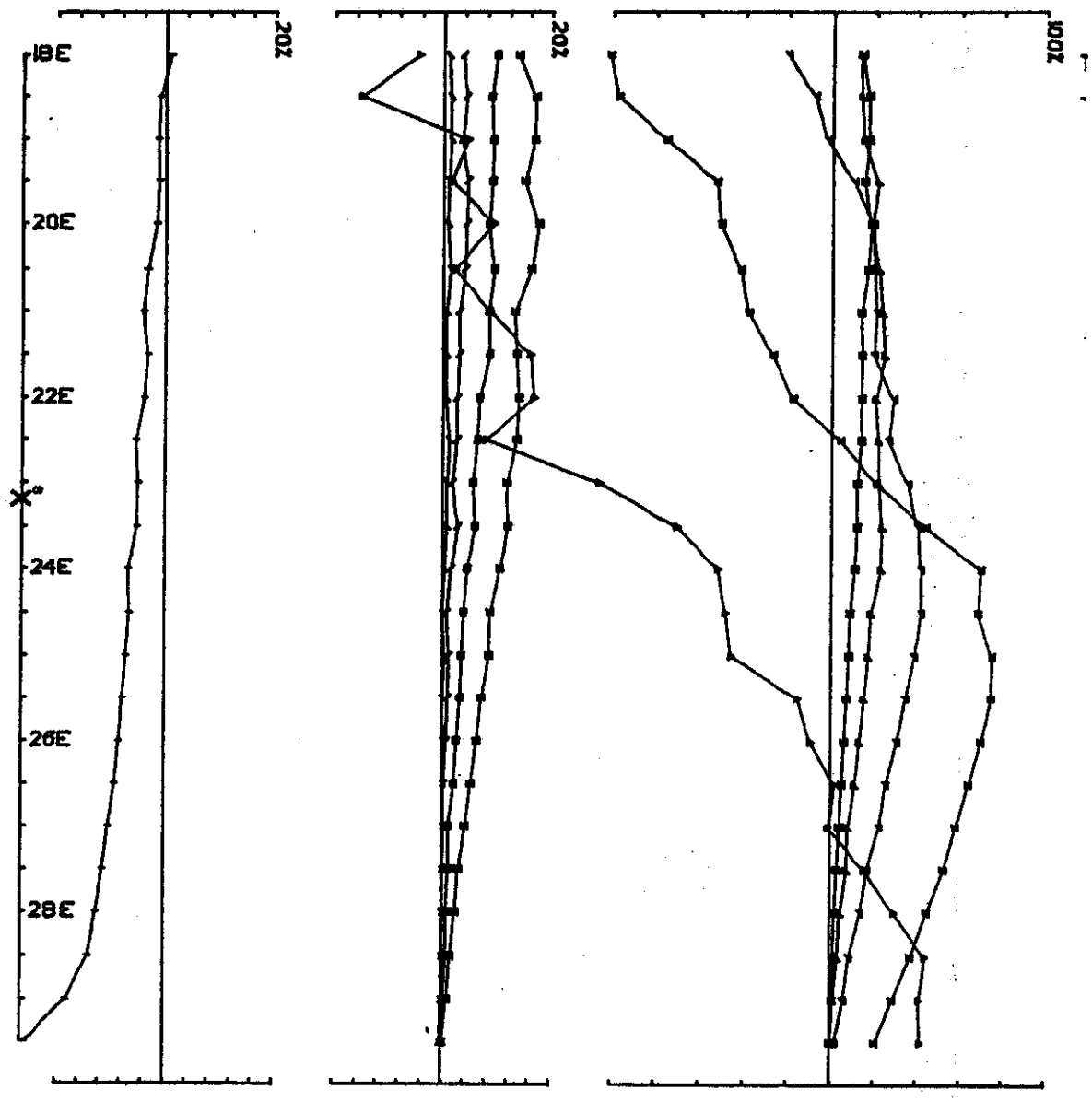
D.S. 19



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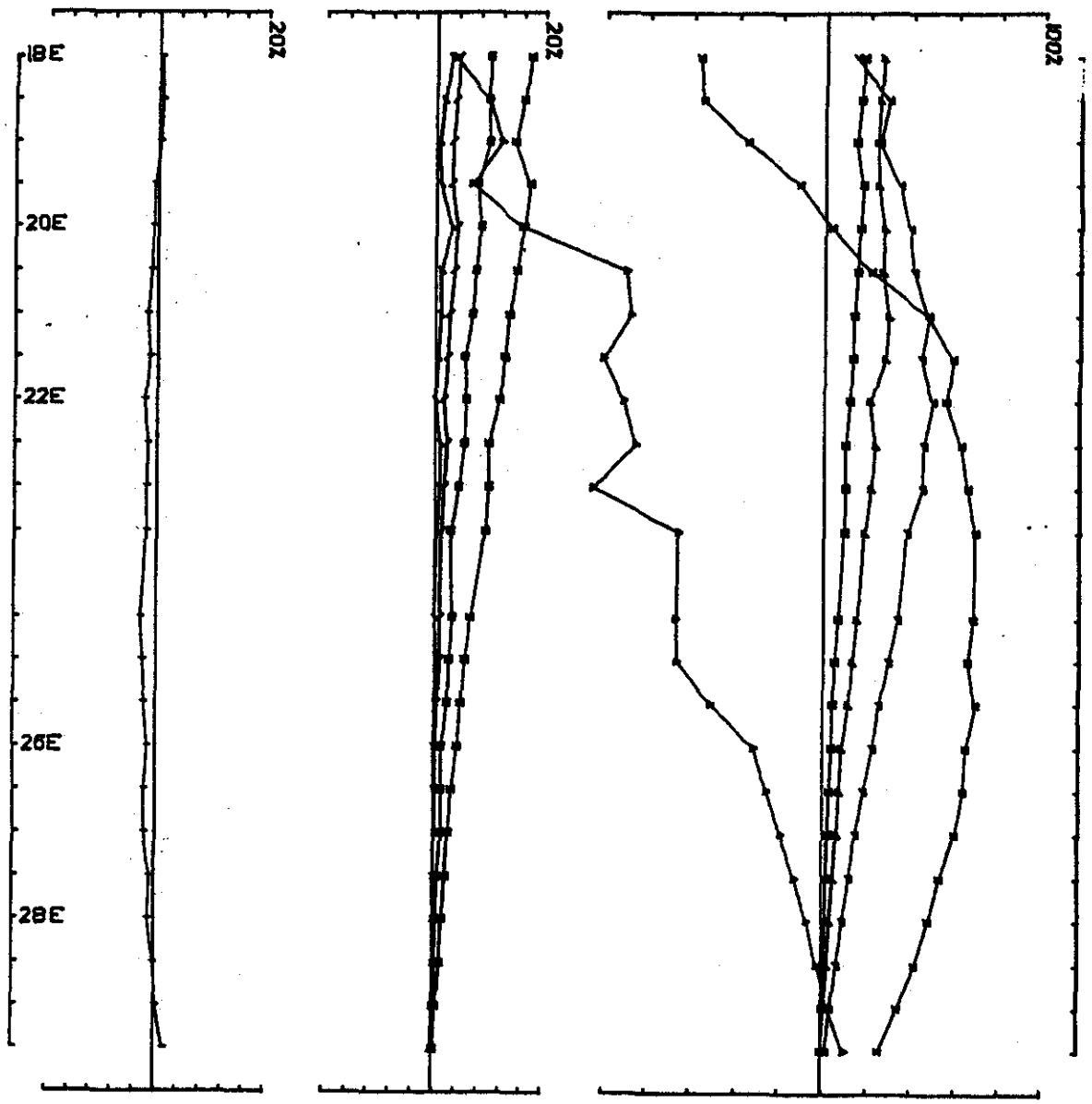
D.S. 20



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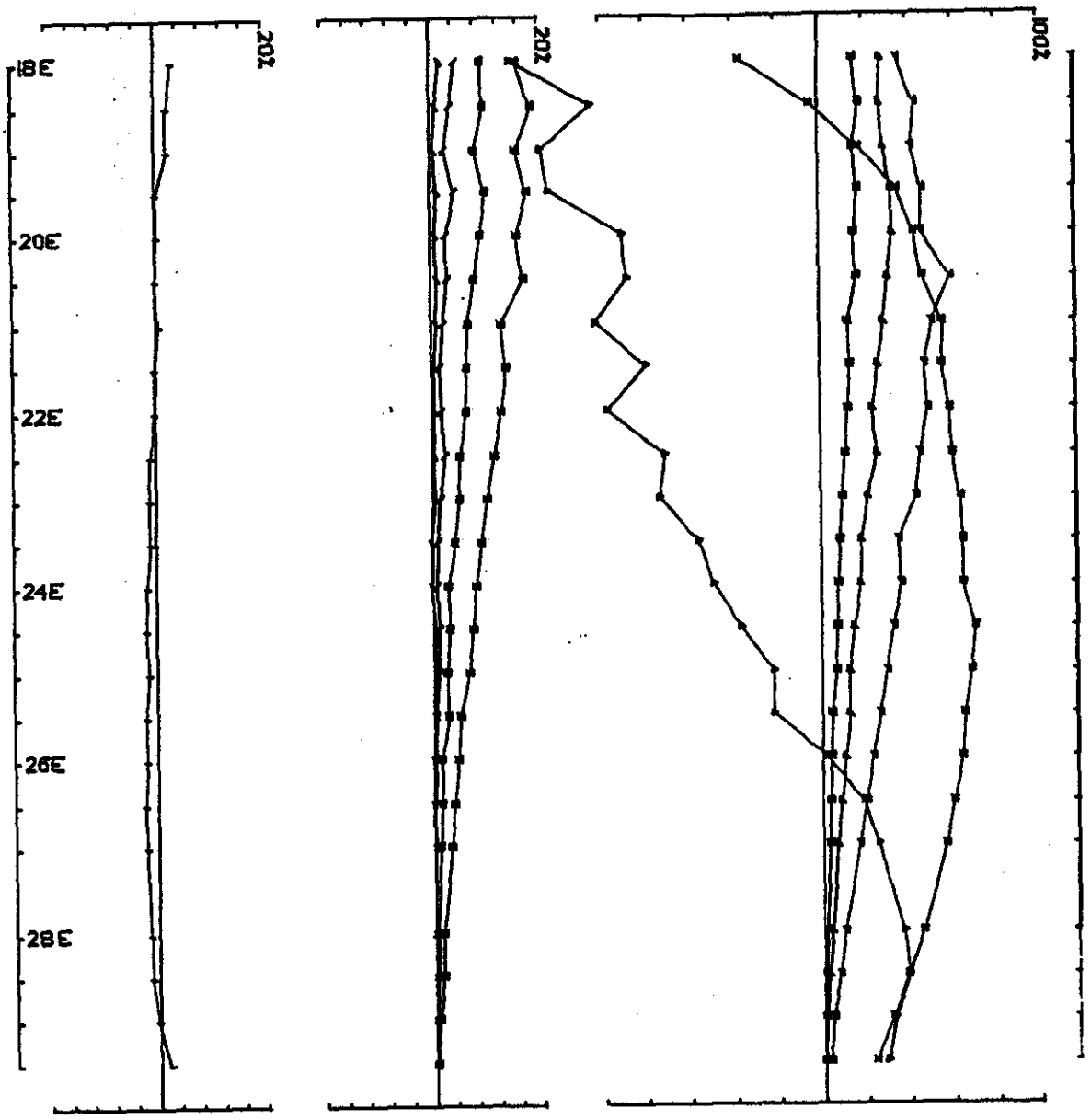
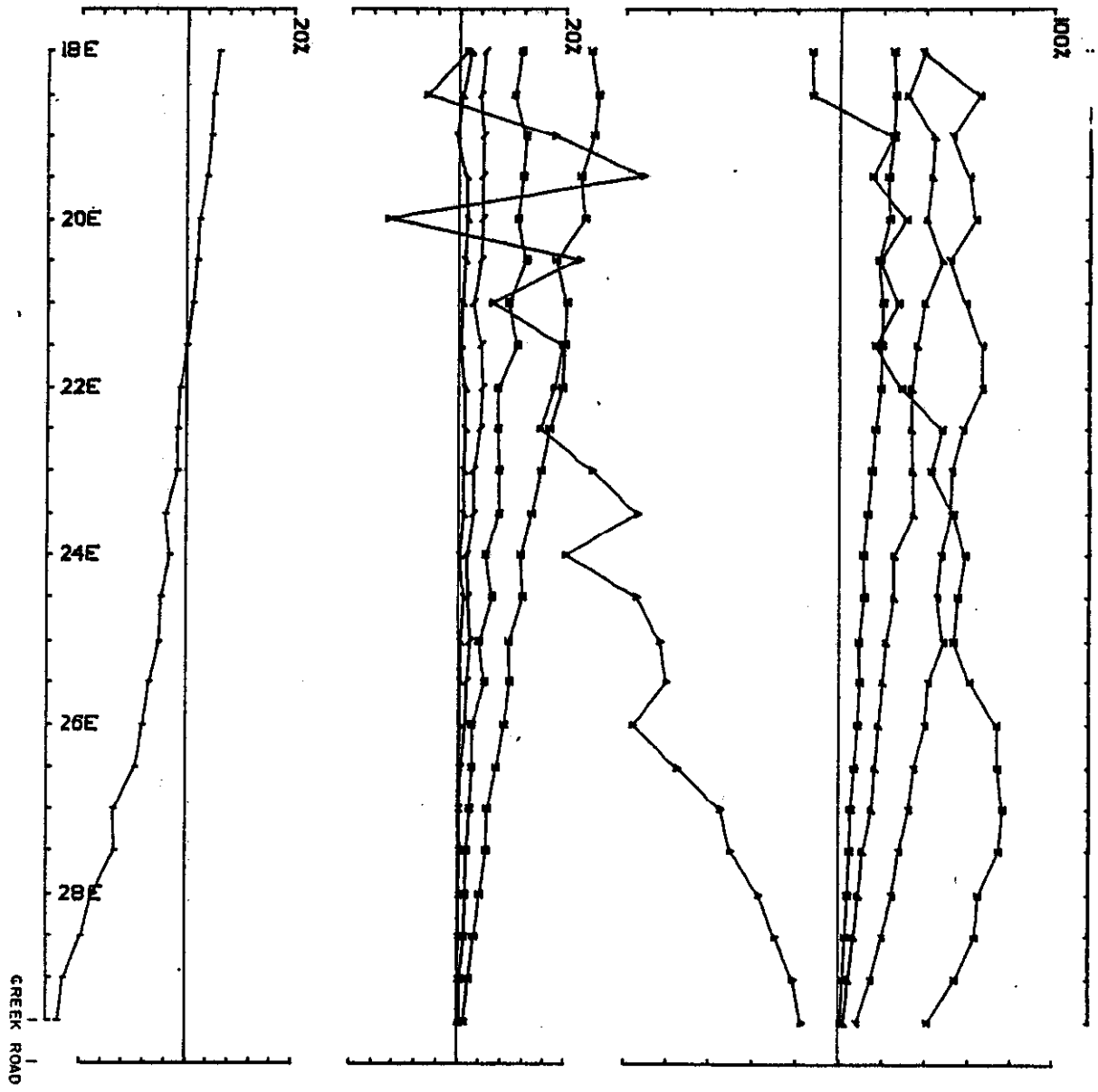
D.S. 21



LEWIS CREEK 80 30.50 HZ C-P)/P C-CD/CI Hz ION 804

D.S. 22



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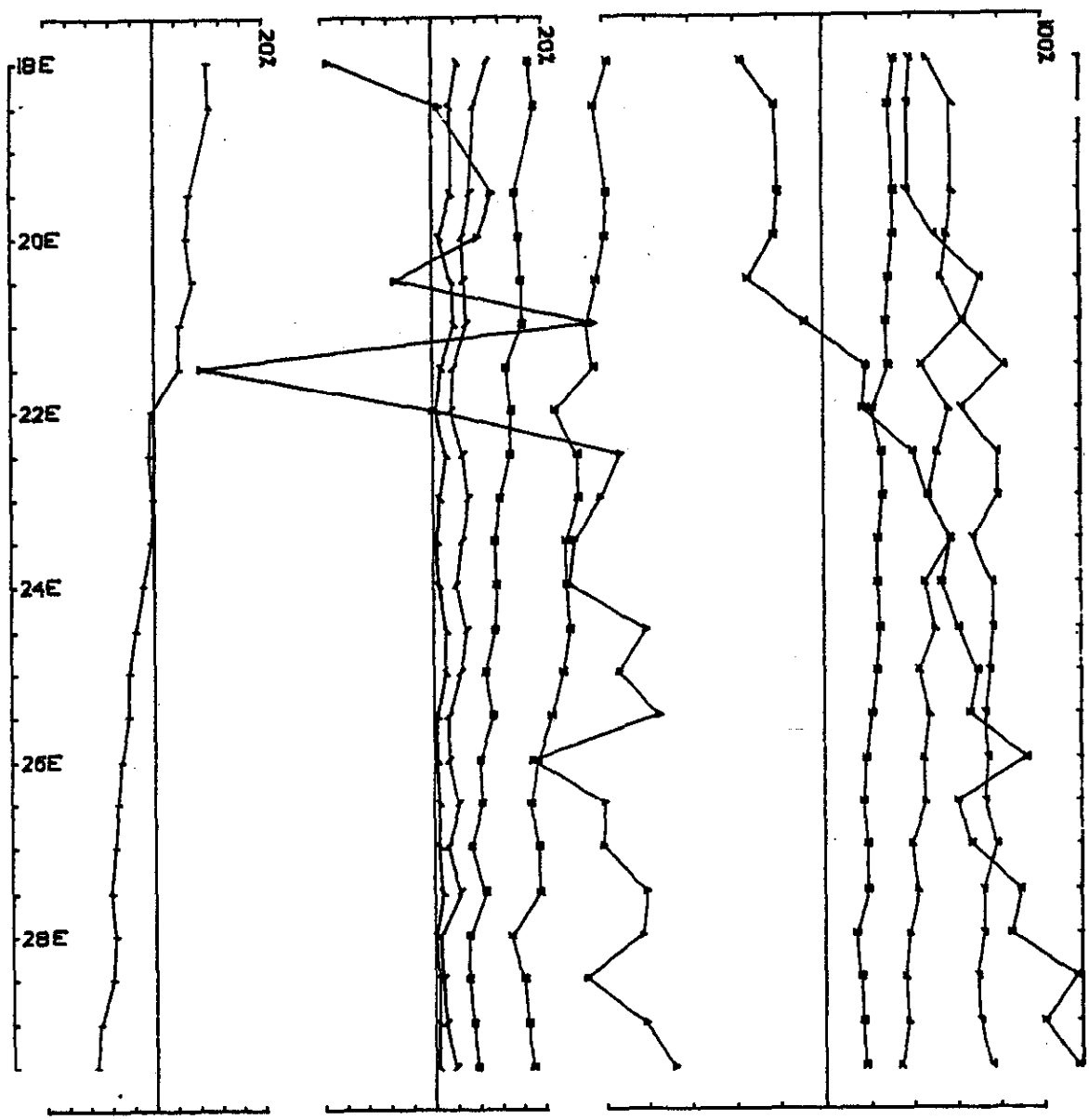

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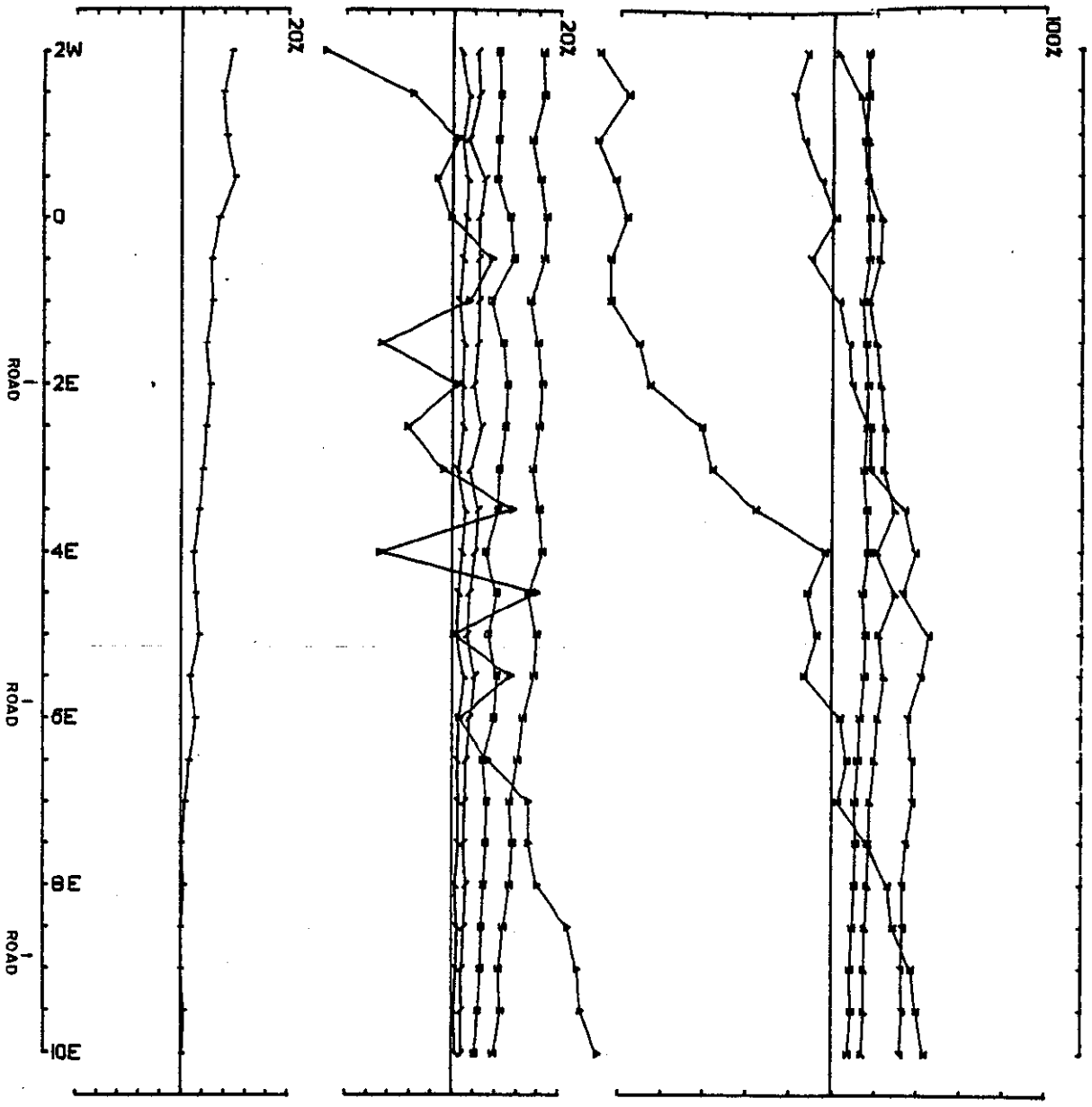
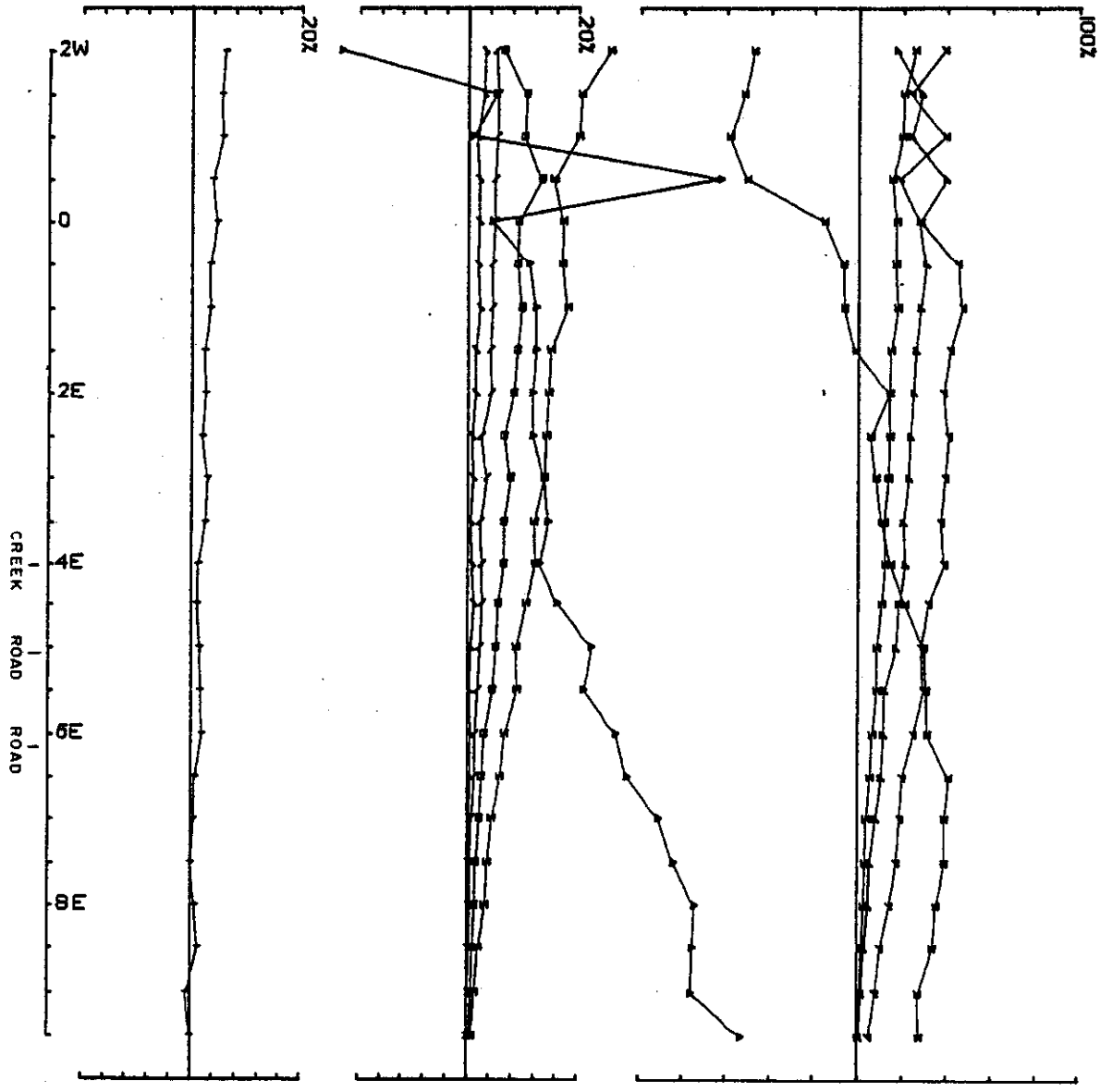
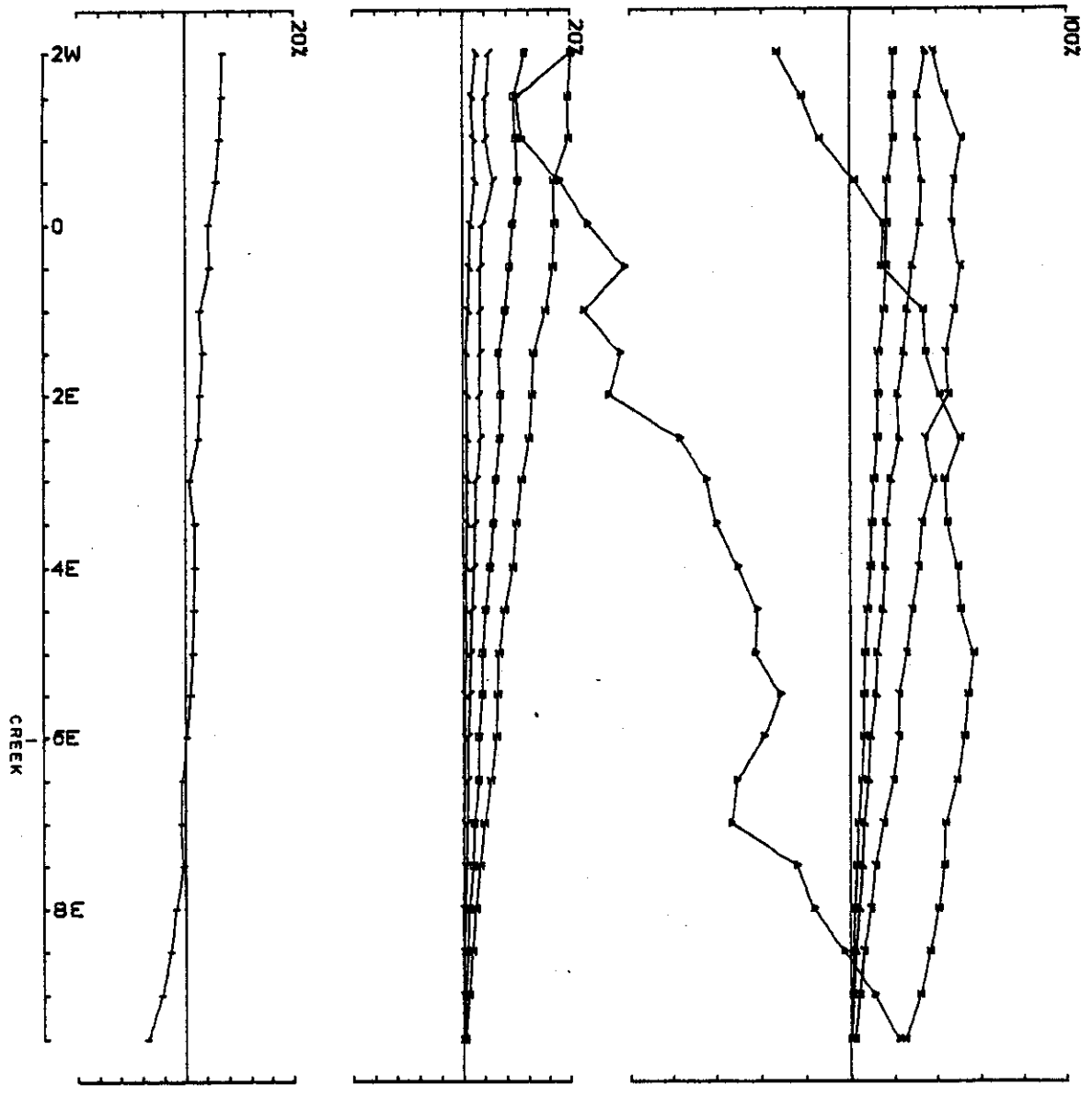


LEWIS CREEK 80 30.50 HZ C-P)/P C-CD/CI Hz 5S 806



LEWIS CREEK 80 30.30 HZ C-P)/P C-C1)/C1 Hz 10S 806

D.S. 26



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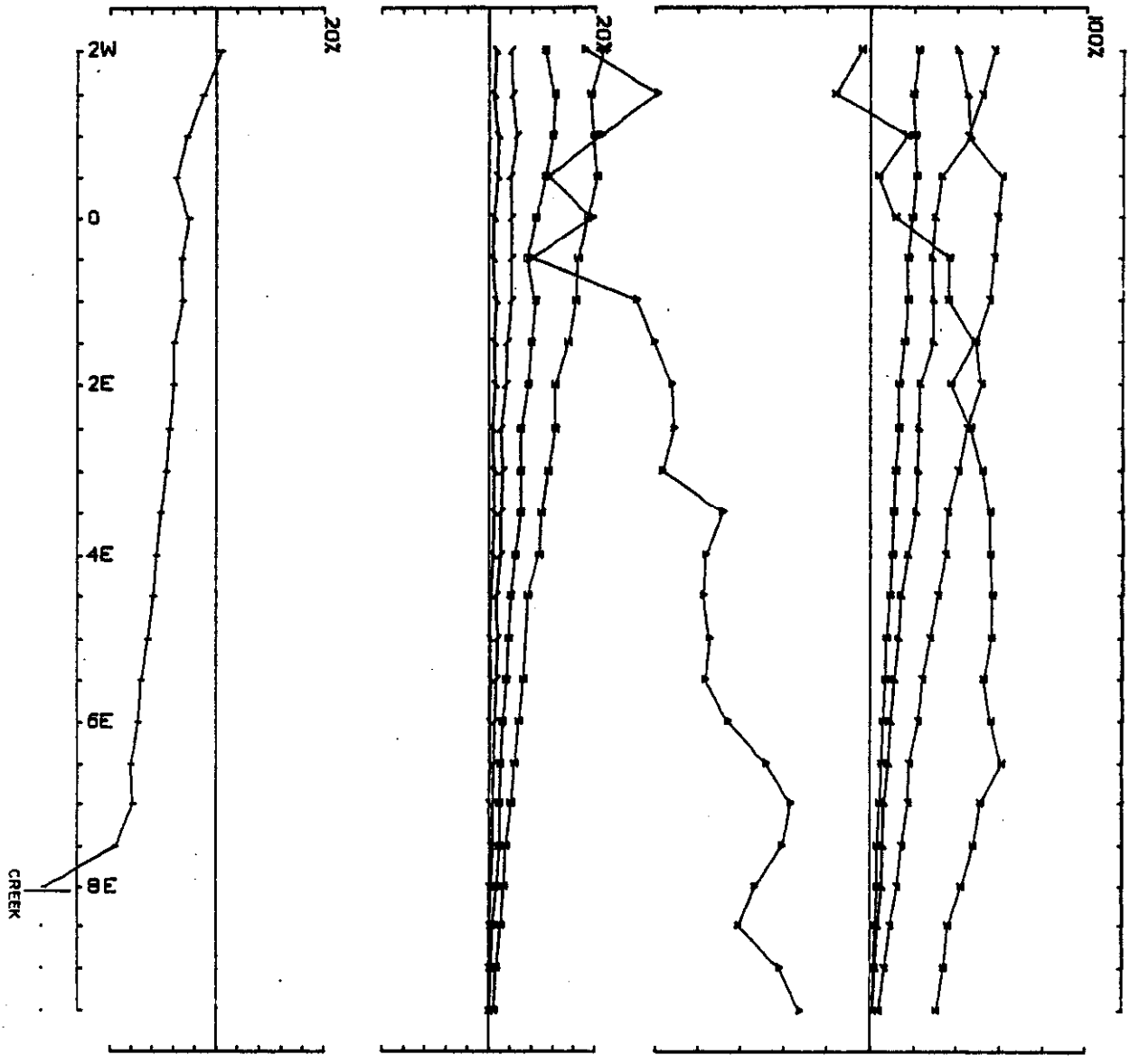
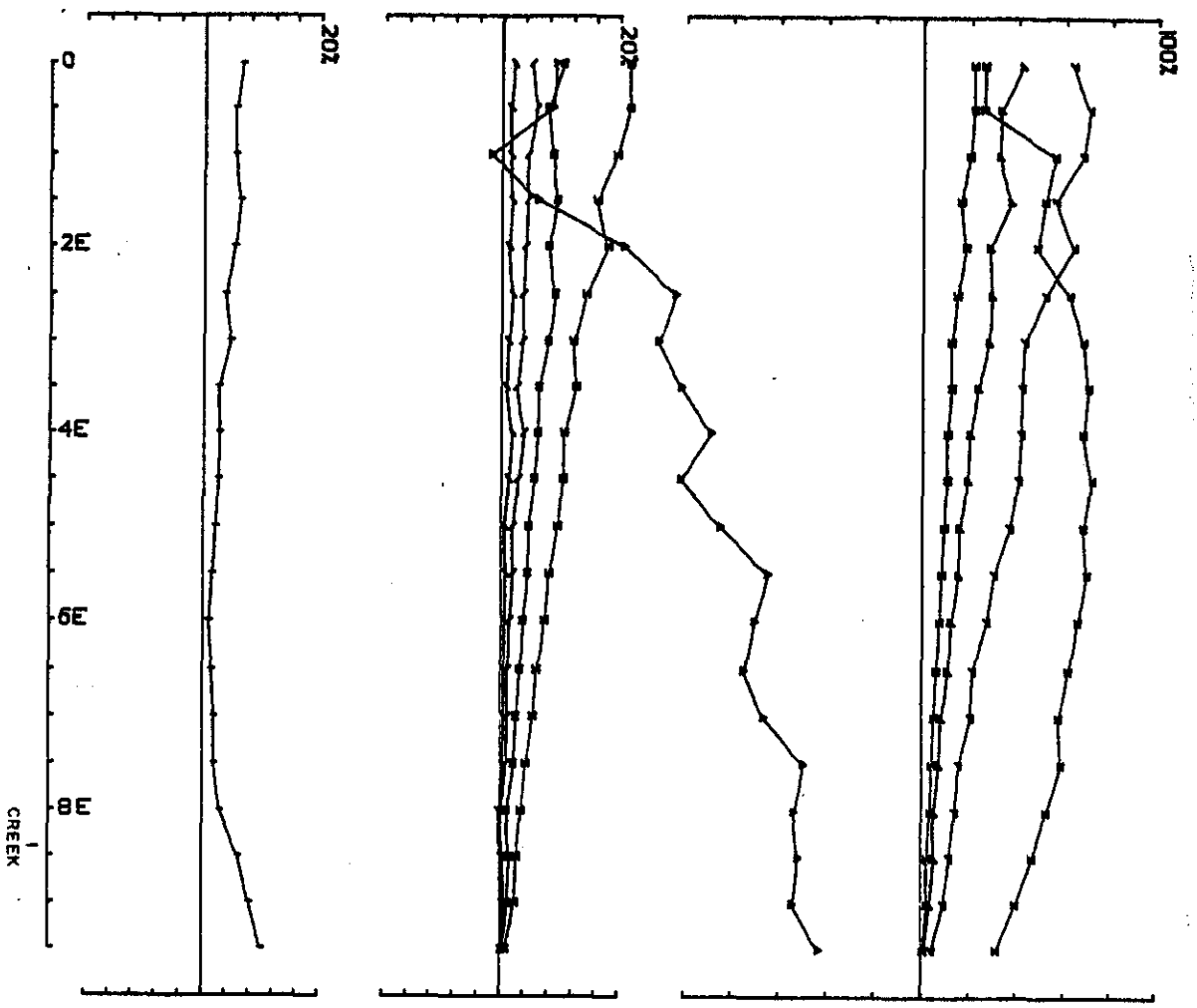
D.S. 27



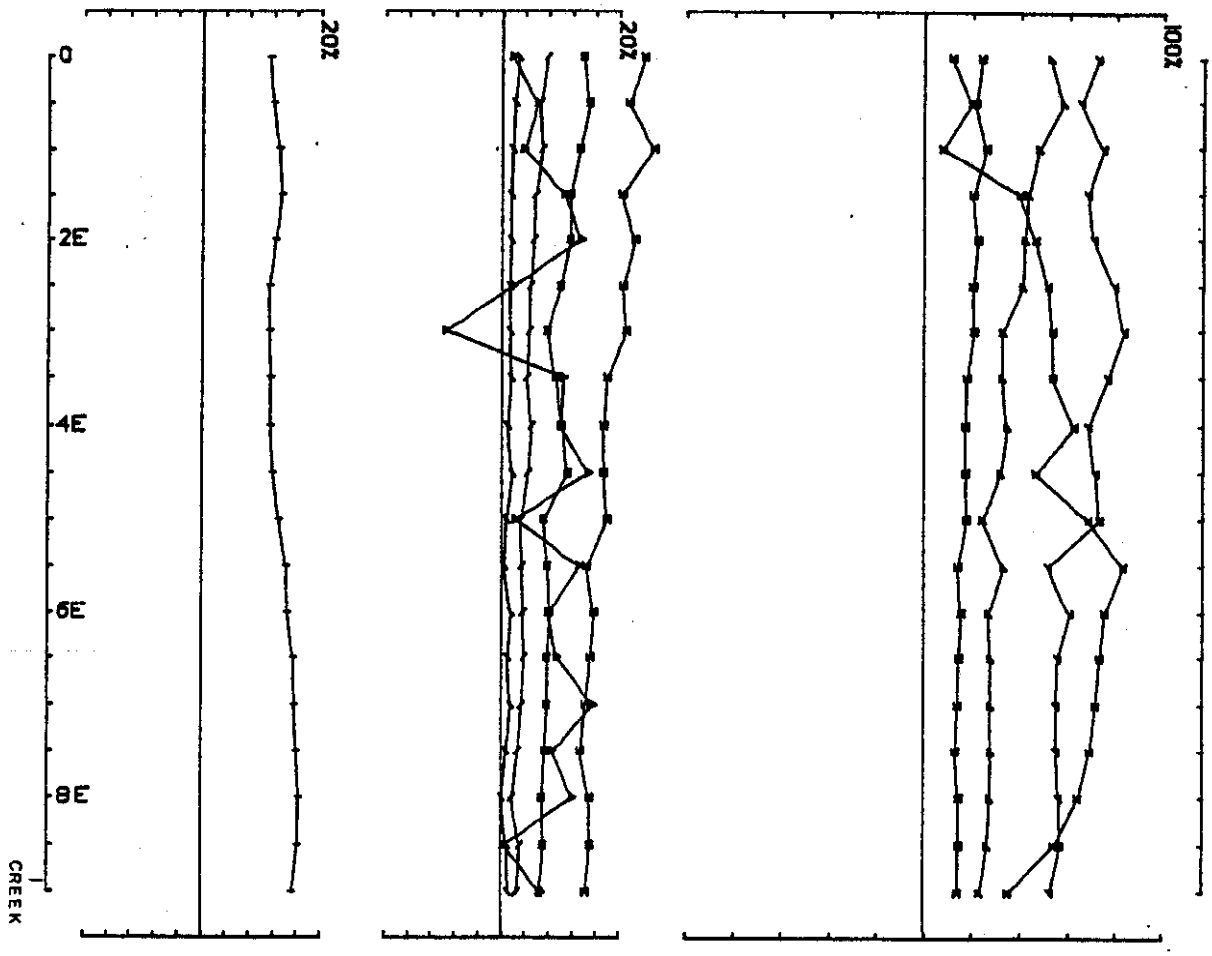
LEWIS CREEK 80 30.50 HZ C-P)/P C-C1)/C1 Hz 20S 806

D.S. 28



LEWIS CREEK 80 30.50 HZ C-P)/P C-C1)/C1 Hz 25S 806

D.S. 29



LEWIS CREEK 80 30.50 HZ C-P)/P C-CD/CI . Hz 30S 806

D.S. 30

APPENDIX IV

APPENDIX IV

IN THE MATTER OF THE B.C. MINERAL ACT

AND IN THE MATTER OF A GEOPHYSICAL PROGRAMME

CARRIED OUT ON THE LEW CLAIMS

LOCATED 32 KM S.W. OF CRANBROOK, B.C.

IN THE FORT STEELE MINING DIVISION OF THE

PROVINCE OF BRITISH COLUMBIA, MORE PARTICULARLY

N.T.S. 82 F/8

S T A T E M E N T

I, Ernest Thomas Eadie of the City of Vancouver in the Province of British Columbia, make oath and say:

1. That I am employed as a geophysicist by Cominco Ltd. and, as such have a personal knowledge of the facts to which I hereinafter depose;

2. That annexed hereto and marked as "Exhibit A", to this statement is a true copy of expenditures incurred on geophysical survey on the LEW mineral claims;

3. That the said expenditures were incurred between September 26 and November 6, 1980, for the purpose of mineral exploration of the above-noted claims.

E T Eadie

E. Thomas Eadie, M.Sc.
Geophysicist, Cominco Ltd.

EXHIBIT A

STATEMENT OF GEOPHYSICAL EXPENDITURES (1980)

LEWIS CREEK CLAIMS

1)	Salaries			
	a) Senior Geophysicist (JJL)			
	11 days @ $150/day		$ 1,650.00	
	b) Geophysicist (ETE)			
	30 days @ $125/day		3,750.00	
	c) Geophysicist (RWH)			
	25 days @ $125/day		3,125.00	
	d) Geophysical Technician (GKN)			
	28 days @ $105/day		2,940.00	
	e) Field Assistants			
	G. Heminsley (GH) - $1,280/mo. Oct 6 - Nov 9			
	D. Ambry (DA) - $1,025/mo. Oct 1 - Oct 3			
	Total Salaries	$ 2,016.00		
	Total Bonus*	320.00		
			2,336.00	
				$ 13,801.00
2)	Interpretation, Report, Drafting			2,625.00
3)	Equipment Charges			
	UTEM 1.5 mos. @ $2,400	$ 3,600		
	Wire	200		
				3,800.00
4)	Expense Accounts (includes travel, domicile, fuel and oil, field supplies, equipment parts and repairs)			
	a) JJL	$ 1,860		
	b) ETE	2,903		
	c) RWH	2,023		
	d) GKN	3,080		
	e) GH	1,404		
				11,270.00
		Total Forward		$ 31,496.00

* Extra amount paid for weekend work

	Total Forward	$ 31,496.00

5) Linecutting

(D. Wilson & M. Fidock - July 15 to Oct 30, 1980)
78.7 km @ $ 177.27/km $ 13,951.00

6) Miscellaneous

a)	Freight Charges to and from Toronto	512.00
b)	Transportation	
	Ford 4x4 : 42 days @ $25/day	1,050.00
	GMC rental truck - total bill	1,628.00
		17,141.00
	TOTAL	$ 48,637.00

I certify this to be a true statement of expenditures for for geophysical survey on the LEW claims in 1980.

E. Thomas Eadie, M.Sc.

APPENDIX V

APPENDIX V

C E R T I F I C A T I O N

I, E. Thomas Eadie of 2985 West 6th Avenue, in the City of Vancouver, in the Province of British Columbia, do hereby certify that:-

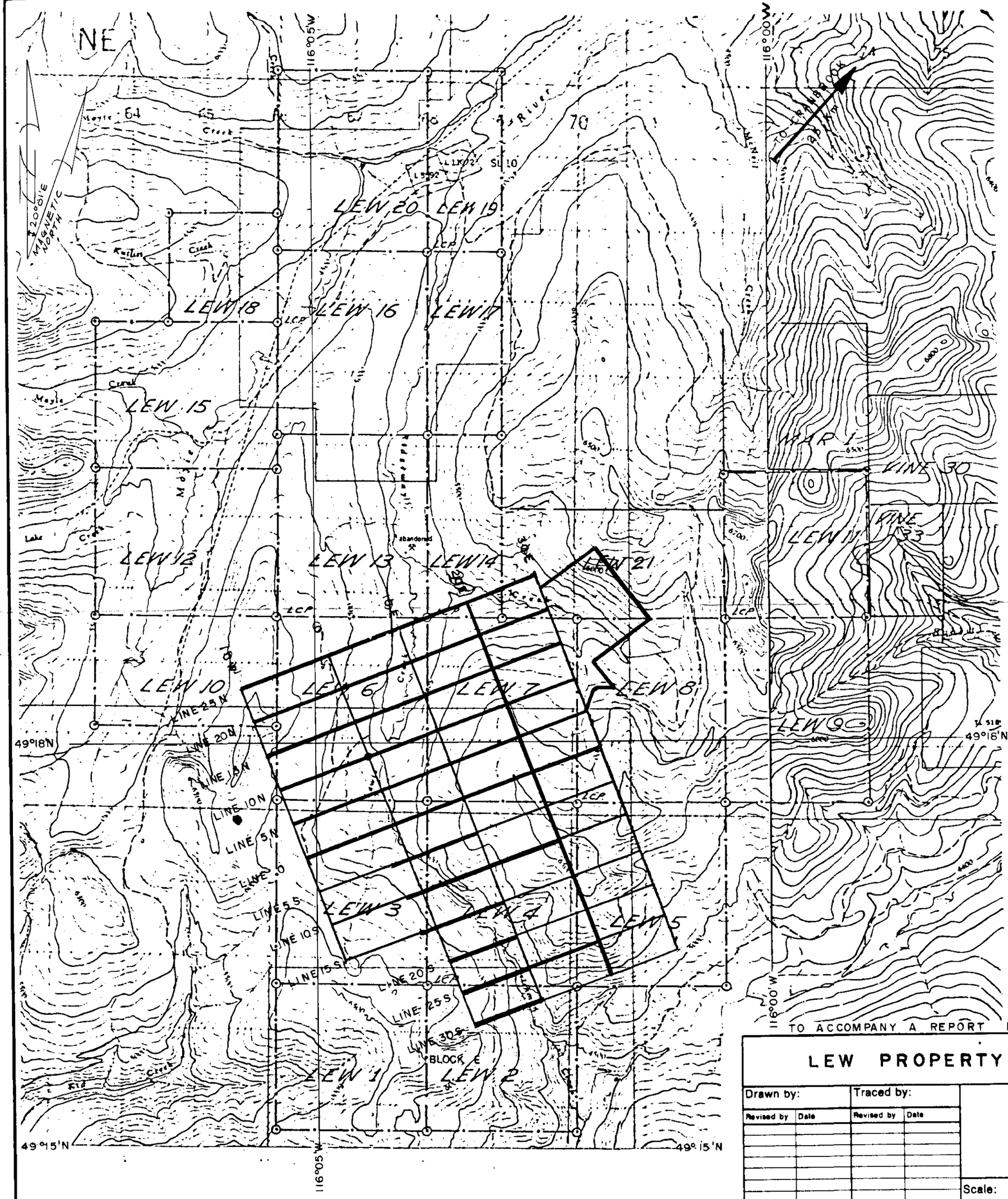
1. I graduated from the University of British Columbia in 1976 with an Honours B.Sc. in Geology and Geophysics, and from the University of Toronto with a M.Sc. in Geophysics.

2. I am a registered member of the Society of Exploration Geophysics, the Canadian Exploration Geophysicists, the British Columbia Geophysical Society and an Engineering Pupil with the Association of Professional Engineers of the Province of British Columbia.

3. I have practiced my profession for over two and one half years.

E T Eadie

E. Thomas Eadie
Geophysicist



LEW 1 to 20 Incl.
RECORD No's 906 to 925
RECORDED MAY 5, 1980

No. UNITS 342 + 18

NAME	UNITS	
LEW 1	16	
2	16	
3	20	
4	20	
5	20	
6	20	
7	20	
8	20	
9	20	
10	15	
11	16	
12	20	
13	20	
14	10	
15	20	
16	20	
17	10	
18	9	
19	10	
20	20	
21	18	JULY 28, 1980

LINES SURVEYED BY UTEM

LINES CUT

Part 1 of 2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8841
NO.

METRES
0 1000 2000 3000 4000 5000

TO ACCOMPANY A REPORT BY E.T. EADIE E.T. Eadie

LEW PROPERTY

NTS 82F8

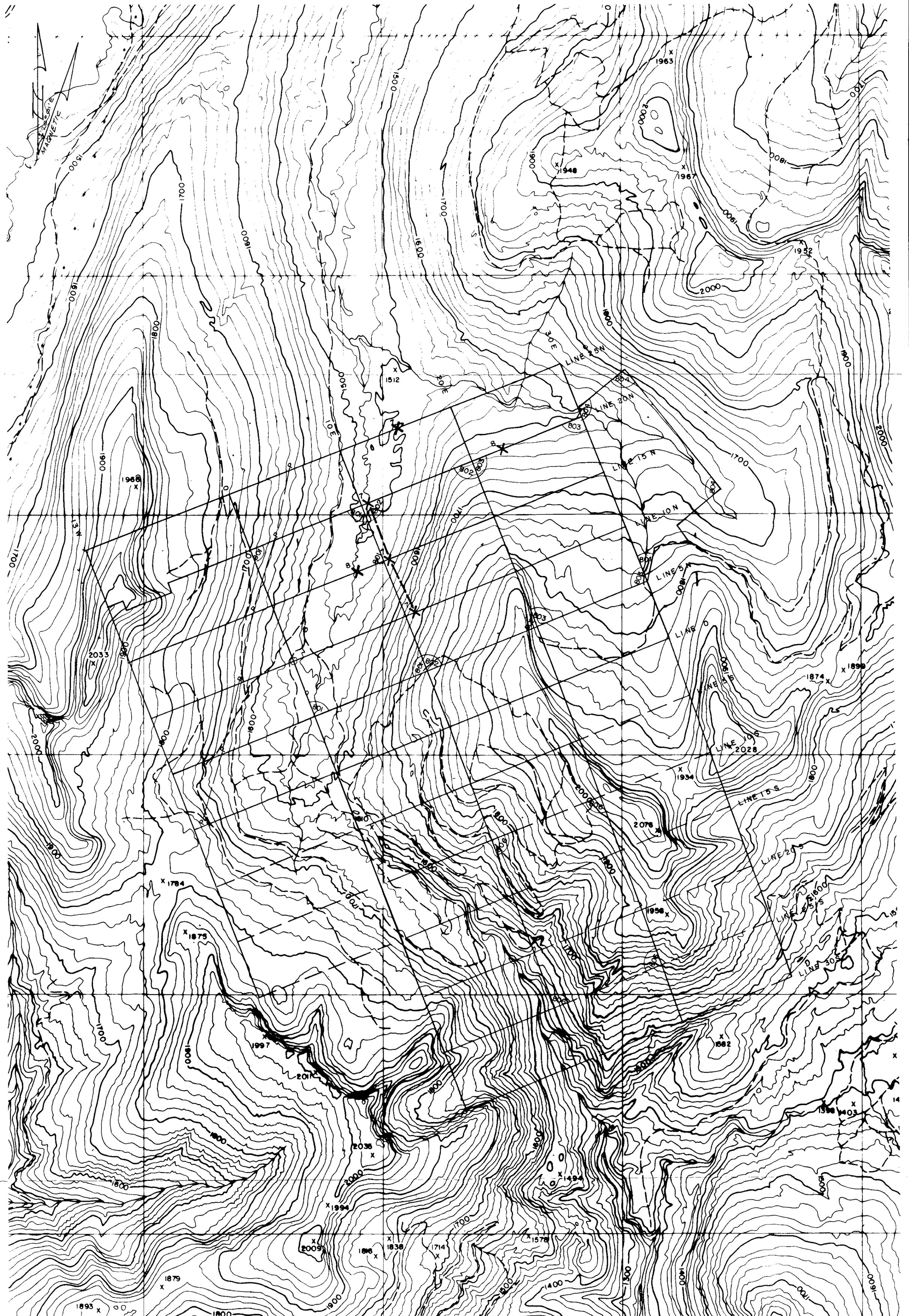
Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

LOCATION AND CLAIM MAP

FORT STEELE M.D., B.C.

Scale: 1:50,000 | Date: FEB 1981 | Plate: 200-80-1

210-9620



— P — POWER LINE

— — — LINES SURVEYED BY UTEM

— — — — CUT LINES

4 AXIS OF A CROSS-OVER ANOMALY
THE NUMBER INDICATES THE LATEST ANOMALOUS CHANNEL

4 AXIS OF A REVERSE CROSS-OVER ANOMALY
THE NUMBER INDICATES THE LATEST ANOMALOUS CHANNEL

7 — 7 CONDUCTOR AXIS LOCATED BY CROSS-OVER ANOMALIES

801 OUTLINE OF A TRANSMITTER LOOP WITH LOOP NUMBER

Part 1
of 2

TO ACCOMPANY A REPORT BY E.T. EADIE E T Eadie

LEW PROPERTY

NTS 82 F 8

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

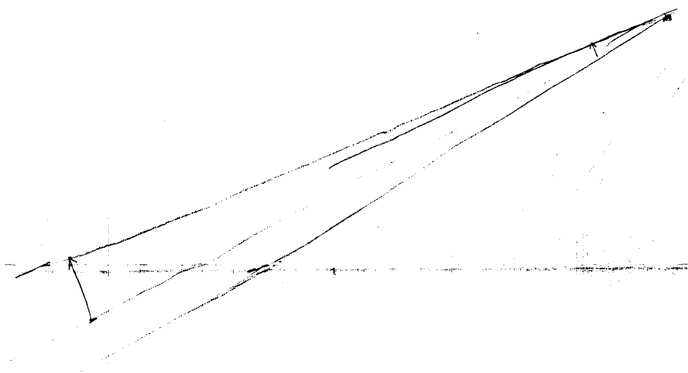
1980 UTEM SURVEY

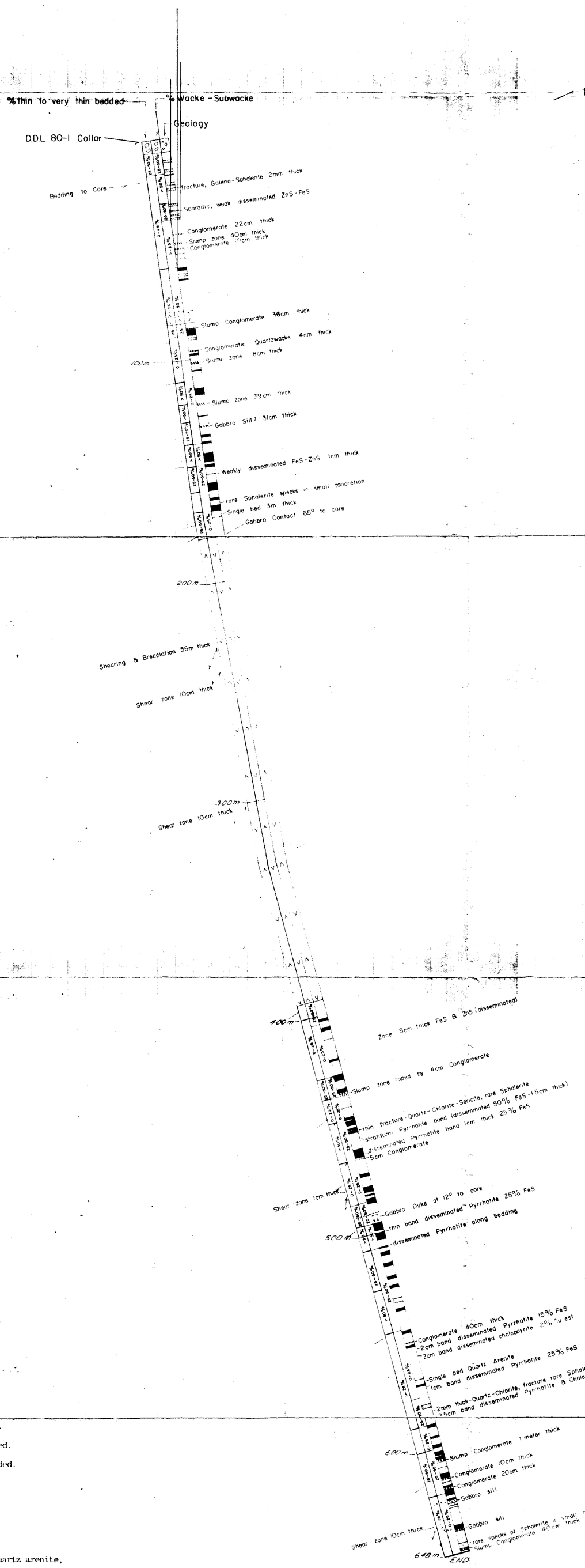
FORT STEELE M.D., B.C.

Scale: 1:20,000 Date: FEB 1981 Plate: 200-80-2

NCI-229-C.L.

HALDRIDGE FORMATION
STRATIGRAPHIC Column





LEGEND

- 0–25% thin bedded & very thin bedded.
- 25%–50% thin bedded & very thin bedded.
- 50%–100% thin bedded & very thin bedded.
- 0–25% wacke & subwacke.
- 25%–50% wacke & subwacke.
- 50%–100% wacke & subwacke.
- Quartzitic wacke, Quartz wacke and Quartz arenite, thick bedded to very thick bedded.
- Wacke through to Quartz arenite undivided, medium bedded.
- Interturbidite wacke and interturbidite subwacke, medium to very thin bedded.
- Intraformational Conglomerate and Intraformational breccia.
- Slumped sediments.
- Gabbro

Bed thickness; 100 cm and up - very thick, 30–100 cm - thick, 10–30 cm - medium, 3–10 cm - thin, 1–3 cm - very thin.

NOTE:

The above percentage categories for thin bedded versus medium and thick bedded, and for wacke–subwacke versus Quartzitic wacke, Quartz wacke, Quartz arenite, are calculated for contiguous intervals of Core which range from 8 to 12 meters.

Part 1 of 2

Lat. 49° 18'
Long. 116° 04' 15"
Elev. 1650m
Dip 90°–75°
Brg 279°

LEW PROPERTY

Drawn by: C. Hern	Traced by
Revised by Date	Revised by Date

D.D.H. L80-1

Scale Date Plate 1