GEOPHYSICAL SURVEYS

PAY MINERAL CLAIMS

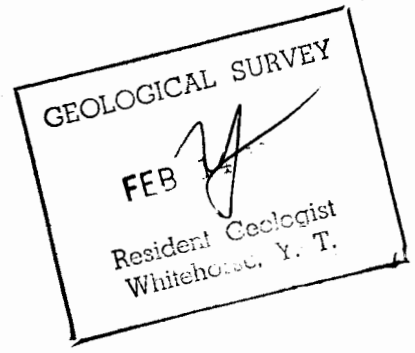
Watson Lake Mining Division

Yukon Territory

Claim Sheets: 105 J1, 105 J2
105 G 15, 105 G 16

Latitude: 62° 00' N

Longitude: 130° 35' W

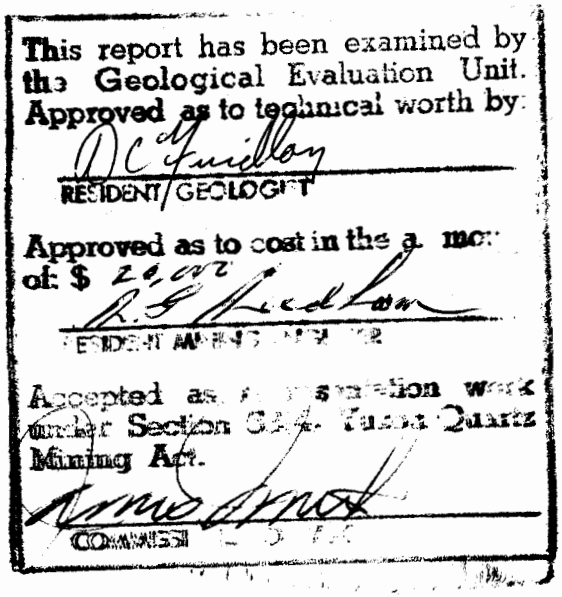


ATLAS EXPLORATIONS LIMITED

by

John S. Brock

August, 1967



GEOPHYSICAL SURVEYS

PAY MINERAL CLAIMS

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PAY MINERAL CLAIMS

Covered by Geochemical - Geophysical Survey Grid

PAY 87 - 166	Y16981 - 17060	Recorded November 6, 1966
PAY 168 - 203	Y17793 - 17829	Recorded June 23, 1967

ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

PAY MINERAL CLAIMS

KEY MAP OF CLAIMS AND GRID

CLAIM SHEETS: 105-G-16
" " 105-G-15
" " 105-J-1
" " 105-J-2

PELLY RIVER

130° 30'

62° 00'

FORTIN LAKE

PAY

PHIL

LINE 14S W

BASELINE 0

LINE 0

LINE 24 E

BASE LINE 90 S

LINE 90 S

OUTLINE OF GRID

3000

3500

4500

6000

TELEPHONE 685-4331

ATLAS EXPLORATIONS LIMITED
(N.P.L.)
330 MARINE BUILDING
355 BURRARD STREET
VANCOUVER 1, B.C.

EVALUATION AND RECOMMENDATIONS GEOCHEMICAL AND GEOPHYSICAL SURVEYS PAY MINERAL CLAIMS

INTRODUCTION

The PAY Mineral Claims 1 - 16 were optioned from R. McBean of Vancouver, B.C., on August 13, 1966, following an examination by Atlas Explorations Limited. During October, 1966, PAY 17 - 86 were added to the original group for protective measures. A reconnaissance prospecting and geochemical soil sampling program designed to cover favorable geological formations to the south of Traffic Mountain was carried out during September and October of 1966. Geochemical soil sampling results of high zinc values led to the staking of PAY 87 - 166 in November of the same year. Further claims, PAY 167 - 203, were added in June, 1967, when geologic, geochemical, and geophysical surveys proved encouraging.

A broad, northwesterly trending, elongate magnetic anomaly lies over the central portion of the PAY group; the full extent of this anomaly is not known, as it is cut by the northern boundary (62^{o} 00') of the Geologic Survey of Canada airborne survey map. Zinc geochemical values in excess of 1000 parts per million within this area of magnetics led to a follow-up program of further prospecting, geologic mapping, line-cutting, soil sampling, and geophysical surveys (EM and Magnetics). Line-cutting commenced over an area of known mineralization, the

object being to have surveys test the mineralized areas for possible extensions and to trace the geochemical anomaly outlined during the 1966 program.

To date, detailed surveys under the supervision of P. Nielsen and R. Darney of Atlas Explorations, have proved encouraging. Hand trenching on anomalous geochemical (zinc) and electromagnetic anomalies has revealed sulphide mineralization. A Winkie drill, operated by a two-man crew, tested areas of interest as well. Surveys and data accumulation have now reached a stage where a large zone of potential zinc mineralization has been partially outlined. In order to fully investigate this area, it is recommended that a Phase III type of program be started to include diamond drilling.

LOCATION AND ACCESS

The center of the PAY Group is located about 4½ miles east of Fortin Lake and approximately 8 miles southwest of the Pelly Lakes Post, at latitude 62° 00' north and longitude 130°35' west. Fortin and Pelly Lakes are suitable for all types of float-equipped aircraft. The present PAY base camp, from which all operations are being conducted, is situated north of the PAY grid on a small, unnamed lake ('Pay Lake'). Most float-equipped aircraft are able to land on Pay Lake; however, fully loaded aircraft are unable to fly out. During April, 1967, Atlas Explorations constructed a winter tote trail from the Ross River - Watson Lake highway at a point northwest of Finlayson Lake to Pelly Lakes via the PAY Group. The distance to the PAY Group from the highway is approximately 40 miles. The tote trail can be travelled in summer, with wide-tracked vehicles during winter months.

SURVEY TECHNIQUES

Linecutting:

To date, 91 line miles of line have been cut over the PAY Grid by Atlas linecutters hired from the settlement of Ross

River. Survey control for cutting has been by picket and chain methods. Base lines, bearing 312°, have been laid out at grid co-ordinates 0+00S and 50+00S. Cross lines of 400 foot spacing, with 100 foot station intervals, have been cut over most of the survey area; cross lines of 800 foot spacing have served to project survey results. Line spacing of 400 feet has been used over all areas of interest.

In order to obtain good survey control over areas of development, stadia traverses were done. Grid lines, claim posts, trenches, and drill sites have been tied in to this survey.

Magnetometer Survey:

Magnetic surveys are being run over the entire grid with a Jalander fluxgate, vertical component instrument. Diurnal drift and gamma conversions are being done in a conventional manner. Results are plotted on maps to scale 1:400, showing grid location - gamma values - profiles and grid location - isomagnetic contours.

Electromagnetic Surveys:

Two types of electromagnetic survey were used over the PAY grid. Complete coverage has been obtained with a Crone JEM unit, using the horizontal loop method, which has been adequate in outlining major conductive areas. A Ronka EM 16 is also being used to supply more detailed information over conductors delineated by the Crone JEM. All electro-magnetic data is being plotted on grid plans to scale 1:400. Maps showing results obtained from the JEM unit include: 1800 and 480 cps values and resultant dip angles profile, 480/1800 cps values and profiles (relative conductivity), and contoured 1800 cps resultant dip angles. Maps have been prepared showing in-phase and quadrature values and profiles for the EM 16.

Geochemical Surveys:

Soil samples have been collected on all grid lines at 100 foot station intervals. Projections of geochemical anomalies have been carried out over 800 foot reconnaissance lines and then filled in with 400 foot line if results of interest were obtained. Soil samples have been analysed at the Atlas Explorations geochemical laboratory for copper, lead, and zinc content by Atomic Absorption Spectrophotometer means. Collection data for each station sampled has been obtained; drainage data, soil types, and physiography are noted. Results are plotted to scale 1:400 on a grid plan; individual plans have been prepared of element profiles and contoured results.

GEOLOGY

Geologic mapping has been carried out on 1:100 (photo overlay) and 1:400 (grid plan) scales by R. Darney under the supervision of Dr. C.L. Smith, senior geologist for Atlas Explorations Limited.

Over the main PAY Group, the geologic structure consists of a westerly dipping sequence of banded chert (oldest unit), massive dolomite, sericite phyllite and phyllite (youngest unit). This sequence is folded into a tight northwest plunging anticline which is obliquely cut by a northwest trending normal fault. As a result of faulting, a downdropped, upward extension of the fold occurs to the southeast. Several small mineral occurrences of copper, lead, and zinc sulphides (in the vicinity of line 36W - 13N, line 40W - 18N, and lines 44 to 48W at 7N) have been located in brecciated zones in the banded chert; however, the immediate area of interest lies on the southwest limb of the downdropped, isoclinal anticline. Over the southwest portion of the grid (area of priority and main economic interest), the south anticlinal limb appears to be flattening into a broad syncline.

Limited outcrop within this area does not allow a definite geological interpretation. Geochemical and geophysical expressions over the southwest portion of the grid have provided targets for hand trenching and Winkie diamond drilling.

Winkie Diamond Drill Holes:

Hole No.	Location	Target	Depth	Log
WDH 2	S80°E of 48W - 53S	Outcrop sil. dolomite, Zn mineralization	18'	Abandoned due to caving in fractured rock
WDH 3	10'N of WDH 2	Step out WDH 2	10'	"
WDH 4	4' W of WDH 3	Step out WDH 3	8'	"
WDH 5	75' SW of WDH 2 in TR	Zn Min. in Trench	6'	"
WDH 6	32W - 45S	Geochem. and EM	49'	33' overburden, 16' of carbonaceous dol. of graphitic phyllite with pyrite lenses
WDH 7	150' NW of 32W49S	Zinc Geochem.	58'	41' overburden 17' black dolomite with pyrite lenses
WDH 8	50' NW of WDH 7	Down slope from WDH 7	98'	50' overburden black dolomite with pyrite lenses
WDH 9	32W-45+50S	Geochem-EM	20'	Caving, lost water
WDH 10	20' NW of WDH 9	?	51'	21' overburden black dolomite
WDH 11	88W-71+50S	(9000 ppm) Zn geochem and EM		No info. this date

Hand Trenches:

TR 1: A mineralized outcrop near line 48W - 53S was trenched about 100 feet in length across strike of the host unit (brecciated and silicified dolomite) younger and overlying the phyllites. The brecciated dolomite is thought to be associated with the central

(core) portion of the proposed synclinal structure. This trench contained nearly continuous zinc mineralization over its length. Sulphide minerals consist of light purplish-brown, fine to medium grained sphalerite, galena in quartz veins, pyrite and rare chalcopyrite. Gangue consists of quartz, calcite, and sphalerite. Hydrothermal alteration is erratic and not pervasive, consisting of silicification and minor pyritization. Textures are characteristic of open-space filling in quartz carbonate veins and of true disseminated replacement by sphalerite and pyrite.

TR 2: Exposed unconsolidated bedrock, consisting of the mineralized host unit; all indications show to be close to bed-rock.

Hand trenching has been used as a method of attempting to trace the unit along strike (N 70^{o}W) parallel to regional strike as well as that of geophysical and geochemical anomalies. Due to thick overburden cover, most of the pits and trenches did not reach bedrock, although mineralized zone float was located in most diggings.

GEOCHEMICAL RESULTS

A broad zone of anomalous zinc geochemical values stretches from line 8E to 124W, with scattered peak values between stations 40S and 80S. Within this anomalous geochemical zone, at least 15 northwesterly striking elongate highs of over 1000 parts per million zinc exist. Peak values within these highs range between 3000 to 9000 ppm and over the largest zinc anomaly between lines 84W and 124W, values up to 20,000 ppm zinc have been obtained.

Statistically determined threshold is 300 ppm, and anomalies have steep gradients commonly climbing abruptly from 300 ppm to peak values in distances of less than 200 feet. Continuity between peaks is remarkable, for the highest spots lie on

a straight line which corresponds accurately with local strike of bedrock.

Most of the grid is heavily vegitated with dwarf birch and spruce stands with occasional groves of poplar. Muskeg predominates and is over two feet in thickness in local drainage traps and topographic depressions. Soils sampled are generally of an immature "B" horizon, but it is the opinion of the author that soils are not residual. Direction of glaciation appears to be from the northwest, a trend coincident with the strike of geochemical anomalies. Evidence of transported material is further verified by the presence of granitic boulders, as reported by R. Darney. Tests taken over soil profiles in hand trenches show a zoning of zinc content in the soils that can generally be matched with an immature "B" horizon about 2 feet below the ground surface. It is felt that this horizon is often not encountered in the grid sampling, and that results must be considered qualitatively for a detailed interpretation. It should also be noted that graphitic horizons can contain up to a maximum of 1000 parts per million zinc. (Hawkes and Webb)

MAGNETIC RESULTS

The field operators report that continual problems have been encountered during the course of the magnetic survey. Instrument trouble, coupled with severe and irregular magnetic storms, have given magnetic readings that are of doubtful accuracy. It has not been determined where the problem lies, although four different instruments have been tested on the grid by an experienced operator.

With the results obtained to date, it is apparent that the magnetics over the geochemical and electromagnetic expressions are very "flat". To the north, responses of over 300 gammas above background have delineated zones that are interpreted as being phyllite zones that have undergone a higher degree of metamorphism (see Interpretation Map). The displacement of these zones has

given some support to the theory that a northeast trending fault strikes across the grid. The magnetic responses are of a broad nature, with dips generally to the south. Local irregularities within the overall anomalies are attributed to facies changes within the phyllite units themselves.

The magnetometer survey has not disclosed possible areas of sulphide mineralization, but has provided some minor guides to geologic mapping.

ELECTROMAGNETIC RESULTS

Zone 1, being as described between line 20E and 60W, is an extensive conductor outlined by the horizontal loop Crone JEM. The boundaries of this conductor are shown on the compilation map; profile details of lines 24, 32, 40, 48, and 56 W are shown in the Appendix of this report. All dip angles are negative and of large magnitude (in excess of -30°). The general conductor has been interpreted as being the near surface (less than 200 feet) trace of synclinal folding of a graphitic horizon. The syncline plunges to the west as represented by EM profiles. With reference to the compiled profiles of line 24 W, the axial plane of the syncline would be at 53 S, the northern limb dips to the south between stations 44 S and 52 S, the southern limb has a gentle dip to the north from at least station 80 S to 60 S. With respect to the same line, the EM 16 profile (deeper penetration) appears to outline the north and south contacts of the graphite at 43 S and 72 S, faulting at 40 S gives a well-defined "cross-over". The axial-plane or central portion of the graphitic zone is clearly shown by the cross-over at 56 S. The profile of line 32 W gives the same basic interpretation, although the main graphitic bed is plunging to the west, therefore giving weaker readings on the Crone JEM. The less conductive dolomite host is thought to lie in the region of 44 to 48 S, shown both on the Crone, EM 16, and zinc profile. The profile of line 40 W is interpreted similarly, except for the westerly trending fault

cutting the northern limb of the graphitic bed near its northern contact; this is shown both on the EM 16 and Crone profiles. The main body of graphite appears to still be plunging uniformly to the west on line 56 W; the Crone profile is one of a conductor at depth and does not provide much detail. On each profile, irregularities are noted both on the Crone and EM 16 results for each line. These are thought to be either due to minor folding within the proposed synclinal structure or more conductive zones within the graphite formations. In all instances, formational dips are steeper on the northern limb than on the southern limb of the fold. The axis of the major fold is best defined as the conductor dips or plunges below the penetration depth of the Crone JEM. Within the central portion of the fold (axial plane?), positive resultant dips are indicated, thus giving further evidence to its existence by the presence of near vertical shears.

At the western extremity of the Zone 1 conductor, a fault has been assumed through the location of a well-defined northeasterly topographic linear, displacement of magnetic anomalies, and a cut-off and apparent partial displacement of the conductors. It is probable that, in the vicinity of line 72 E, the topographic linear is so pronounced that heavy overburden cover within its confines has masked EM results. This area could represent the central portion of a doubly-folded syncline although, structurally, this is not likely.

Zone 2 is described as being the area between line 80 W and the western boundary of the grid (line 124 W) as shown by the conductor outline on the Compilation Map. It is suspected that a synclinal formation gives rise to a similar electromagnetic situation here as found over Zone 1. If such is the case, the north and south limbs do not dip as steeply as in Zone 1. The axial plane would pass through line 108 W at 78 S. (Refer to profile of line 108 W.)

The geophysical surveys are not complete over Zone 2 and the conductor is not fully delineated. The Zone 2 conductor is thought to have a shallow plunge in comparison with Zone 1 because of relative differences in strength of EM response. Over the north limb, the conductor has not been closed; from the survey information to date, it appears to continue to the north and may join with another extensive conductor outlined in the vicinity of line 136 W station 0. This could possibly indicate the continuation of the graphitic zone into an anticlinal arch to the north. It should be noted that sulphide mineralization of limited extent was found in the vicinity of line 136 W in association with a large and complex conductor.

SUMMARY AND CONCLUSIONS

Geophysics, and more particularly electromagnetics, appears to be a valuable tool aiding in the prognostication of local and regional structure and, more specifically, economic environments in relation to structural control. The outlining of the graphitic marker may well aid in the location of, and possible projections of, the associated host unit.

The compilation of geophysical and geochemical data indicates that the zinc anomalies favor the northern limb of the proposed synclinal structure, possibly where the thickest section of host unit overlies the graphite?

Two structural situations have been interpreted from geophysical-geologic observations; an elongate westerly trending, westerly plunging syncline, or a synclinal structure with a down-dropped center giving a basin-like structure.

Magnetics do not appear to be of use for interpretations over the immediate area of interest, but should be done in coincidence with the electromagnetics as a further "saturation technique".

Geochemistry is the best and most obvious guide to mineralization, but it is felt that more thought should be given to factors controlling ionic dispersement, such as glaciation, soil types, and overburden thickness.

RECOMMENDATIONS

1. A base line (cross line) should be cut at station 100 S for control purposes and the grid should be extended to the south to station 150+00 using 800-foot line spacing from line 20W to line 124W. The grid should also be extended from line 124W using 800-foot spacing until geochemistry and electromagnetics have fully outlined Zone 2. Surveys should cover the proposed grid extensions as well as filling in between station 50S to OS between line 80W to 136W. These extensions of the present grid will fill in the gaps between Zone 2 and the conductor at line 136 - OS. They will also provide an examination of the extent of the proposed south limb of the syncline for further favorable areas.

2. Winkie drilling should follow a more regular pattern of testing anomalous areas. Profiles should be drilled across geophysical anomalies at 100 or 200 foot intervals to fully determine their cause (as recommended on line 40). It is also recommended that this procedure be followed on line 88W where the drill is set up at this date on station 71 + 50 S.

3. Biogeochemical sampling of dwarf birch should be attempted on selected lines of high zinc geochemistry over Zone 2 to provide information for its possible application to the Atlas Exploration program.

4. If further ground electromagnetics appear to provide worthwhile information aiding in structural interpretations, noted on the PAY and BILL Groups, an airborne survey should be considered to aid in regional mapping.

Respectfully submitted,

John S. Brock,
Geophysicist and Assistant
Exploration Manager,
Atlas Explorations Limited.

PAY MINERAL CLAIMS

Ground Development Personnel: May - September 1967

Party Chief	P. Nielsen, 1600 Beach, Vancouver, B.C.
Geologist	R. Darney, 304-908 6th Ave., N. Westminster
Magnetometer Operator	P. Dean, North Vancouver, B.C.
Crone EM Operators	M. Simpson, Tofino, B.C. J. Galeski, Calgary, Alberta
EM 16 Operator	V. Pratico, Vancouver, B.C.
Soil Sampler	C. Wicks, Antagowish, N.S.
Linecutters	J. Acklack) M. Shorty) F. Charlie) Ross River, Y.T. R. Etzel) W. Etzel)
Hand Trenching	T. Skonseng, Ross River, Y.T.
Helper	S. McLeod, Ross River, Y.T.
Driller	B. Morrison, Ottawa, Ont.
Driller's Helper	J. Boiteau, Quebec, P.Q.
Bombardier Driver	P. Lundt , Watson Lake, Y.T.
Cook	G. Gray, Whitehorse, Y.T.
Flunky	
Senior Geologist	C. Smith, Vancouver, B.C.
Geophysicist	J. Brock, Ross River, Y.T.

SUMMARY OF COSTS FOR PAY MINERAL CLAIMS
GEOPHYSICS
May 5, 1967 to September 15, 1967

PAY Geophysics

(A)	LINE CUTTING:				
1.	(a)	Footage Cut:	479,900 ft. = 90.9 mi.		
	(b)	Line Cutters:	Natives from Ross River		
2.	(a)	Wages:	201 man days x $20 daily wages of natives	$ 4,020.00	
	(b)	Helicopter Support:	11.9 hrs. @ $112 per hour	1,332.80	
	(c)	Fixed Wing Support:	4 round trips, Ross River to PAY camp, 4 x 40 mi. x $ .85 per mi. 4 x $119	476.00	
	(d)	Subsistence Cost:	201 man days x $8.00 per man day	1,608.00	
	(e)	Supplies & Misc. Equipment:		300.00	
	(f)	Travel:	From Ross River to Pay $15.00 per man x 6	90.00	
	(g)	Supervision:	$3.20 per man per day x 201 man days	643.20	
	(h)	Overhead:	15% of total = 15% x 8,470	1,270.50	
			TOTAL COST OF LINE CUTTING		$ 9,740.50

(B) MAGNETOMETER SURVEY:

1. (a)	Footage read:	422,300 ft. = 80 mi.		
(b)	Operator:	P. Dean		
2. (a)	Wages:	32 man days x $18.50 daily wages of P. Dean	$ 592.00	
(b)	Helicopter Support:	3.8 hours x $112.00 per hour	425.60	
(c)	Fixed Wing Support:	2 round trips, Ross River to PAY Camp = 2, (140 mi. x .85 per mi.) = 2 x $119.00	238.00	
(d)	Subsistence Cost:	32 man days x $8.00 per day	256.00	
(e)	Instrument Cost:	32 days used x $5.00 per day	160.00	
(f)	Travel:	From Vancouver $15.00 per man x 1 man	15.00	
(g)	Supervision Cost:	$3.20/man/day x 32 man days	102.40	
(h)	Interpretation and Report Presentation:	B. MacDonald Drafting 3 man days x $21.00 daily, wage of P. Vlasveld =	63.00	
		15 man days x $17.50, daily wage of B. MacDonald =	262.50	
		18 man days x $8.00 daily subsistence cost =	144.00	
		18 man days x $3.20 daily supervision cost =	57.60	
		C. Smith & J. Brock 8 day x $75.00 per day =	600.00	
				$ 1,127.10
(i)	Overhead:	15% of total = 15% x $2916.10 =	437.41	
		TOTAL COST OF MAGNETOMETER SURVEY		$ 3,353.51

PAY E.M.

(C)	E.M. SURVEY: (Crone)				
1.	(a)	Footage Read:	414,000 ft. = 78.4 mi.		
	(b)	Operators:	J. Galeski and M. Simpson		
2.	(a)	Wages:	42 man days x $16.50 daily wage of J. Galeski	$ 693.00	
			42 man days x $17.50 daily wage of M. Simpson	735.00	
					$ 1,428.00
	(b)	Helicopter Support:	2.6 hrs. x $112.00 per hr.	291.20	
	(c)	Fixed Wing Support:	1 round trip, Ross River to PAY Camp = 1 (140 mi. x $.85 per mi.) = 1 x $119.00	119.00	
	(d)	Subsistence Cost:	84 man days x $8.00 per man day	672.00	
	(e)	Instrument Cost:	42 days used x $5.00 per day	210.00	
	(f)	Travel:	From Vancouver $15.00 per man x 2 men	30.00	
	(g)	Supervision Cost:	$3.20 per man day x 84 man days	268.80	
	(h)	Interpretation and Report Presentation:	1 man day x $21.00 daily wage of P. Vlasveld	21.00	
			10 man days x $17.50 daily wage of B. MacDonald	175.00	
			11 man days x $8.00 daily subsistence cost	88.00	
			11 man days x $3.20 daily supervision cost	35.20	
			C. Smith & J. Brock 5 man days x $75.00 per day = $375.00	694.20	
	(i)	Overhead:	15% of total = 152 x $3713.20	4,270.18	
			TOTAL COST OF CRONE E.M. SURVEY		$ 4,270.1

(D) E.M. SURVEY: (Ronca 16)

1.	(a)	Footage Read:	142,500 ft. = 27 miles		
	(b)	Operator:	V. Pratico		
2.	(a)	Wages:	21 man days x $15.50 daily wage of V. Pratico	$ 325.50	
	(b)	Helicopter Support:	1.3 hrs. x $112.00 per hr.	154.70	
	(c)	Fixed Wing Support:	1 round trip Ross River to PAY Camp = 1 (140 mi. x .85 per mi.) = 1 x $119.00	119.00	
	(d)	Subsistence Cost:	21 man days x $8.00 per man day	168.00	
	(e)	Instrument Cost:	21 days used @ $5.00 per day	105.00	
	(f)	Travel:	From Vancouver $15.00 per man x 1 man	15.00	
	(g)	Supervision Cost:	$3.20 per man day x 21 man days	67.20	
	(h)	Interpretation and Report Presentation:	1 man day x $21.00 daily wage of P. Vlasveld	21.00	
			5 man days x $17.50 daily wage of B. MacDonald	87.50	
			6 man days x $8.00 per day subsistence cost	48.00	
			6 man days x $3.20 per day supervision cost	19.20	
			C. Smith & J. Brock 3 man days x $75.00 per day	225.00	
					$ 400.7
	(i)	Overhead:	15% of total = 152 x $1355.10	203.26	

TOTAL COST OF RONCA 16 E.M. SURVEY $ 1,558.3

(E) SURVEYING GRID: (2/3 of Cost to Geophysics)

1.	(a)	Footage Surveyed:	123,700' total (2/3= 82,466')		
	(b)	Surveyor:	Paul Sandaluk		
	(c)	Rod Men:	V. Pratico and M. Shorty		
2.	(a)	Wages:	18 man days x $19.00 daily wages of P. Sandaluk	$ 342.00	
			15 man days x $20.00 daily wages of M. Shorty	300.00	
			3 man days x $15.00 daily wages of V. Pratico	46.50	
					$ 688.5
	(b)	Helicopter Support:	4.7 hours @ $112.00 per hour	526.40	
	(c)	Subsistence Cost:	36 man days x $8.00 per day	288.00	
	(d)	Instrument Cost:	18 days used x $10.00 daily cost	180.00	
	(e)	Travel:	From Vancouver and Ross River $15.00 per man x 3 men	45.00	
	(f)	Supervision Cost:	36 man days @ $3.20 daily cost	115.20	
	(g)	Presentation:	2 man days x $19.00 daily wages of P. Sandaluk	38.00	
			2 man days $8.00 subsistence cost	16.00	
			2 man days x $3.20 supervision cost	6.40	
					60.4
	(h)	Overhead:	15% of total = 15% x $1903.50	285.50	
			TOTAL COST OF SURVEYING TO GEOPHYSICS		2,189.0
			TOTAL COST OF PAY GEOPHYSICS		21,111.5

TELEPHONE 685-4331

(APPENDIX II)

ATLAS EXPLORATIONS LIMITED
(N.P.L.)
330 MARINE BUILDING
355 BURRARD STREET
VANCOUVER 1, B.C.

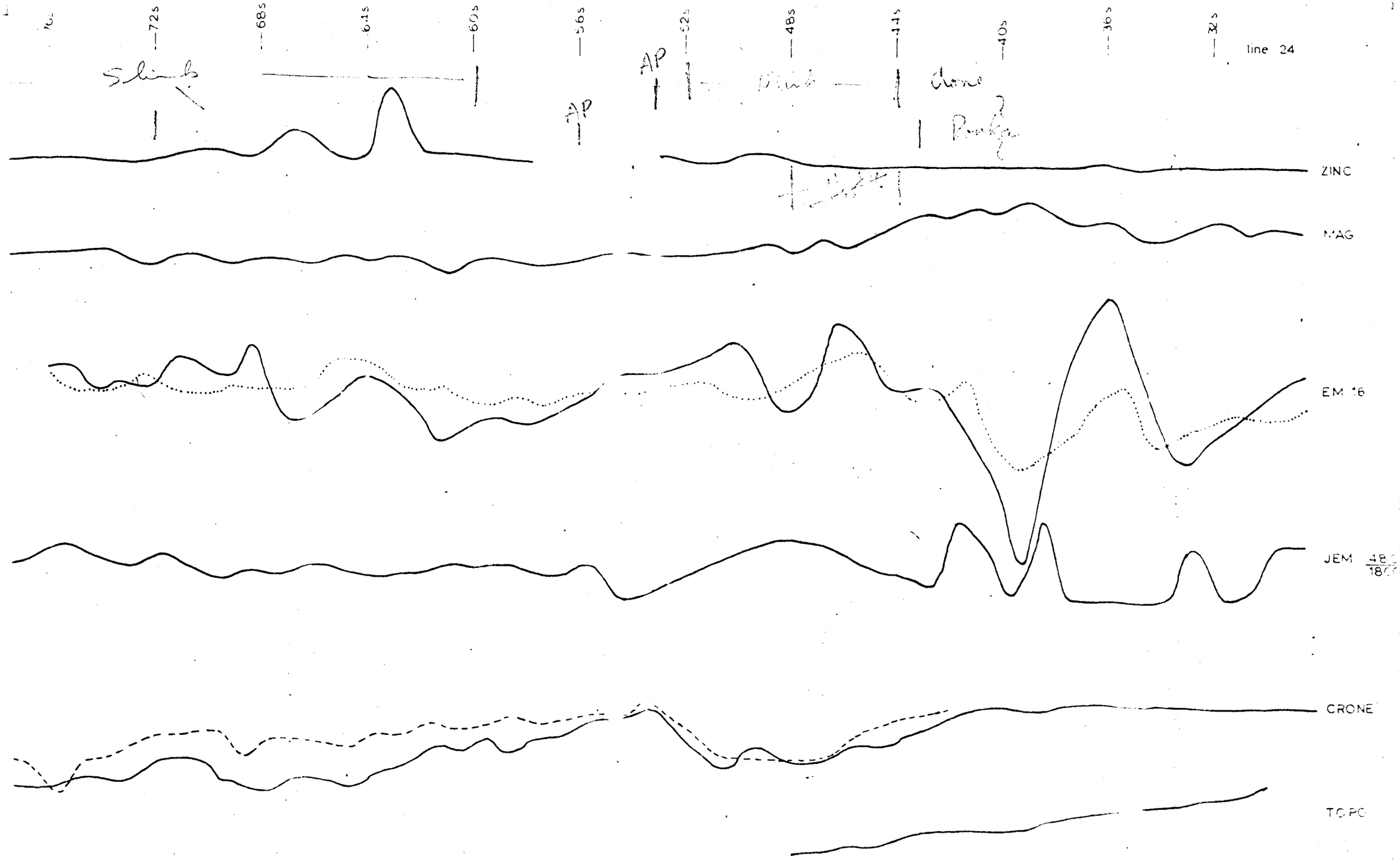
AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, John S. Brock, Operations Manager, Atlas Explorations Limited of Vancouver, B.C., do hereby state that, to the best of my knowledge and belief, the statement of costs as presented in Appendix I of this Report "Geophysical Surveys on Pay Mineral Claim Group" is both true and correct.

John S. Brock

A Commissioner for taking
Affidavits in the
Yukon Territory

November 14, 1967.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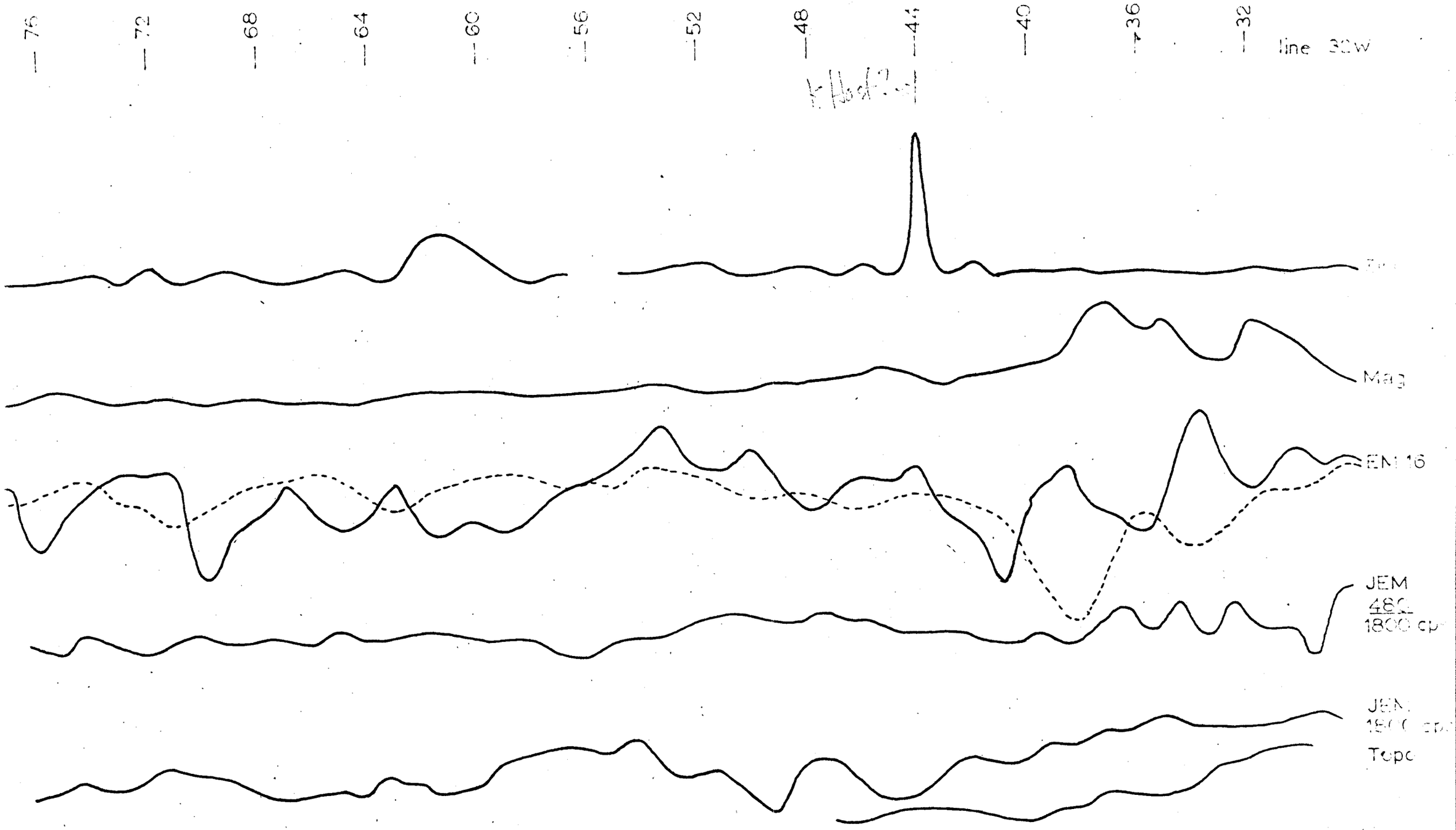
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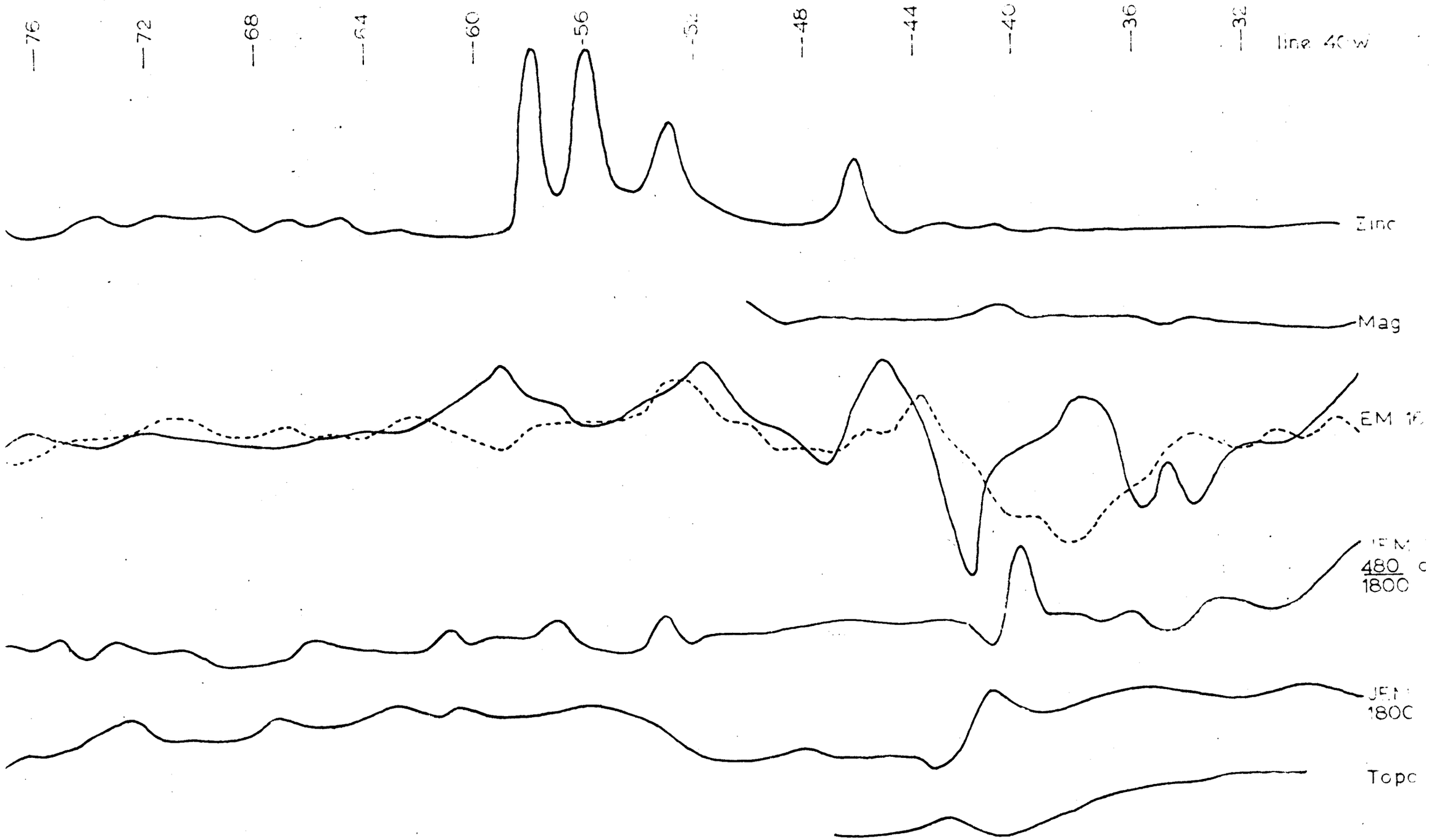
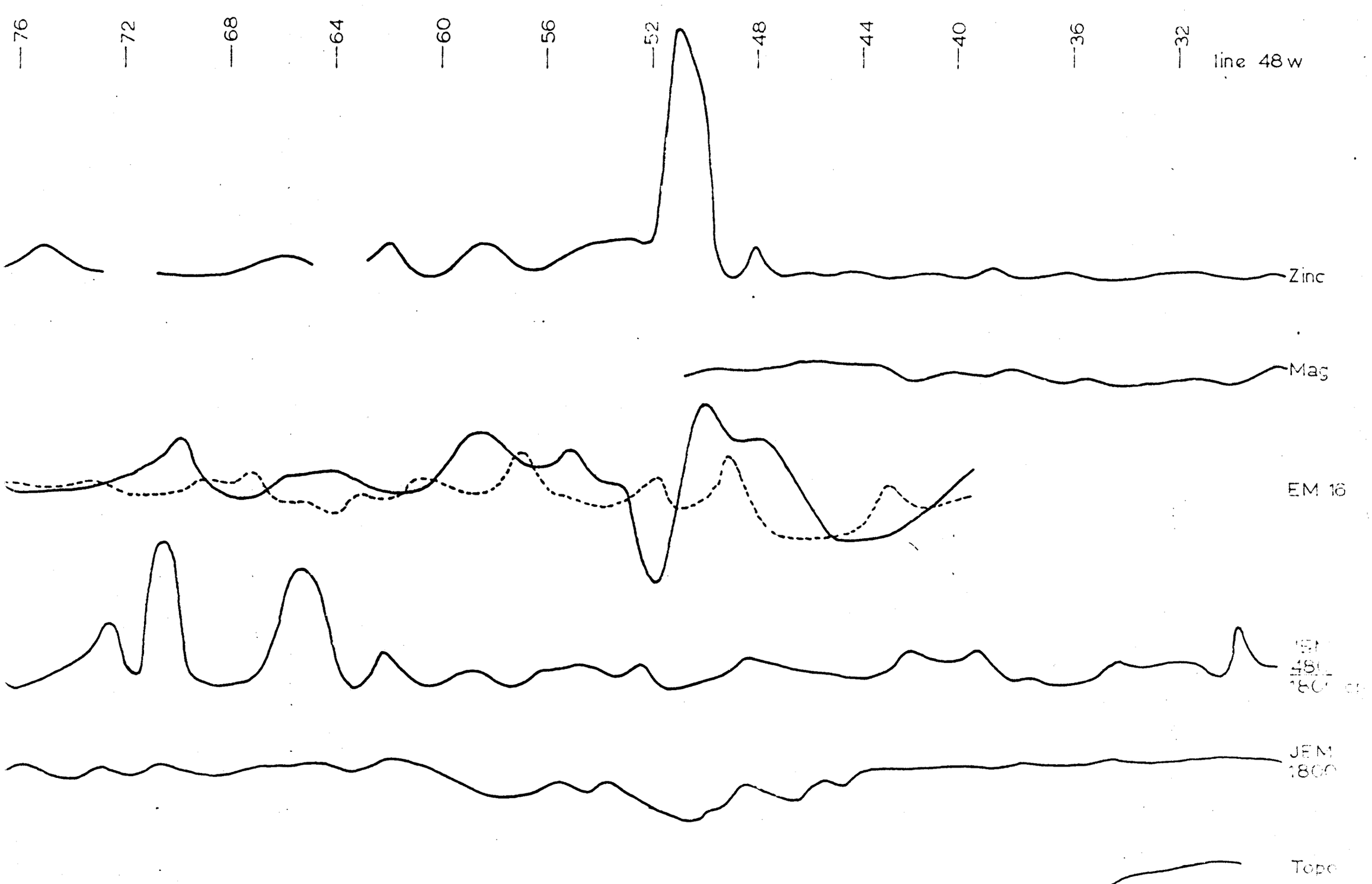
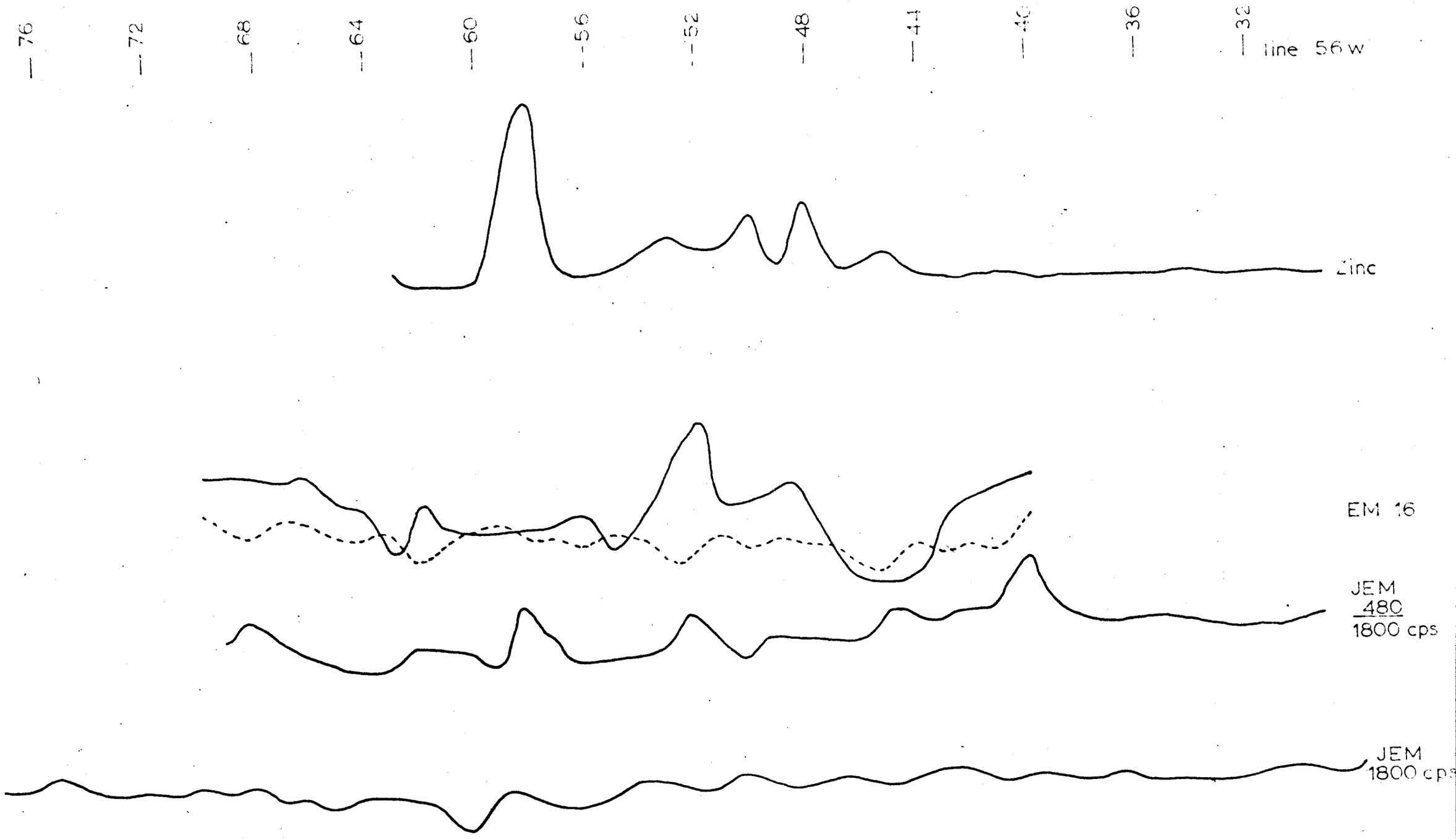
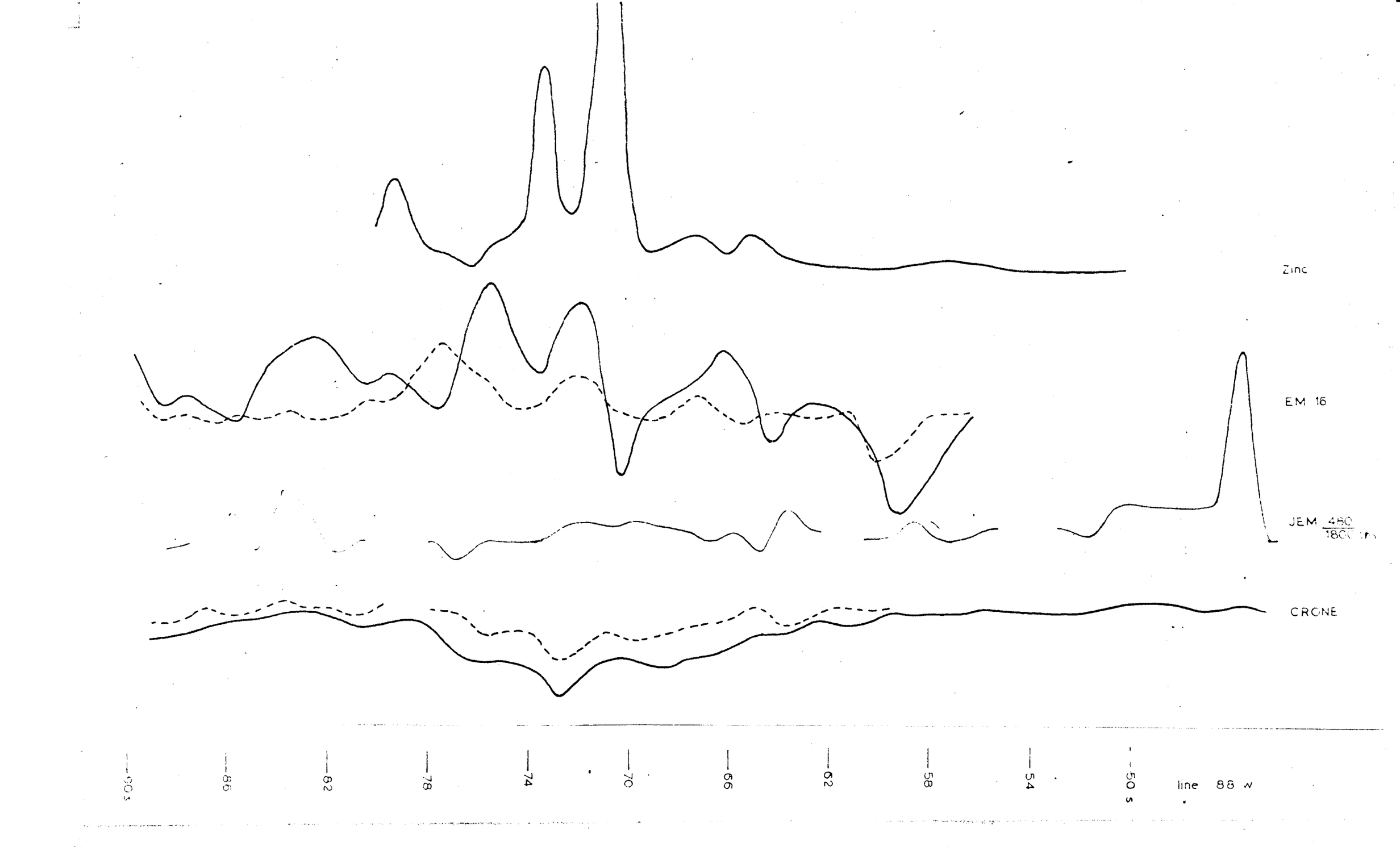
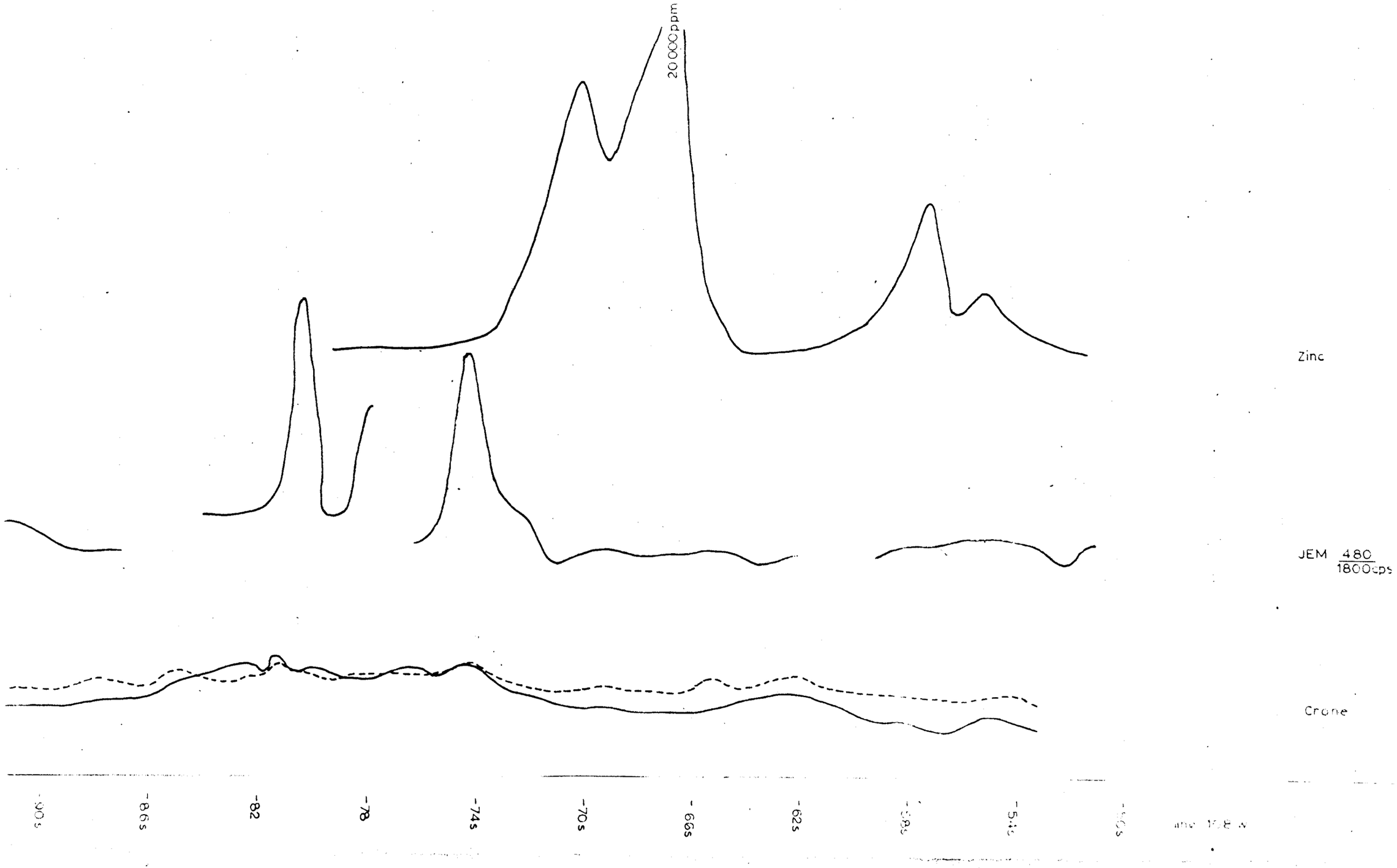
line 32W
Mag
EM 16
JEM
480
1800 cp
Topo


-76
-72
-68
-64
-60
-56
-52
-48
-44
-40
-36
-32
line 40 W
Zinc
Mag
EM 16
480
1800
1800
Topo


76
72
68
64
60
56
52
48
44
40
36
32
line 48w
Zinc
Mag
EM 16
JEM
Topo


76
72
68
64
60
56
52
48
44
40
36
32
line 56w
Zinc
EM 16
JEM
480
1800 cps
JEM
1800 cps


Zinc
EM 16
JEM 480
CRONE
90 s
86
82
78
74
70
66
62
58
54
50 s
line 88 w


20 000 ppm
Zinc
JEM 480
1800cps
Crone
-90s
-86s
-82
-78
-74s
-70s
-66s
-62s
-58s
-54s
-50s

144W 140W 136W 132W 128W 124W 120W 116W 108W 104W 100W 96W 92W 88 W 84W 80W 76W 72W 68W 64W 60W 56W 52W 48W 44W 40W 36W 32W 28W 24W 20W 16W 12W 8W 4W 0

BASE LINE 2

BASE LINE 3

4E 8E 12E 16E 20E 24E

A B

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ROSS RIVER (Y.T.)

SHELDON REGION

PAY MINERAL CLAIMS

GROUND MAGNETOMETER SURVEY

VALUES & PROFILES

INSTRUMENT:
A JALANDER
B SHARPE MF1

OPERATOR: P DEAN
DRAWN BY: Blake
DATE: AUG./ 67

PROFILE SCALE: 1/10"= 100 ft

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ROSS RIVER (Y.T.)

SHELDON REGION

PAY MINERAL CLAIMS

GROUND ELECTROMAGNETIC SURVEY

VALUES & PROFILE MAP

INSTRUMENT: RONKA EM 16

OPERATOR: V. PRATICO

DRAWN BY: Blake

DATE: NOV 1967

high freq. — quadrature — +ve

+ve — in-ve

400 0 400 800

scale in feet

PROFILE SCALE 1/10" = 2°dip angle

144W 140W 136W 132W 128W 124W 120W 116W 108W 104W 100W 96W 92W 88W 84W 80W 76W 72W 68W 64W 60W 56W 52W 48W 44W 40W 36W 32W 28W 24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E 24E

BASE LINE 2

NOTE: This section using profile scale 1/10" = 4"

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ROSS RIVER (Y.T.)

SHELDON REGION

PAY MINERAL CLAIMS

GROUND ELECTROMAGNETIC SURVEY

VALUES & PROFILE MAP

INSTRUMENT: RONKA E.M. 16
OPERATOR: V. PRATICO
DRAWN BY:
DATE: NOV 1967

high freq. — quadrature — +ve — —ve

400 0 400 800
scale in feet

PROFILE SCALE 1/10" = 2" dip angle

144W 140W 136W 132W 128W 124W 120W 116W 108W 104W 100W 96W 92W 88W 84W 80W 76W 72W 68W 64W 60W 56W 52W 48W 44W 40W 36W 32W 28W 24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E 24E

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ROSS RIVER (Y.T.)

SHELDON REGION

PAY MINERAL CLAIMS

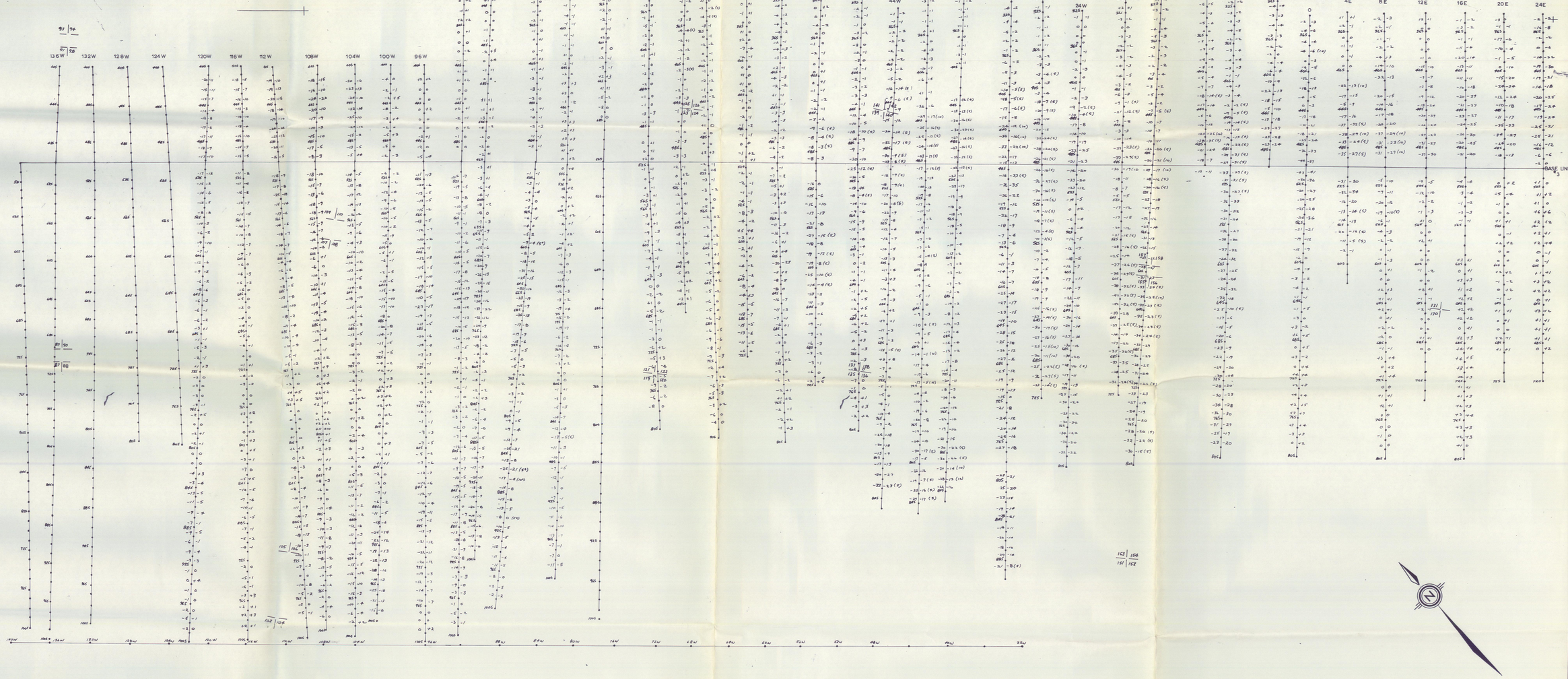
GROUND ELECTROMAGNETIC SURVEY

VALUES MAP

INSTRUMENT: CRONE JEM
OPERATORS: J.GALESKI & M.SIMPSON
1800cps 480cps

DRAWN BY: P.J.F.VLASVELD
DATE: OCT. 1967

400 0 400 800
scale in feet



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SHELDON REGION

PAY MINERAL CLAIMS

GROUND ELECTROMAGNETIC SURVEY

VALUES MAP

INSTRUMENT: CRONE JEM

OPERATORS: J. GALESKI & M. SIMPSON

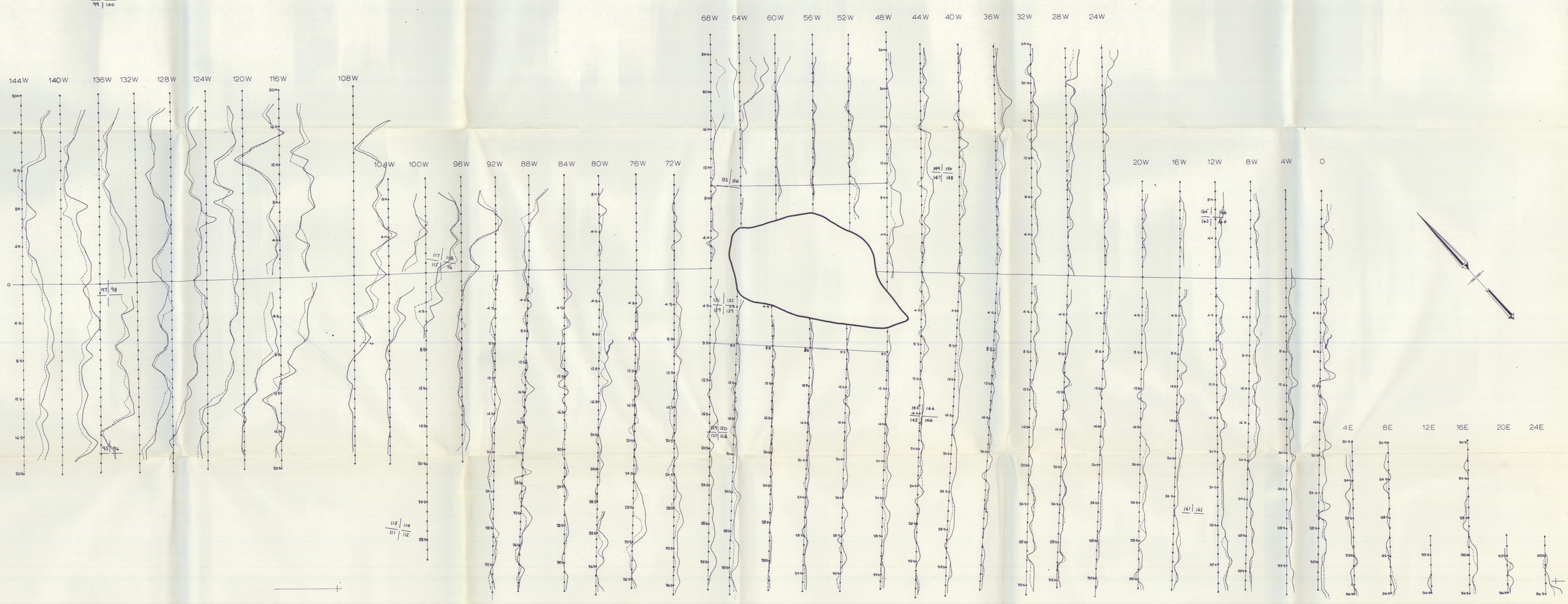
DRAWN BY: Blake

DATE: SEPT. 1967

1800cps | 480cps

400 0 400 800

scale in feet



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SHELDON REGION

PAY MINERAL CLAIMS

GROUND ELECTROMAGNETIC SURVEY

PROFILE MAP

INSTRUMENT: CRONE JEM

OPERATORS: J.GALESKI & M.SIMPSON

DRAWN BY: P.J.F.VLASVELD

DATE: OCT. 1967

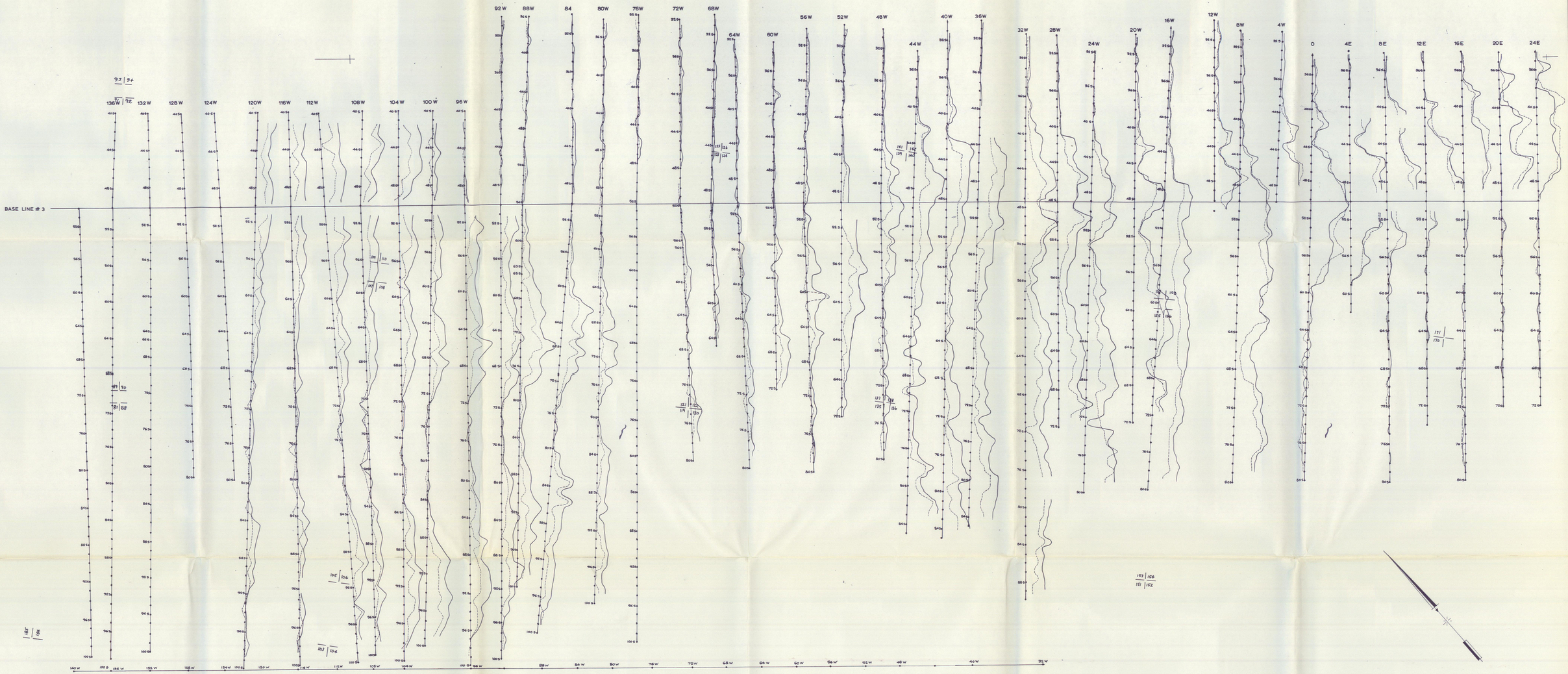
1800 cps 480 cps

+VE −VE

400 0 400 800

scale in feet

PROFILE SCALE: 1"=1/4" dip angle



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SHELDON REGION

PAY MINERAL CLAIMS

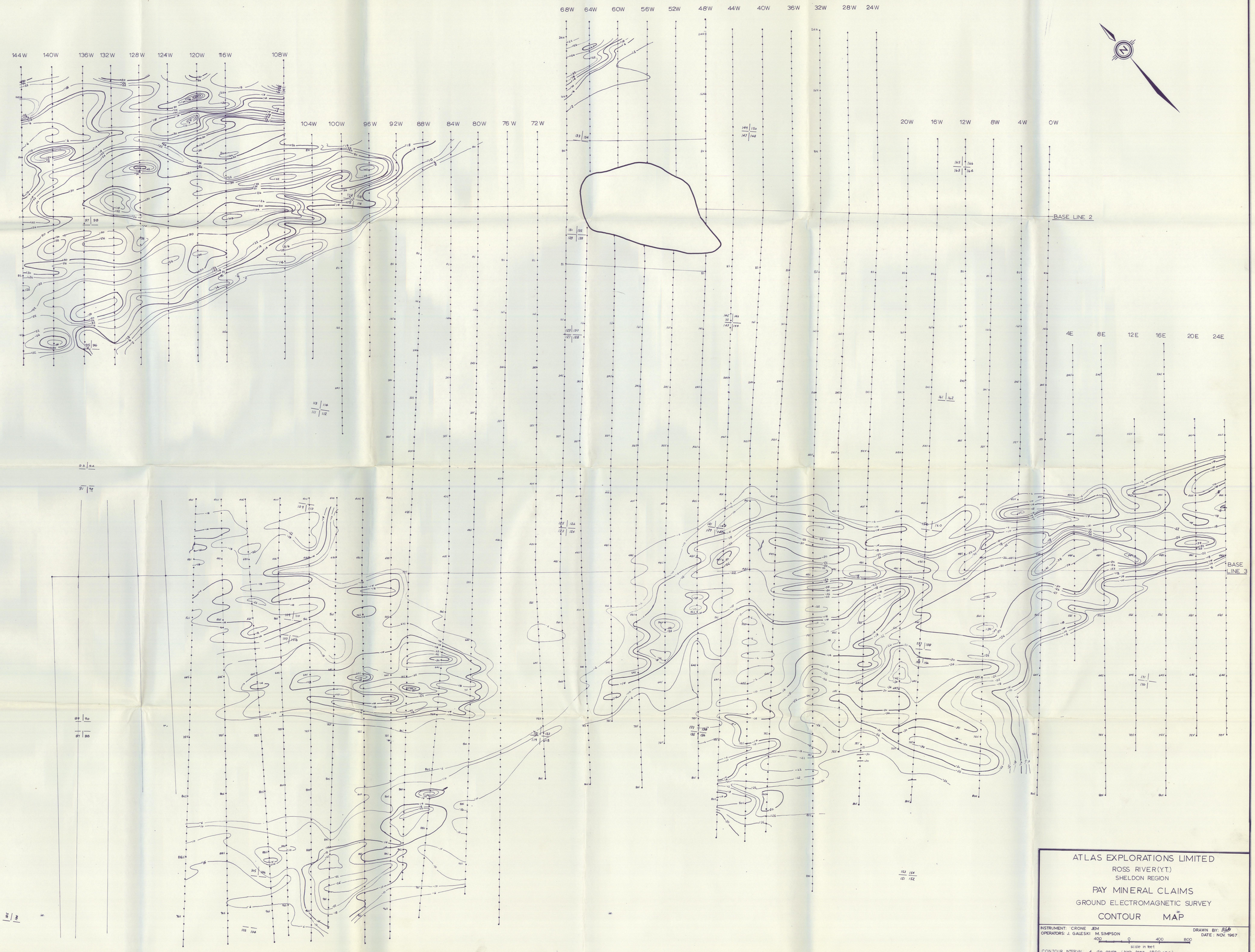
GROUND ELECTROMAGNETIC SURVEY

PROFILE MAP

INSTRUMENT: CRONE JEM
OPERATORS: J.GALESKI & M.SIMPSON
1800cps ↕ 480cps
.4VR ↕ .VR
PROFILE SCALE 1/10"=.4° dip angle

DRAWN BY: P.J.F.VLASVELD
DATE: SEPT. 1967

0 400 800
scale in feet



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SHELDON REGION

PAY MINERAL CLAIMS

GROUND ELECTROMAGNETIC SURVEY

CONTOUR MAP

INSTRUMENT: CRONE JEM

OPERATORS: J. GALESKI M. SIMPSON

DRAWN BY: [illegible]

DATE: NOV. 1967

400 0 400 800

scale in feet

CONTOUR INTERVAL 4 dip angle (high freq. 1800 c.p.s.)

120 100 80 w 60 40 20 w 0 20 E

20 S

40 S

3,50 S

60 S

80 S

N

34°

5° 00'N

110° 35' W

MAGNETIC OUTLINE (PHYLLITE)

MAGNETIC OUTLINE (PHYLLITE)

MAGNETIC OUTLINE (PHYLLITE?)

EM (JEM) OUTLINE (GRAPHITE CONTACT - NORTH LIMB)

MAGNETIC OUTLINE (PHYLLITE?)

TR 2

TR 3

DOLOMITE SUB OUTCROP ??

TR 1

SYNCLINAL AXIS

EM (JEM) OUTLINE (GRAPHITE CONTACT AT DEPTH ± 600 ft)

EM (JEM) OUTLINE (GRAPHITE)

CONTACT - NORTH LIMB

DOLOMITE SUB OUTCROP ??

??

Geochemical anomaly ZINC over 1000 ppm

Pit

Hand trench

Winkie drill hole

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SHELDON AREA

DEVELOPMENT - INTERPRETATION COMPILATION

400 ft 0 400 800 1200 1600 ft

COMPILATION OF DATA TO: July 22, 1967 By: John S. Brock