Report on the M3 Group.

Adair & Abbotsford Twps.

1967

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CONTENTS

REPORT ON THE M3 GROUP
ADAIR AND ABBOTSFORD TOWNSHIPS, ONTARIO

INTRODUCTION

Exploration interest in the Adair-Abbotsford Township area by Canadian Javelin and associated companies began with the acquisition of 62 claims lying west of Joe Lake, Adair Township in the summer of 1964. This property became the focal point of an airborne geophysical survey (magnetic and electro magnetic) covering a block of about 300 square miles considered as favorable exploration territory. This was selected on the basis of published aero magnetic data and recent geologic mapping as presented in "South Patten River Area" by S. B. Lumbers, Ontario Department of Mines, Report 14, 1963.

The geophysical survey was flown at 1/8 mile intervals in an east-west direction searching for conductors oriented transverse to the general geologic trends. This work was done by Canadian Aero Mineral Surveys on May 5, 1965, their project number 5060, with report of June 29, 1965.

This survey did not locate anomalies of any significance around Joe Lake, but it did report several conductors in the western part of the area near the Mace Bay Road. Six anomalous zones or areas occur, three of which appear on two or more flight lines and appear to trend roughly north-south. These targets became the center of interest during the summer's exploration program herein described.

GENERAL INFORMATION

LOCATION

The area of interest lies in the western part of Adair and the eastern part of Abbotsford Townships, District of Cochrane, Ontario. The Mace Bay road of the Abitibi Pulp & Paper Co. roughly biscets the area around mile 16 on this road. A recently opened road to Val Paradis, Quebec permits fairly easy access to the labour and supply markets.

TOPOGRAPHY

The area is generally quite flat and covered with forest growth in various stages of development. Logging operations were currently under way in the general region. Boulder clay covers most of the area, though there are several areas of sandy outwash deposits. Erosion resistant rocks form the cores of low ridges here and there in which scattered outcrops occur.

CLAIMS

The M3 group consists of 36, approximately 40 acre, unpatented mineral claims registered in the name of Canadian Javelin Limited with the Ontario Department of Mines Recorders Office, Kirkland Lake, Ontario, Larder Lake Division, as per list:

L 91663 - 91667	5 claims
L 91671 - 91673	3 claims
L 91685 - 91686	2 claims
L 91716	1 claim
L 91723 - 91730	8 claims
L 91734 - 91737	4 claims
L 91745 - 91747	3 claims
L 91749 - 91750	2 claims

(OVER)

L 92300 - 92301	2 claims
L 92303 - 92307	5 claims
L 92309	1 claim
	36

HISTORY

Fifty nine claims were staked on May 23 - 25, recorded June 21. Some existing claims covering the anomalous area were due to expire June 24th, and operations were planned to stake these claims the next day. Accordingly, camp was re-established at old camp 20 on June 23rd and 28 claims posted June 25th by W. & P. Hegler, W. Blakeman, T. Fitzgerald and others. Eight claims were added in August to make a total of 95 claims in the block, but only 36 of these are to form the block to be retained.

Anomaly 3, near the Mace Bay road, was quickly located on the ground, but efforts to find anomaly 1 with east-west lines proved unsuccessful. By July 2nd, T. Fitzgerald had learned that there seemed to be several, discontinuous conductors in area 3 rather than a continuous north-south conductor as suggested by the aerial survey.

Bad weather had hampered operations and no clear picture of the conductor situation existed when the writer and W. Hegler arrived on July 8th. Examination of the work suggested that the conductive bodies might be parallel with the NW-SE trends of the rock, therefore, a new co-ordinate system was laid out along the camp 20 road and NE-SW lines run.

By July 17th, the two conductors in anomaly 3 had been outlined. The northern anomaly was entirely covered, though two small outcrops very close to it exhibited oxidized sulfides in contorted amphibolitic tuff. The southern conductor seemed to lie between outcrops exhibiting little evidence of mineralization. Samples of the rusty rocks were collected for spectrographic analysis, the returns were virtually nil, see Appendix.

W. Hegler and the writer left for Ottawa on July 14th to review the situation with the Chief Engineer; T. Ftizgerald and P. Hegler remained to continue the line cutting and E.M. work. The essence of the report to the Chief Engineer was that the strong conductors in anomaly area 3 had been located, were drift covered, adjacent outcrops exhibited evidence of sulfide mineralization, there were signs of structural disturbance, but that there were no signs of significant mineralization. It was concluded that the anomalies could be tested with a drill faster than any other method.

The Ottawa review affirmed that more work was to be done, and W. Blakeman arrived July 17th. From then till about the end of the month activities consisted of outlining conductors, geologic examinations and additional protective staking further west. Some old drill sites were encountered in area one. Other staking parties were in the area by July 30th.

One drill machine arrived July 31st and a second on August 3rd. Hole 1 began August 4th, drilling the north conductor in area 3. A very fine grained, sulfide bearing, thinly banded material was encountered which looks more like metallic cement than anything else. W. Blakeman's log of the 154.5 - 159 ft. section reads: "finely disseminated pyrite-pyrrhotite with possible sphalerite, and magnetite in a banded quartz-hornblende host."

Hole 2 began August 7th, and encountered more of this very fine grained material across some 50 feet. As in hole 1, this material was split and sampled, not for what could be seen but for what couldn't be seen.

Hole 3 began to explore the southern conductor on August 6th. The conductor was encountered below 121.5 as a "breccia zone containing massive, extremely fine grained, very metallic (looking) grey brown material, possibly sphalerite, and fragments of quartz and minor scattered pyrite" to 124.5, then a graphitic, chloritized and pyrrhotiferous shear zone to 131.5, -- "below which are intermixed hornblende tuffs, cherts, garnetiferous amphibolites, altered fault zones, some carbonate, and pyrite-pyrrhotite mineralization locally heavy enough to have been sampled.

Holes 4, 5, and 6 encountered similar material, but sampling began to drop off because returns from the first holes had begun to show the lack of any metallics. W. Blakeman left about the middle of the month on other matters so that general responsibility fell to W. Hegler and T. Fitzgerald. It had been decided in Ottawa to probe the southern conductor at depth with one drill, using the other to investigate other anomalies. The writer arrived back in camp August 20th, but was unable to participate much in activities because he was committed to another project being started in nearby Quebec. W. Hegler left August 22nd.

As in area 3, the ground E.M. work showed the presence of several NW-SE conductors instead of a N-S conductor. These were drilled by holes 8 and 9. Both drills were stopped August 27th, the hole 9 rig was immediately moved to the Quebec job and the hole 7 rig moved into the anomalous areas east of the Mace Bay road. This rig was later returned to area one for holes 13 and 14.

By early September, the inclement weather and the priority of work in Quebec made removal of the camp necessary. Accordingly, T. Fitzgerald or the writer made several trips to the job to keep track of things while holes 10-14 were in progress. The last drill was released September 30th.

LINE CUTTING

Line cutting began immediately after the June staking. A N10°E base line was established along the Mace Bay road near zone 3 and cross lines run from it. However, after determining that these lines were nearly parallel with the conductors, a new base line running about N60°W along the camp 20 road was established, and cross lines run from this line. The initial grid had been extended into zone 1, so that in this area there was a duplication of lines as well.

The lines were cut and chained by locally hired labor from Val Paradis Quebec under contract on a per mile basis. The distribution of lines is as follows:

Early grid,	Zone 3,	23,000 ft.
	Zone 1,	33,000 ft.
Detail grid,	Zone 3,	32,000 ft.
	Zone 1,	45,000 ft.
	Zones 4-6	36,600 ft.
		169,600 ft., 32 miles

Line spacing was 400 or 200 ft. as required, pickets were placed at 100 ft. intervals.

E.M. SURVEYS

The early E.M. work was laid out looking for the N.S. trending conductors indicated by the aerial survey. When no sense could be made of the responses, some spot checks were run which lead to the revised gird system and all areas had to be redone.

The survey was conducted by T. Fitzgerald as operator, P. Hegler was generally on the transmitter of the McPhar VHEM unit. Initially, the equipment was used as horizontal loop, 200 ft. cable length. Holes 1-4 were spotted on this information.

Some minor discrepancies in conductor position arose and part of the anomalous zones were rerun using the vertical loop broadside method. This procedure seemed to give better results and was used exclusively in zones 4-6. Eight conductors were detailed, all running NW-SE, with a steep northerly dip, widths around 50 ft. or less. Frequencies used were 600 and 2400 cps. - Range: 100/200 & 300 ft separations as Horizontal Loop.

The plots of the survey are shown in the appendix. In phase to out of phase ratios of 2 or 3 or greater were quite frequently encountered and contributed to the decision to drill.

DRILLING

All drilling was done under contract by Continental Diamond Drilling of Rouyn, who erected a separate camp near the Camp 20 - Mace Bay road corner. Total footage drilled was 4234 ft., including 487 ft. of overburden.

GEOLOGY

GENERAL

The area in which the aerial survey picked up conductors corresponds with a low topographic rise trending NW-SE crossing between mile 1 and 2 of the Adair-Abbotsford town line. Scattered outcrops occur here and there along this rise, generally in clusters of several small exposures separated by intervals of overgrown sandy glacial debris. Lowlands seem to be underlain by clay. The outcrops are far from being as large or continuous as shown on Lumbers report of the area, and the tangle of brush makes outcrop searching quite difficult.

Lumbers classified the rocks of the area as volcanics, tuffs, amphibolite, garnet amphibolite, pillow lava and prophyritic lavas. He was content to classify them only as acid or intermediate in composition. The writer agrees with Lumbers classification and interpretation of general geology.

The terms andesite and rhyolite have been used in this report for the sake of brevity. The distinction between them was made on the basis of light or darker color only, their usage is restricted to this sense and in no way do they imply a significant compositional difference, especially in that the color or some other feature of ten changes gradually in a few feet from one to another. Considerable petrographic work would be needed to properly identify the composition of these meta-volcanics of diverse origin. The light colored, thinly banded, often contorted rocks are clearly tuffs, and they seem to be the most erosion resistant.

The characteristic feature is the almost ubiquitous presence of amphibole, mostly hornblende, in nearly all rocks. No pyroxenes were seen, though some undoubtedly exists.

The amphibole exists in two different environments, first as a small percentage in rhyolite, and second as dark green, amphibole rich bands.

The amphibole in the lavas occurs as discrete, randomly oriented crystals (phenocrysts) scattered throughout the aphanitic ground mass, usually in vaguely defined bands gradational into amphibole free bands in which small feldspar phenocrysts often appear. Small garnets are sometimes present in these amphibole bearing bands.

Amphibole also occurs in a very fine grained matrix in which the several amphibole crystals are arranged more or less radially in small clusters. This is the poikiloblastic texture often observed. This may give way to feldspar porphyry, garnet sometimes is seen in the poikiloblastic bands.

The amphibolite bands often contain ½ to 1" garnets. A few cases of the amphibolite forming injection stringers in volcanics were also observed. Amphibole also is found in the tuffs, usually lying parallel with the banding. Garnets and feldspar porphyroblasts also occur in the tuffs.

It would appear that there are both igneous and metamporphic features present in these volcanics, and that metamorphism seems to have produced mineralogic - textural features in some places not significantly different from the igneous features. The feldspar and amphibole porphries are likely igneous features when enclosed in a massive matrix, but in banded tuff or accompanied by garnet they likely are metamorphic, as are the garnetiferous amphibolite bands associated with tuffs.

Flow tops were not observed in any outcrops, but 1-3 ft. intervals in some holes exhibiting very irregular textures and structures likely represent flow boundaries.

In considering the mineralization, Lumbers speaks of a prominent tuffaceous layer containing several, narrow, discontinuous shears marked by gossan and/or garnet-amphibolite, and all associated with three zones of shearing between his localities 4 and 5. He recognized that pyrrhotite-pyrite were the principal sulfides, occurring in lenses or disseminations in 1-5 ft. shears and of short length. He claims to have seen chalcopyrite, but our examination failed to disclose any.

His description of the surface expression is essentially correct for the outcrops clearly show that the gossan is usually associated with garnet-amphibolite bands, but not all such bands have gossan, and many such bands appear in massive volcanics. The percentage of sulfides in these bands is quite low, being 5% or less.

The tuffs outcrop in several places, and a few very narrow rusty bands can be seen. There are no exposures anywhere of the pyrrhotiferous tuffs responsible for the E.M. anomalies.

AREA THREE

If one were to interpret the geology from the outcrops, one would likely conclude that tuffs and amphibolites underlay the area. No exposures of massive flow rocks occur.

The electro magnetic survey located two conductors, a northern one some 800 ft. long, and a southern one over 4,000 ft. long which becomes zone 5 to the east.

North Conductor:

The conductor consists of a tuff unit about 30-40 feet thick containing a thinly banded, aphanitic, mudstone like material in which many of the 1/4 - 1/2 unit bands contain massive, very fine grained pyrrhotite. The sulfide mineralization is quite strong on the north (top?) side of the sequence and gradually changes southerly to coarser grained pyrrhotite disseminated in mixed amphibole-tuff.

The sulfide horizon is clearly associated with and is an intimate part of the tuffaceous zone. It is underlain by rhyolite for the most part. The conductive horizon was encountered in hole 1 about where the E.M. survey suggested, but on line 2W the horizontal loop response lies about 100 ft. to the south for some reason. Thus hole 2 started in the sulfide bearing zone, this lead to the VEM work which did locate the conductor about where it occurs.

South Conductor:

The mineralized south conductor in zone 3 varies in thickness along its length, 10 ft. hole 5, perhaps 50 ft. in hole 3, 20 ft. hole 4, and 10 ft. in hole 6. Again, it is basically a contorted pyrrhotiferous tuff horizon containing several thinly bedded bands of intermixed mudstone and aphanitic pyrrhotite all intermixed with amphibolitic tuff and garnetiferous amphibolite. Thin cherty bands are also present. The horizon lies in rhyolite-tuff sandwich dipping steeply north. The tuffs are generally contorted, and core angles are so variable as to be largely impossible to keep track of.

Hole 7 was drilled to test the hole 3 conductor at depth. It was drilled from the north so as to test the ground N of hole 3, and by continuation was expected to undercut the hole 3 conductor at around 450-500 ft. Instead, it cut an amphibolitic zone from 386 to 412 which contains only a few blebs of pyrrhotite scattered here and there. Monotonous, massive, rhyolite lies below 412. There is no sign of any tuffaceous material whatsoever as found in hole 3 above.

A reasonable correlation between holes 3 and 7 can be made for the weakly mineralized amphibolitic section, but whatever happened to the main mineralized tuff horizon is unknown, it simply vanishes somewhere in the 150 ft. between holes 3 and 7. Whether the horizon is a lens of restricted depth, or has a plunge, or whether there is an intervening fold or fault is unknown.

AREA ONE

This area lies about a half mile NW of area three along the Camp 20 road. It is only slightly wooded compared to area 3, but there is such a tangle of alder and raspberry underbrush, plus logging debris, that travel very far off the access roads is very difficult. The reported mineral occurrence number 5 of Lumbers was never found, though one 500 ft. from the road around 1400 NW was found.

Most of the outcrops are confined to a low ridge north of the camp 20 road in which isolated outcrops occur here and there. These continue further SE all along the road, these were examined but not mapped because no lines were cut. Most outcrops are contorted tuff containing amphibolite stringers, most of which exhibit a few rusty spots or seams. There are three conductive horizons, 700-2400 ft. long, plus two E.M. responses located on one line only. All responses are parallel with geologic trends.

Hole 8 cut a 45 ft. thick zone of contorted hornblendic gneiss containing rare, disseminated blebs of pyrrhotite. None of the usual banded pyrrhotiferous mudstone was seen.

Hole 9 intersected similar material, but no sulfides of any description were observed, so that presumably the sulfides responsible for the E.M. response probably do not extend to the depth of the hole. This band of gneiss is likely the same band encountered in hole 8.

The southwestern anomaly had previously been drilled by somebody, this, combined with the lack of mineralization in holes 8 and 9, lead to the release of the drill. However, to insure that no stone had been left overturned, the S.W. anomaly was drilled later by holes 13 and 14.

Hole 13A was lost in overburden just before reaching bedrock. Holes 13B and 14 intersected the usual pyrrhotiferous mudstone in tuffs, associated with andesitic volcanics.

AREAS 4, 5, 6

These three E.M. responses were investigated by holes 10, 11 and 12. The outcrops in the area show similar signs of rare mineralization.

Two old drill holes were found and there might be others.

Hole 10 cut a 5 ft. horizon of pyrrhotiferous tuff. The pyrrhotite content was quite low but it apparently was sufficient to give the E. M. response. This is actually a continuation of the southern anomaly from hole 3 so that the pyrrhotiferous horizon is some 4,000 ft. long.

Hole 11 disclosed a 30 ft. thick amphibolite containing localized pyrrhotiferous concentrations in blebs, plus a few pyrrhotiferous fractures, indicating post fracture deposition.

Hole 12 disclosed a 30 ft. tuff which was unusual in that no pyrrhotite was seen, only coarse grained pyrite occurring as blebs and isolated crystals, sometimes in chloritized fractures.

CONCLUSIONS

While the presence of several, strong, unexposed, electro-magnetically anomalous zones prompted drill testing, the geologic indications of probably uneconomic mineralization as found in nearby outcrops proved to be essentially correct.

For the most part, the conductor is caused by a particular horizon, or horizons, lying in a tuffaceous zone in a sequence of intermediate to acidic flows. The pyrrhotiferous tuff is composed of innumerable thin layers of fine grained, variously coloured layers giving every indication of having an aqueous origin. The muds appear to have been accompanied by iron and sulphur, which upon diagenesis and metamorphism converted to the very fine grained pyrrhotite. This particular horizon no where outcrops to our knowledge.

It does grade into pyrrhotiferous amphibole however, and several outcrops of this material were found, though only one or two of these out-crops were directly associated with the conductors.

After the returns of the early holes were in, no samples were sent for assay in that no mineralization was encountered significantly different than that earlier found. The remaining holes were drilled in accordance with management policy to ensure that nothing had been missed by a premature pull out.

The writer concludes that the pyrrhotiferous mudstones represent small scale syngenitic iron-sulphur deposits of sedimentary origin in a volcanic environment, and that the few signs of epigenitic mineralization present originated during the period of metamorphism.

David M. Knowles,
David M Knowles
Chief Geologist,
CANADIAN JAVELIN LIMITED.

JOE LAKE

On August 25, 1965, the writer, T. Fitzgerald and P. Hegler went over to the Joe Lake property. The trenches reported in Lumbers report were found. There are actually about 6 of them totaling several hundred feet. They are very old, excavated in the overburden and obviously were dug in an effort to chase cross cutting quartz veins. There is a little pyrite in the milky quartz.

There is an old log cabin there and it would appear that whoever dug the trenches was searching for gold. One trench is in rock for about 30 feet, but there are no signs of sulfides in it.

The E.M. gear was used in the vicinity of the showing, but there was absolutely no response to either horizontal or vertical loop tests.

APPENDIX

1) Personnel:

Wyatt Hegler, Engineer
Peter Hegler, E.M. helper
Terry Fitzgerald, E.M. operator
William Blakeman, Geologist
David Knowles, Geologist
Obadiah Trapper, Albert Oguish, Fred Mowat,
Ben McKenzie, Jim McKenzie, Line Cutters

2) T.S.L., Semi Quantitatine Spectrographic Analysis

3) Maps, Areas 1, 3, 4 - 6, Claims

4) E.M. Profiles, on Geologic Map for Areas 4, 5 and 6

5) D.D.H. Logs

6) D.D.H. Sections

7) Man Day Distribution

8) Aerial Survey, Report, Map, Tape Clips, Aero Magnetics

GEOCHEMICAL SURVEY - PROCEDURE RECORD

APPLICANT CANADIAN JAVELIN LTD

AREA ADAIR- ABBOTSFORD TOWNSHIPS - ABITIBI EAST

CLAIM NOS.

SAMPLING DATA	ANALYSIS DATA
Sampling dates JULY. 13.1965 To	Analysis dates JULY 21, 1965. To ......
Sampler(s) ..D... KNOWLES.........	Analyst(s) TECHNICAL SERVICE.....
....	......LABORATORIES...............
....	....
	METHODS
Sampling method ROCK..CHIPS.......	Values in % PPM Cu Pb Zn Ag Ni.Co.
Sample depth ...SURFACE..........	As.Others.................
Average Sample Weight ..6 OZ.......	Field Analysis (......tests) ....
Horizon Sampled	....
Horizon Development	Field lab Analysis (......tests).....
Terrain.............................	....
Sample Preparation	....
....	Commercial Laboratory (......tests)...
....	.SEMIQUANTITATIVE..SPECTROGRAPHIC
General SAMPLES...TAKEN..FROM.	General ...30..ELEMENTS SOUGHT
..GOSSAN..ZONES - ONLY.....	....
2 SAMPLES TAKEN	

COMMENTS

Signed David M Knowles

Date ....

Abbotsford Twp Samples
Claims
L92304 + L91746

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

TSL

Representing ...
JARRELL-ASH COMPANY
HILGER & WATTS LIMITED
SAMUEL P. SADTLER AND SON

ANALYTICAL REPORT

RESEARCH AND ANALYTICAL LABORATORIES
INSTRUMENT SALES AND SERVICE
385 KING ST. W. TORONTO 2B ONT.
EMPIRE 2 4240

SAMPLE(S) FROM Canadian Javelin Limited,
1201 - 100 Bronson Avenue,
Ottawa 4, Ontario.
Attn: Mr. W. S. Hegler

REPORT NO.
A-12110
T-3857

SAMPLE(S) OF ROCK

Semiquantitative Spectrographic Analysis:

	Sample A (East Group) N #31	Sample B (West Group) S #32	Sample		Sample A	Sample B	Sample
Antimony	ND	ND		Lithium (Li_2O)	ND	ND	
Arsenic	ND	ND		Manganese	TL(.2%)	TL(.4%)	
Barium	T(.01%)	T(.02%)		Mercury	ND	ND	
Beryllium (BeO)	ND	ND		Molybdenum	ND	ND	
Bismuth	ND	ND		Nickel	FT	FT	
Cadmium	ND	ND		Silver	ND	ND	
Cerium (CeO_2)	ND	ND		Tantalum (Ta_2O_5)	ND	ND	
Chromium	T(.01%)	T(.01%)		Thorium (ThO_2)	ND	ND	
Cobalt	FT	FT		Tin	ND	ND	
Columbium (Cb_2O_5)	ND	ND		Titanium (TiO_2)	LM(2%)	LM(2%)	
Copper	T(.01%)	T(.01%)		Tungsten	ND	ND	
Gallium	FT	FT		Uranium (U_3O_8)	ND	ND	
Germanium (GeO_2)	ND	ND		Vanadium	T(.02%)	T(.03%)	
Indium	ND	ND		Zinc	ND	ND	
Iron	LM(3%)	M(5%)		Zirconium (ZrO_2)	T(.01%)	T(.02%)	
Lead	FT	T(.01%)					

Figures shown in brackets are approximate:

CODE

H — High — 10 — 100% approx.
MH — Medium High — .5 — 50% "
M — Medium — 1 — 10% "
LM — Low Medium — .5 — 5% "
L — Low — .1 — 1% "

TL — Trace Low — .05 — .5% approx.
T — Trace — .01 — .1% "
FT — Faint Trace — approx. less than .01%.
PT — Possible Trace — Presence not certain.
ND — Not Detected — Elements looked for but not found.

DATE July 21, 1965

SIGNED [signature]

CHEMICAL AND SPECTROGRAPHIC ANALYSIS • ORE-DRESSING AND METALLURGICAL RESEARCH • CHEMICAL PROCESS DEVELOPMENT • CONSULTING

WM. GERRIE, M.A.
D. KERR-LAWSON, B.A. PH.D.

TELEPHONE 642-3244
P.O. DRAWER 10

Swastika, Ont., August 14, 1965 19

SWASTIKA LABORATORIES LIMITED

Certificate of Analysis

No. 37640

We have assayed thirteen samples of split core

Received Aug.13,1965. and submitted by Canadian Javelin Limited.

with the following results:

Sample No.	Gold per ton Ozs.	Value @ $35.00	Silver Ozs.	Copper %	Zinc %	Nickel %	Lead %
5261	Nil	-	Trace	0.02	None	None	
5262				None	None	None	
5263			Nil	None	None		
5264			Nil	None	None		
5265			Nil	0.01	None	None	None
5266			Nil	None	None		
5267	Nil	-	Nil	None	None		
5268	Nil	-	Nil	0.02	None	None	
5269			Nil	0.01	None		
5270			Nil	None	None		
5271			Nil	None	None	None	
5272	Nil	-	Nil	None	None		
5273	Nil	-	Nil	0.02	None	0.02	

SWASTIKA LABORATORIES LIMITED,

per: D. C. Kerr-Lawson

In accordance with long-established North American custom, unless it is specifically stated otherwise gold and silver values [illegible] these sheets have not been adjusted to compensate for losses and gains inherent in the fire assay process.

WM. GERRIE, M.A.
D. KERR-LAWSON, B.A. PH.D.

TELEPHONE 642-3244
P.O. DRAWER 10

Swastika, Ont., August 18, 1965 19

SWASTIKA LABORATORIES LIMITED

Certificate of Analysis

No. 37646

We have assayed twenty samples of split core

Received Aug. 16, 1965. and submitted by Canadian Javelin Limited,

Attention: W. H. Roxburgh, Esq. with the following results:

Sample No.	Gold per ton Ozs.	Value @ $35.00	Silver Ozs.	Copper %	Zinc %	Nickel %	Lead %
5274	Nil	-	0.02	0.03	0.08		
5275	Nil	-	Nil	0.01	None		
5276	Nil	-	Trace	None	None		
5277	Nil	-	Trace	None	Trace		
5278	Nil	-	Nil	0.01	Trace	None	
5279	Nil	-	0.01	0.01	None	None	
5280	Nil	-	0.02	0.01	Trace	None	
5581	Nil	-	Trace	0.01	None	None	
5582	Nil	-	0.02	None	Trace	None	None
5583	Nil	-	0.02	0.01	None	None	None
5584	Nil	-	Nil	0.01	None		
5585	Nil	-	Nil	0.04	None	None	None
5586	Nil	-	0.02	0.01	None		
5587	Nil	-	Nil	0.03	None		
5588	Nil	-	Nil	0.01	None		
5589	Nil	-	Trace	0.01	None		
5590	Nil	-	Trace	0.01	None		
5591	Nil	-	Nil	0.01	None	None	
5592	Nil	-	Nil	0.03	None		
5593	Nil	-	Nil	0.01	None		

SWASTIKA LABORATORIES LIMITED,

per: D. C. Kerr-Lawson

In accordance with long-established North American custom, unless it is specifically stated otherwise gold and silver values reported on these sheets have not been adjusted to compensate for losses and gains inherent in the fire assay process.

WM. GERRIE, M.A.
D. KERR-LAWSON, B.A., PH.D.

Member Canadian Testing Association

TELEPHONE 642-3244
P.O. DRAWER 10

Swastika, Ont., August 19,1965 19

SWASTIKA LABORATORIES LIMITED

Certificate of Analysis

No. 37658

We have assayed five samples of split core

Received Aug.17,1965 and submitted by Canadian Javelin Limited.

with the following results:

Sample No.	Gold per ton Ozs.	Value @ $35.00	Silver Ozs.	Copper %	Zinc %	Lead %	Nickel %
5594	Nil	-	0.02	0.02	None	None	None
5595	Nil	-	0.02	0.01	None		
5596	Nil	-	Nil	0.01	None		
5597	Nil	-	Nil	0.01	None	None	None
5598	Nil	-	0.02	0.03	None		

SWASTIKA LABORATORIES LIMITED,

per: [signature]

RECEIVED MAY 8 CANADIAN JAVELIN LTD.

In accordance with long-established North American custom, unless it is specifically stated otherwise gold and silver values reported on these sheets have not been adjusted to compensate for losses and gains inherent in the fire assay process.

AERIAL ELECTRO-MAGNETIC SURVEY

RESULTS

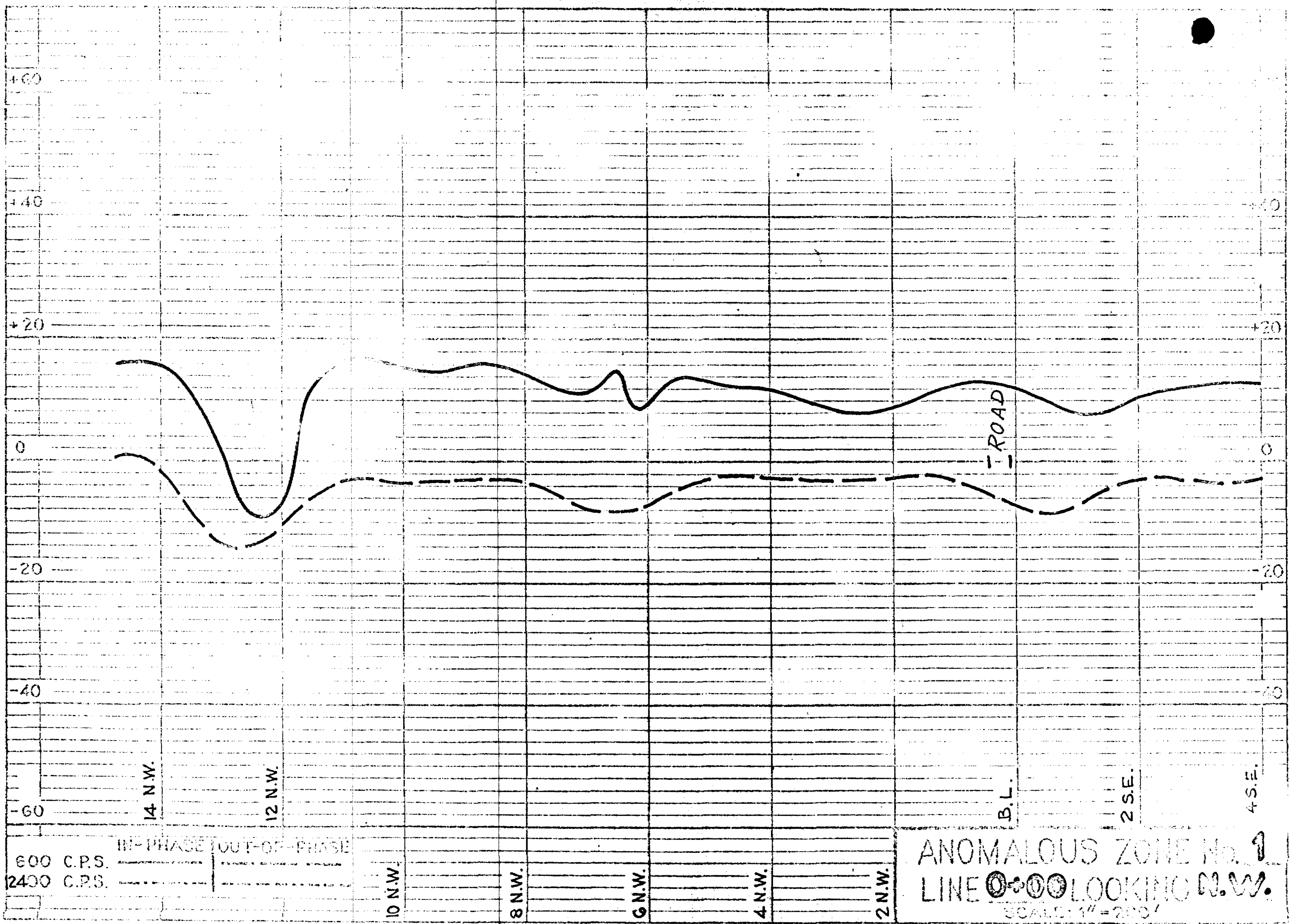
Copies of Canadian Aerial Mineral
Surveys Data

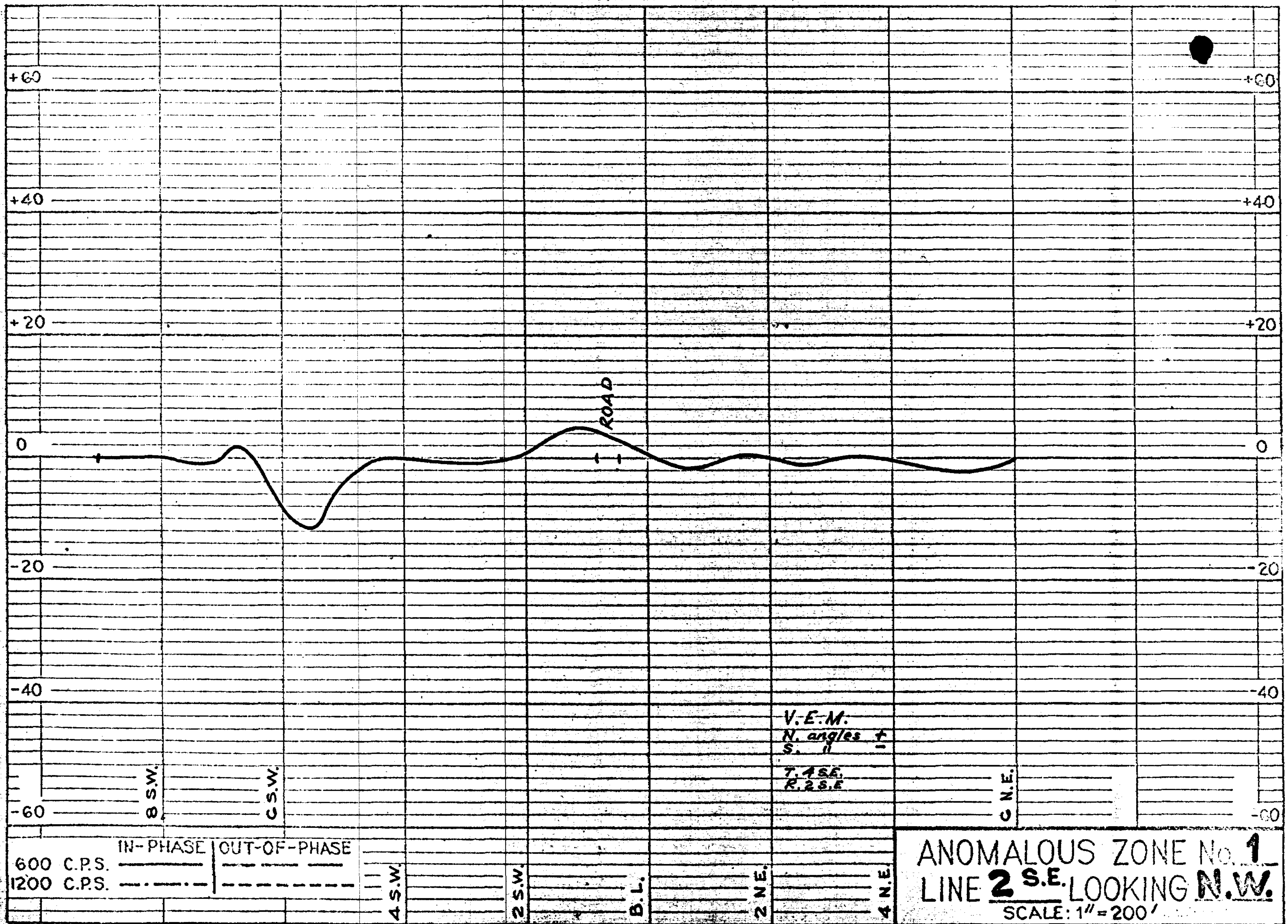
Tape Sections Showings:

(1) Anomalous Response

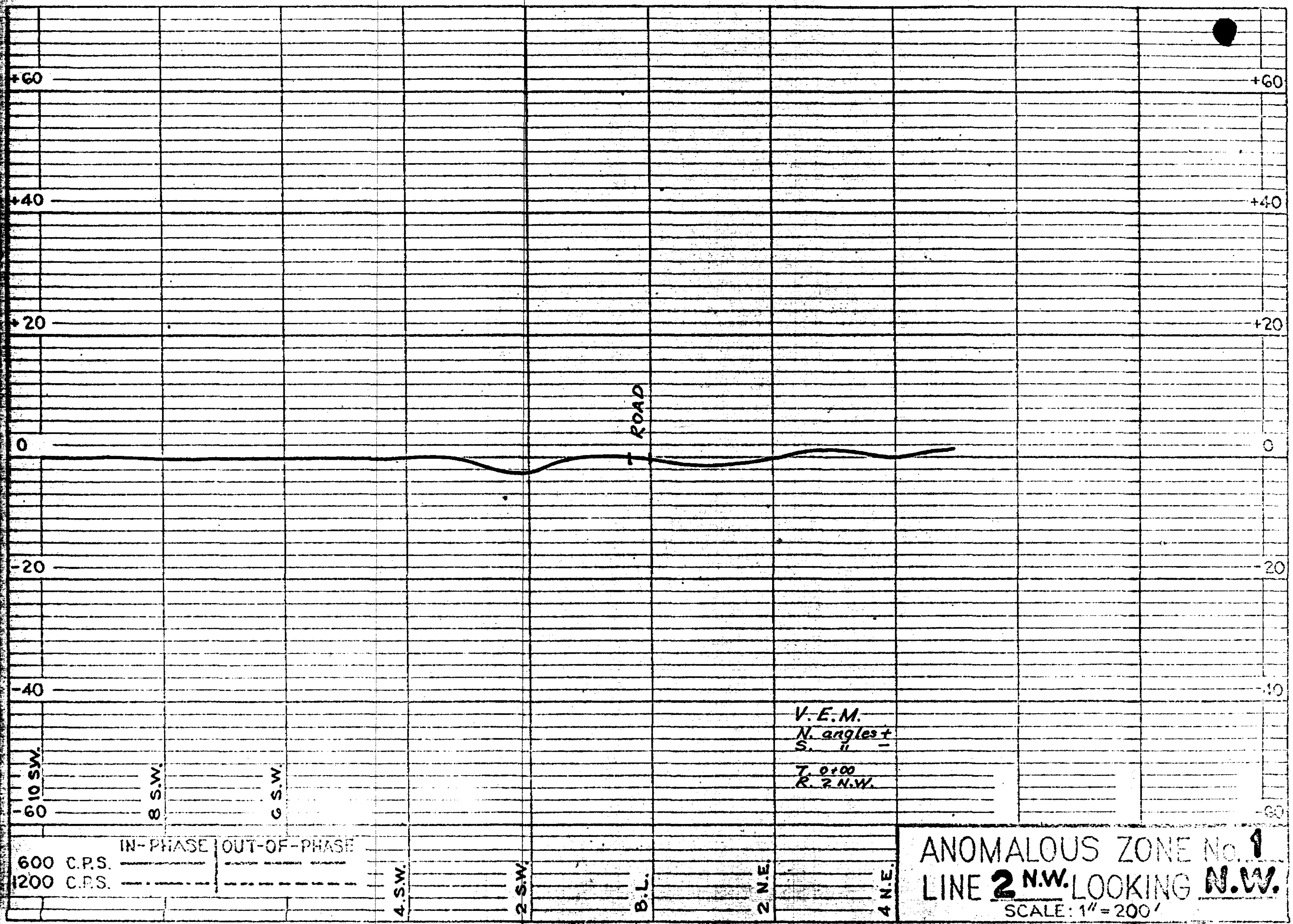
(2) Map showing location of flight lines, anomalous responses and claim holdings.

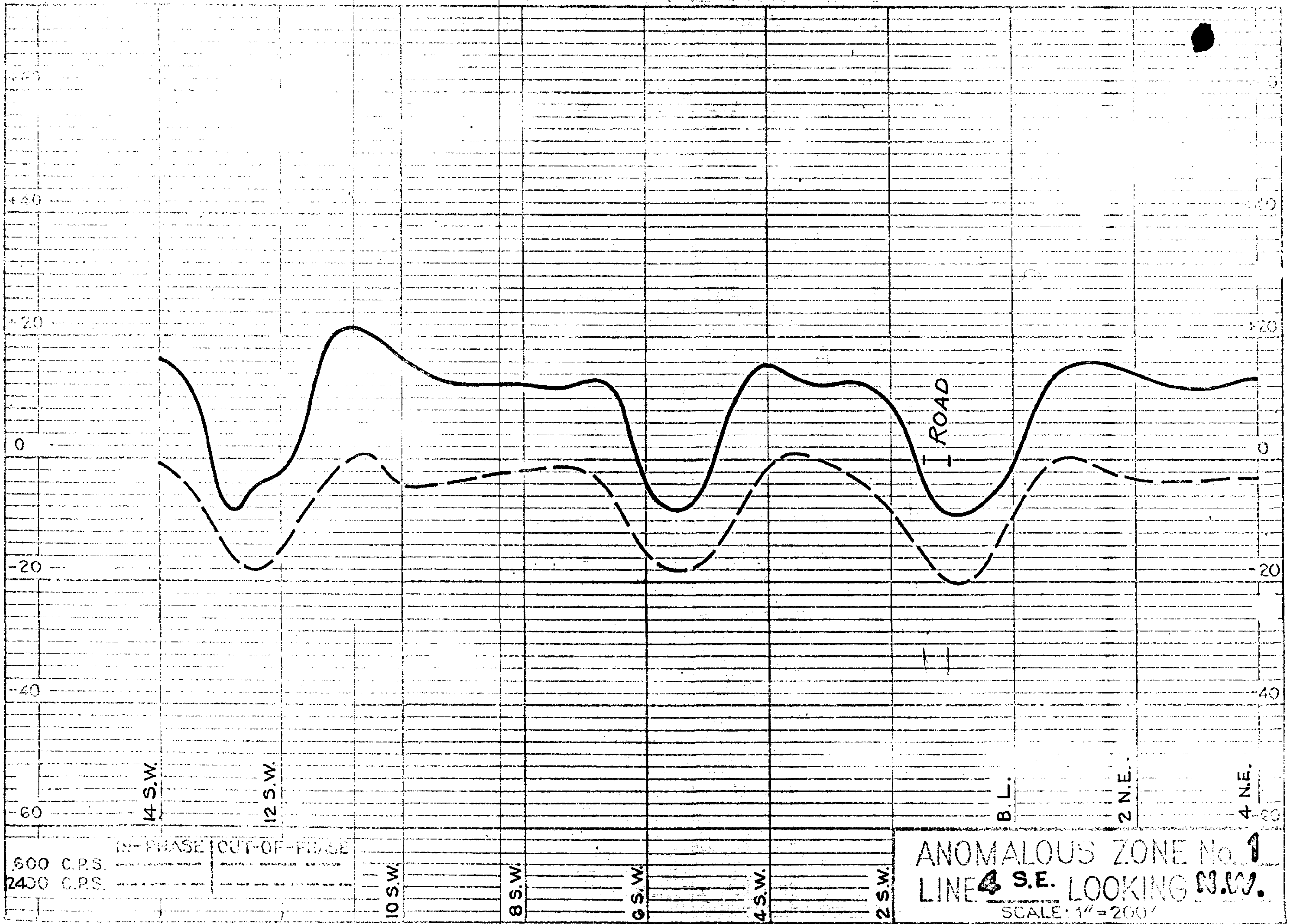
JUBILEE IRON CORPORATION


+60
+40
+20
0
-20
-40
-60
ROAD
14 N.W.
12 N.W.
10 N.W.
8 N.W.
6 N.W.
4 N.W.
2 N.W.
B.L.
2 S.E.
4 S.E.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 0+00 LOOKING N.W.
SCALE: 1" = 200'

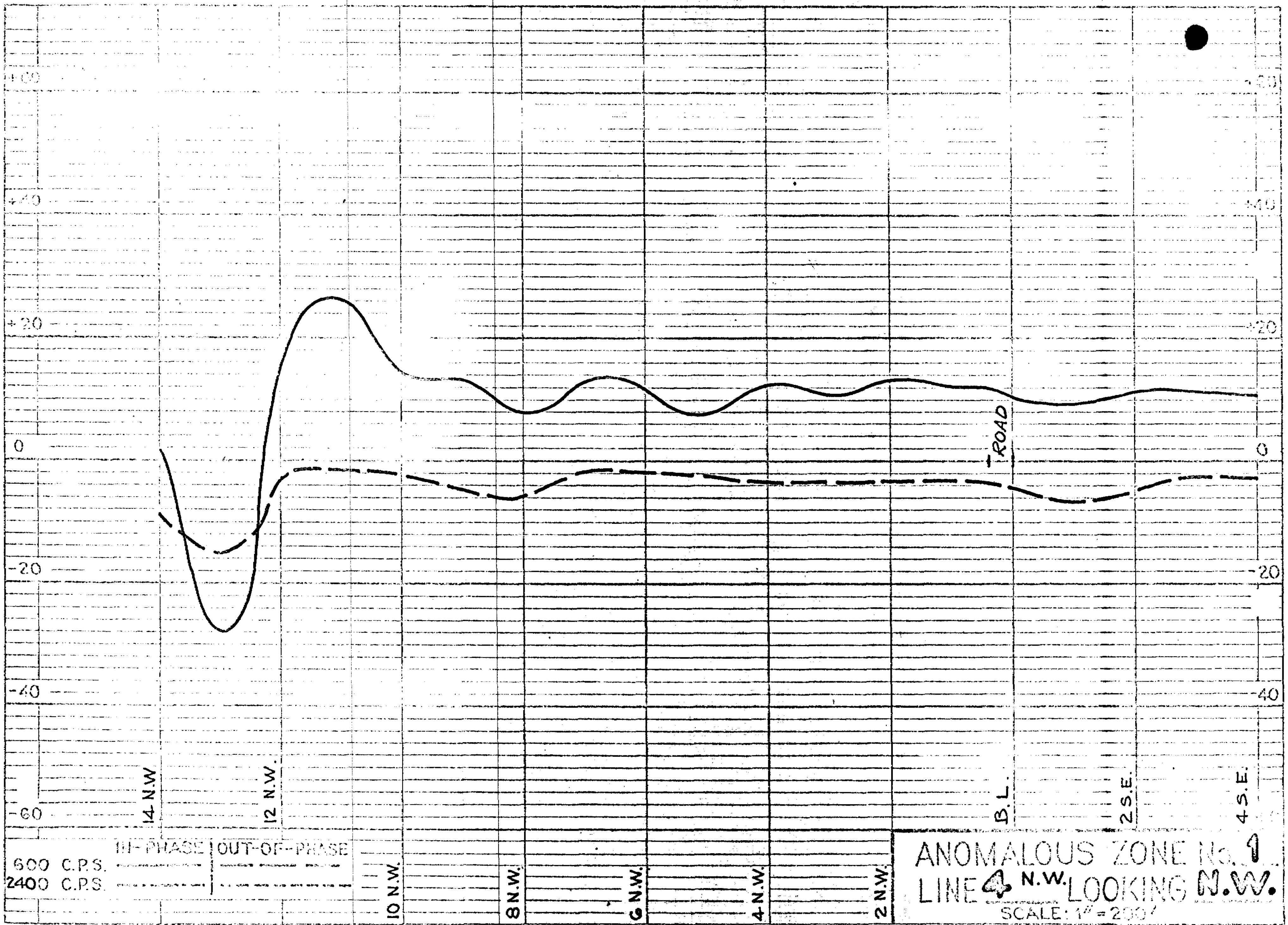


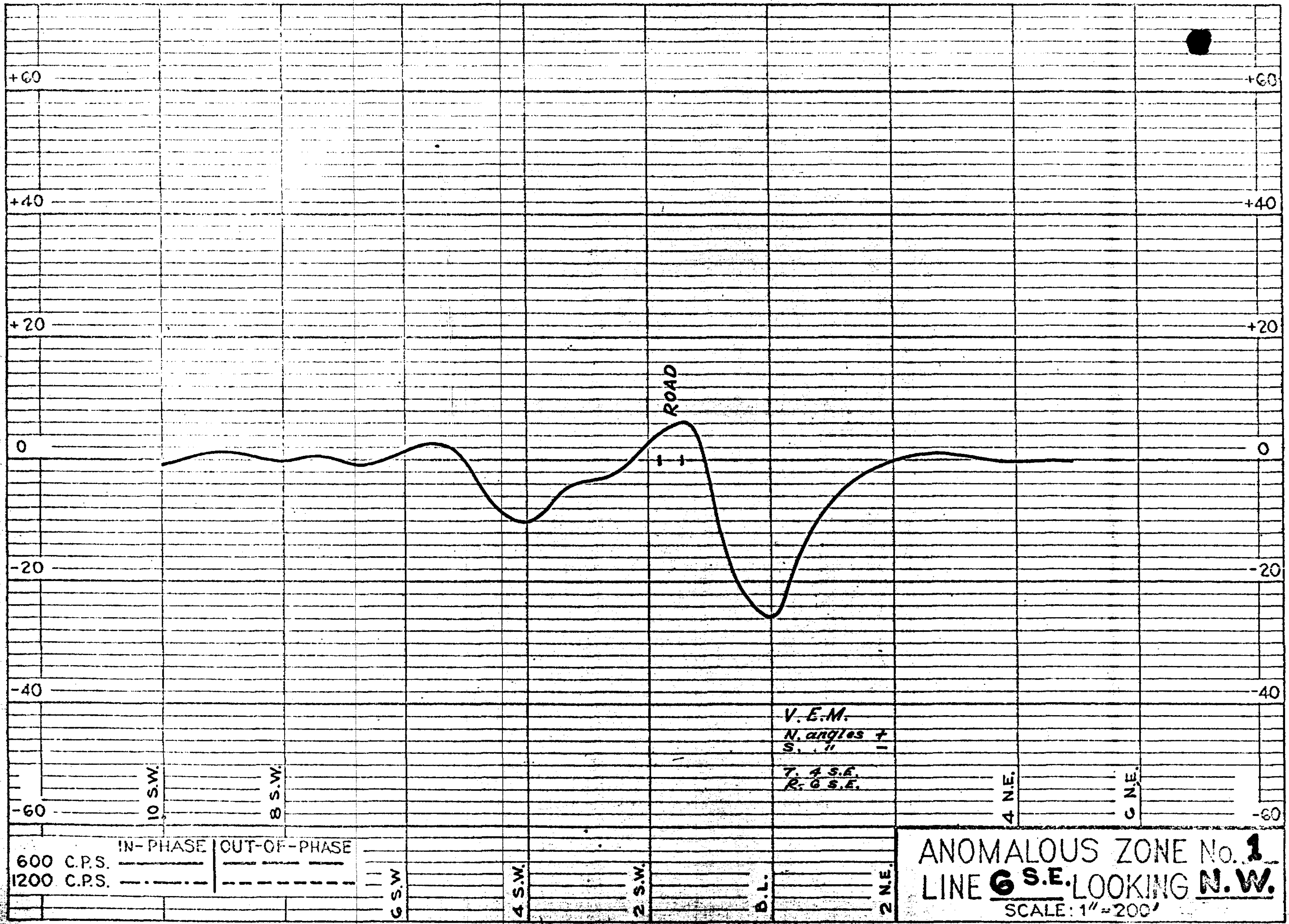
ANOMALOUS ZONE No. 1
LINE 2 S.E. LOOKING N.W.
SCALE: 1" = 200'


+60
+40
+20
0
-20
-40
-60
ROAD
V.E.M.
N. angles +
S. " -
T. 0+00
R. 2 N.W.
10 SW.
8 S.W.
6 S.W.
4 S.W.
2 S.W.
B.L.
2 N.E.
4 N.E.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
1200 C.P.S.
ANOMALOUS ZONE No. 1
LINE 2 N.W. LOOKING N.W.
SCALE: 1" = 200'

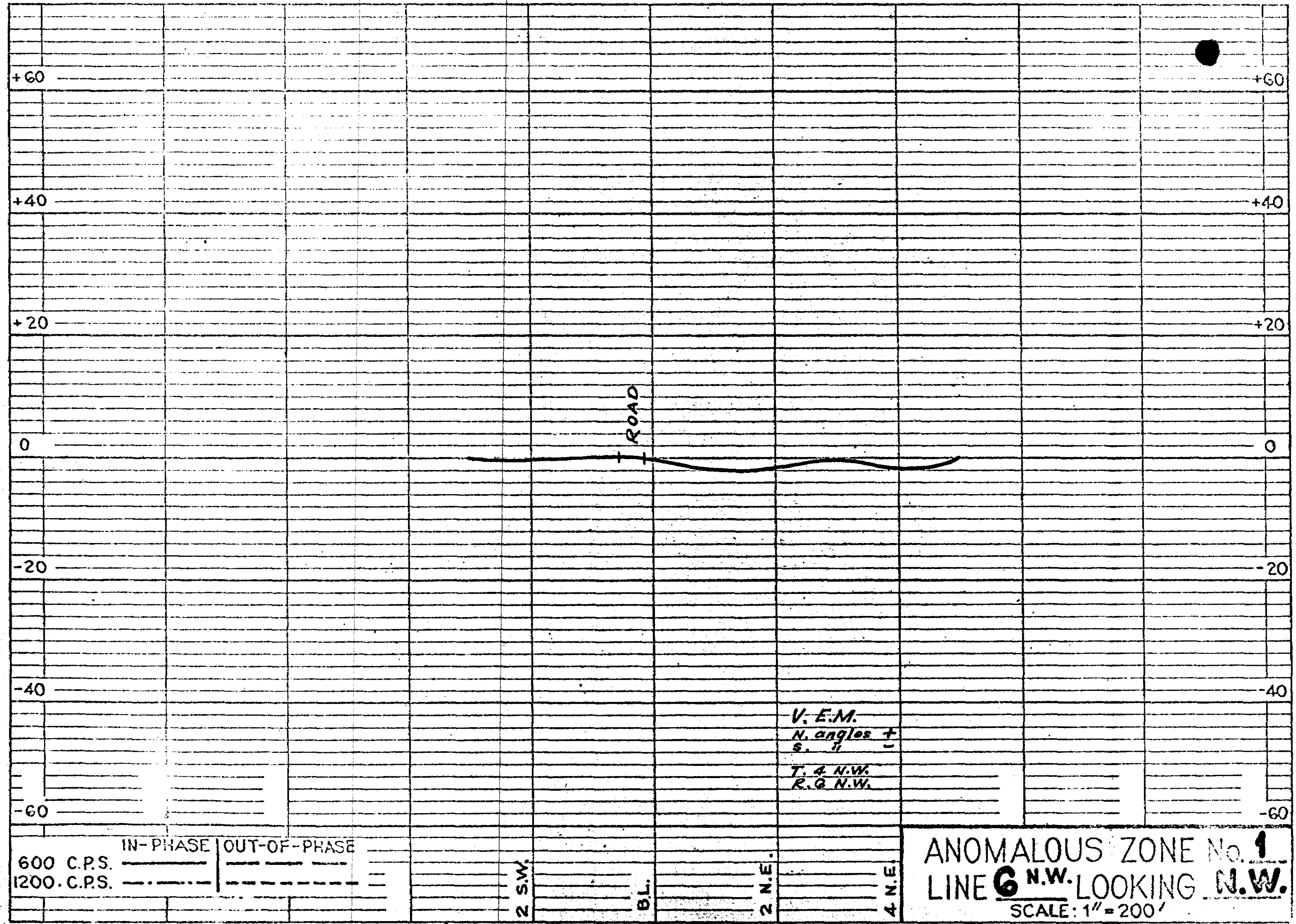


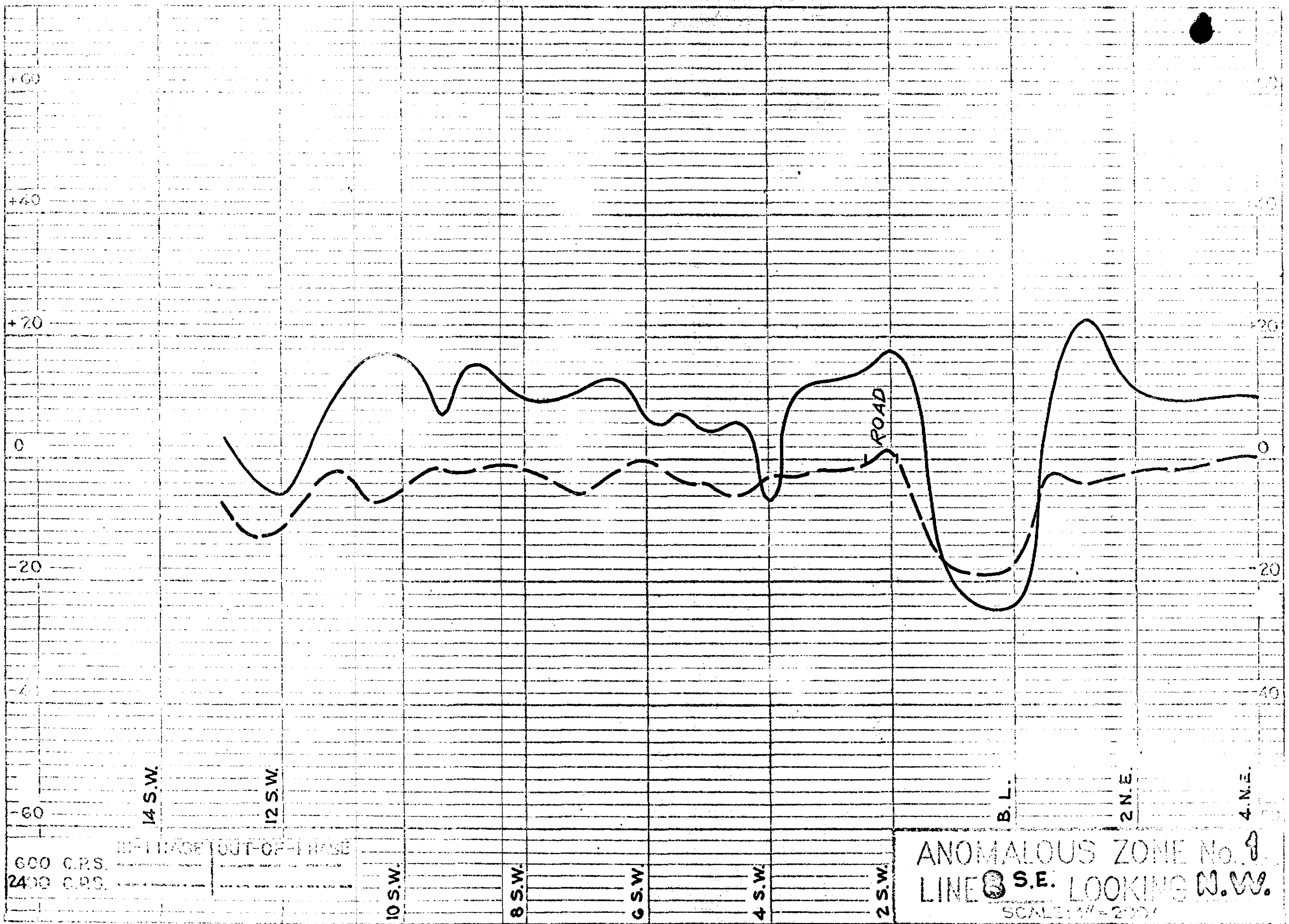
+60
+40
+20
0
-20
-40
-60
ROAD
14 S.W.
12 S.W.
10 S.W.
8 S.W.
6 S.W.
4 S.W.
2 S.W.
B. L.
2 N.E.
4 N.E.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 4 S.E. LOOKING N.W.
SCALE: 1" = 200'

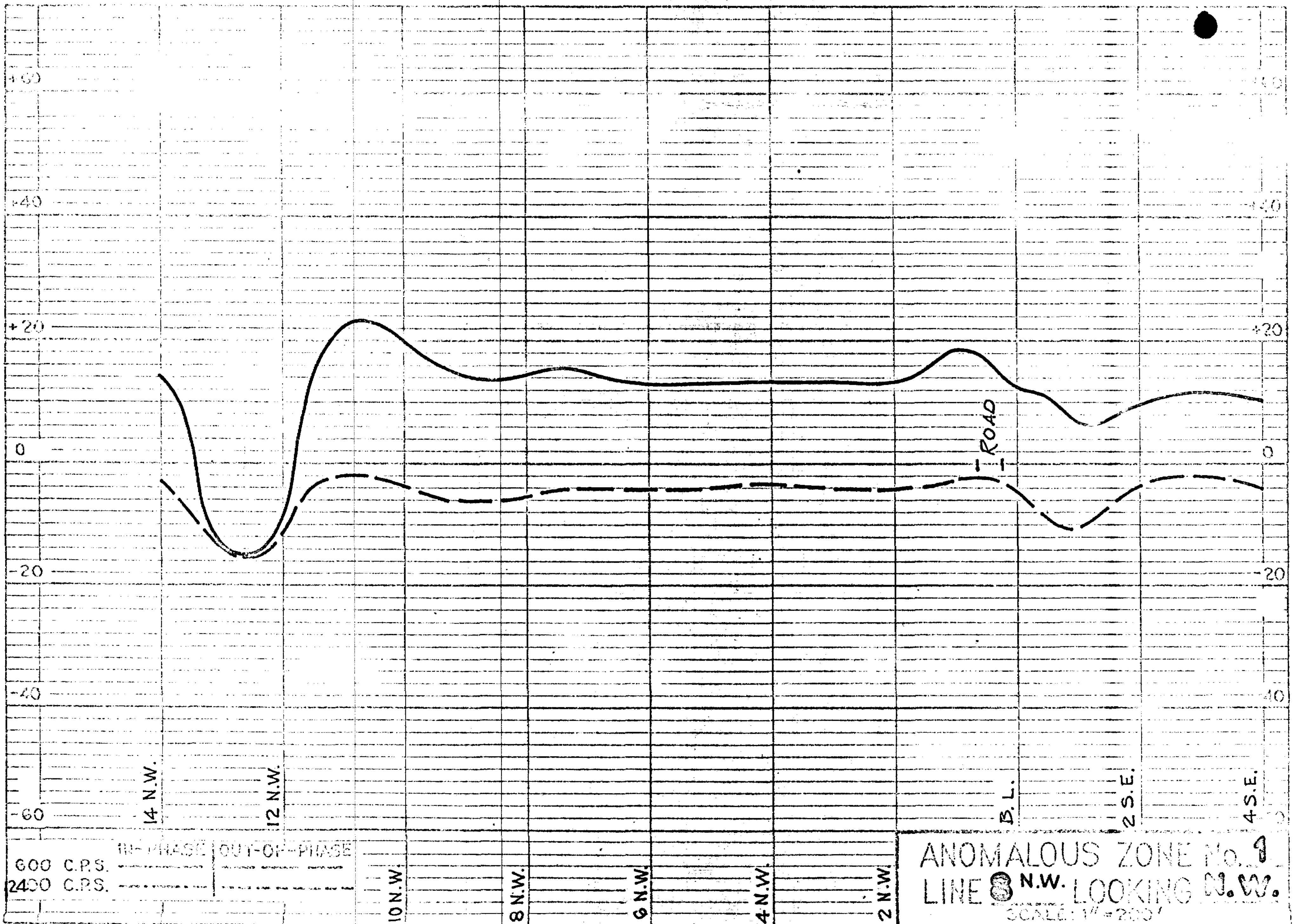

+60
+40
+20
0
-20
-40
-60
ROAD
14 N.W.
12 N.W.
10 N.W.
8 N.W.
6 N.W.
4 N.W.
2 N.W.
B.L.
2 S.E.
4 S.E.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 4 N.W. LOOKING N.W.
SCALE: 1" = 200'

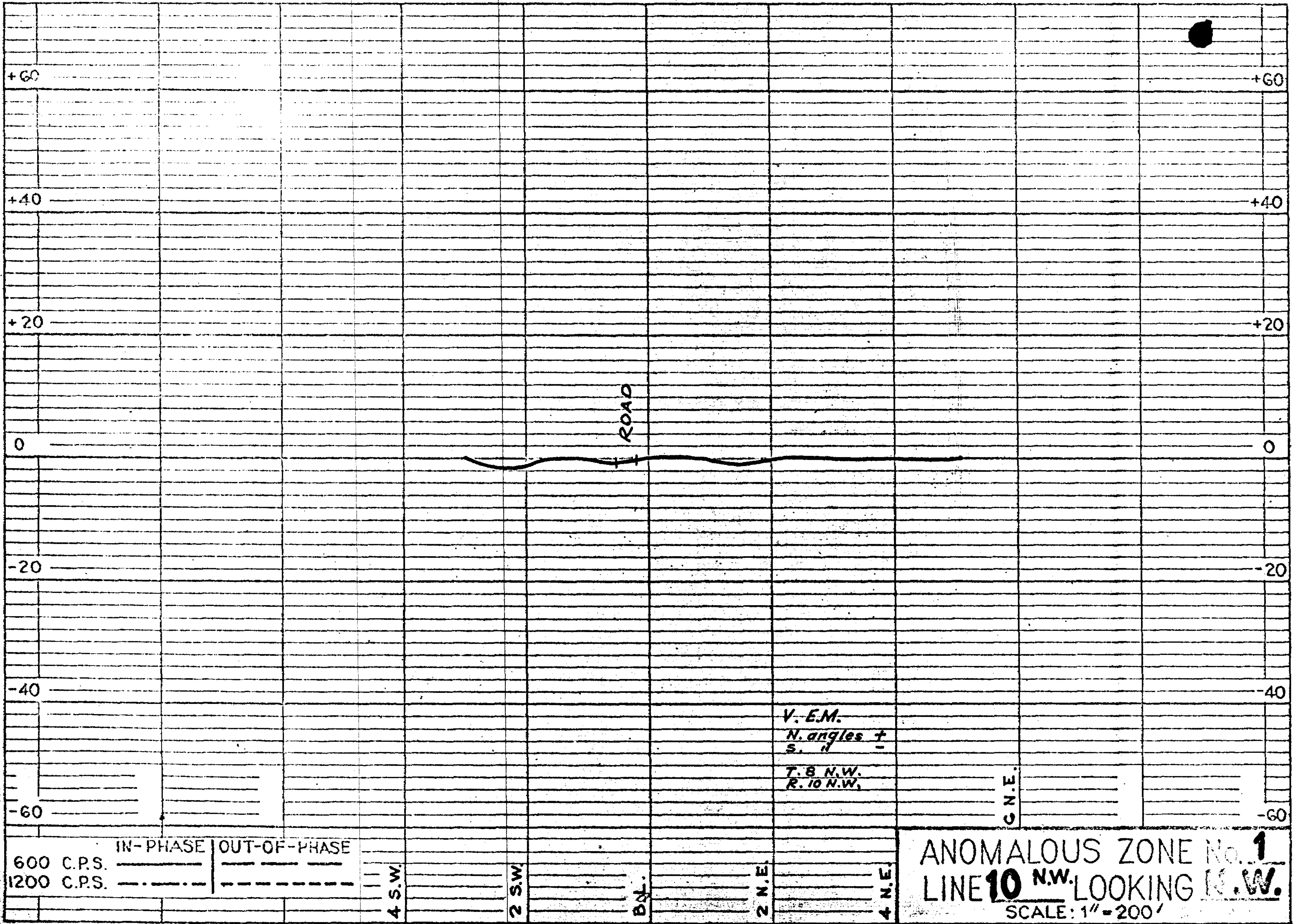


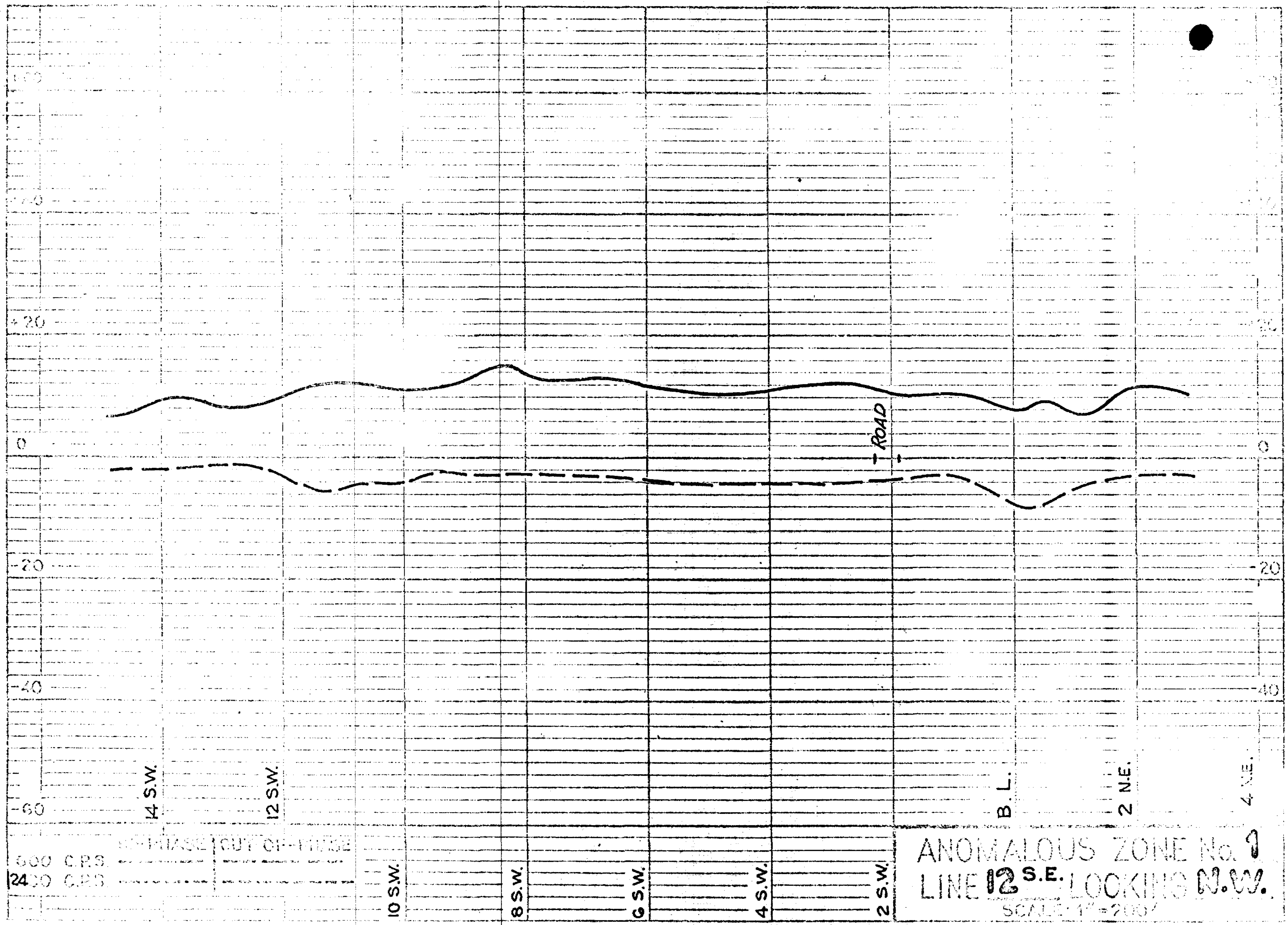
+60
+40
+20
0
-20
-40
-60
ROAD
V.E.M.
N. angles +
S. " −
T. 4 S.E.
R. 6 S.E.
10 S.W.
8 S.W.
6 S.W.
4 S.W.
2 S.W.
B.L.
2 N.E.
4 N.E.
6 N.E.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
1200 C.P.S.
ANOMALOUS ZONE No. 1
LINE 6 S.E. LOOKING N.W.
SCALE: 1" = 200'


+60
+40
+20
0
-20
-40
-60
ROAD
V. E.M.
N. angles +
S. " -
T. 4 N.W.
R. 6 N.W.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
1200. C.P.S.
2 S.W.
B.L.
2 N.E.
4 N.E.
ANOMALOUS ZONE No. 1
LINE 6 N.W. LOOKING N.W.
SCALE: 1" = 200'

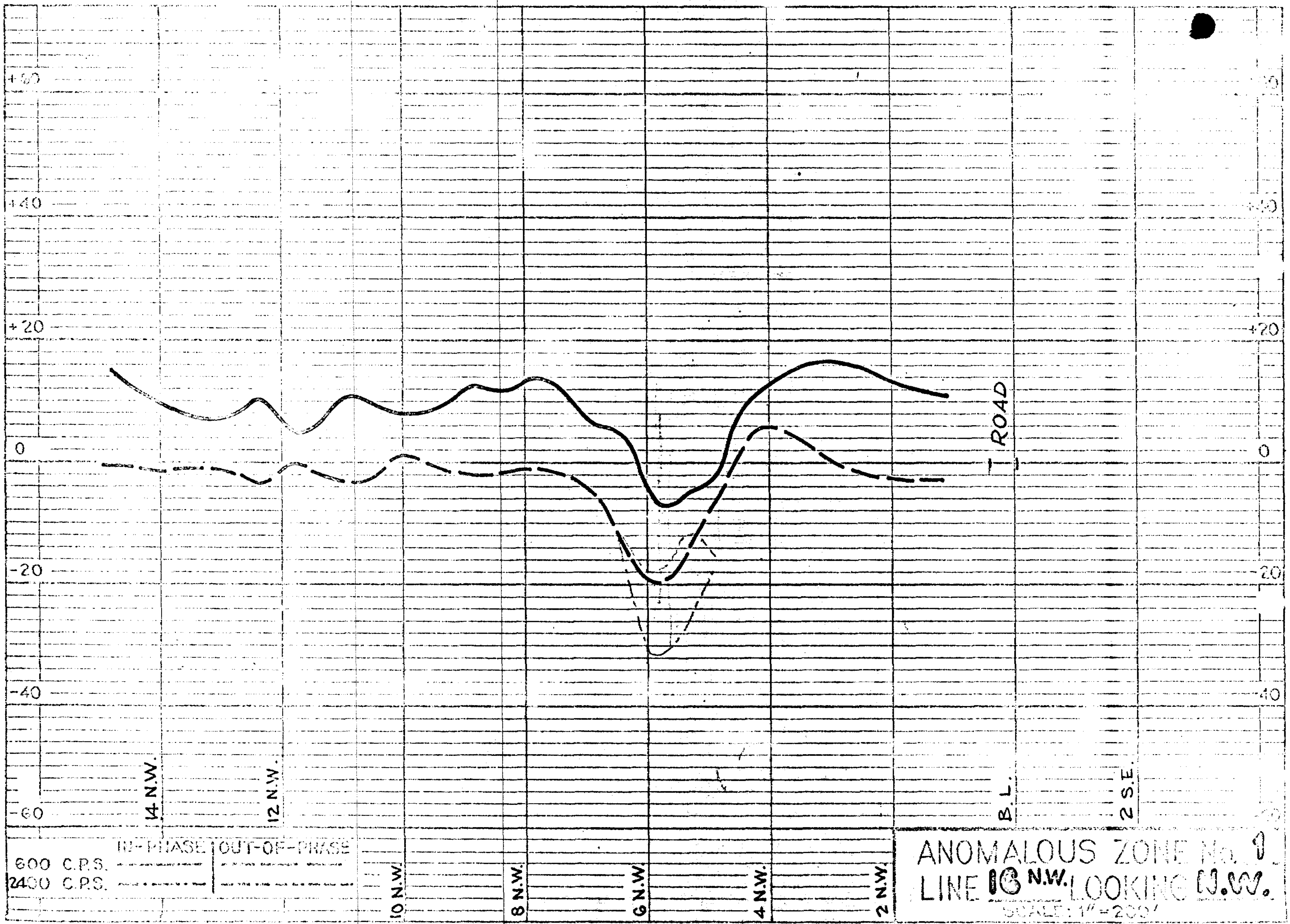

+60
+40
+20
0
-20
-60
14 S.W.
12 S.W.
10 S.W.
8 S.W.
6 S.W.
4 S.W.
2 S.W.
B.L.
2 N.E.
4 N.E.
ROAD
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 8 S.E. LOOKING N.W.


+60
+40
+20
0
-20
-40
-60
ROAD
14 N.W.
12 N.W.
10 N.W.
8 N.W.
6 N.W.
4 N.W.
2 N.W.
B. L.
2 S.E.
4 S.E.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 8 N.W. LOOKING N.W.
SCALE: 1" = 200'


+60
+40
+20
0
-20
-40
-60
ROAD
V. E.M.
N. angles +
S. " −
T. 8 N.W.
R. 10 N.W.
C N.E.
4 S.W.
2 S.W.
B.L.
2 N.E.
4 N.E.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
1200 C.P.S.
ANOMALOUS ZONE No. 1
LINE 10 N.W. LOOKING N.W.
SCALE: 1" = 200'

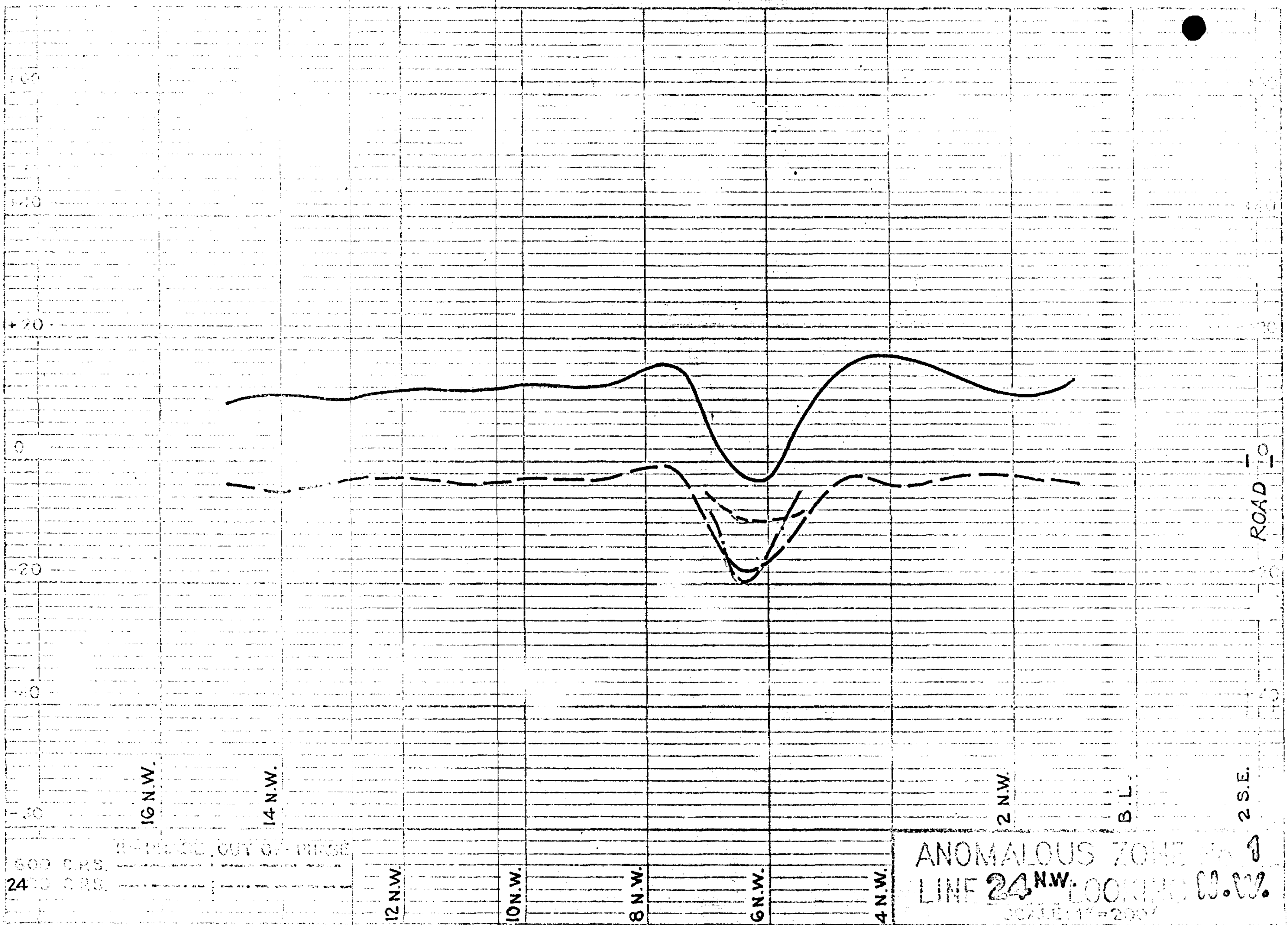

+20
0
-20
-40
-60
14 S.W.
12 S.W.
10 S.W.
8 S.W.
6 S.W.
4 S.W.
2 S.W.
ROAD
B. L.
2 N.E.
4 N.E.
600 C.P.S.
2400 C.P.S.
OUT-OF-PHASE
ANOMALOUS ZONE No. 1
LINE 12 S.E. LOOKING N.W.


+20
0
-20
-40
-60
14 N.W.
12 N.W.
10 N.W.
8 N.W.
6 N.W.
4 N.W.
2 N.W.
B.L.
2 S.E.
4 S.E.
ROAD
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No 1
LINE 12 N.W. LOOKING N.W.

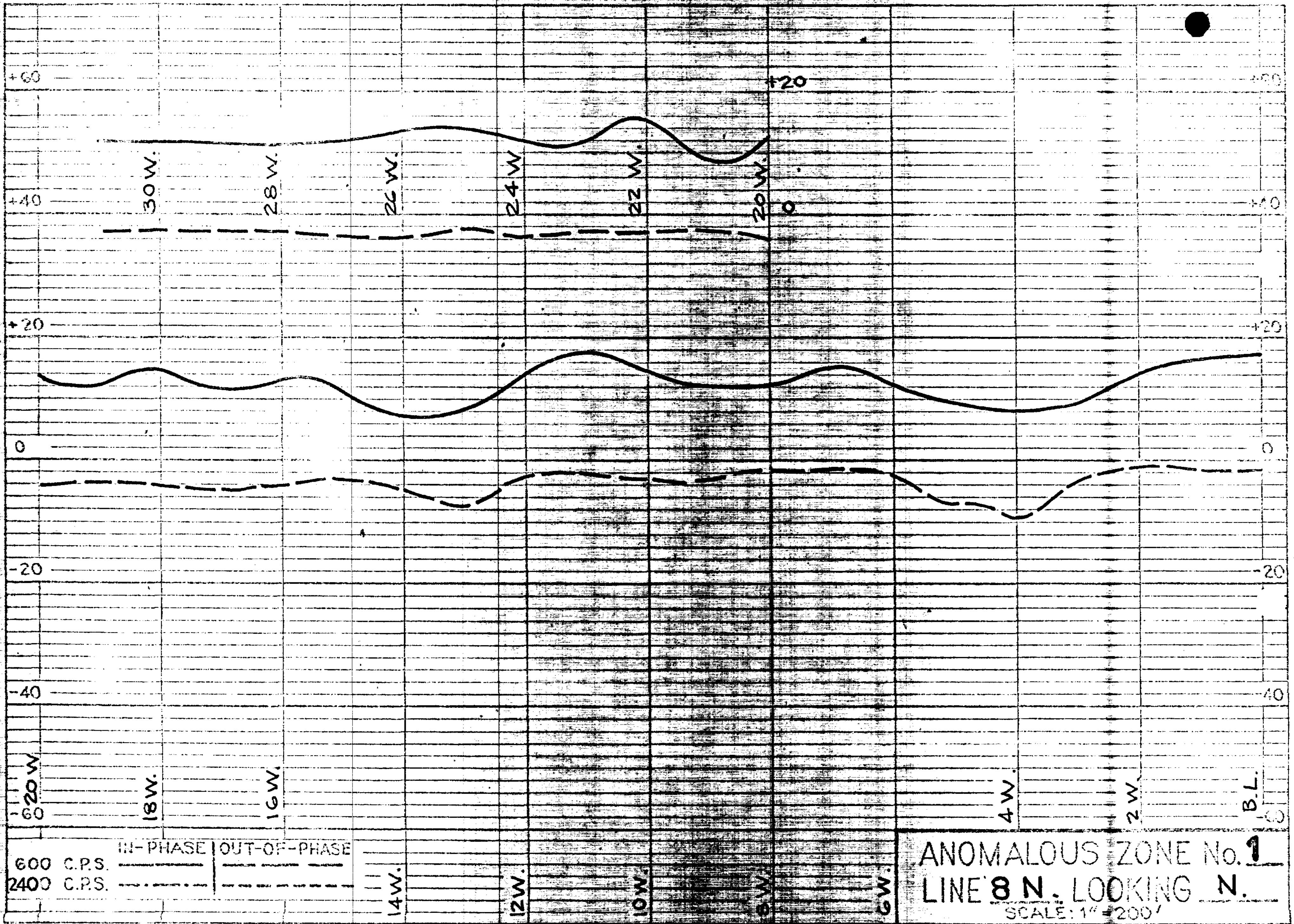


+60
+40
+20
0
-20
-40
-60
14 N.W.
12 N.W.
10 N.W.
8 N.W.
6 N.W.
4 N.W.
2 N.W.
B.L.
2 S.E.
ROAD
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 16 N.W. LOOKING N.W.
SCALE: 1" = 200'

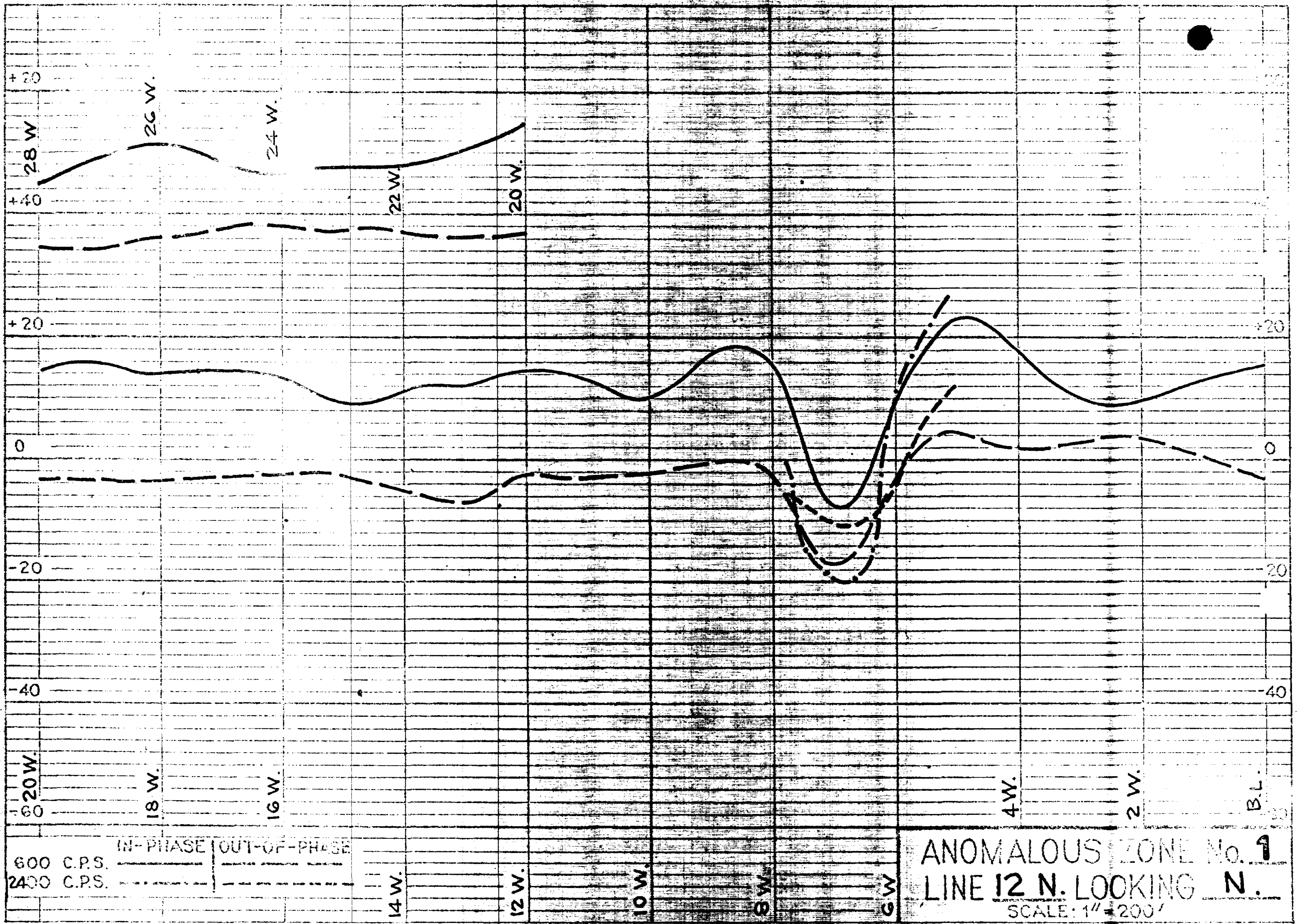
+40
+20
0
-20
-40
-60
ROAD
14 N.W.
12 N.W.
10 N.W.
8 N.W.
6 N.W.
4 N.W.
2 N.W.
B. L.
2 SE
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 20 N.W. LOOKING N.W.
SCALE: 1" = 200'

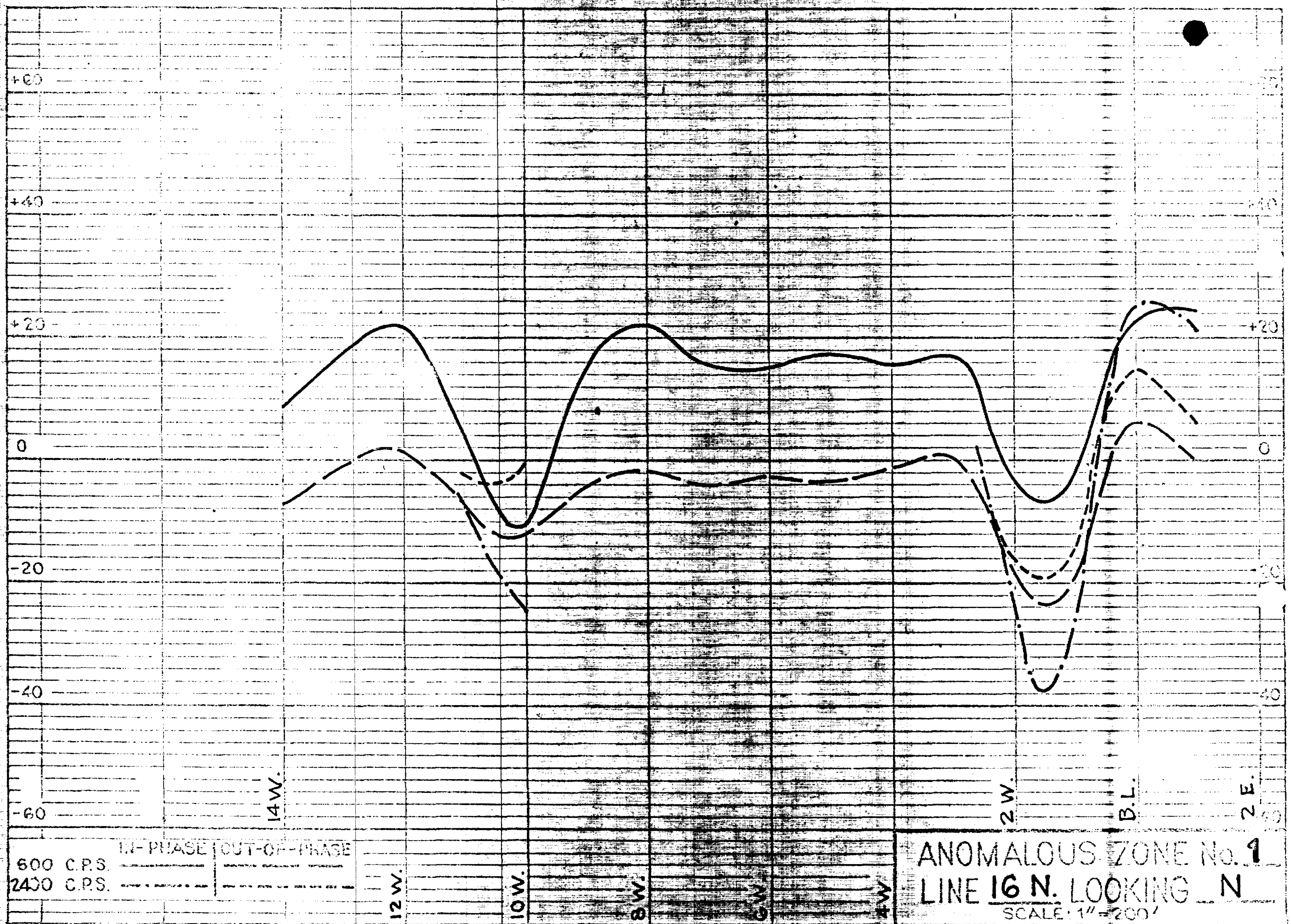


+20
0
-20
-40
16 N.W.
14 N.W.
12 N.W.
10 N.W.
8 N.W.
6 N.W.
4 N.W.
2 N.W.
B.L.
2 S.E.
ROAD
OUT OF PHASE
600 C.P.S.
24
C.P.S.
ANOMALOUS ZONE 1
LINE 24 N.W.
N.W.

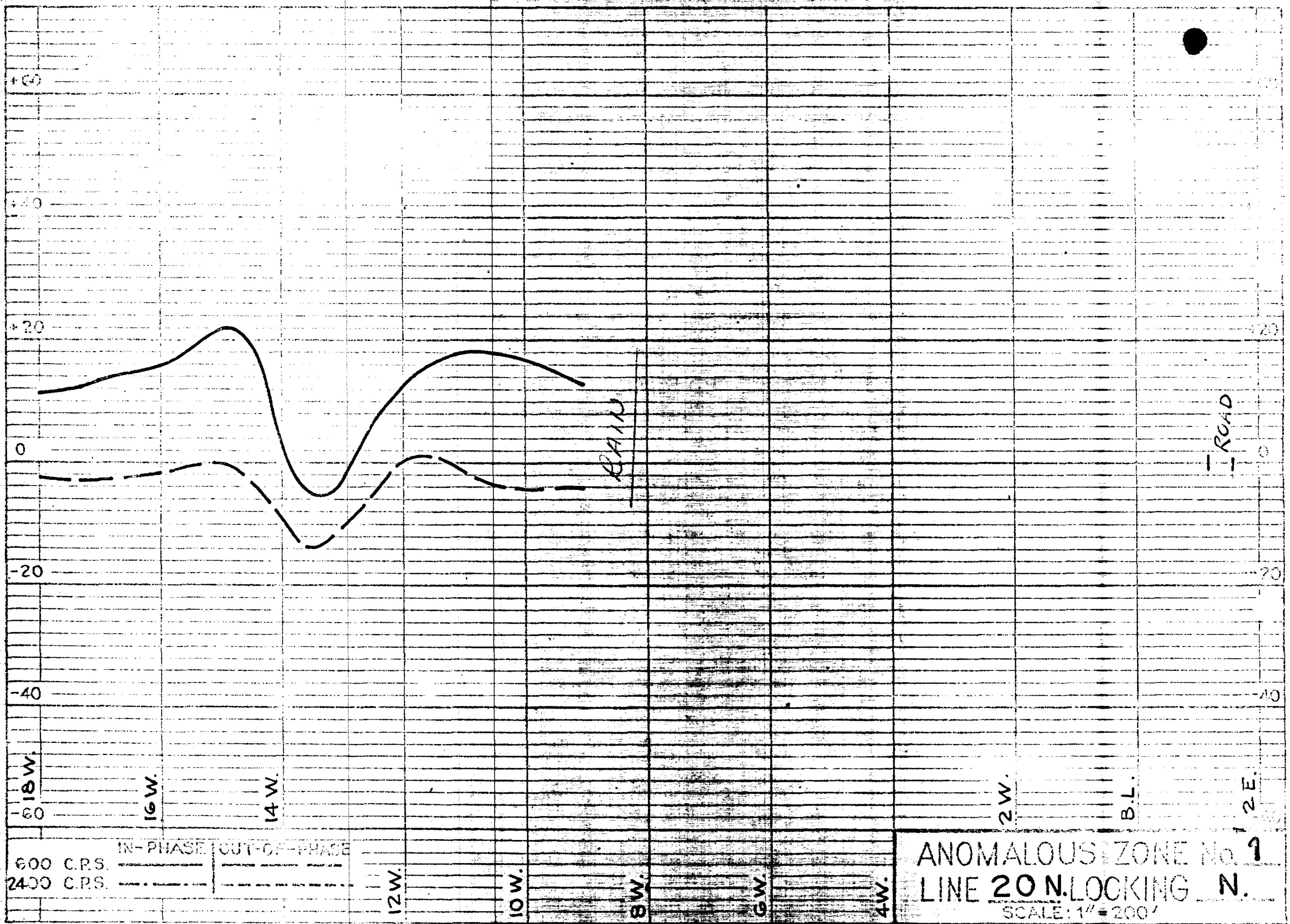


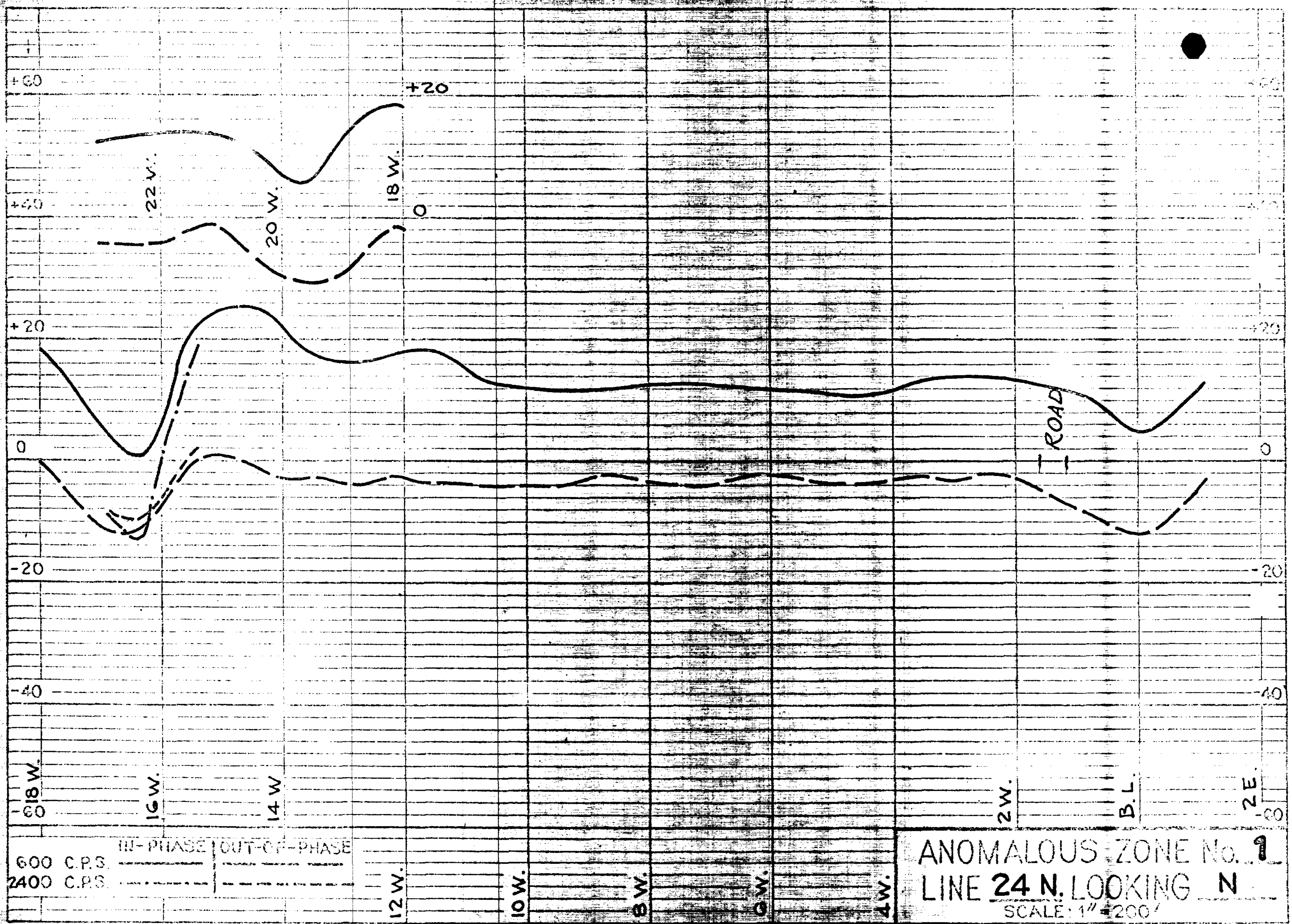
+60
+40
+20
0
-20
-40
-60
+20
0
30W.
28W.
26W.
24W.
22W.
20W.
20W.
18W.
16W.
14W.
12W.
10W.
8W.
6W.
4W.
2W.
B.L.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 8 N. LOOKING N.
SCALE: 1" = 200'


+20
+40
+20
0
-20
-40
-60
28 W.
26 W.
24 W.
22 W.
20 W.
20 W.
18 W.
16 W.
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 12 N. LOOKING N.
SCALE: 1" = 200'

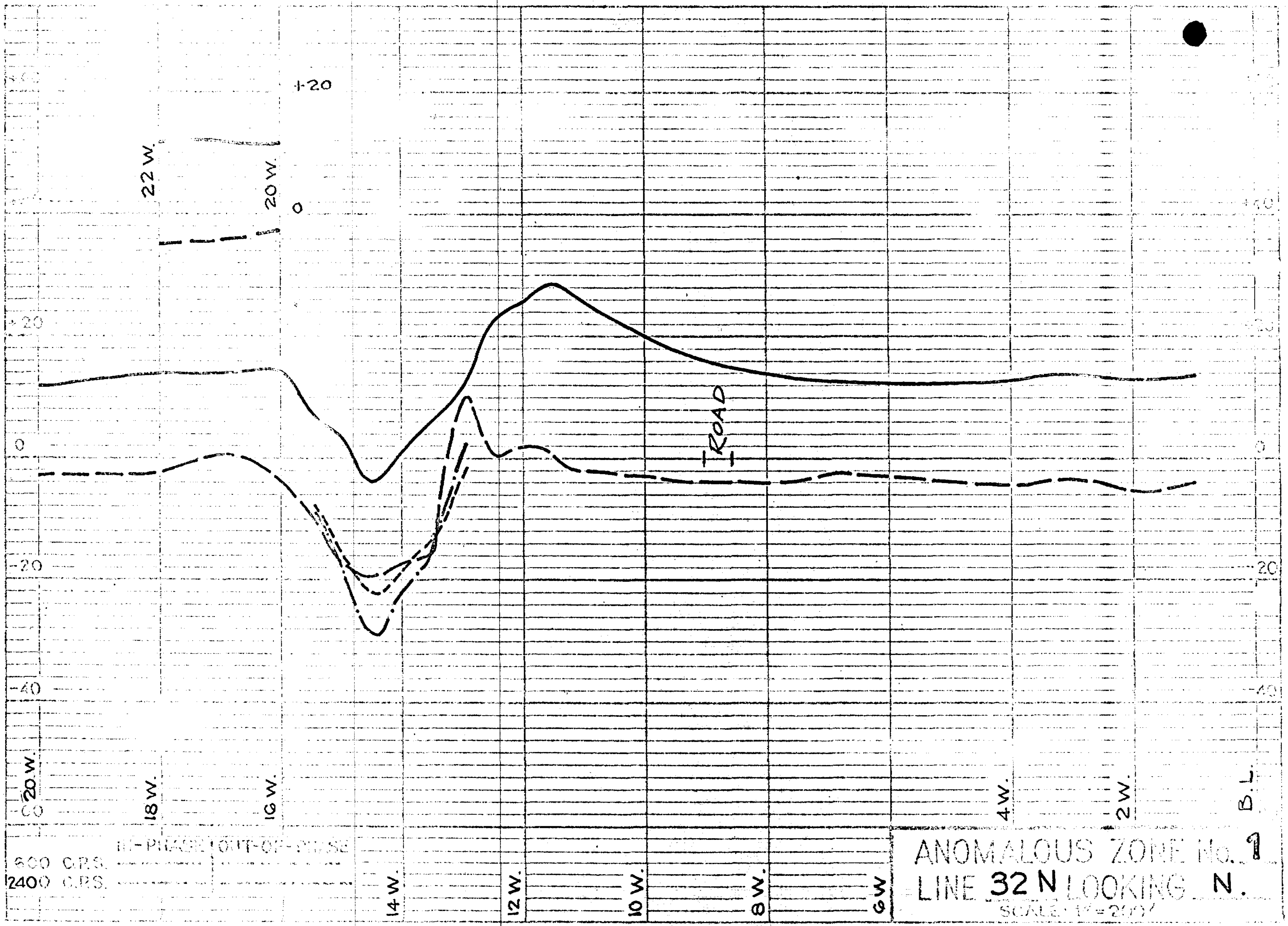


+60
+40
+20
0
-20
-40
-60
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
2 E.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 16 N. LOOKING N
SCALE: 1" = 200'

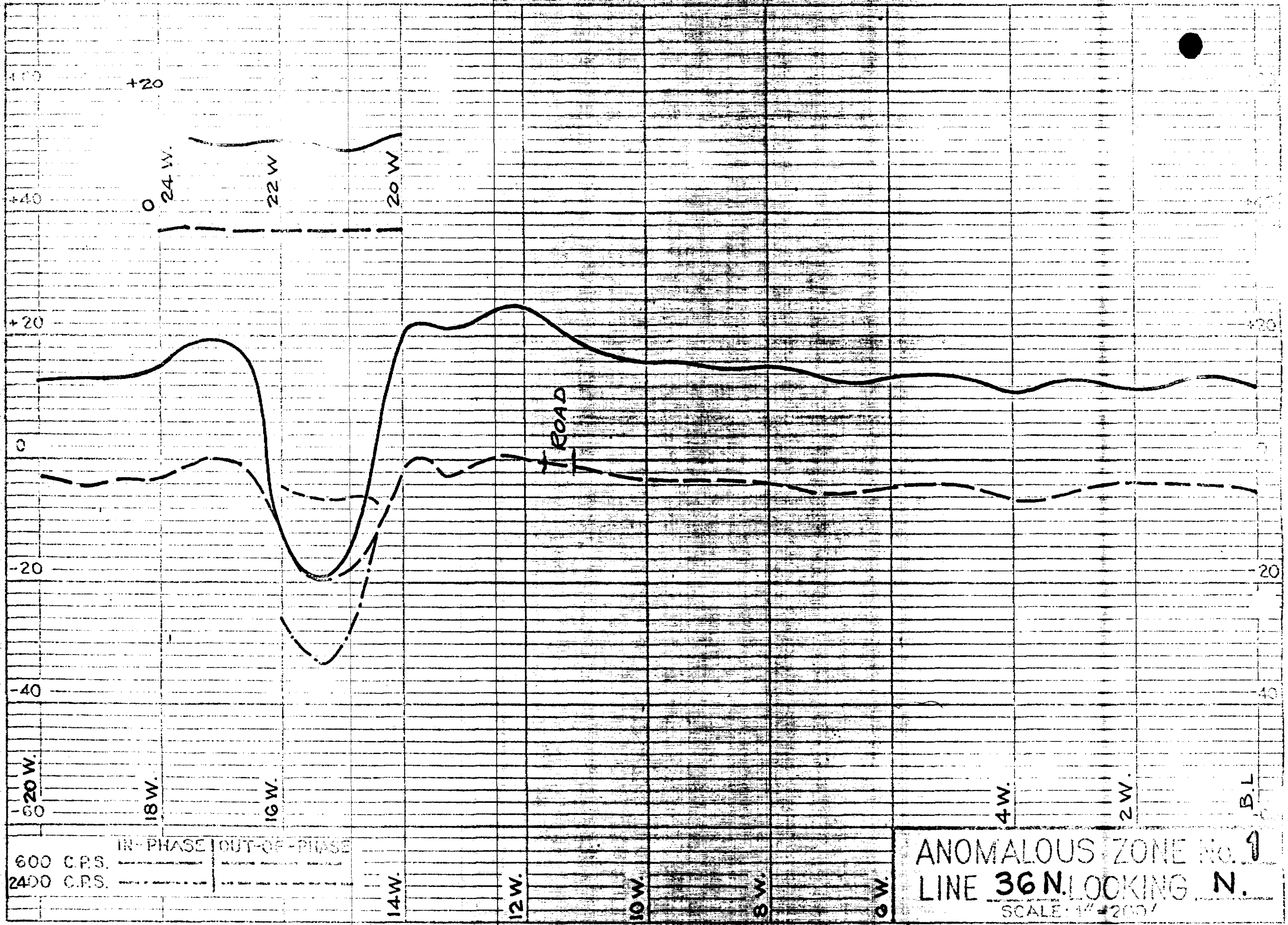

+60
+40
+20
0
-20
-40
-60
18W.
16W.
14W.
12W.
10W.
8W.
6W.
4W.
2W.
B.L.
2E.
RAIL
ROAD
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 20 N. LOCKING N.
SCALE: 1" = 200'


+60
+40
+20
0
-20
-40
-60
+20
0
22 W.
20 W.
18 W.
ROAD
18 W.
16 W.
14 W
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B. L.
2 E.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 24 N. LOOKING N
SCALE: 1" = 200'

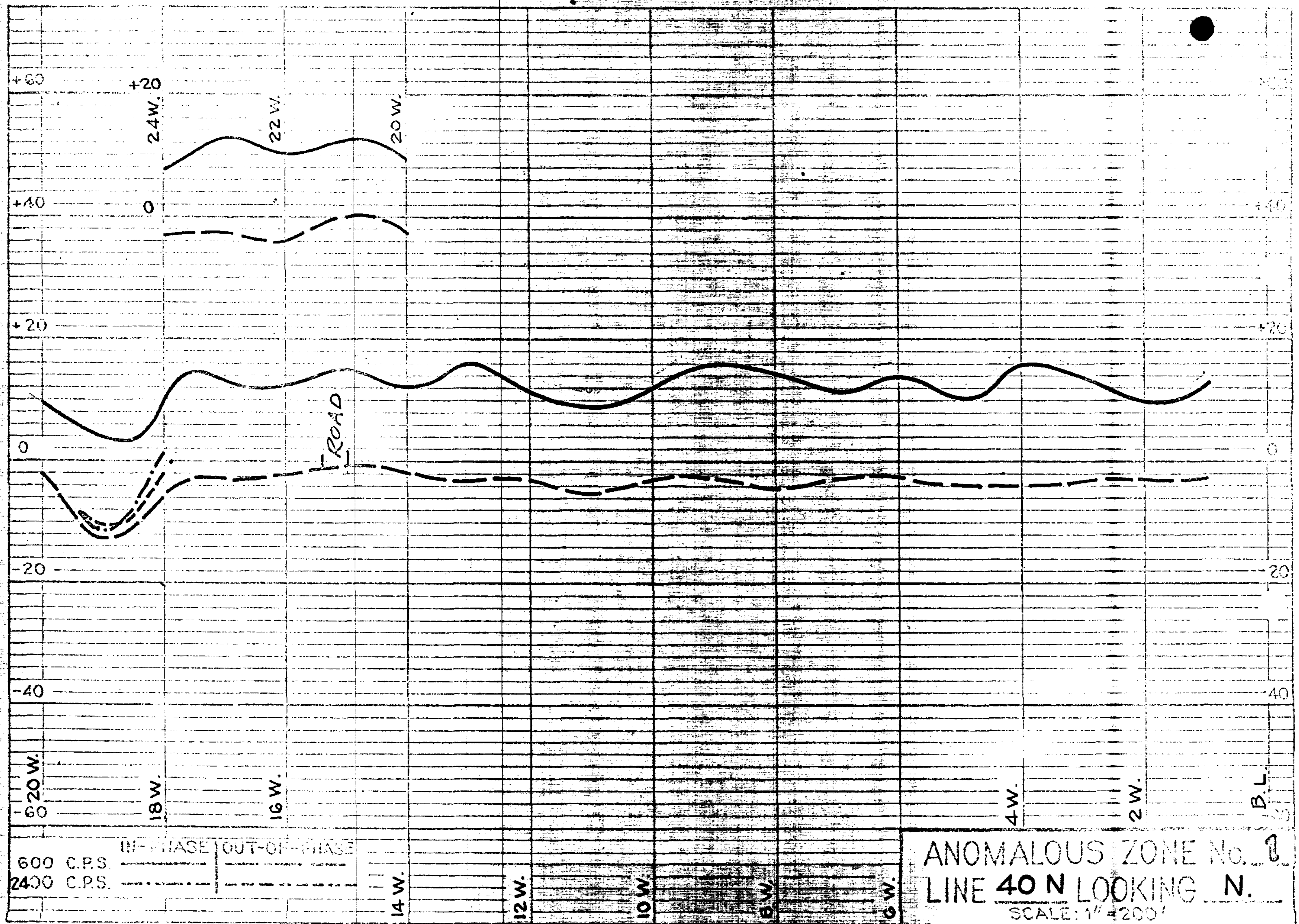
+60
+40
+20
0
-20
-40
-60
+20
0
24 W.
22 W.
20 W.
20W.
18 W.
16 W.
14 W.
12 W.
10 W.
8 W.
6 W
4 W
2 W.
B.L.
ROAD
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 28 N. LOOKING N.

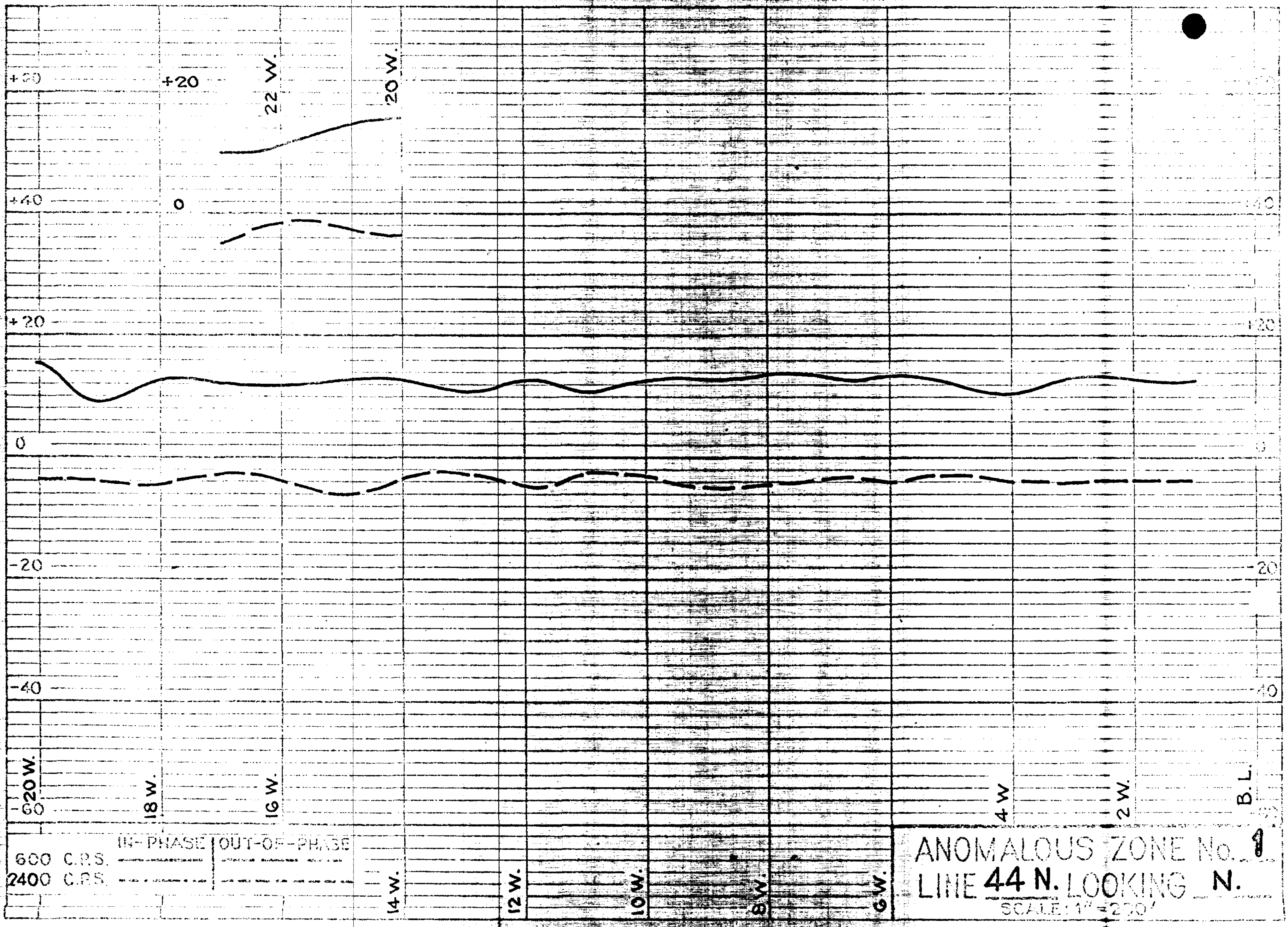


+20
22 W.
20 W.
0
+20
0
-20
-40
-60
20 W.
18 W.
16 W.
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
ROAD
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 32 N LOOKING N.
SCALE 1" = 200'

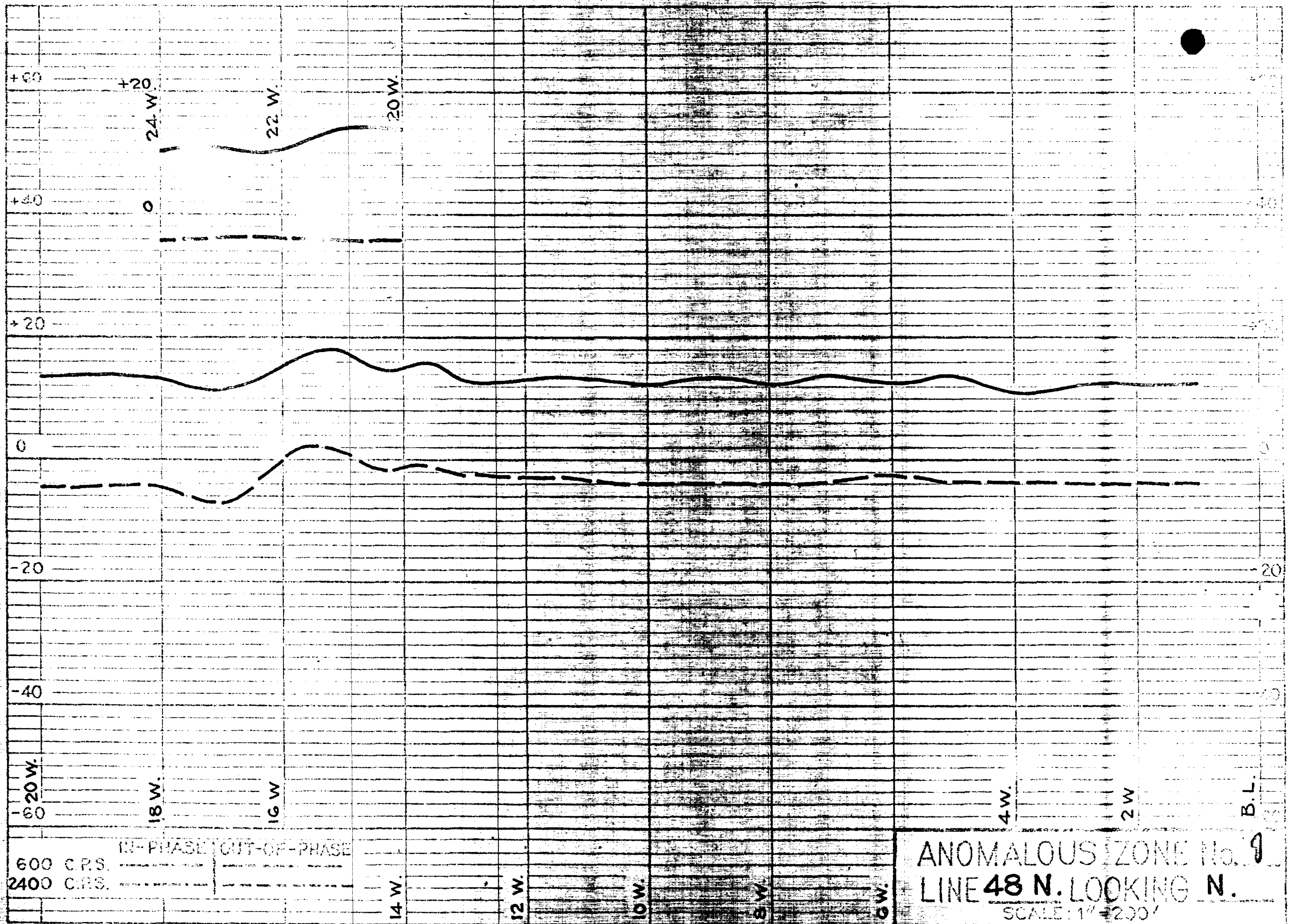


ANOMALOUS ZONE No. 1
LINE 36 N. LOOKING N.
SCALE: 1" = 200'
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ROAD
+20
0
-20
-40
-60
+40
20 W.
18 W.
16 W.
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
24 W.
22 W.
20 W.

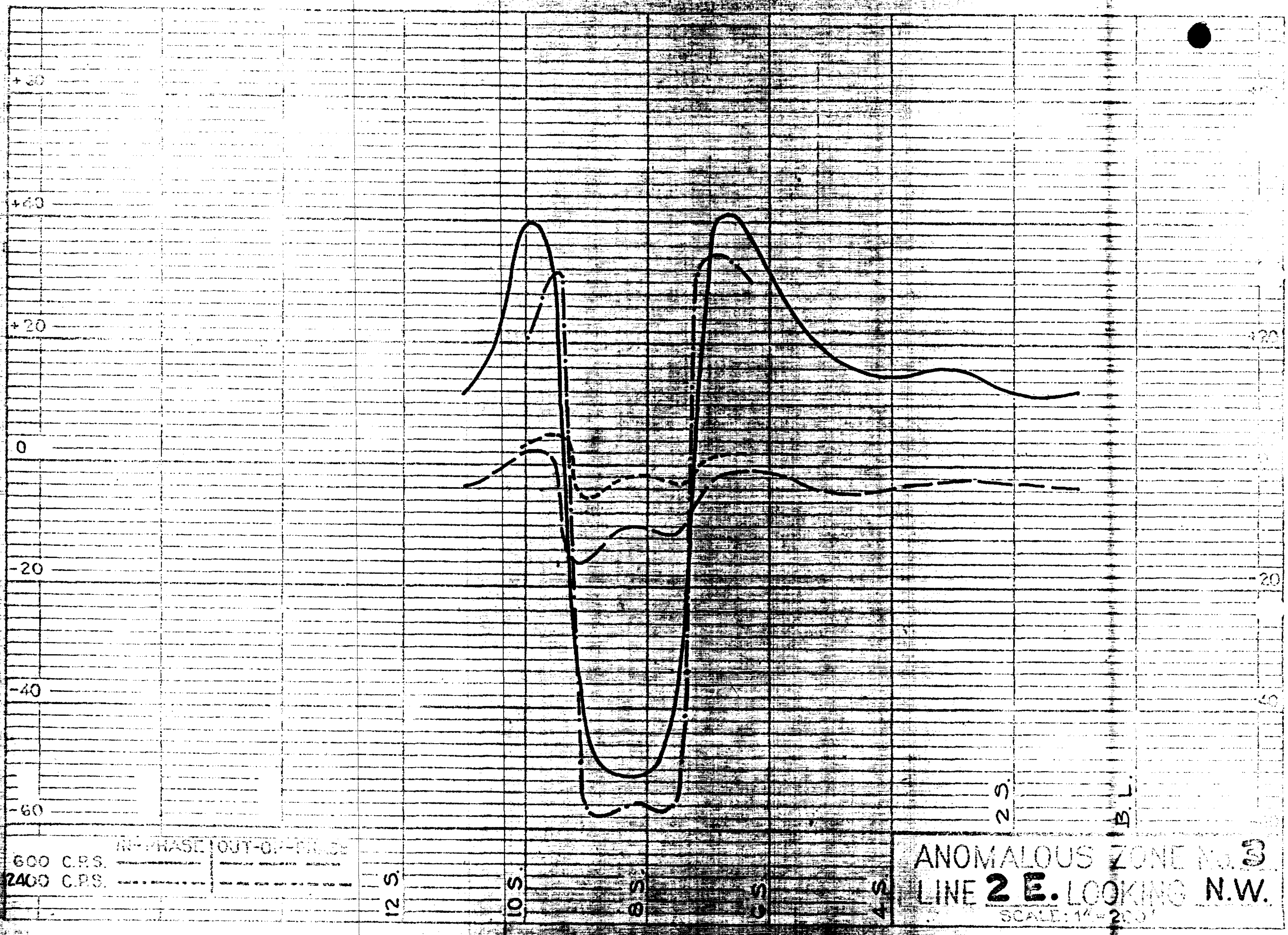

+60
+40
+20
0
-20
-40
-60
+20
0
24 W.
22 W.
20 W.
ROAD
20 W.
18 W.
16 W.
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 40 N LOOKING N.
SCALE: 1" = 200'



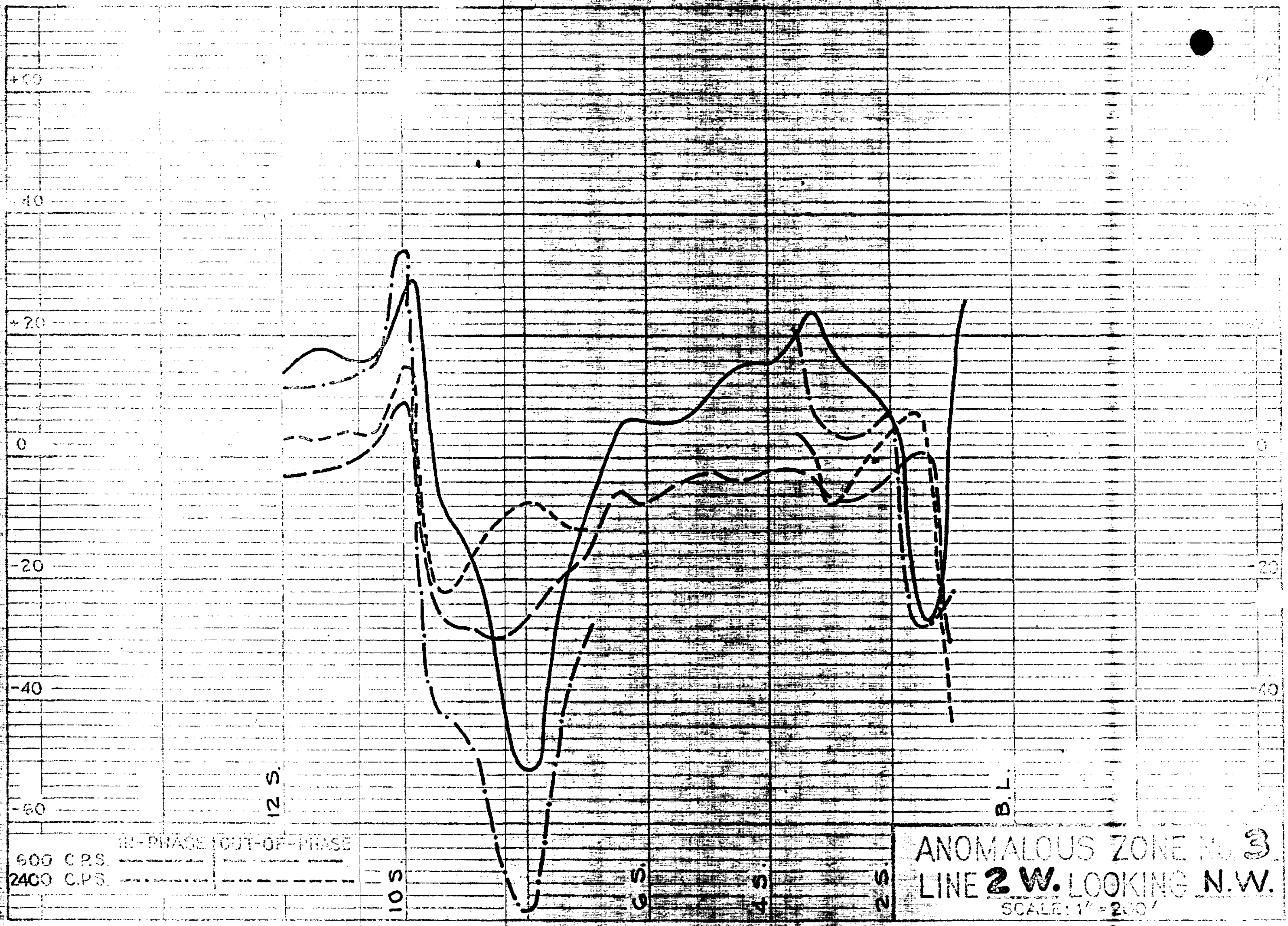
+20
+20
22 W.
20 W.
+40
0
+20
0
-20
-40
-60
20 W.
18 W.
16 W.
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B. L.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 1
LINE 44 N. LOOKING N.
SCALE: 1" = 200'


+60
+20
24 W.
22 W.
20 W.
+40
0
+20
0
-20
-40
-60
20 W.
18 W.
16 W.
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W
B.L.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 9
LINE 48 N. LOOKING N.
SCALE: 1" = 200'

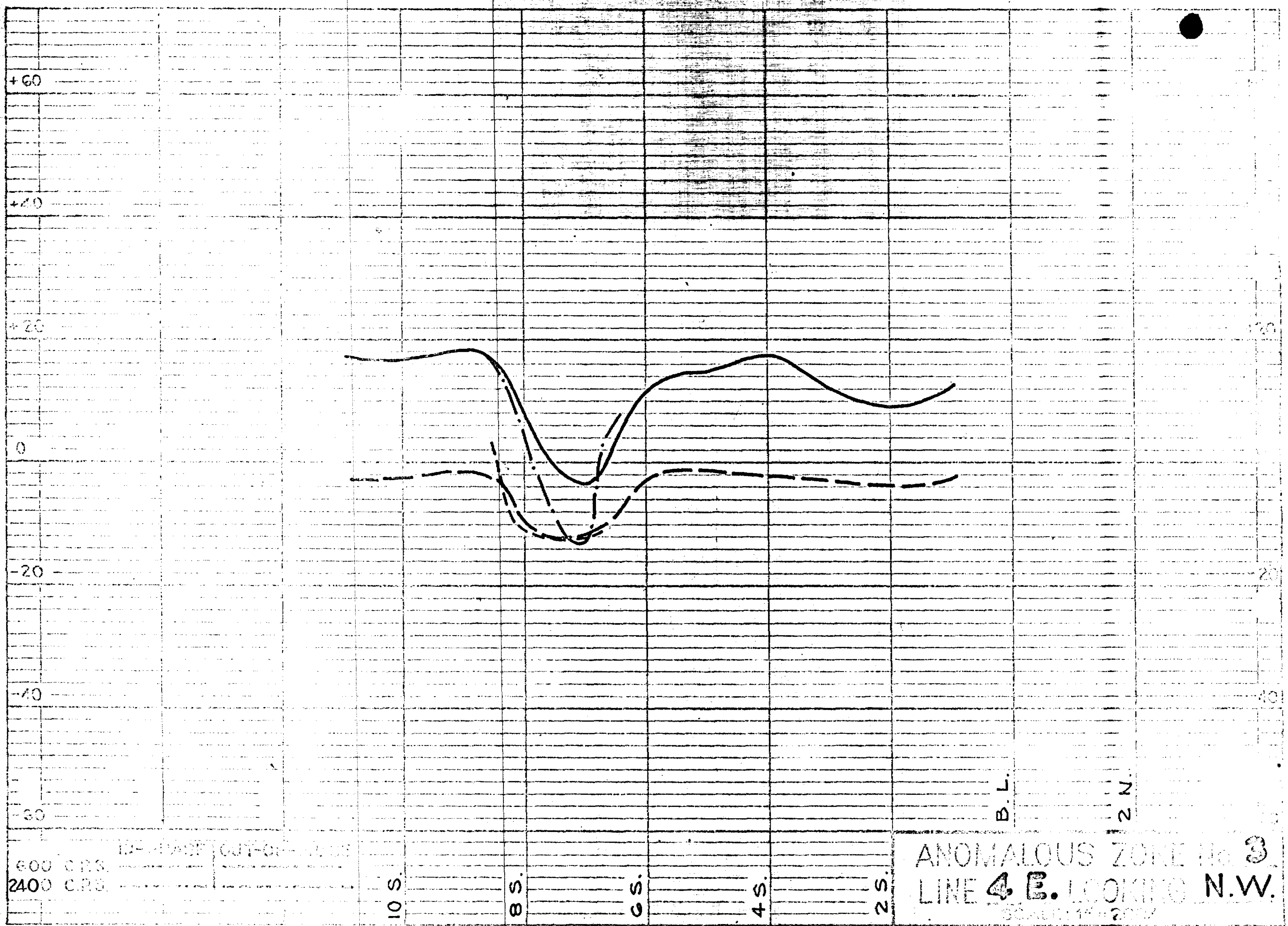

+60
+40
+20
0
-20
-40
-60
12 S.
10 S.
8 S.
6 S.
4 S.
2 S.
B.L.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 3
LINE 0+0 LOOKING N.W.
SCALE 1" = 200'



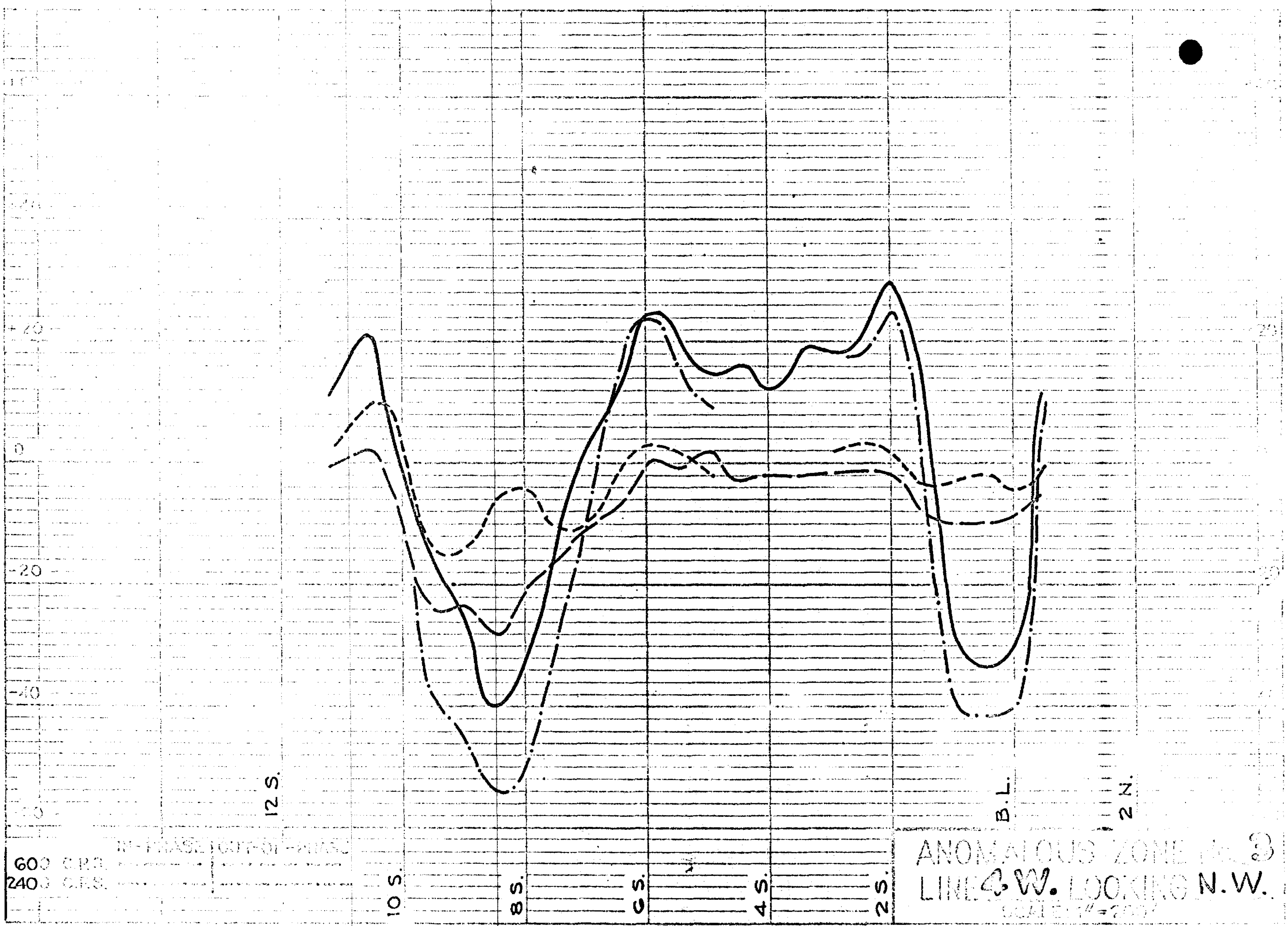
+60
+40
+20
0
-20
-40
-60
600 C.P.S.
2400 C.P.S.
IN-PHASE
OUT-OF-PHASE
12 S.
10 S.
8 S.
6 S.
4 S.
2 S.
B. L.
ANOMALOUS ZONE No. 3
LINE 2 E. LOOKING N.W.



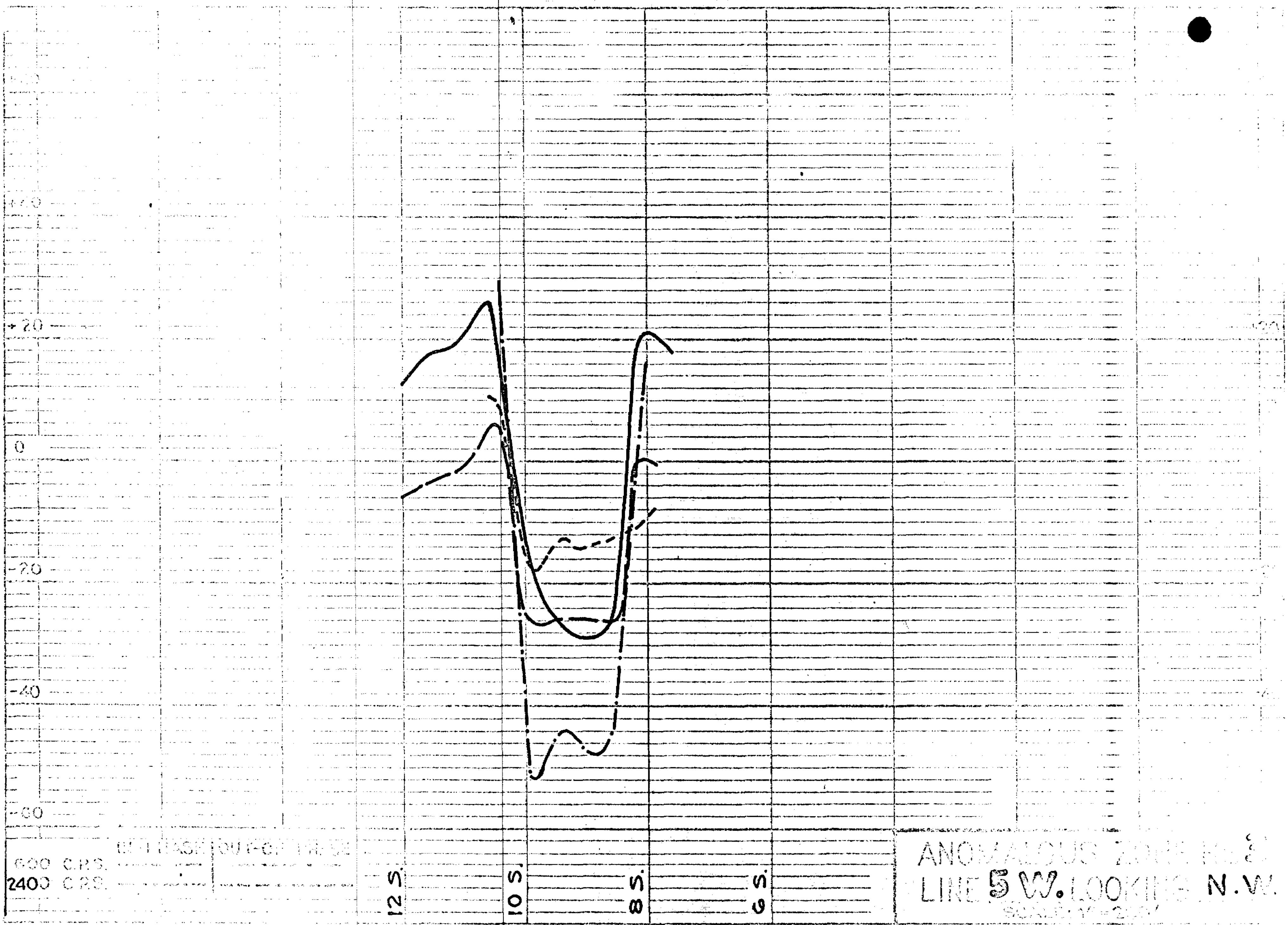
ANOMALOUS ZONE No. 3
LINE 2 W. LOOKING N.W.
SCALE: 1" = 200'

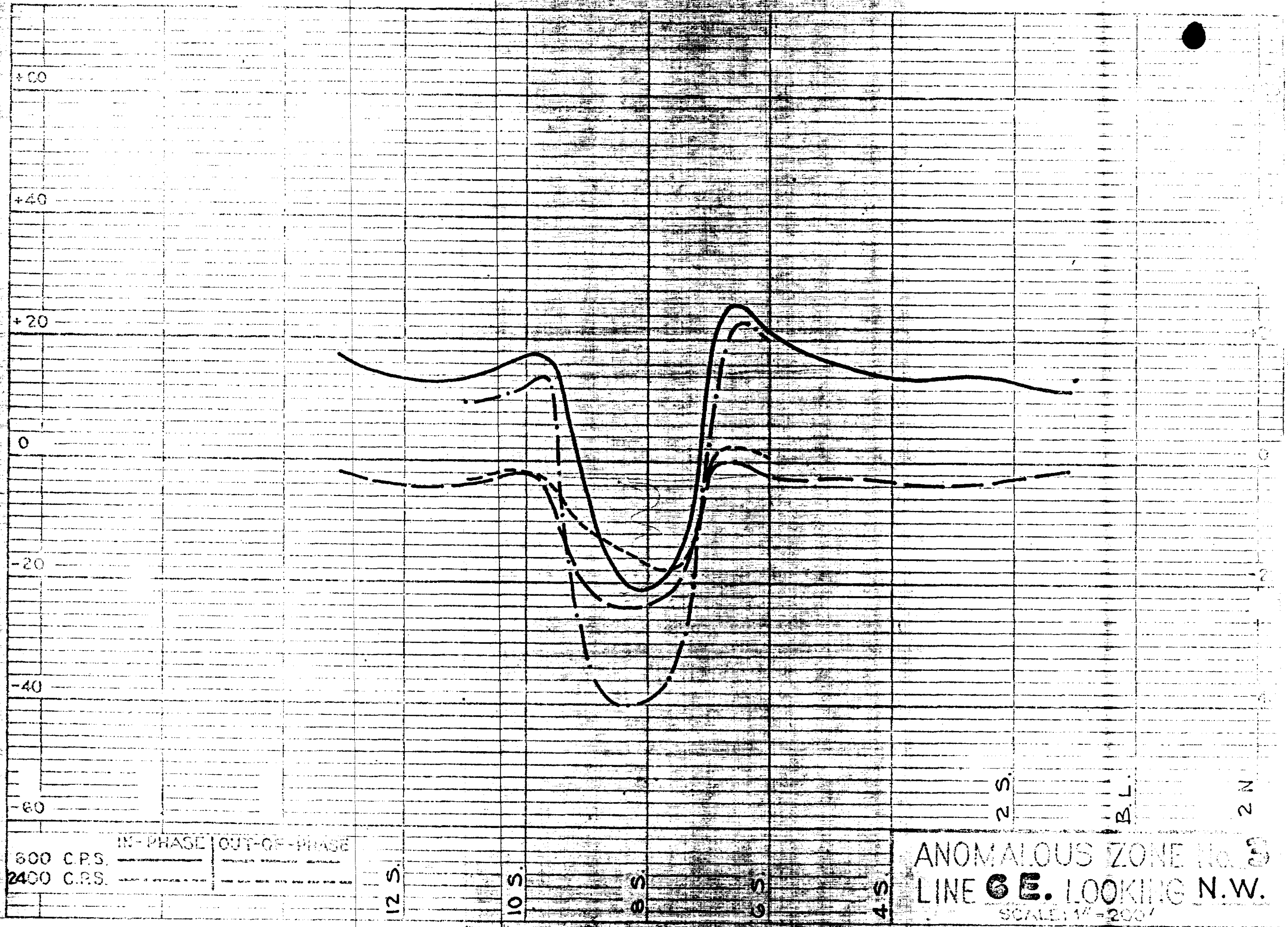


+60
+40
+20
0
-20
-40
-60
600 C.P.S.
2400 C.P.S.
10 S.
8 S.
6 S.
4 S.
2 S.
B.L.
2 N.
ANOMALOUS ZONE No 3
LINE 4 E. LOOKING N.W.

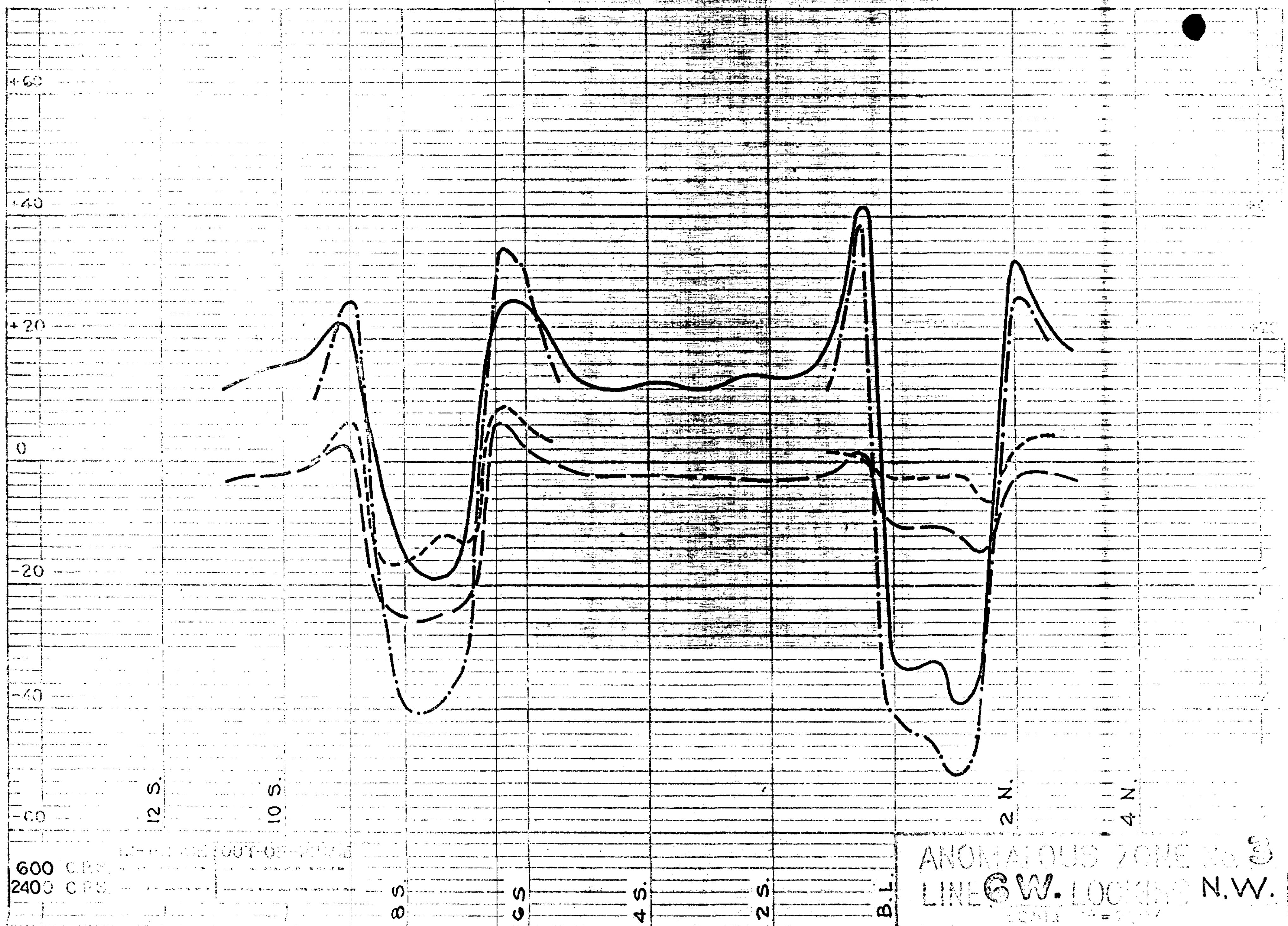


+20
0
-20
-40
12 S.
10 S.
8 S.
6 S.
4 S.
2 S.
B.L.
2 N.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 3
LINE 4 W. LOOKING N.W.

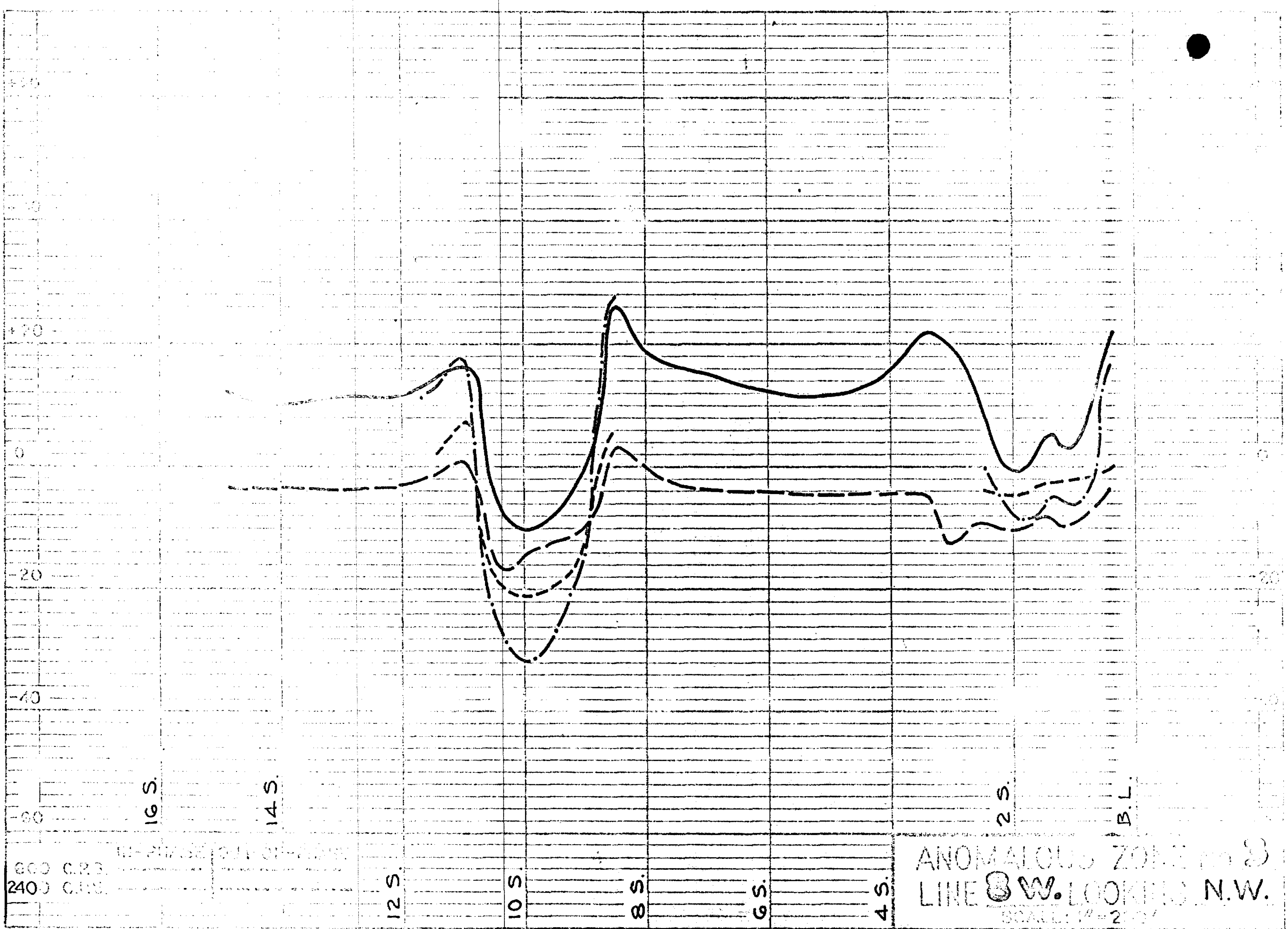

+40
+20
0
-20
-40
-60
600 C.P.S.
2400 C.P.S.
12 S.
10 S.
8 S.
6 S.
ANOMALOUS
LINE 5 W. LOOKING N.W.



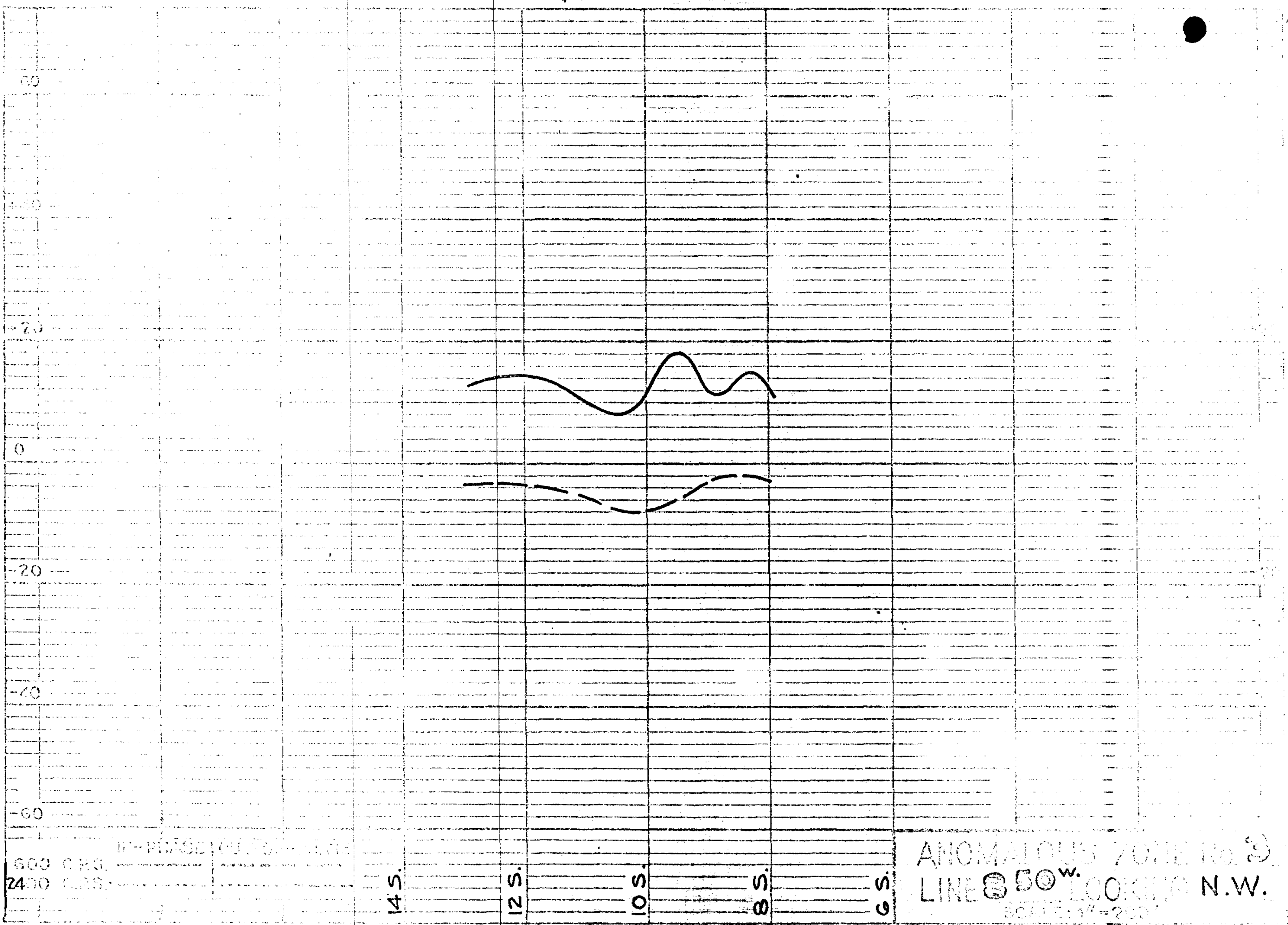
+60
+40
+20
0
-20
-40
-60
12 S.
10 S.
8 S.
6 S.
4 S.
2 S.
B.L.
2 N
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 3
LINE 6 E. LOOKING N.W.
SCALE: 1" = 200'

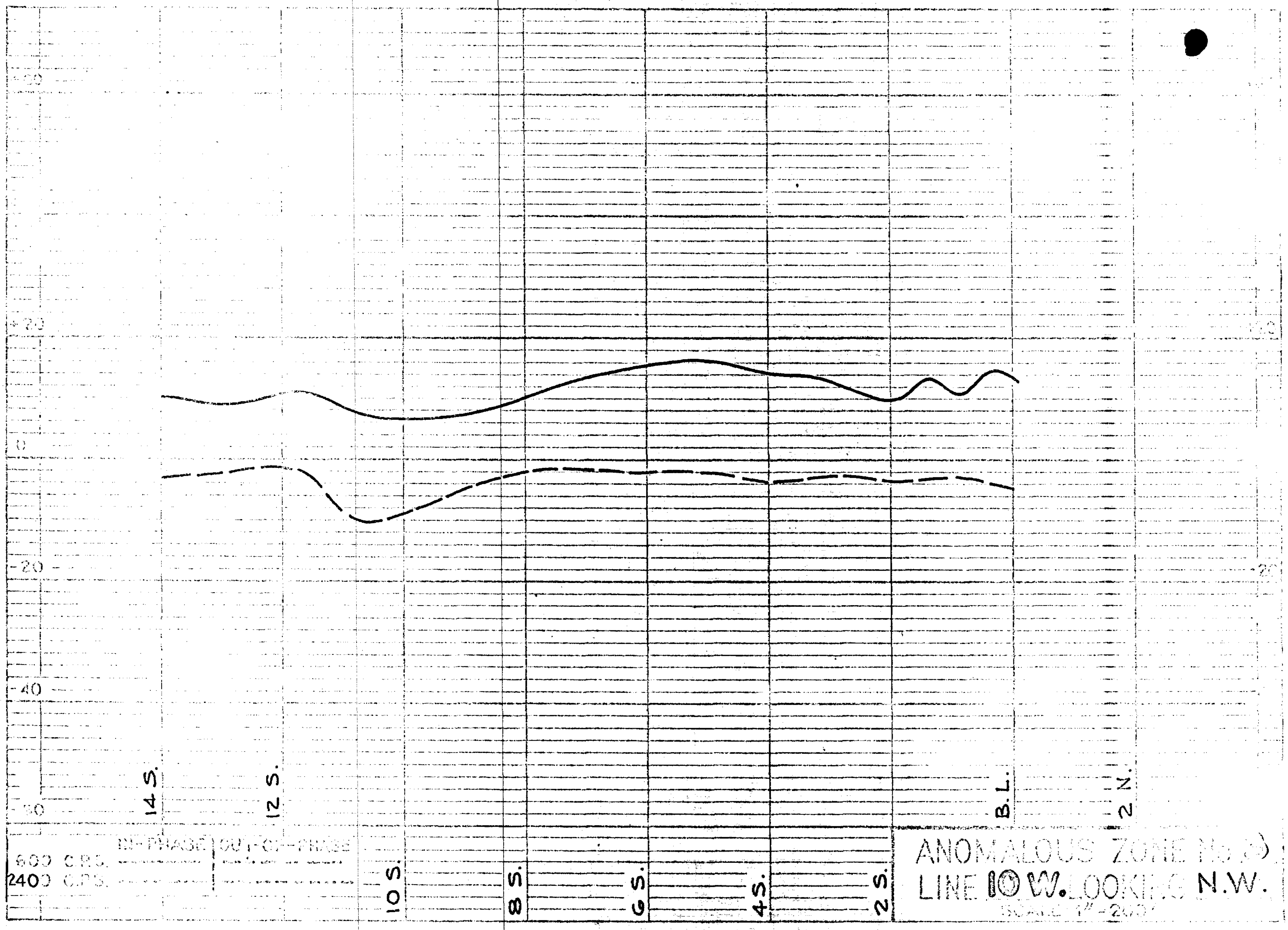


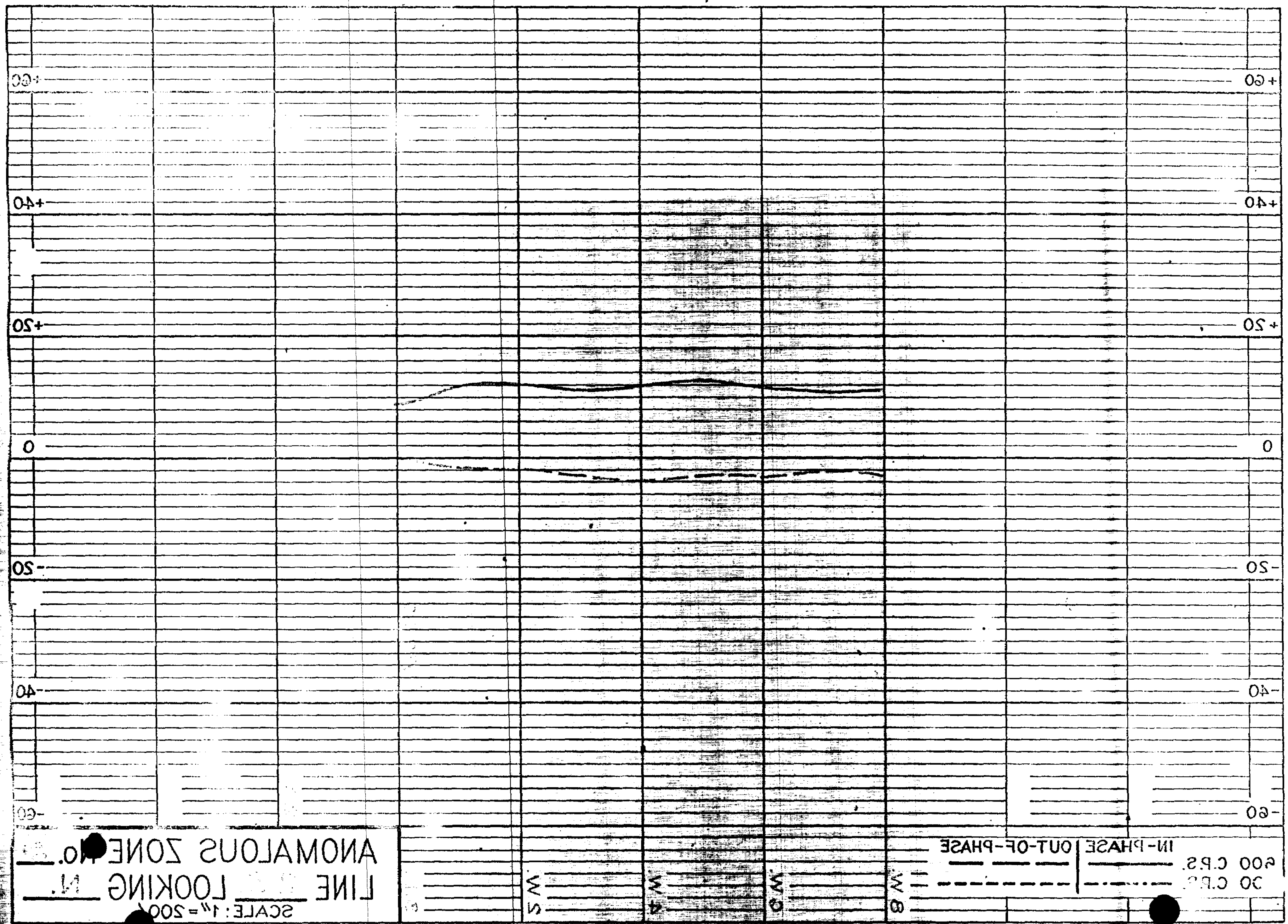
+60
+40
+20
0
-20
-40
-60
12 S.
10 S.
8 S.
6 S.
4 S.
2 S.
B.L.
2 N.
4 N.
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 3
LINE 6W. LOOKING N.W.



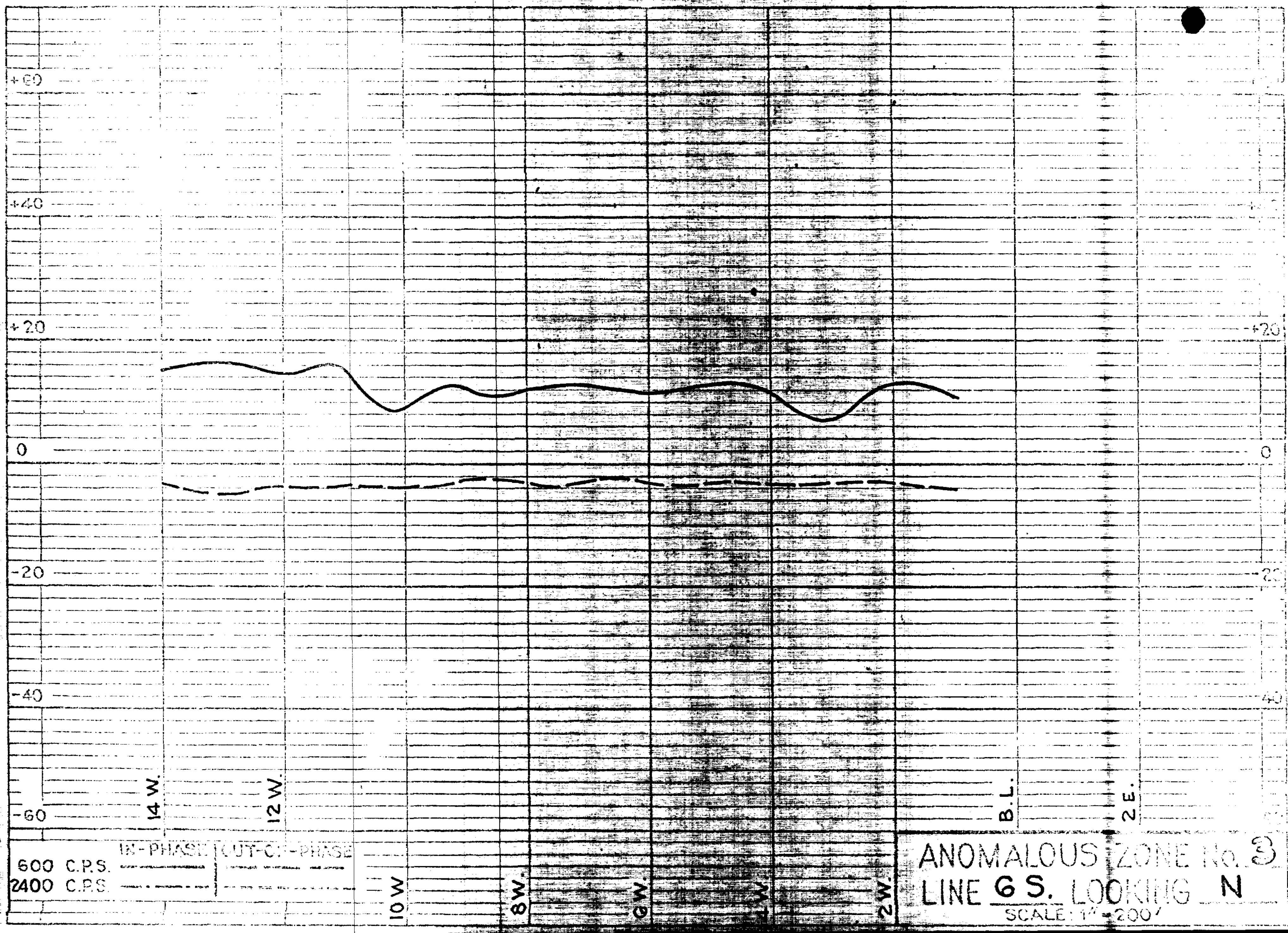
ANOMALOUS ZONE No 8
LINE 8 W. LOOKING N.W.

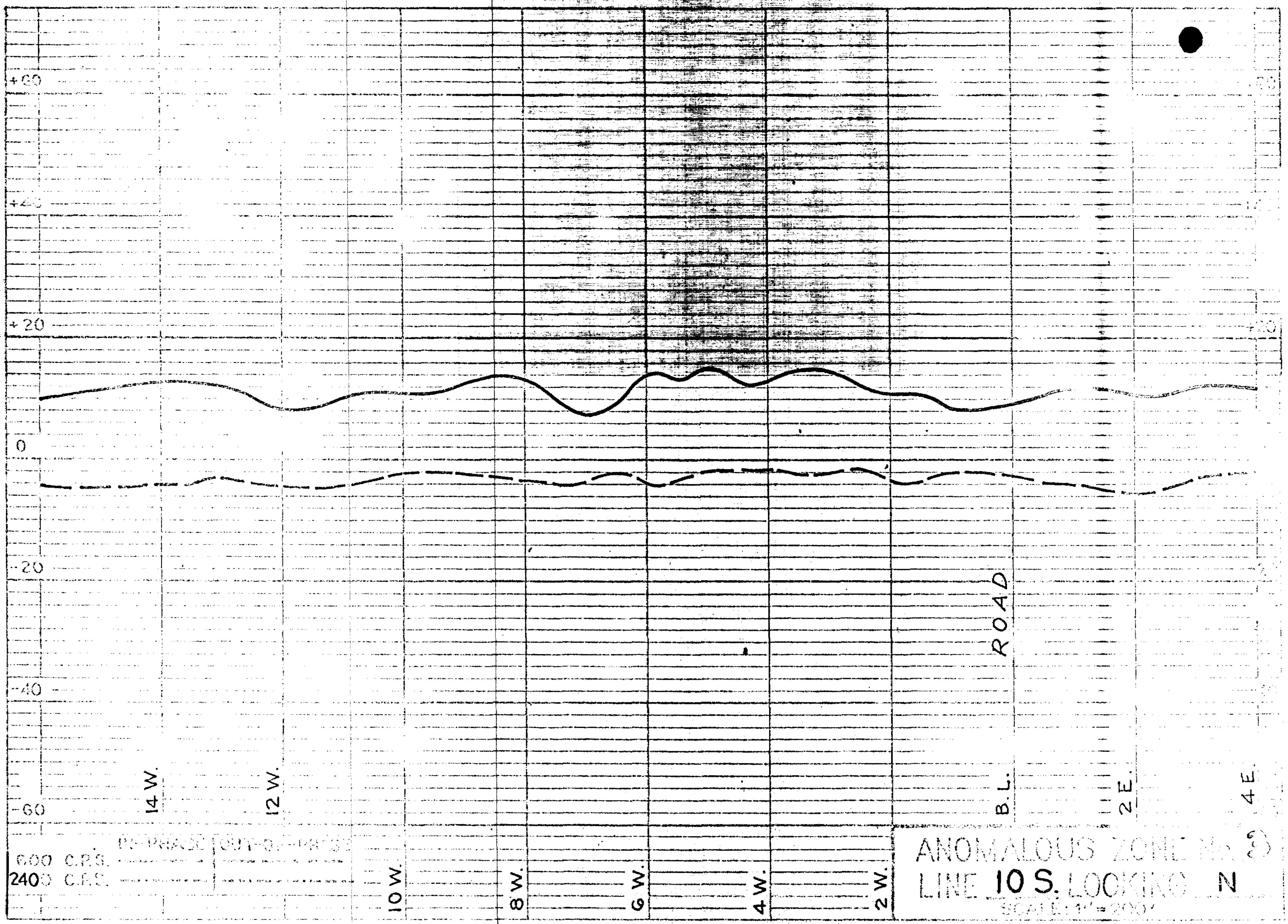

60
0
-20
-40
-60
600 C.P.S.
2400 C.P.S.
14 S.
12 S.
10 S.
8 S.
6 S.
ANOMALOUS ZONE No. 3
LINE 850W. LOOKING N.W.


+20
0
-20
-40
14 S.
12 S.
10 S.
8 S.
6 S.
4 S.
2 S.
B.L.
2 N.
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE
LINE 10 W. N.W.

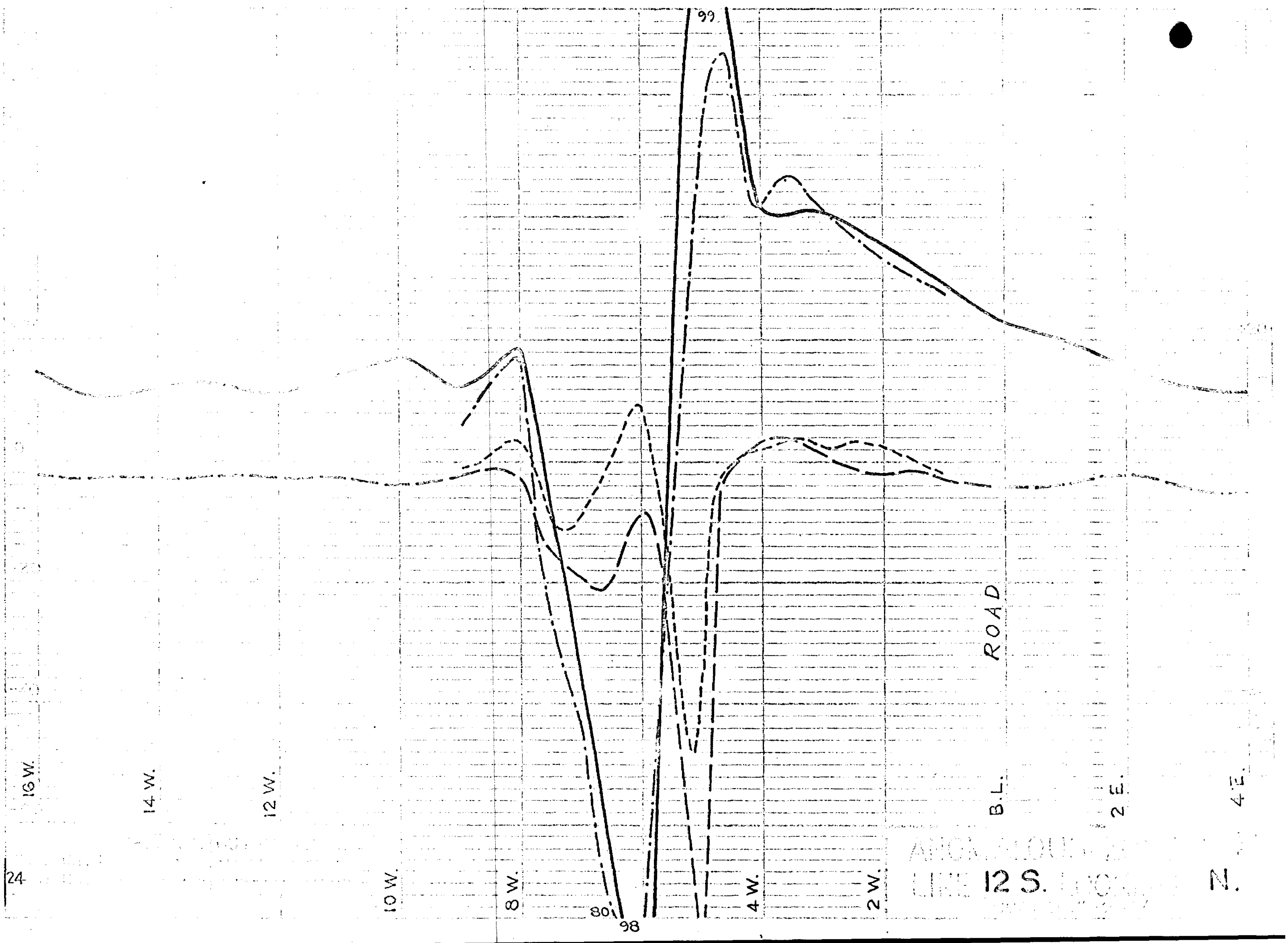


+60
+40
+20
0
-20
-40
-60
ANOMALOUS ZONE No.
LINE LOOKING N.
SCALE: 1"=200'
2W
4W
6W
8W
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
30 C.P.S.


+60
+40
+20
0
-20
-40
-60
14 W.
12 W.
10 W
8W.
6W.
4W.
2W.
B.L.
2 E.
600 C.P.S.
2400 C.P.S.
IN-PHASE
OUT-OF-PHASE
ANOMALOUS ZONE No. 3
LINE 6 S. LOOKING N
SCALE: 1" = 200'



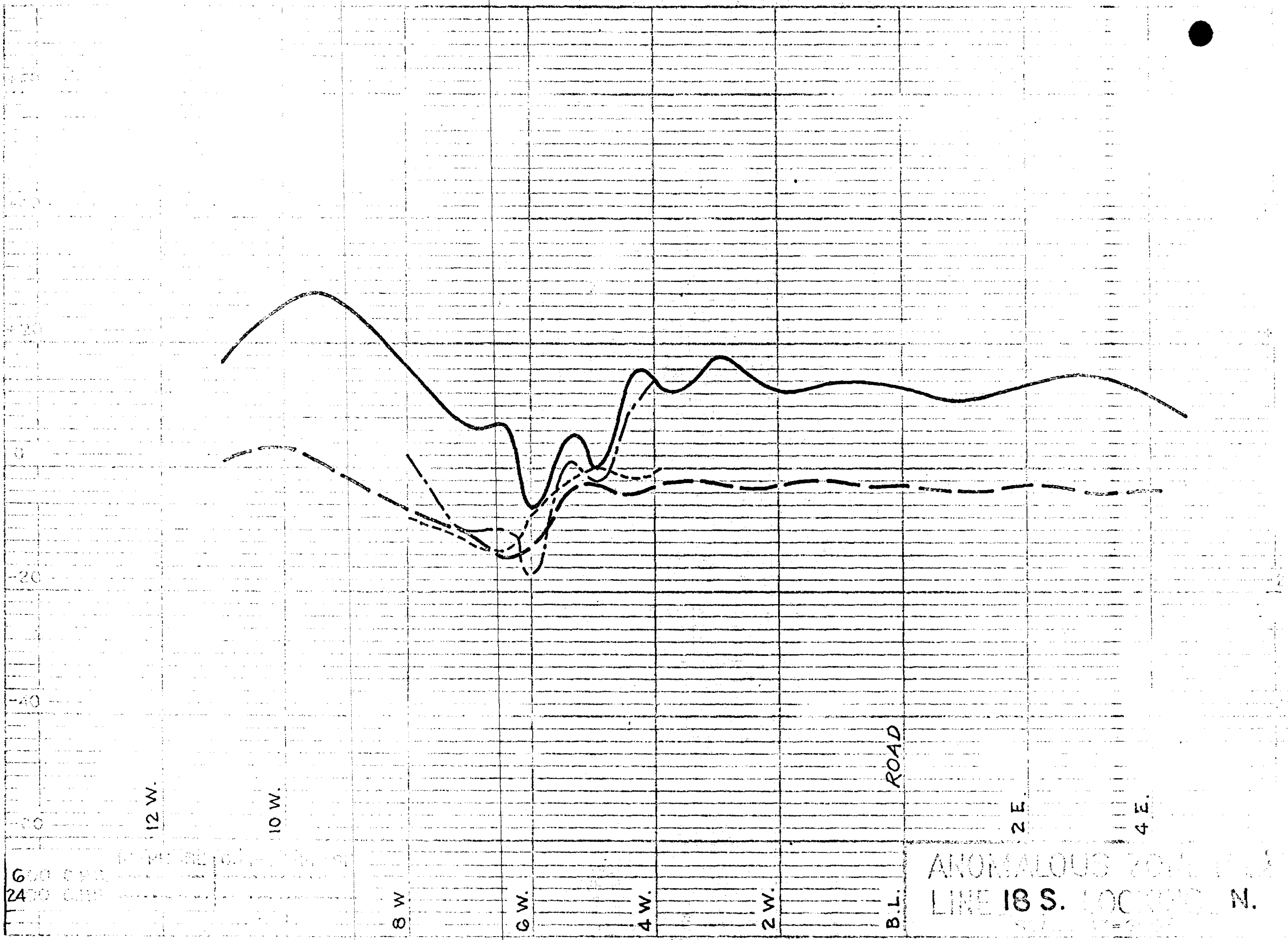
+60
+40
+20
0
-20
-40
-60
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
2 E.
4 E.
ROAD
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 3
LINE 10 S. LOOKING N
SCALE: 1" = 200'



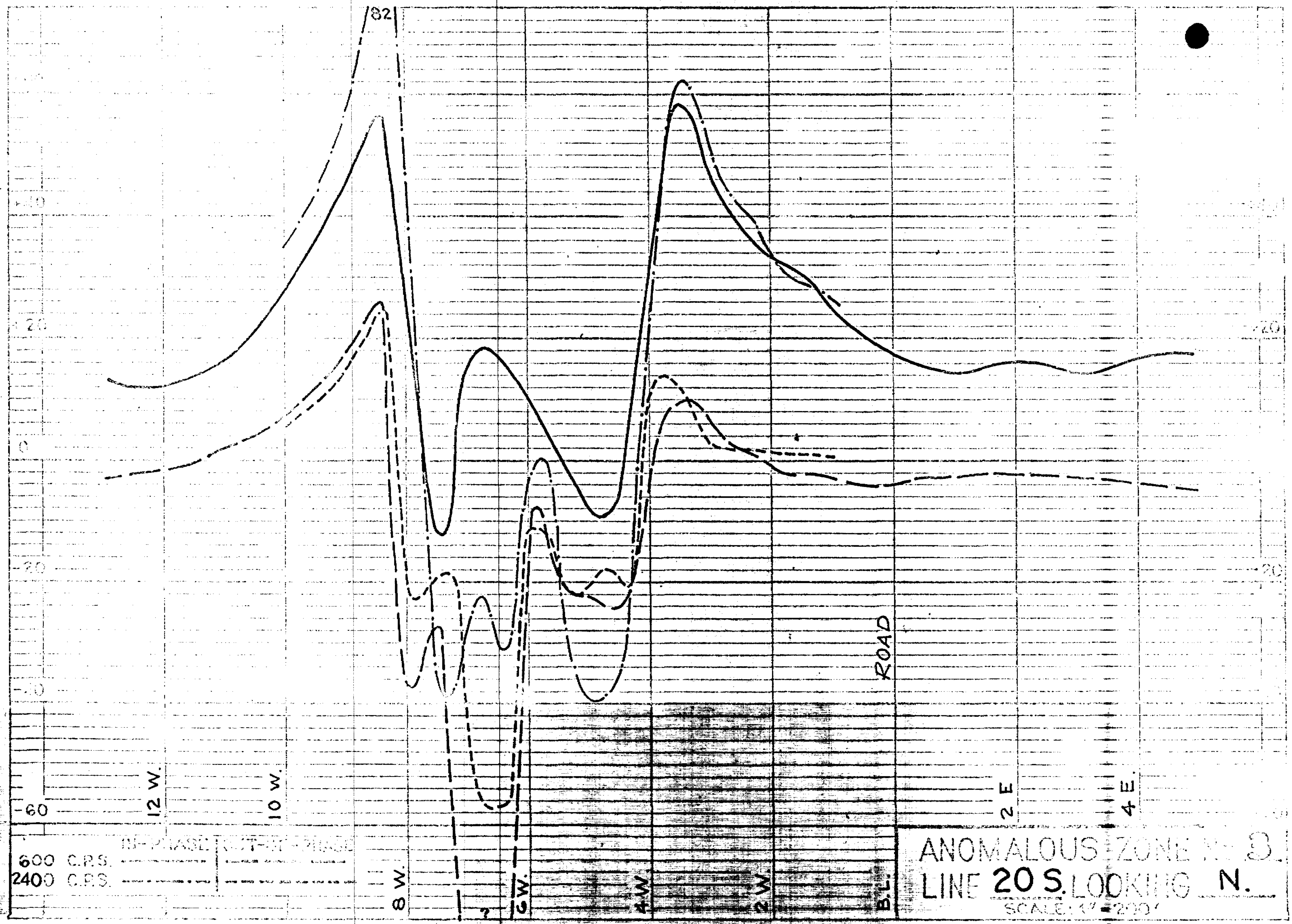
99
16 W.
14 W.
12 W.
10 W.
8 W.
4 W.
2 W.
B.L.
2 E.
4 E.
ROAD
80
98
24
12 S.
N.

+20
0
-20
-40
-60
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
ROAD
2 E.
4 E.
6 E.
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE
LINE 14 S. LOOKING N.

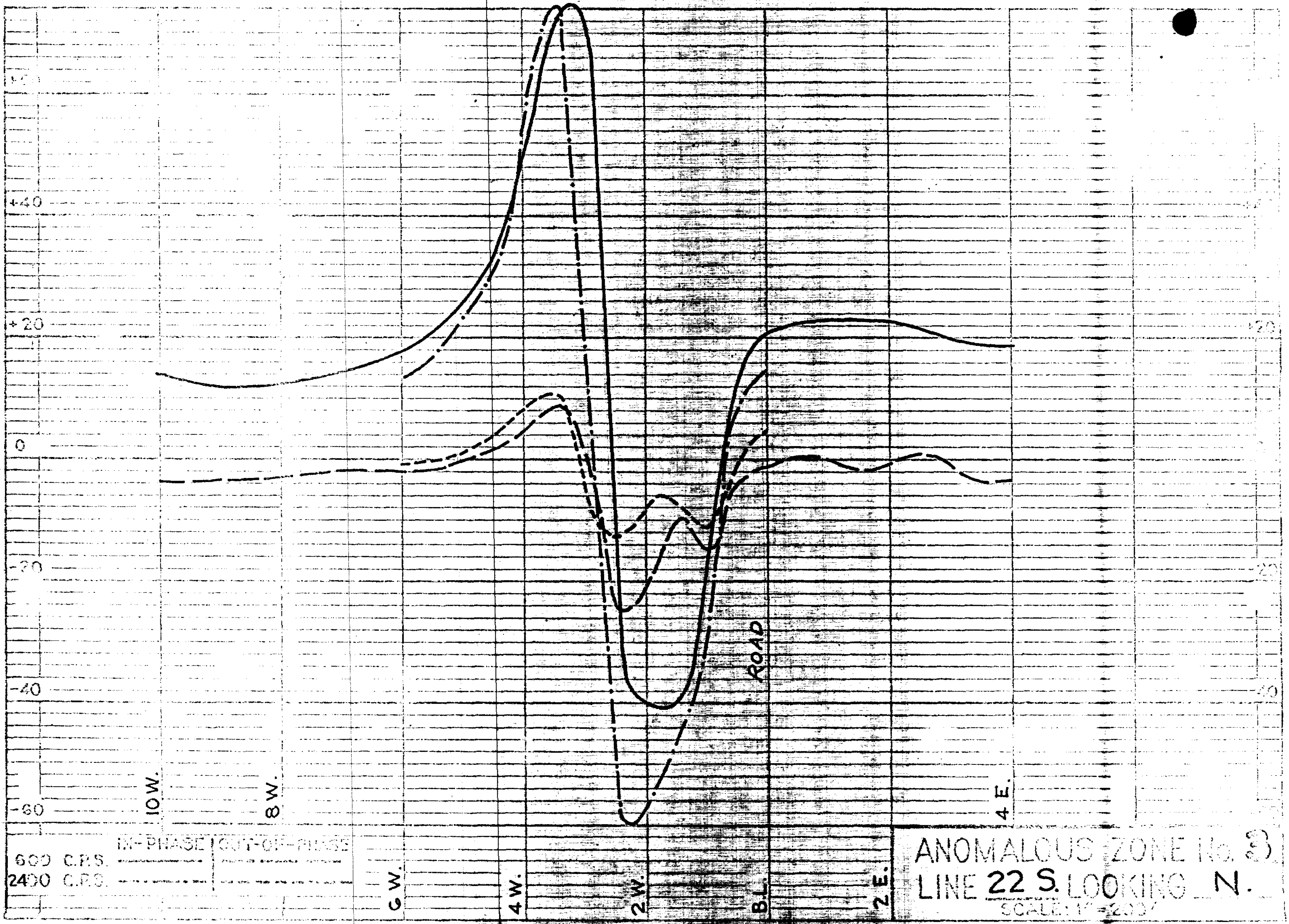
+60
+40
+20
0
-20
-40
-60
+20
0
14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
2 E.
4 E.
ROAD
600 C.P.S.
C.P.S.
ANOMALOUS ZONE
LINE 16 S. LOOKING N.



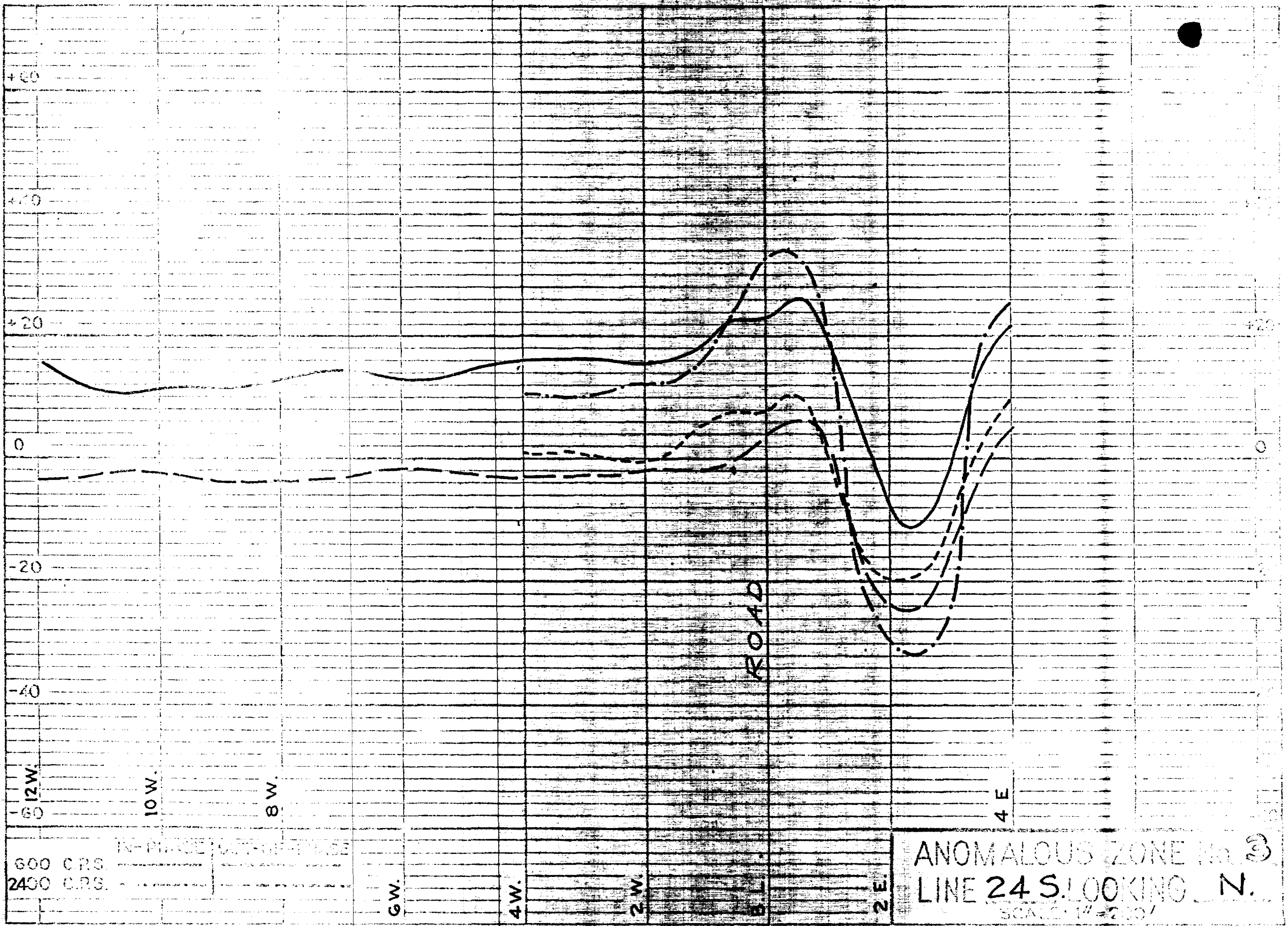
20
0
-20
-40
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
ROAD
2 E.
4 E.
6
24
ANOMALOUS
LINE 18 S.
N.

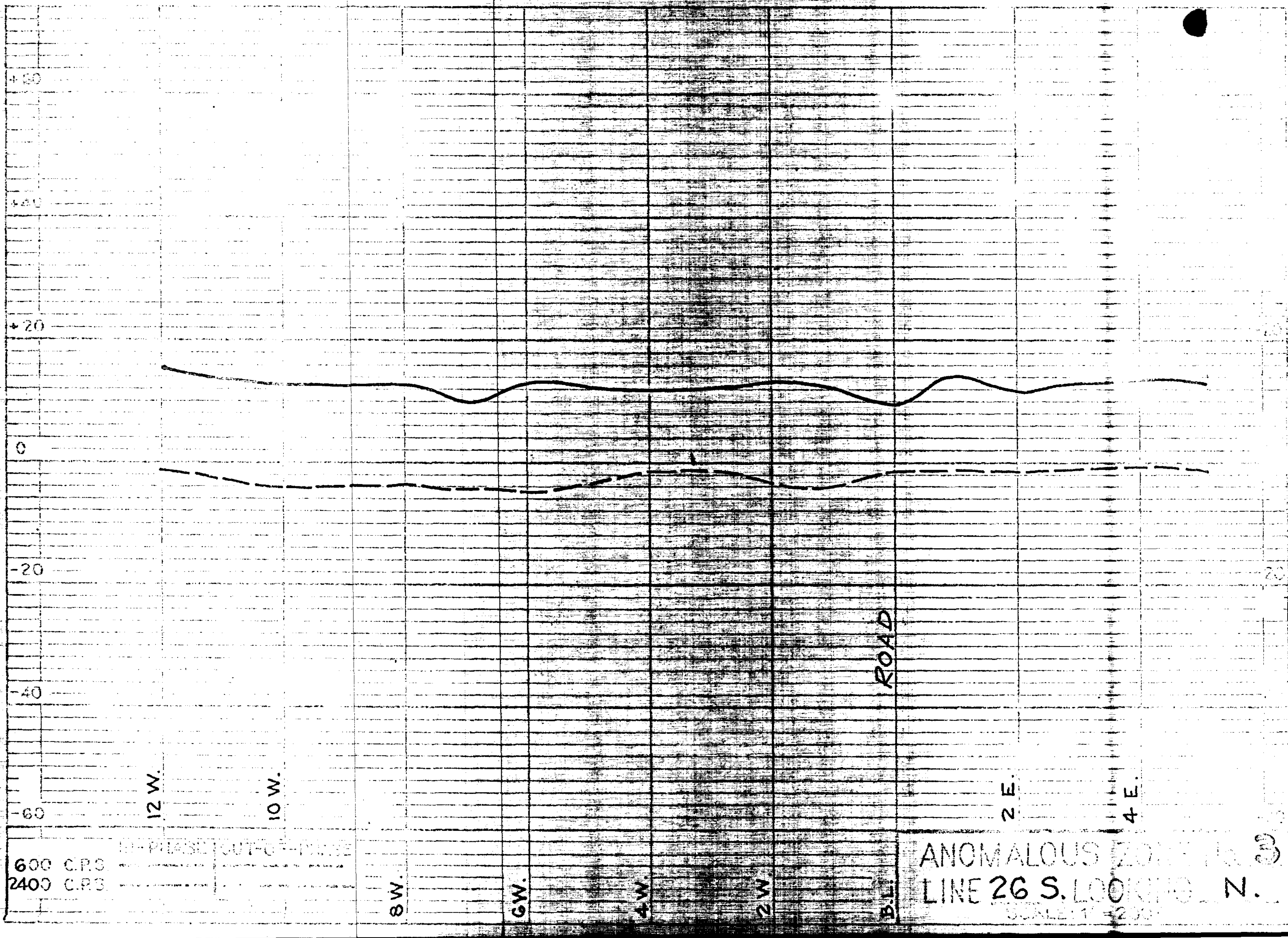


82
+20
0
-20
-60
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
2 E
4 E
ROAD
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 8
LINE 20 S. LOOKING N.

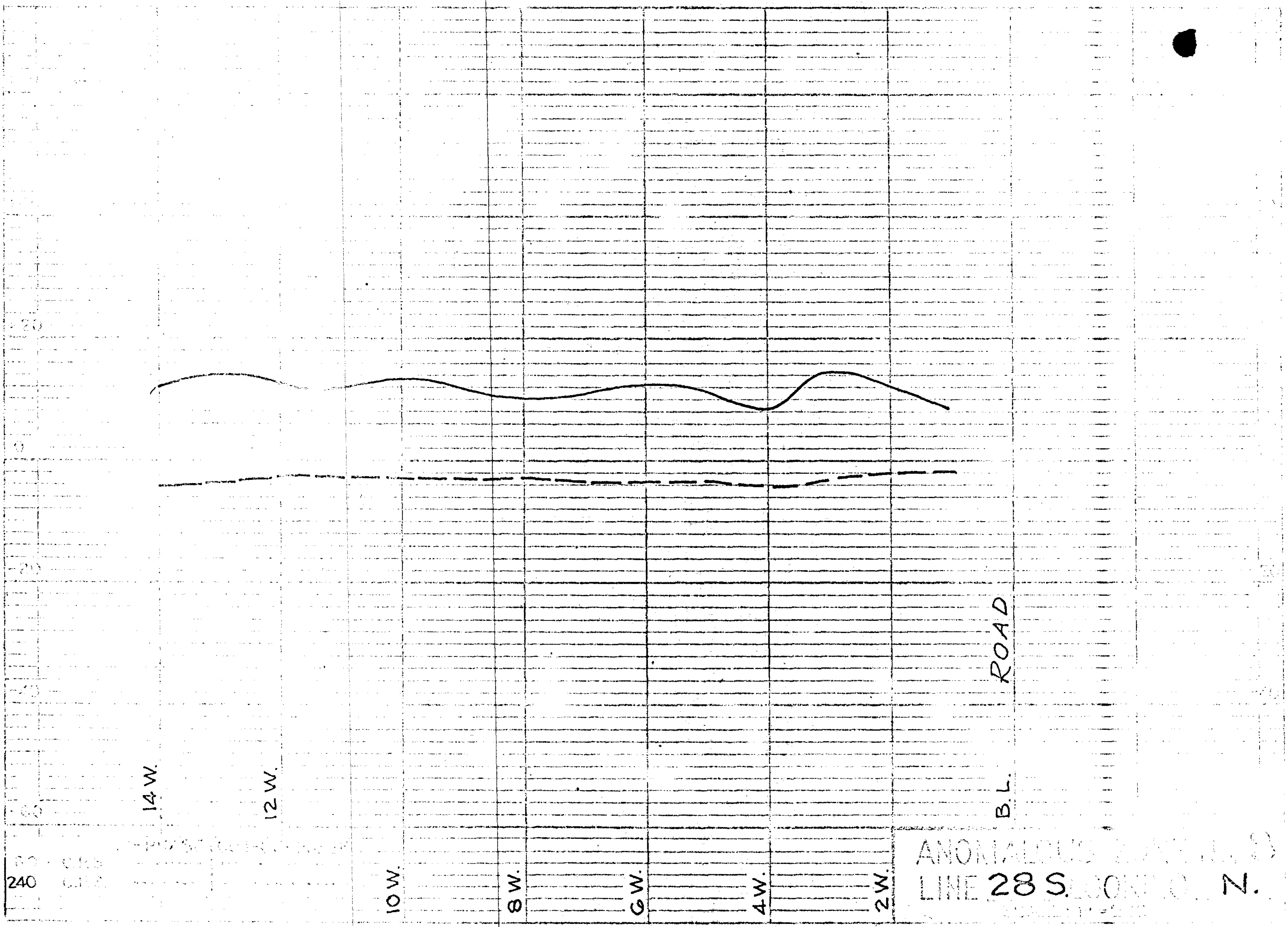


+40
+20
0
-20
-40
-60
10W.
8W.
6W.
4W.
2W.
B.L.
2E.
4E.
ROAD
IN-PHASE
OUT-OF-PHASE
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 3
LINE 22 S. LOOKING N.

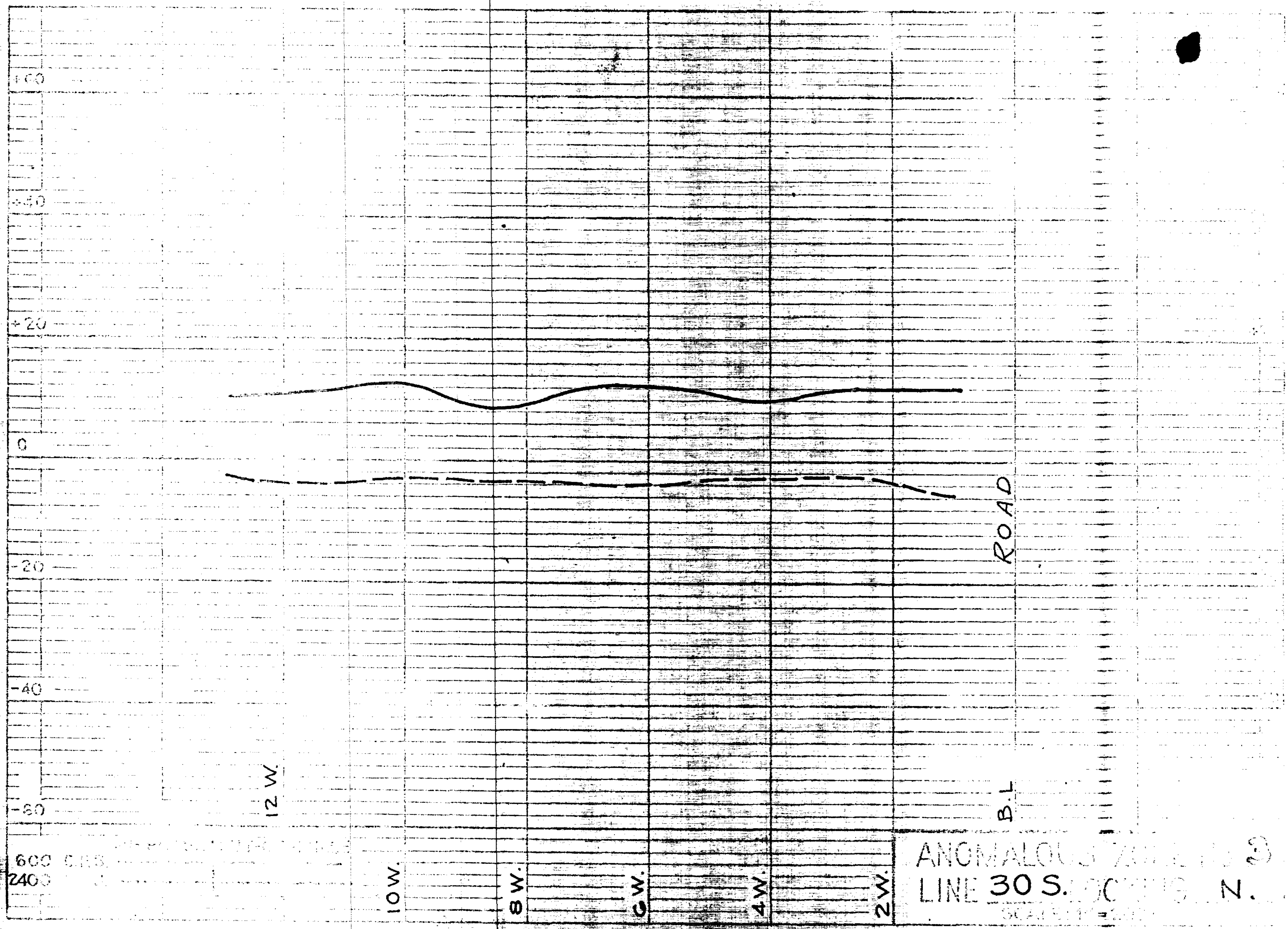

+60
+40
+20
0
-20
-40
-60
12W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
2 E.
4 E
ROAD
600 C.P.S.
2400 C.P.S.
ANOMALOUS ZONE No. 3
LINE 24 S. LOOKING N.



+20
0
-20
-40
-60
12 W.
10 W.
8 W.
6W.
4 W.
2 W.
B.L.
ROAD
2 E.
4 E.
600 C.P.S.
2400 C.P.S.
ANOMALOUS
LINE 26 S.
N.



14 W.
12 W.
10 W.
8 W.
6 W.
4 W.
2 W.
B.L.
ROAD
240
ANOMALOUS
LINE 28 S.
N.



+40
+20
0
-20
-40
-60
12 W.
10W.
8 W.
6 W.
4 W.
2 W.
B.L.
ROAD
LINE 30 S.
N.

REPORT ON
AIRBORNE GEOPHYSICAL SURVEY
OF THE
JOE LAKE AREA,
ONTARIO AND QUEBEC,
FOR
CANADIAN JAVELI

32E04SE0024 63.1981 ADAIR

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I. INTRODUCTION

This report pertains to the combined airborne EM and magnetometer survey flown on behalf of Canadian Javelin Limited over a block of ground on the Ontario-Quebec border north of Lake Abitibi. Most of the block lies in Adair, Abbotsford and Hepburn Townships of the Province of Ontario, with only a small portion extending over the provincial boundary into Quebec. The survey was flown May 5, 1965 by the Canadian Aero Mineral Surveys Limited geophysically equipped Otter aircraft (registration CF-IGM) based at Macamic.

The flight lines were oriented east-west and were spaced at 1/8 mile intervals. The geophysical data acquired totalled 200 line miles. The mean terrain clearance of the aircraft during survey was approximately 150 feet.

Canadian Aero Mineral Surveys Limited personnel associated with the project were as follows:

G. A. Curtis	-	Project Manager
Dale Smith	-	Pilot
D. J. Sarazin	-	Navigator
D. Graham	-	Operator
R. Sarsfield	-	Aircraft Engineer
G. Granger	-	Data Compiler
A. Martin	-	Draftsman
P. Tallyhoe	-	Data Chief

The project was supervised by A.R. Rattew, P.Eng., author of this report.

The EM data are presented on a plan map at the scale of 1 inch equals ½ mile. An uncontrolled airphoto mosaic served as the base for this map.

Appendix I is a complete listing of all EM anomalies detected.

Appendix II describes the equipment, the records, the survey and map compilation procedures, and the data presentation system.

II. GEOLOGY

The majority of the survey area is covered by the Ontario Department of Mines map 2025 contained in Geological Report No. 14. The map is published at the scale of 1 inch equals ½ mile.

The survey block samples part of the belt of Adair metavolcanics, which is presumed to be the belt which contains the Normetal Mine, a few miles to the east. The indicated strike of these rocks ranges between east-west and northwest-southeast. In composition the volcanics range from acidic through basic and several different rock divisions are recognized within the volcanic assemblage.

To the south the Adair volcanics are flanked by an assemblage of metasediments. To the north they are in contact with the Mistawak batholith, an acidic intrusive complex. Near the provincial boundary the volcanic belt is split by another acidic intrusive, the Patton River pluton.

Several sulphide showings are reported in the area, all consisting of disseminated and stringered pyrite and pyrrhotite with low values.

III. GEOPHYSICAL RESULTS

Seven conductors have been located, all in the western third of the survey area.

Conductors 1 through 6 are all interpreted as bedrock conductors, and all are considered prospects for massive sulphide mineralization. Of these conductors, all but number 5 have directly coincident magnetic anomalies suggesting a pyrrhotite content. The strongest EM anomalies are in zones 1 and 3, so this is where the largest concentrations of sulphides should be expected.

It is interesting that the strike of conductors 1 and 3 is about north-south which does not appear to be concordant with the northwest-southeast strike of the volcanics in this vicinity. The strike of the shorter conductors 2, 4, 5, and 6 cannot be established.

All of these conductors, 1 through 6, occur in the vicinity of outcropping acidic volcanics. Tuffs are prevalent in these acidic volcanics and it is possible that graphitic tuffs are responsible for some of the EM anomalies. However, if this were the case, we would expect the conductors to be concordant. Zone 1 contains two or more parallel conductors on some lines which could be interpreted as an indication of graphite. On the other hand, conductors 2, 3, and 6 occur very close to sulphide showings. Conductors 1 through 6 all merit careful ground examination.

Note that in zone 1 the correlation of anomalies from line 6 to line 7 is uncertain. While anomaly 7A seems to "line up" well with the anomalies to the north, the character of anomaly 7B is very similar to that of 6B and this correlation is tempting.

Note also that the northernmost anomaly in zone 3 is a weak questionable feature, as is the northern anomaly in zone 4.

Conductor 7 is indicated by weak out-of-phase anomalies on three lines. It is interpreted as a probable surface conductor, although it is sufficiently narrow that the source could be a weak conductor within the bedrock. Tuffaceous rocks are mapped nearby and the conductor appears to parallel the strike of the volcanics, so if it were a bedrock conductor a weak graphitic tuff would be the most probable source.

Several weak, questionable, single-line anomalies have been included on the map. Of these, anomalies 1A, 1B and 5B may be "cultural" anomalies resulting from man-made conductors. Anomalies 5C and 10B are probably noise effects. Anomaly 19A, although very weak, has a somewhat better chance of being a legitimate EM response.

IV. RECOMMENDATIONS

Conductors 1 through 6 are all recommended as prospects for massive sulphide mineralization, warranting careful ground examination. Conductor 3 is the best of the prospects, with strong, clean anomalies on three lines and an exceptionally strong response on line 11. Zone 1 is the next best but the conductor multiplicity in this zone may be considered somewhat discouraging.

Conductor 7 is interpreted as a surface conductor or at best, a weak graphitic zone, and no followup is recommended.

In a "saturation" exploration programme the best of the questionable anomalies would require examination. These are 1A, 1D, 5D, and 19A.

Respectfully submitted,

A. R. Rattew, P.Eng.,
Geophysicist.

OTTAWA, Ontario,
June 29, 1965.

APPENDIX I

PROJECT NO. 5060 - JOE LAKE AREA

Anomaly	Fiducials	In-Phase Quad	Altitude	Magnetics	Rate	Comments
1 A	2926/9	-/40	135	Dir. 25g	x	Possible cultur
1 B	2767/70	20/30	135	nil	x	
2 A	3178/81	20/30	135	nil	x	Possible cultur
3 A	8879/82	200/180	135	nil	2B	
4 A	9432/5	150/280	140	Dir? 120g	2A	
5 A	9473/6	180/100	135	Dir.W 30g	2A	Double
5 B	9482/5	20/20	135	Dir. 40g	x	Noise probable
5 C	9619/22	30/30	135	E.Flank 200g	x	Poor character
6 A	0020/4	120/80	140	Dir. E 78g	3	Multiple
7 A	0063/6	20/80	140	nil	3	
7 B	0068/71	60/70	125	Dir. E 25g	3	Double
9 A	0565/8	40/20	140	nil	x	Poor character, Possible cultur
10 A	1161/4	250/180	135	Dir. 320g	2A	
10 B	1148/50	30/-	155	nil	x	Possible turbulence noise
11 A	1245/8	1000/500	135	Dir? 400g	1A	
11 B	1257/60	20/30	150	Dir.300g	3	Weak
12 A	1738/41	320/320	130	W.Flank 200g	2B	
13 A	1830/3	40/40	150	E.side 70g	3	Weak
13 B	1841/4	70/100	150	Dir.35g	3	Double
16 A	2864/7	-/50	155	W.side 30g	x	Poor character, Prob. surface conductor
16 B	2823/6	70/-	150	nil	x	Turbulence nois probable

APPENDIX I

PROJECT NO. 5060 - JOE LAKE AREA

Anomaly	Fiducials	In-Phase Quad	Altitude	Magnetics	Rate	Comments
17 A	3016/21	-/40	140	nil	3	Probable surface conductor
18 A	3436/41	-/40	140	nil	3	Probable surface conductor
19 A	3532/4	-/40	135	E.Flank 70g	x	Very weak

APPENDIX II

A. EQUIPMENT

The electromagnetic unit and the magnetometer are the key instruments in the Canadian Aero Mineral Surveys Limited Otter survey system. The remainder of the equipment consists of a radio-altimeter, a scintillation counter, an accelerometer, a continuous-strip camera, two recorders and a fiducial numbering system.

The EM unit is the low frequency (320 c.p.s.) in-phase/out-of-phase system designed by Mullard Ltd. of England and operated formerly by Riocanex. The transmitting and receiving coils are mounted on the wingtips of the Otter, with a vertical coplanar orientation and a separation of 61 feet. An electronic null device is adjusted so that in the absence of a conductor within the range of the system no signal is recorded. The anomalous signal is divided into two components, the "in-phase" component having the same phase as the transmitted field and the "quadrature" or "out-of-phase" component being at right angles to it. These two measurements are recorded on two channels of the six-channel recorder.

Variations in the total magnetic field of the earth are measured by the Elliott electron-beam tube magnetometer mounted in the aircraft. This instrument was designed by Elliott Brothers (London) Ltd. Anomalies as small as 10-15 gammas can normally be distinguished. The output of the magnetometer is presented as one channel on the six-channel recorder to facilitate correlation with the EM traces. It is also presented at a larger scale and in rectalinear form on a separate recorder, these recordings being used in the preparation of isomagnetic contour maps whenever they are required.

An APN-1 radio altimeter provides a terrain clearance profile on one channel of the six-channel recorder. Because EM response decays rapidly with increasing altitude this altitude information is important in the analysis of the EM data.

A vertical accelerometer mounted in the aircraft provides a record of the air turbulence and of any drastic manoeuvres of the aircraft. The accelerometer trace on the six-channel recorder is often helpful in recognizing spurious blips on the EM traces caused by air turbulence on drastic manoeuvres.

Nuclear Enterprises Mark VI-A scintillation counter in the aircraft records gamma radiation from the land surface. This record can be used as auxiliary location information since outcrop, overburden-covered areas and swamps are readily distinguishable by their radiation levels.

The entire flight path is photographed by a vertically-mounted Aeropath 35 mm. continuous-strip camera.

The six-channel recorder is a Brush curvilear unit. It is normally operated at a paper speed of 2 mm. per second. The magnetic data is also recorded on a six-inch Texas Instruments Rectalinear recorder.

Synchronization of the film strip with the two recorders is accomplished by means of an automatic fiducial numbering system which prints simultaneous time markers on all three records at regular time intervals, normally every ten seconds.

B. DESCRIPTION OF RECORDS

Rectalinear Magnetic Record

With the chart oriented so that fiducial numbers increase from right to left, upward deflections on the chart indicate increases in the total magnetic field of the earth. At the normal setting (300 scale) the smallest division on the chart is approximately equivalent to 12 gammas. When the record "steps" a change of approximately 400 gammas is indicated. Two other scales are available to accommodate areas of large magnetic relief. On the "600" scale 1 small division is 40 gammas and a step is equivalent to 1200 gammas. On the "1200" scale 1 division is 120 gammas and a step is 3600 gammas. All changes of scale are noted on the tape by the operator.

The fiducial marks are normally spaced at 10-second intervals, a spacing which is equivalent to approximately 1500 feet on the ground. The exact horizontal scale of the tape can be established by measuring the fiducial spacing on the map.

Brush Six-Channel Record

With the chart oriented so that fiducial numbers increase from right to left the tracings from the bottom to the top of the chart are as follows:

1) Fiducial markers - same comments as above.

2) Magnetometer - positive upward. At the normal setting (300 scale) 1 mm. is approximately equivalent to 15 gammas and a step is approximately 400 gammas. At the "600" and "1200" scales 1 mm. is 50 gammas and 150 gammas respectively and the steps are 1200 gammas and 3600 gammas.

It should be noted that this trace is a differential record with a time constant of some 4 seconds. The net result of this is to wipe out long term variations but to leave short term changes relatively unaltered. This magnetometer record is therefore used primarily to check for possible relationships between EM anomalies and sharp magnetic features.

3) EM In-Phase - positive upward. 1 mm. represents approximately 20 parts per million, referred to the primary field at the receiving coil. The scale is linear until approximately 600 p.p.m. is reached, after which compression occurs to a level of 1200 p.p.m., beyond which the value is "off-scale."

4) EM Quadrature - positive upward. Same scale as In-Phase.

5) Altimeter - increasing altitude upward. Centre line position approximately 150 feet. Scale below 150 feet approximately 5 feet per mm. Scale above 150 feet approximately 7 feet per mm.

6) Accelerometer - an acceleration of 1/3"G" is equivalent to a 5 mm. deflection from the central point.

7) Scintillometer - positive upward. 5 mm. represents a change of approximately 0.06 mr./hr.

C. SURVEY AND MAP COMPILATION PROCEDURES

Uncontrolled airphoto mosaics usually serve as base maps for flying the survey and for compilation of the geophysical data. The most common scale is 1/4 mile per inch.

The flight lines are oriented perpendicular to the assumed longest dimension of massive sulphide occurrences anticipated in the survey area. Occasionally two or more line directions have to be used to accommodate changes of geological strike within the area. Line spacings normally range between 1/8 mile and 1/4 mile.

The navigator is provided with "flight strips" of the area to be surveyed. These flight strips are a copy of the airphoto mosaic, with the intended flight lines inked and numbered. Navigation along the parallel flight lines is accomplished by visual means based on the physical detail observed on the photos. The aircraft is flown at a terrain clearance of 150 feet or, in rough terrain, at the lowest safe altitude.

Flight path is recovered in the field by comparison of the 35 mm. strip film with the airphoto mosaics. Identifiable points are marked on the mosaics and designated by numbers determined from the fiducial numbering system on the film. These recovered flight lines provide the positional basis for plotting the geophysical data. The EM anomalies are listed and graded in the field and are often plotted on the field mosaics to permit immediate acquisition of ground.

In our Ottawa office transparent overlays of the mosaics are prepared, upon which are drafted the recovered fiducial points, the interpolated flight line positions, the key planimetric features as traced from the mosaics, and the significant geophysical data. The geophysical data are subjected to a careful analysis by a geophysicist who prepares an interpretation report including recommendations for further work.

D. DATA PRESENTATION

The data presentation procedure which we employ for the Otter geophysical system is a combination of an anomaly listing and a plan map plot of graded EM anomalies. The anomaly listing provides the significant details concerning each anomaly and the map gives a "bird's eye view" of the conductors detected.

For purposes of listing and to facilitate reference in the report each EM anomaly is assigned a "name," which is made up of the number of the line upon which the anomaly occurs plus a letter. For example, on line 257 anomalies would be named 257A, 257B, 257C, etc., from south to north or from west to east. The letter which appears beside each EM anomaly on the map is therefore part of its name. These names also appear on the Brush records and in the anomaly list.

The anomaly list contains the fiducial numbers at the edges of the EM anomaly, the in-phase and quadrature amplitudes in p.p.m., the altitude at which the anomaly was detected, the positional relationship of the EM anomaly to magnetic anomalies (if any), a rating, and comments concerning any other pertinent characteristics of the anomaly.

The nomenclature used in the "magnetics" column of the anomaly list requires some explanation. The main terms used are side, flank, edge and direct. These refer to the position of the EM peak relative to the axis of the magnetic feature. "Direct" depicts coincident peaks and similar widths; "edge" is slightly offset; "flank" is somewhere along the flank of the magnetic anomaly; "side" is down near the base. "N. Flank 800g" means that the EM anomaly occurs along the northern flank of a magnetic feature of 800 gammas total amplitude. When one peak of a multiple EM anomaly coincides with a magnetic high the specific peak may be designated. For example, if the southern peak of a double EM anomaly coincided with a 250 gamma magnetic anomaly the nomenclature would be "Dir. S. 250g".

The rating assigned to each EM anomaly in the listing determines the symbol which represents the anomaly on the map. Six categories of anomalies are defined: 1A, 1B, 2A, 2B, 3, and X. The numbers "1", "2" and "3" are primarily a measure of in-phase amplitude corrected for altitude variation: "1" is for very large anomalies, "2" for intermediate, and "3" for relatively weak response. This rating is sometimes affected by the shape, by the in-phase to quadrature ratio, or by the location of the anomaly. The letters "A" and "B" merely refer to the magnetics:

"A" indicates a directly coincident magnetic anomaly, and "B" indicates the lack thereof. The "X" rating is reserved for questionable anomalies. The legend on the map shows the symbol used for each of these ratings. In general, the more the rectangle is filled in, the stronger the anomaly.

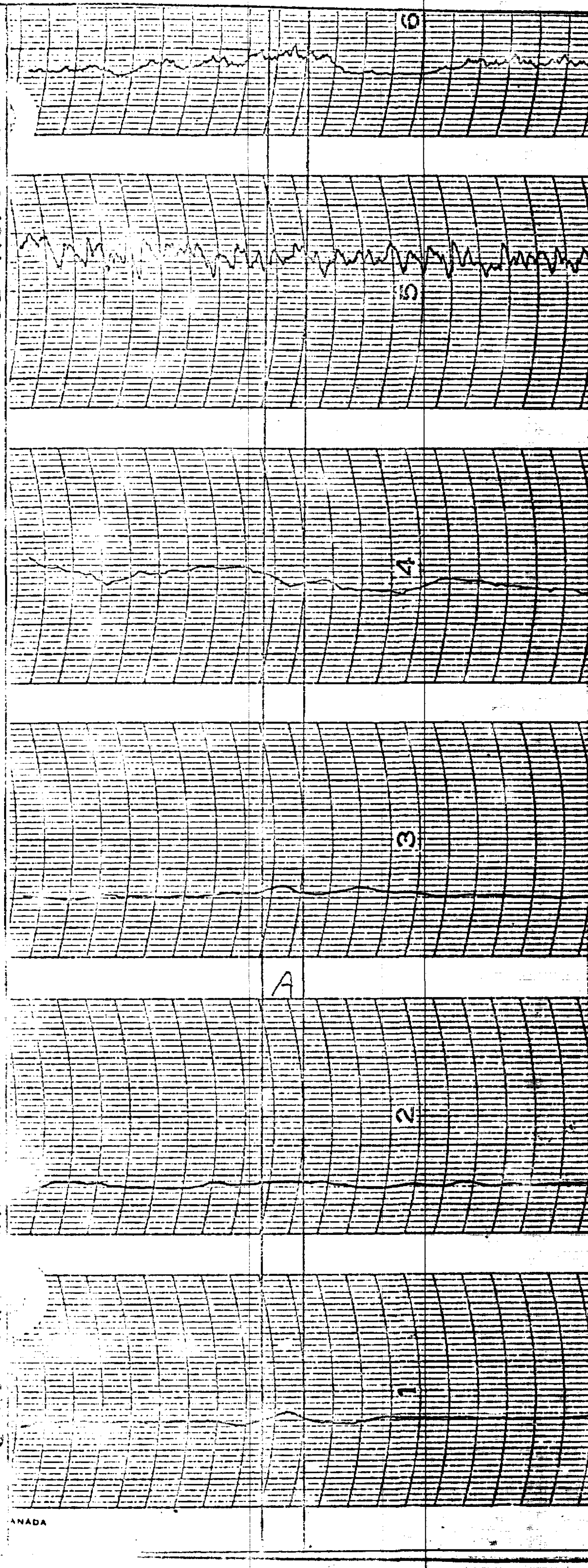
In the case of directly coincident magnetic anomalies, the amplitude of the magnetic feature is shown on the EM map. It is stencilled beneath the symbol which portrays the EM anomaly.

During the final interpretation stage, EM anomalies are correlated from line to line wherever possible and the conductive zones are outlined. All definite conductors are numbered on the map and discussed in the report.

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

JOB No. 5060

[illegible] AREA ONT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T-1W

ANOMALY A

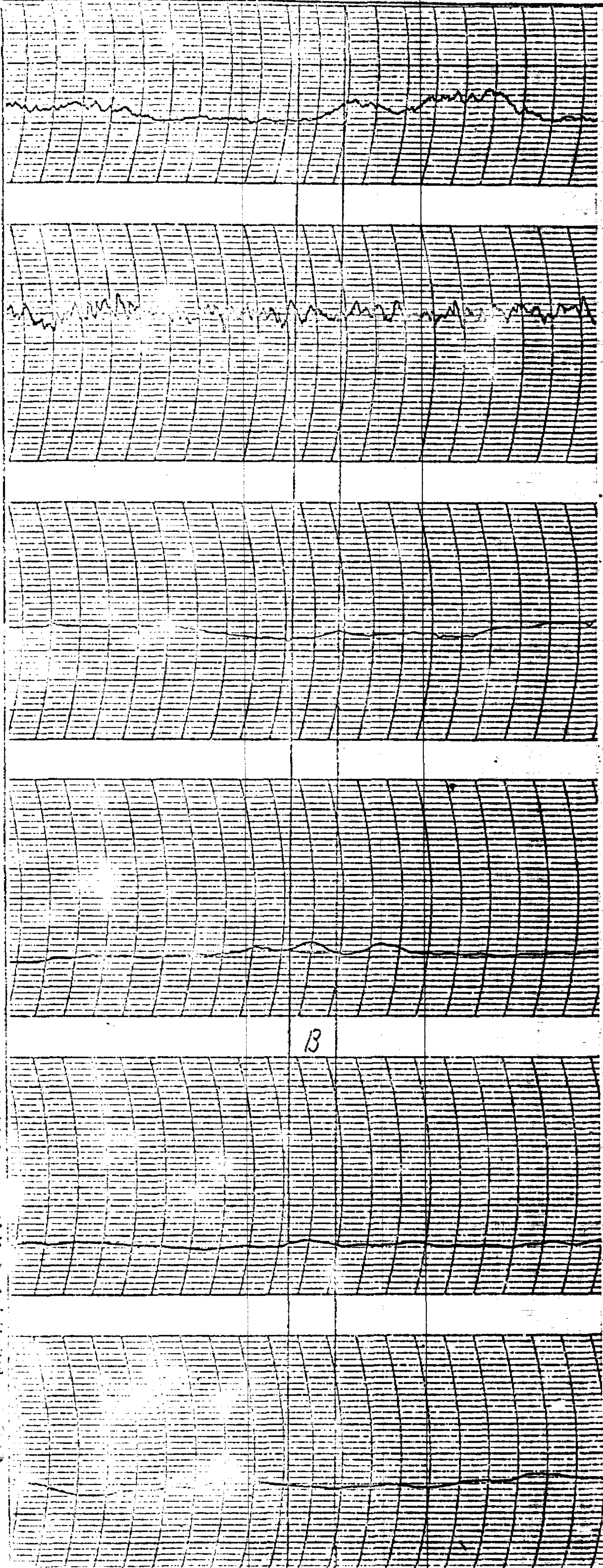
ZONE No. ____

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

JOB No. 5060

LAKE AREA, ONT.



FLIGHT LINE No. T- 1W

ANOMALY B

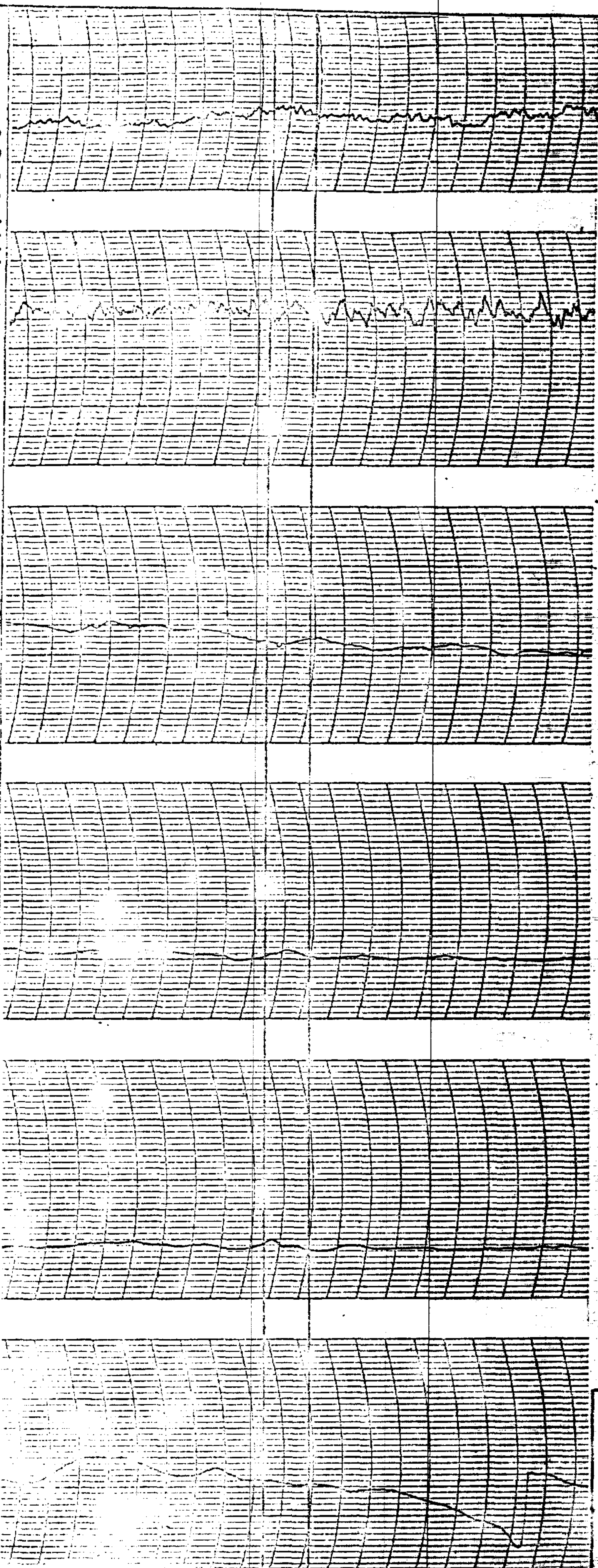
ZONE No. ____

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS, LIMITED

JOB No. 5060

JOE LAKE AREA OUT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T- 2E

ANOMALY A

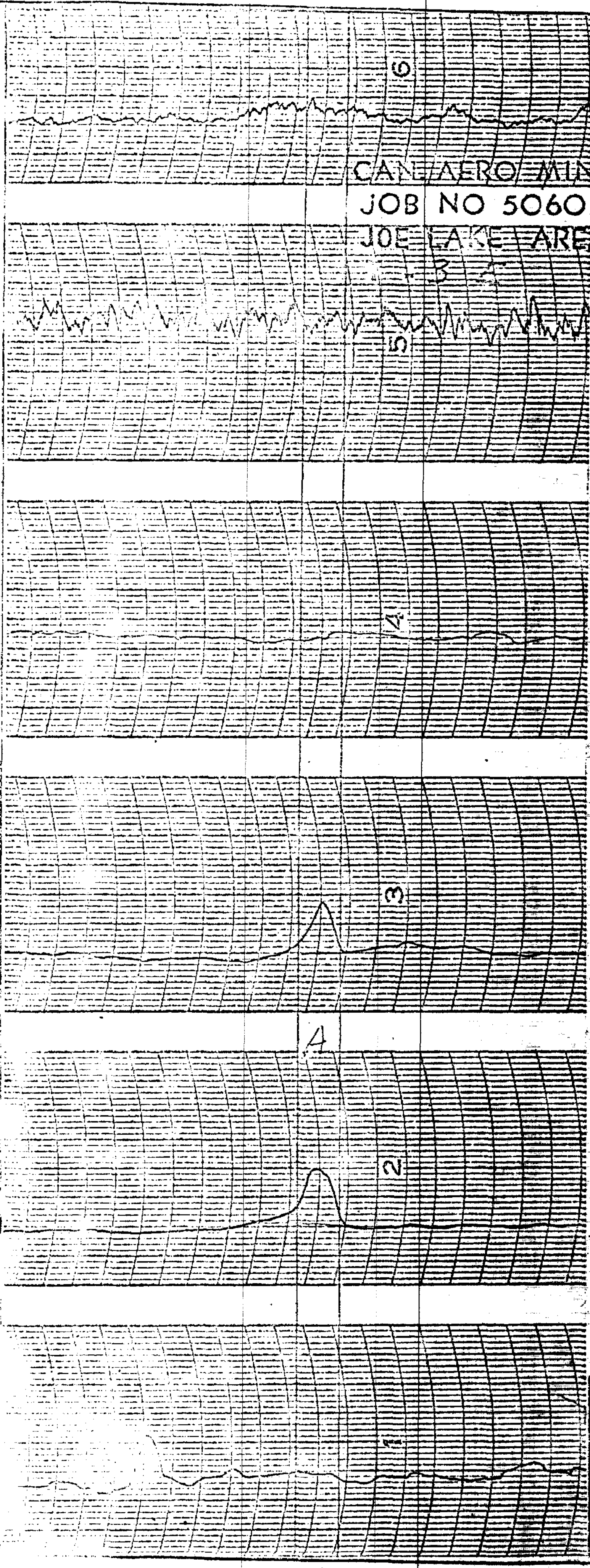
ZONE No. ____

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

JOB No. 5060

JOE LAKE AREA ONT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T-3E

ANOMALY A

ZONE No. 1

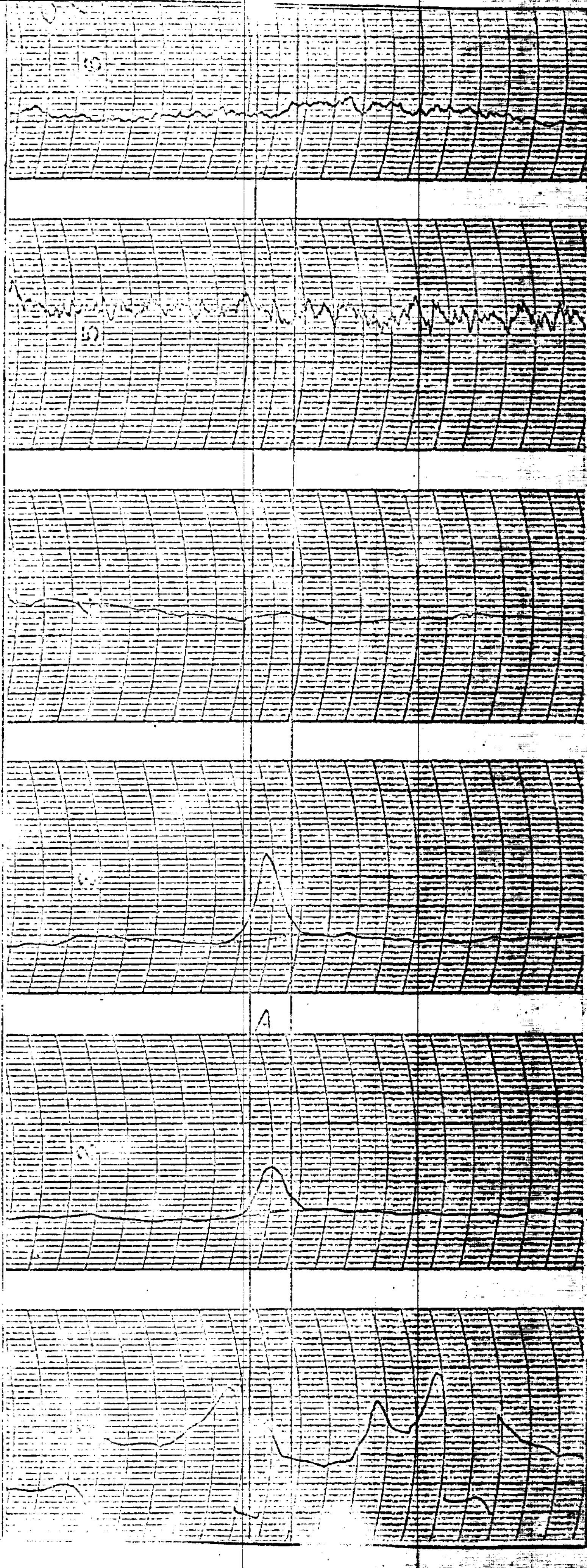
June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS

BY CANADIAN AERO SURVEYS LIMITED

JOE LAKE AREA ONT.

JOB No. 5060



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T-4W

ANOMALY A

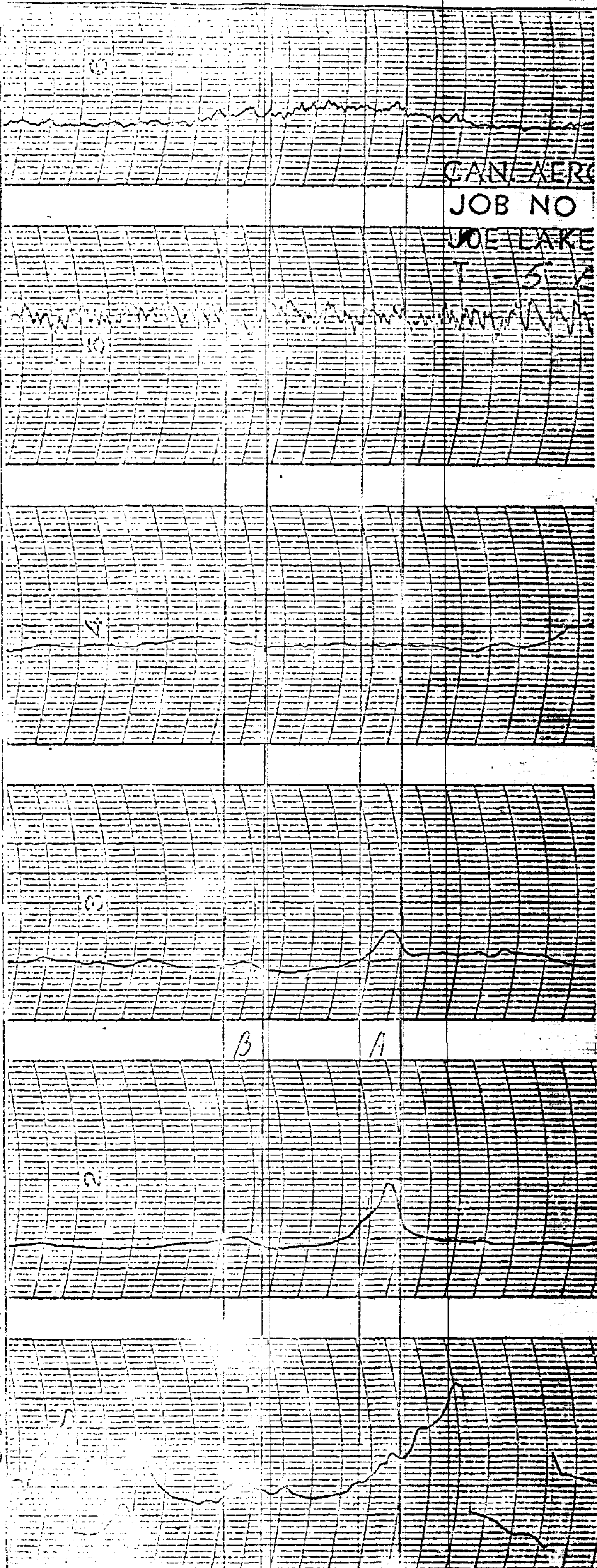
ZONE No. 1

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

JOE LAKE AREA ONT.

JOB No. 5060



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T- 5 E

ANOMALY A & B

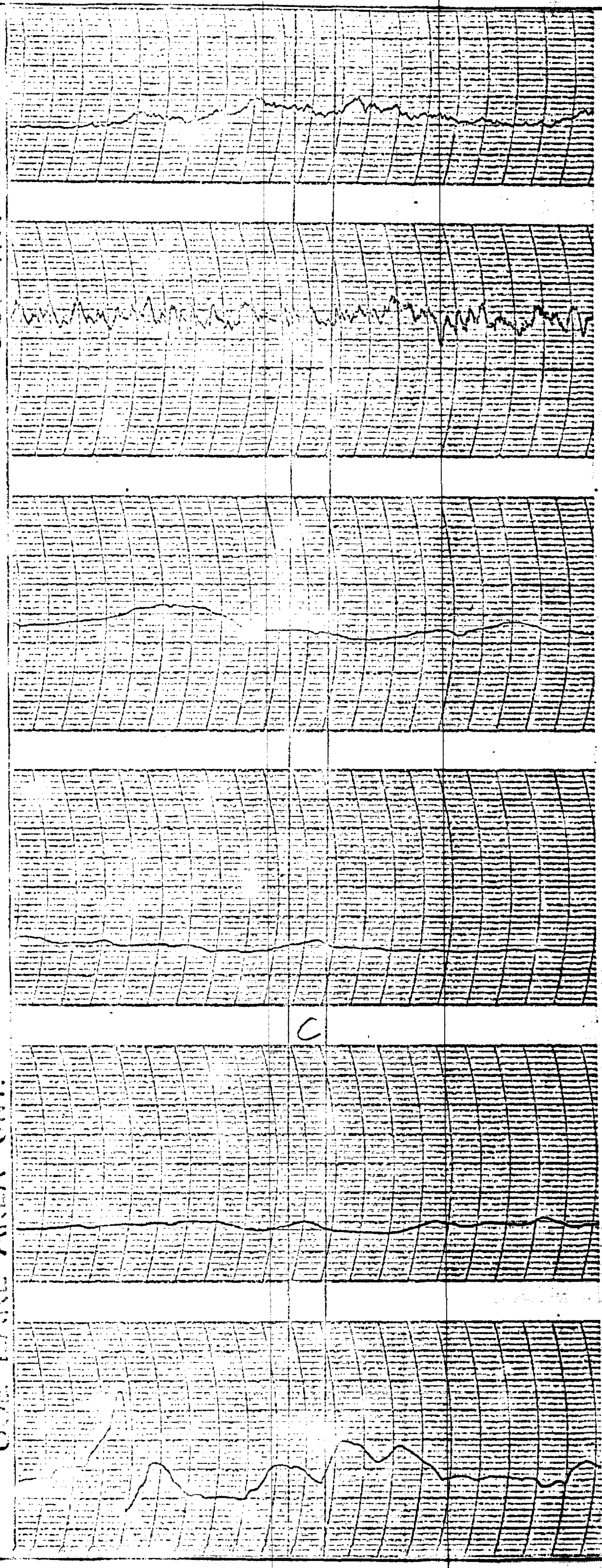
ZONE No. 2 & 1

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

JOB No. 5060

JOE LAKE AREA ONT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

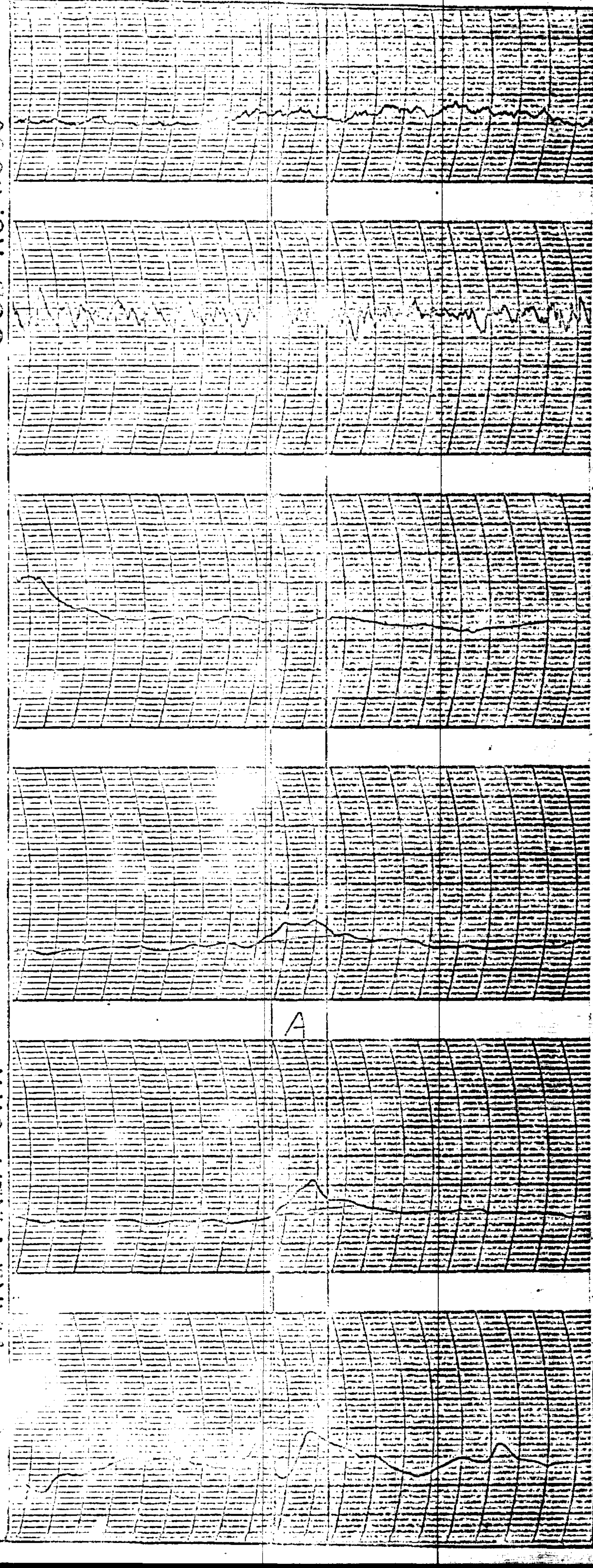
MAGNETOMETER

FLIGHT LINE No. T-5E

ANOMALY C

ZONE No. ____

June 29, 1965



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE NO. T-6W

ANOMALY A

ZONE NO. 1

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

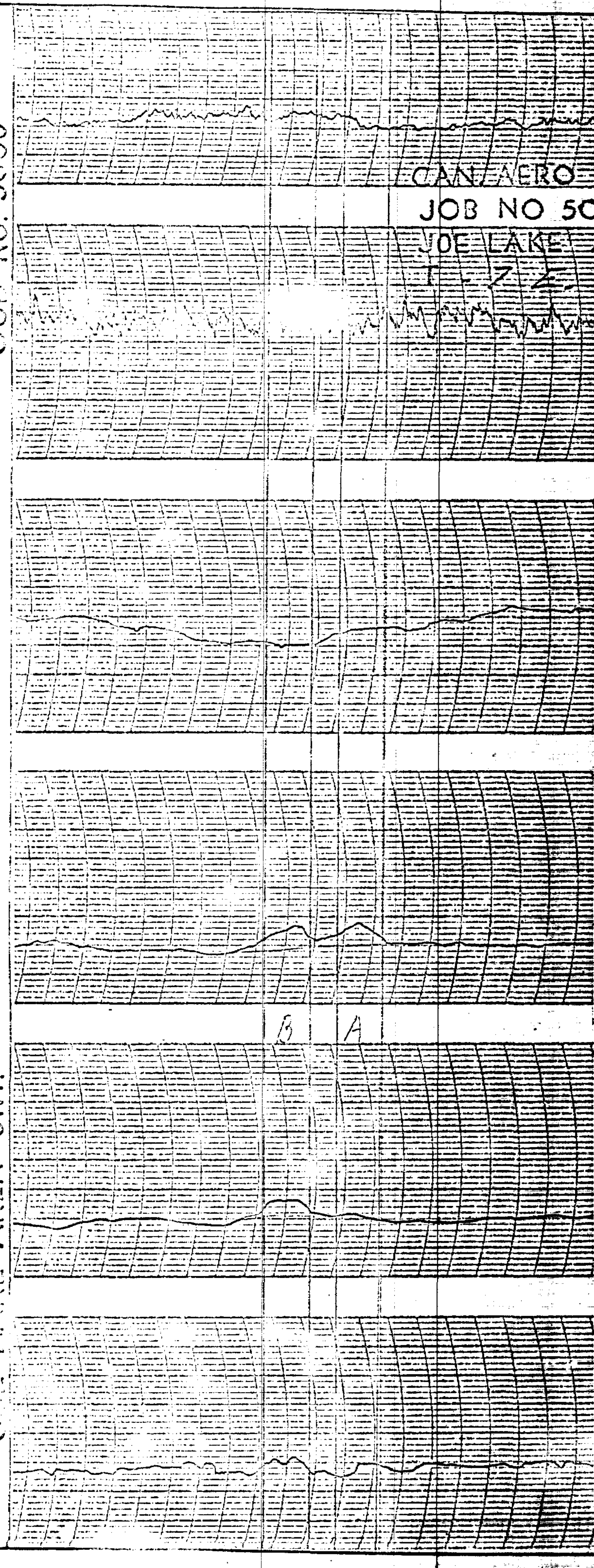
LAKE AREA ONT.

JOB NO. 5080

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

JOB No. 5060

JOE LAKE AREA ONT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE NO. T- 7E

ANOMALY A & B

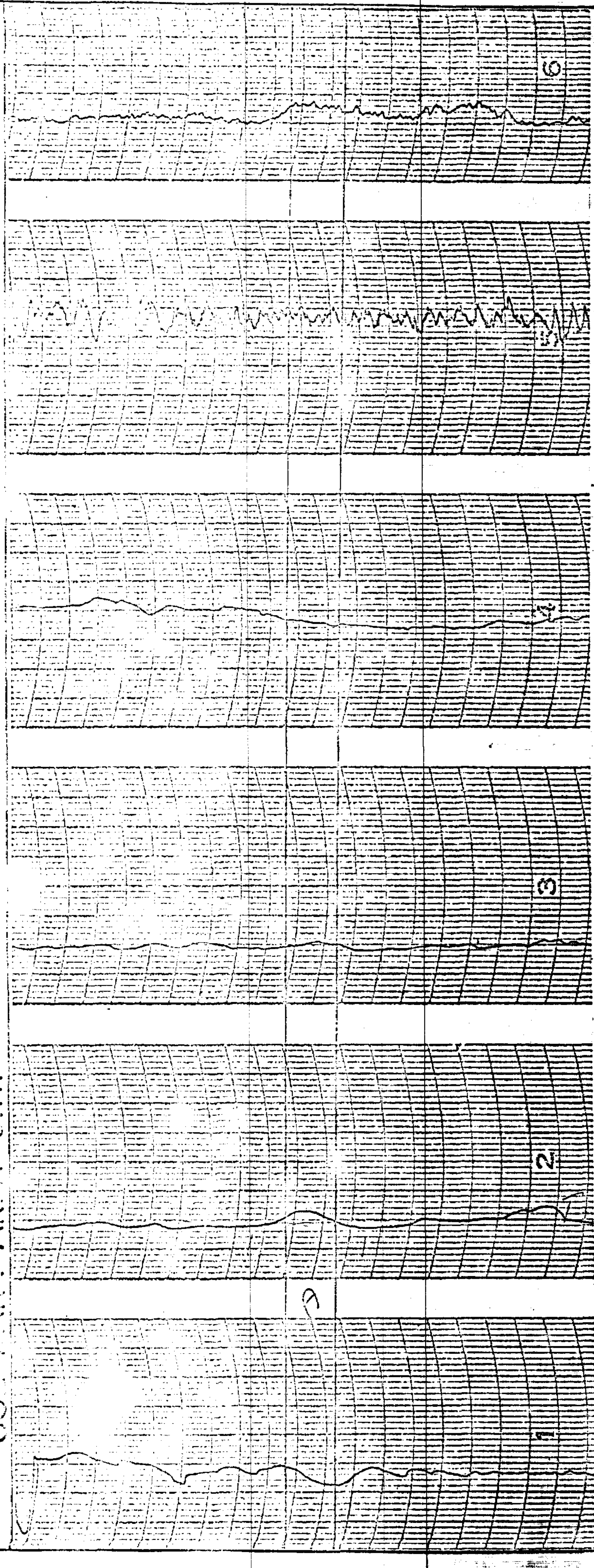
ZONE NO. 1 & 2

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEY, LIMITED

JOB NO. 5060

JOE LAKE AREA ONT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE NO. T- 9 E

ANOMALY A

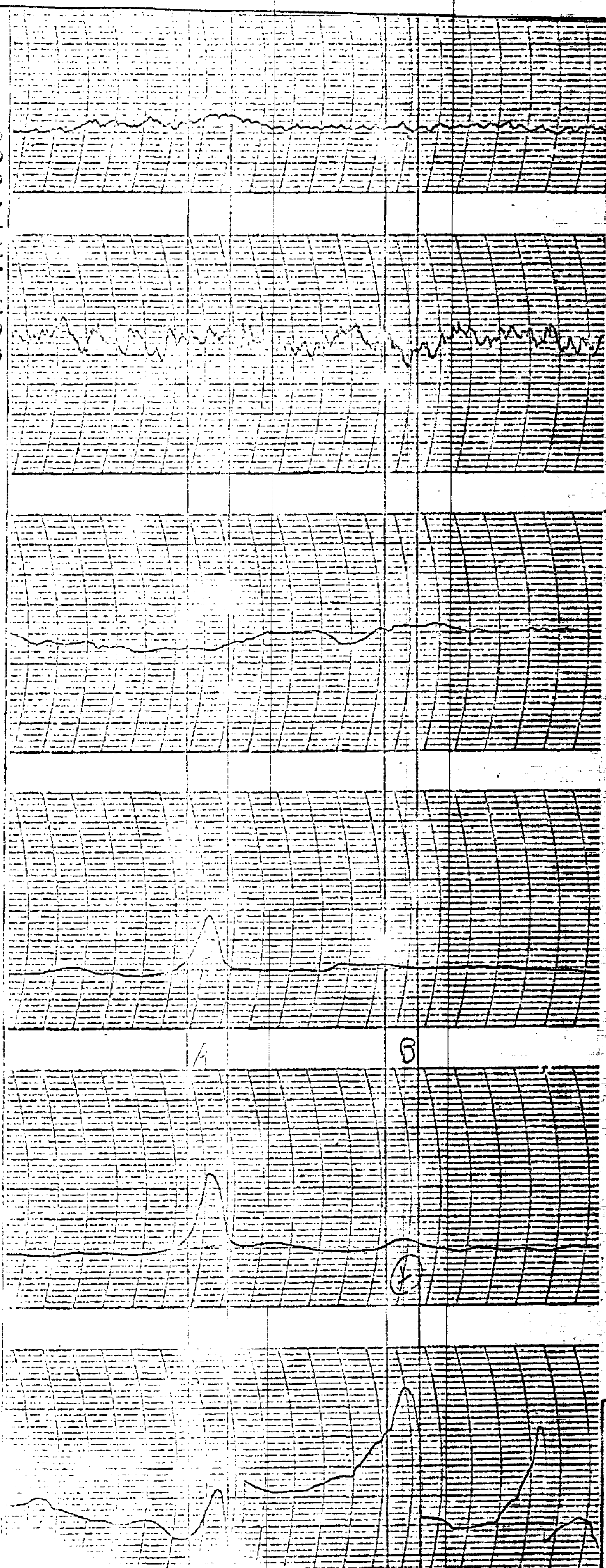
ZONE NO. 3

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

JOB No. 5060

JOE LAKE AREA ONT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T-10W

ANOMALY A & B

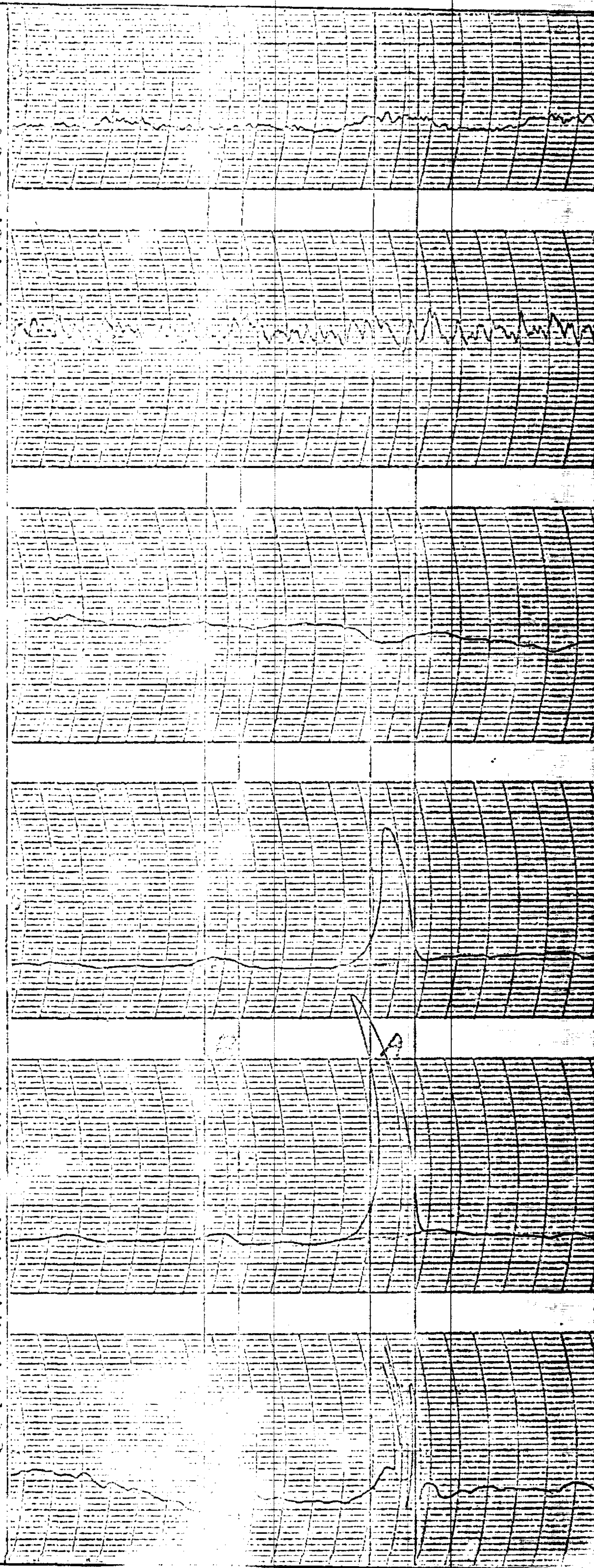
ZONE No. 3 & 4

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

Joe Lake Area Ont.

Job No. 5090



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T-11E
ANOMALY A & B
ZONE No. 3 & 4

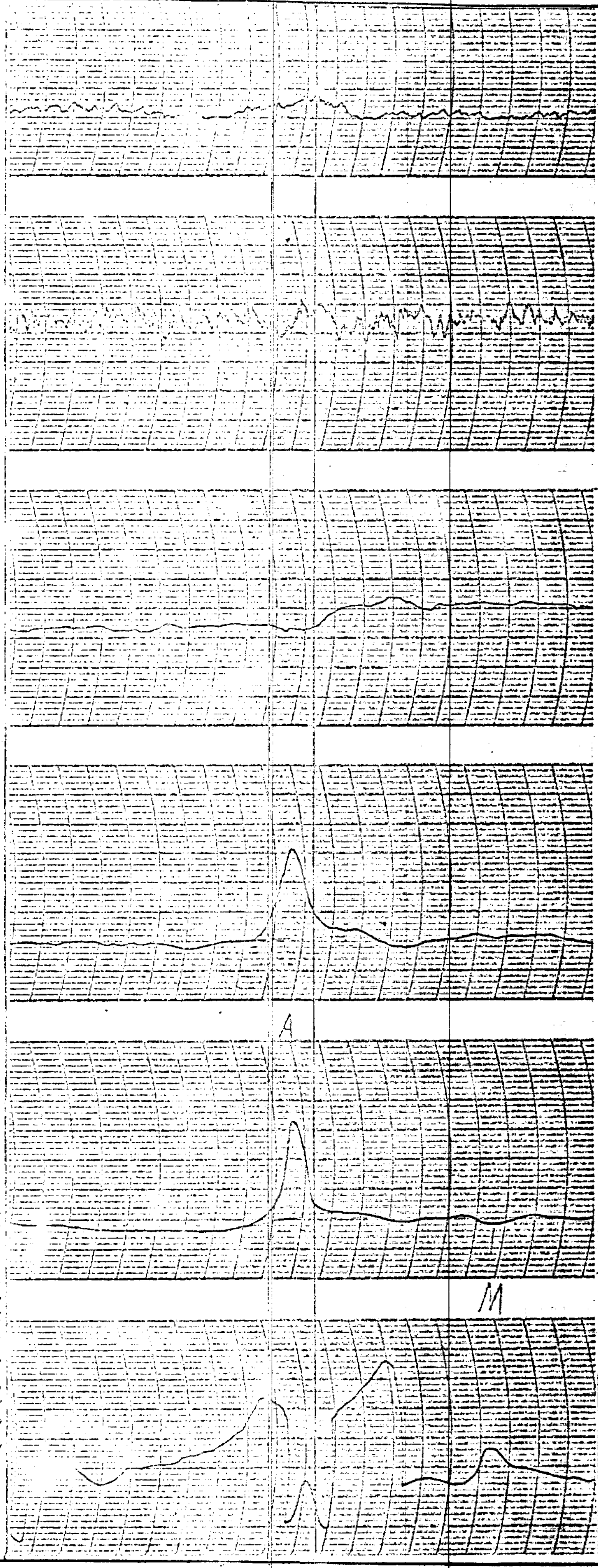
June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS

BY CANADIAN AERO SURVEYS LIMITED

JOB No. 5060

JOE LAKE AREA ONT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

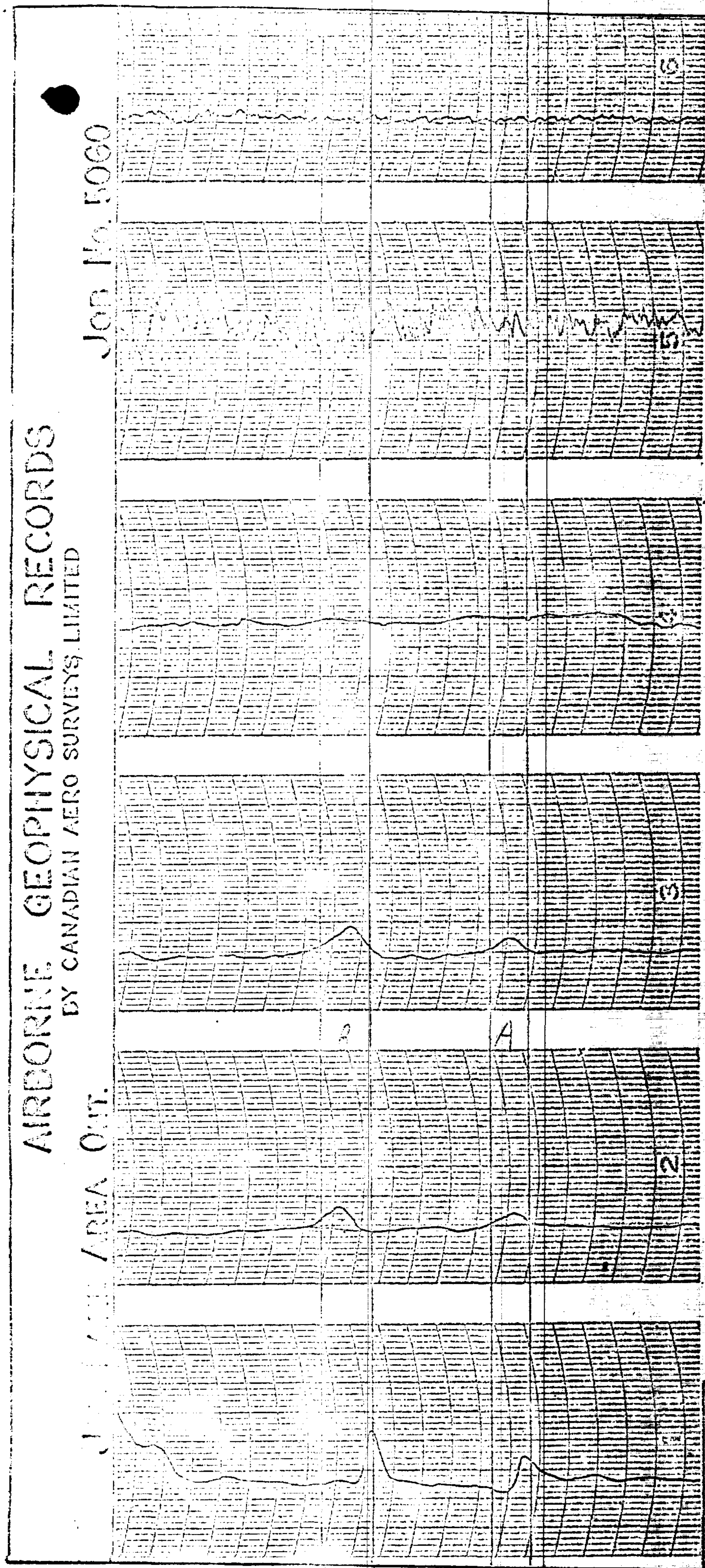
MAGNETOMETER

FLIGHT LINE NO. T- 12W

ANOMALY A

ZONE NO. 3

June 29, 1965



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T-13 E

ANOMALY A & B

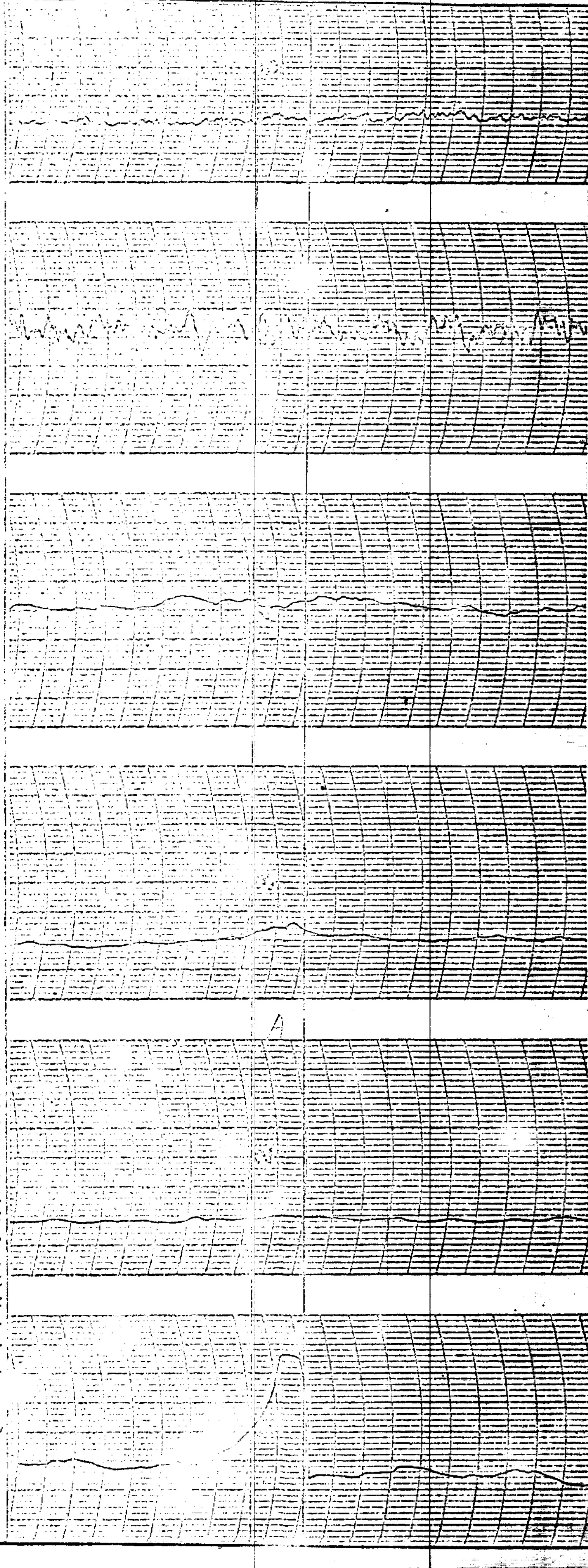
ZONE No. 5 & 6

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

JOB No. 5060

LAKE AREA ONT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

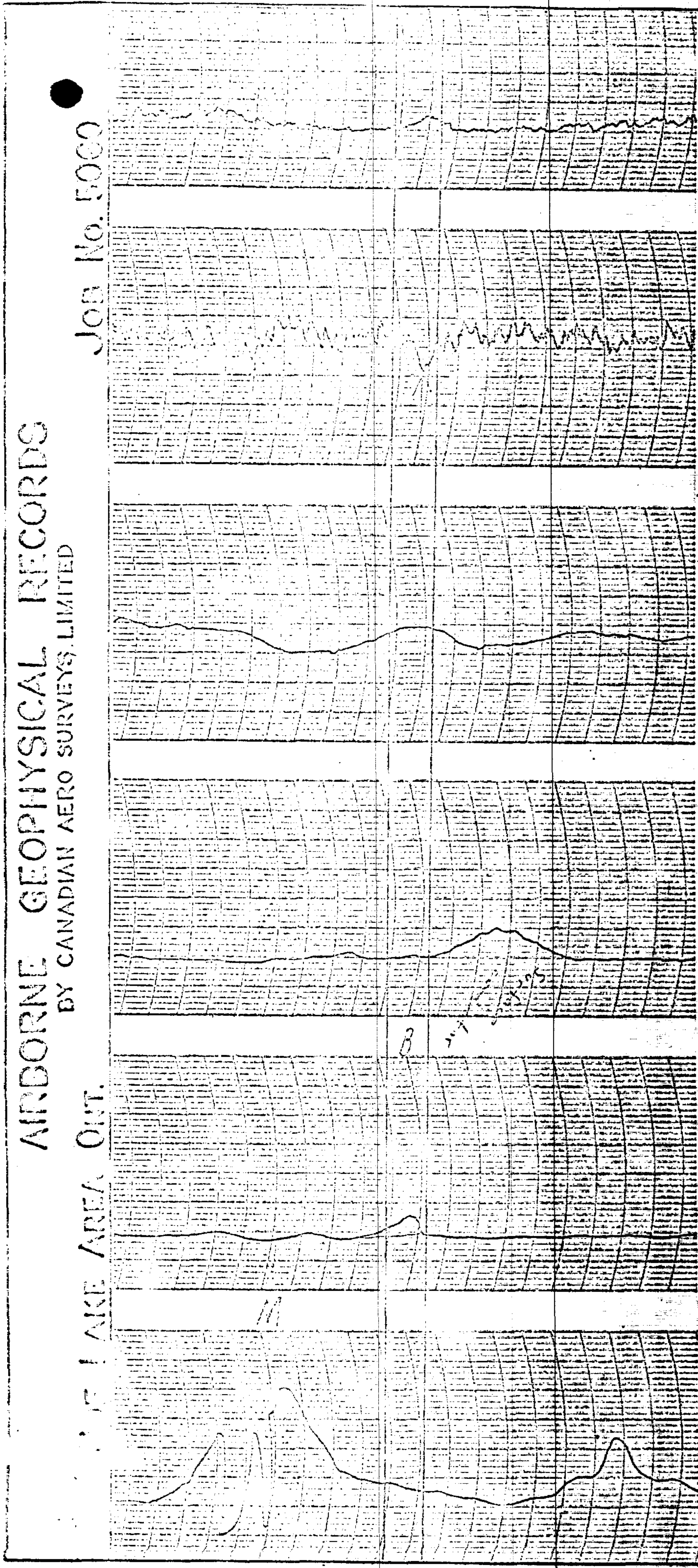
MAGNETOMETER

FLIGHT LINE No. T-16W

ANOMALY A

ZONE No. 7

June 29, 1965



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T- 16 W

ANOMALY B

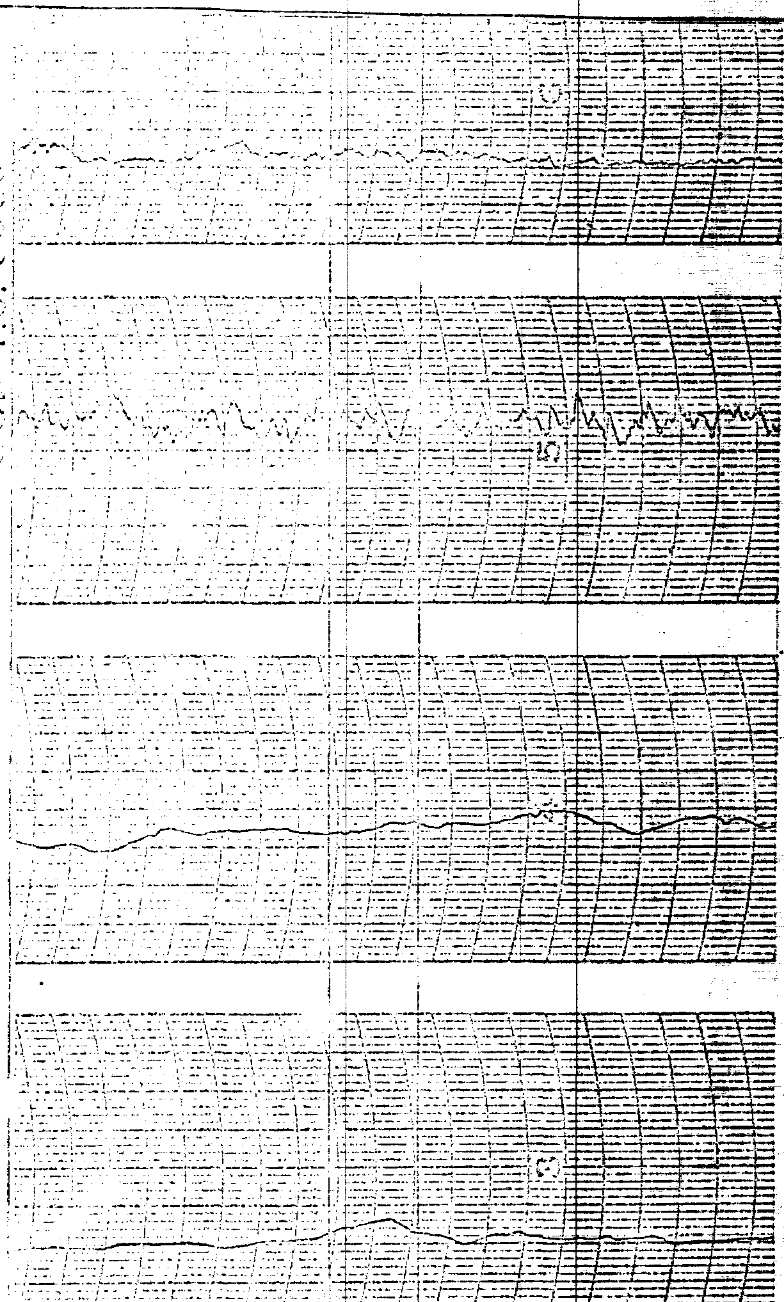
ZONE No. ____

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED

JOB No. 1000

[illegible] LAKE AREA, ONT.



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

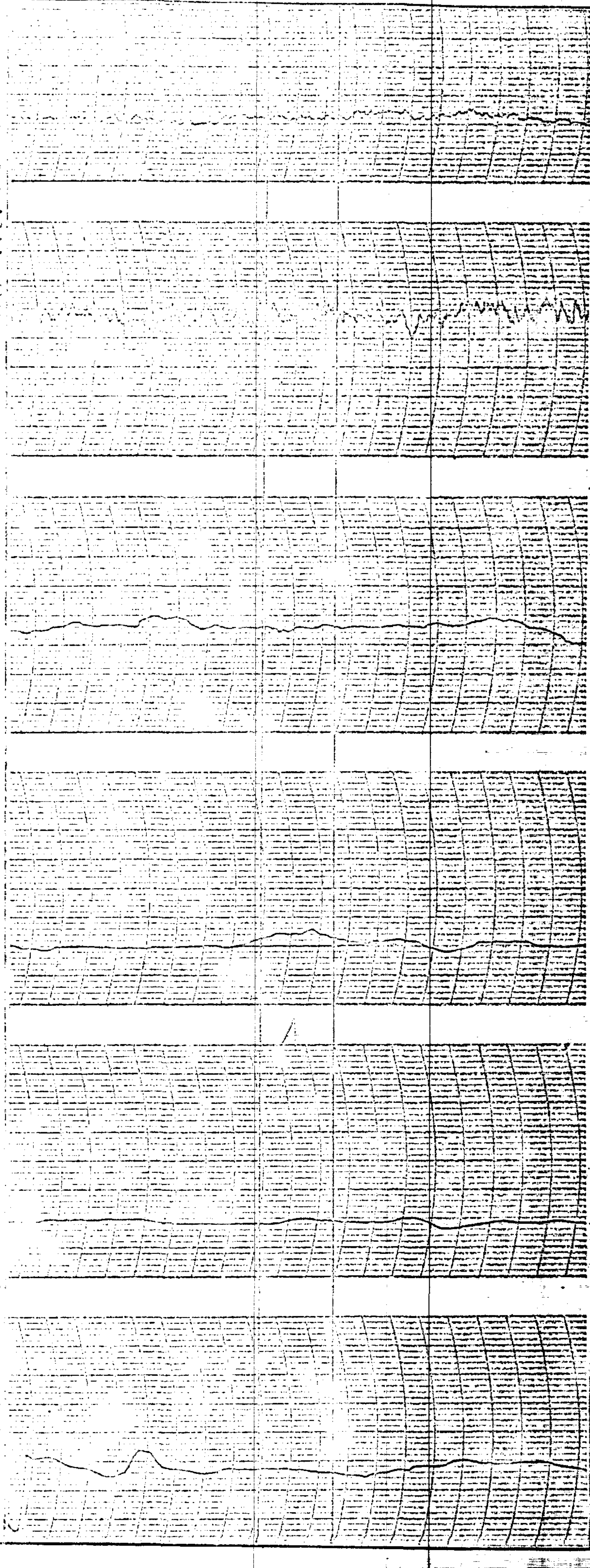
FLIGHT LINE No. T-17E

ANOMALY A

ZONE No. 7

June 29, 1965

AIRBORNE GEOPHYSICAL RECORDS
BY CANADIAN AERO SURVEYS LIMITED



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E.M.
OUT-OF-PHASE

E.M.
IN-PHASE

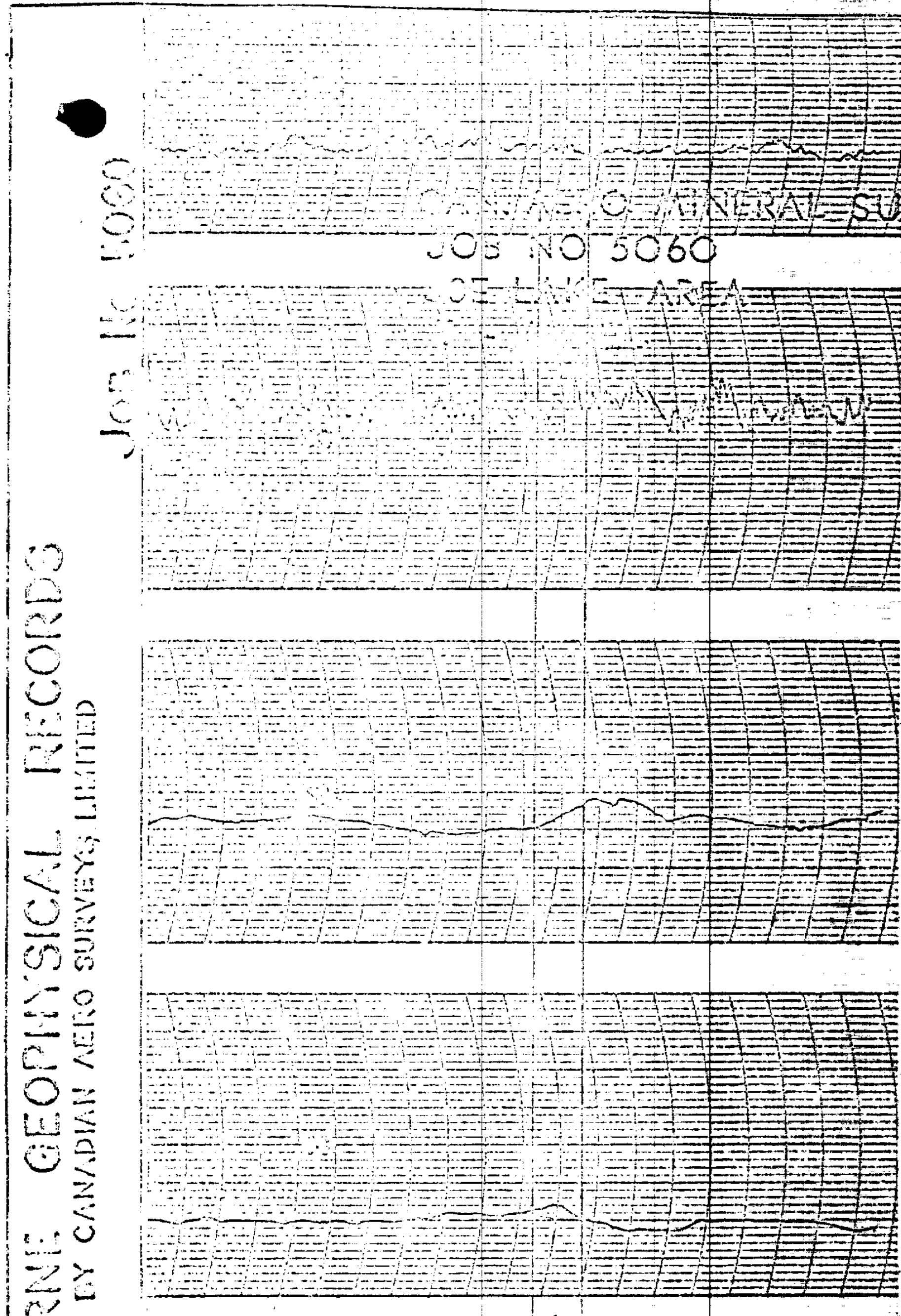
MAGNETOMETER

FLIGHT LINE NO. T-18W

ANOMALY A

ZONE NO. 7

June 29, 1965



SCINTILLOMETER

ACCELEROMETER

ALTIMETER

E. M.
OUT-OF-PHASE

E.M.
IN-PHASE

MAGNETOMETER

FLIGHT LINE No. T-19E

ANOMALY A

ZONE No. ____

June 29, 1965

OF[redacted] OF MINING RECORDER

32E04SE0024 63.1981 ADAIR

900

ONTARIO
DEPARTMENT OF MINES

July 4, 1966.

DEPARTMENT OF MINES
JUL 5 1966
TO F.M.

Mr.R.V.Scott,
Director,
Mining Lands Branch,
Department of Mines,
Parliament Buildings,
Toronto, Ontario.

Dear Sir:

Herewith are a number of maps received June 29th from Canadian Javelin Limited, 100 Bronson Avenue, Ottawa, with reports of work as follows:

24.4 days' geophysical work on each of mining claims L.91663 to L.91667 inclusive L.91671, L.91672, L.91673, L.91716, L.91745, L.91746, L.91747, L.91749, L.91750, L.92300, L.92301, L.92306.

9 days' geological work on each on each of the above mentioned.

20 days' geophysical work on each of mining claims L.91685, L.91686, L.91723 to L.91730 inclusive, L.91734, L.91735, L.91736, L.91737, L.92304, L.92305, L.92307 and L.92309.

7.4 days' geological work on each of the aforementioned.

Herewith also are maps and reports of an airborne geophysical survey for which no assessment work credit is being claimed by way of reports of this work to this office.

I also enclose duplicates sent to this office of reports of 1.6 days' work for assaying on mining claims L.91663 et al and .4 days' work for assaying on mining claims L.91685 et al which I am informed have already been submitted to the Minister. Perhaps these could be marked approved and returned to be recorded if found acceptable to the Minister.

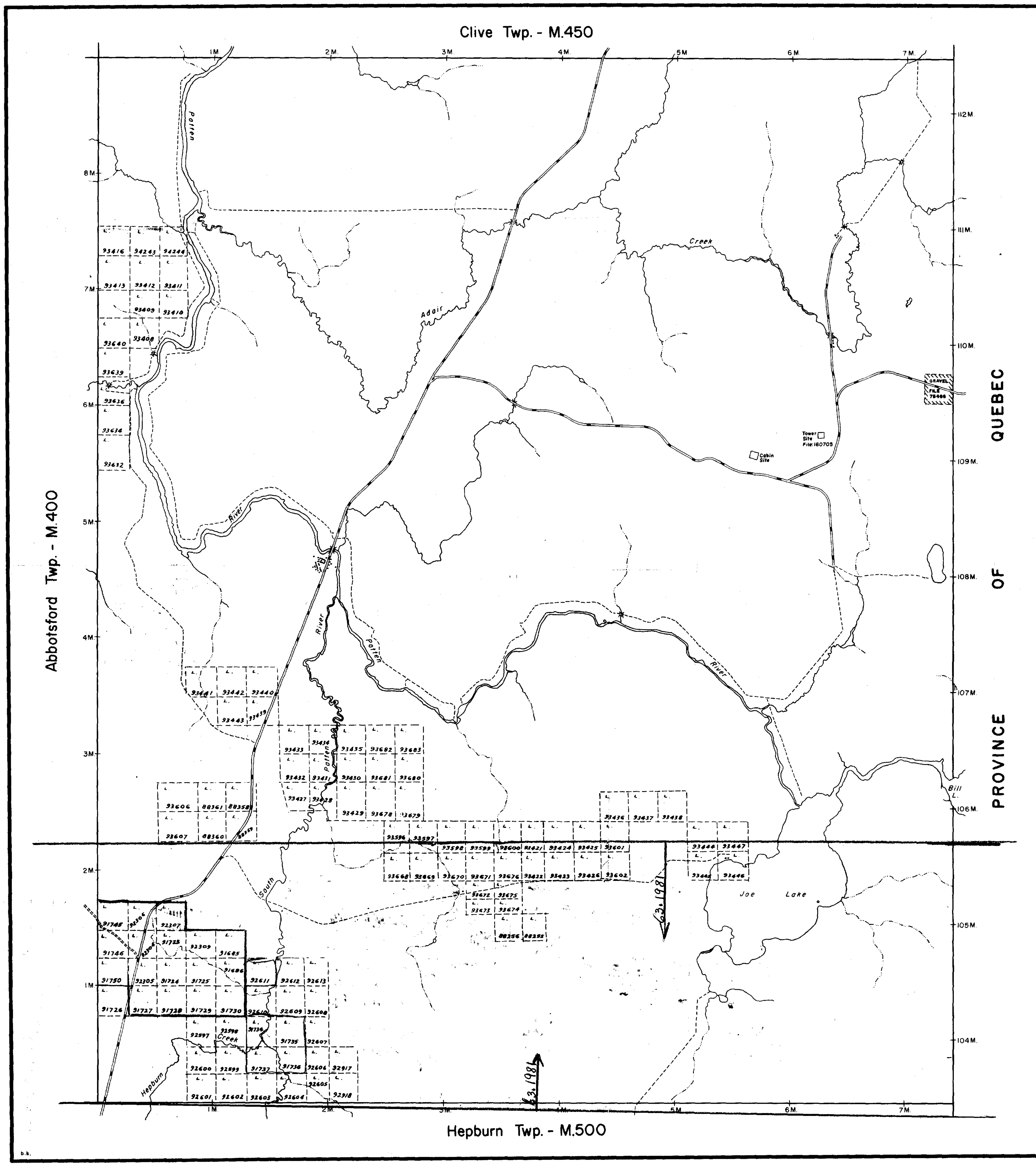
Yours very truly,

P. Logee,
Mining Recorder.

/PL.
Encl.

TRIM LINE

104.M



THE TOWNSHIP OF

ADAIR

DISTRICT OF
COCHRANE

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
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.

NOTES

400' Surface Rights Reservation around all lakes and rivers.

DATE OF ISSUE
NOV 17 1966
ONTARIO DEPT. OF MINES

ONT. DEPT. OF MINES
MINING LANDS BR.
THIS MAP FOR CHECKING PURPOSES ONLY - MUST NOT BE SOLD.

PLAN NO.- M.401

DEPARTMENT OF MINES
- ONTARIO -

104.M

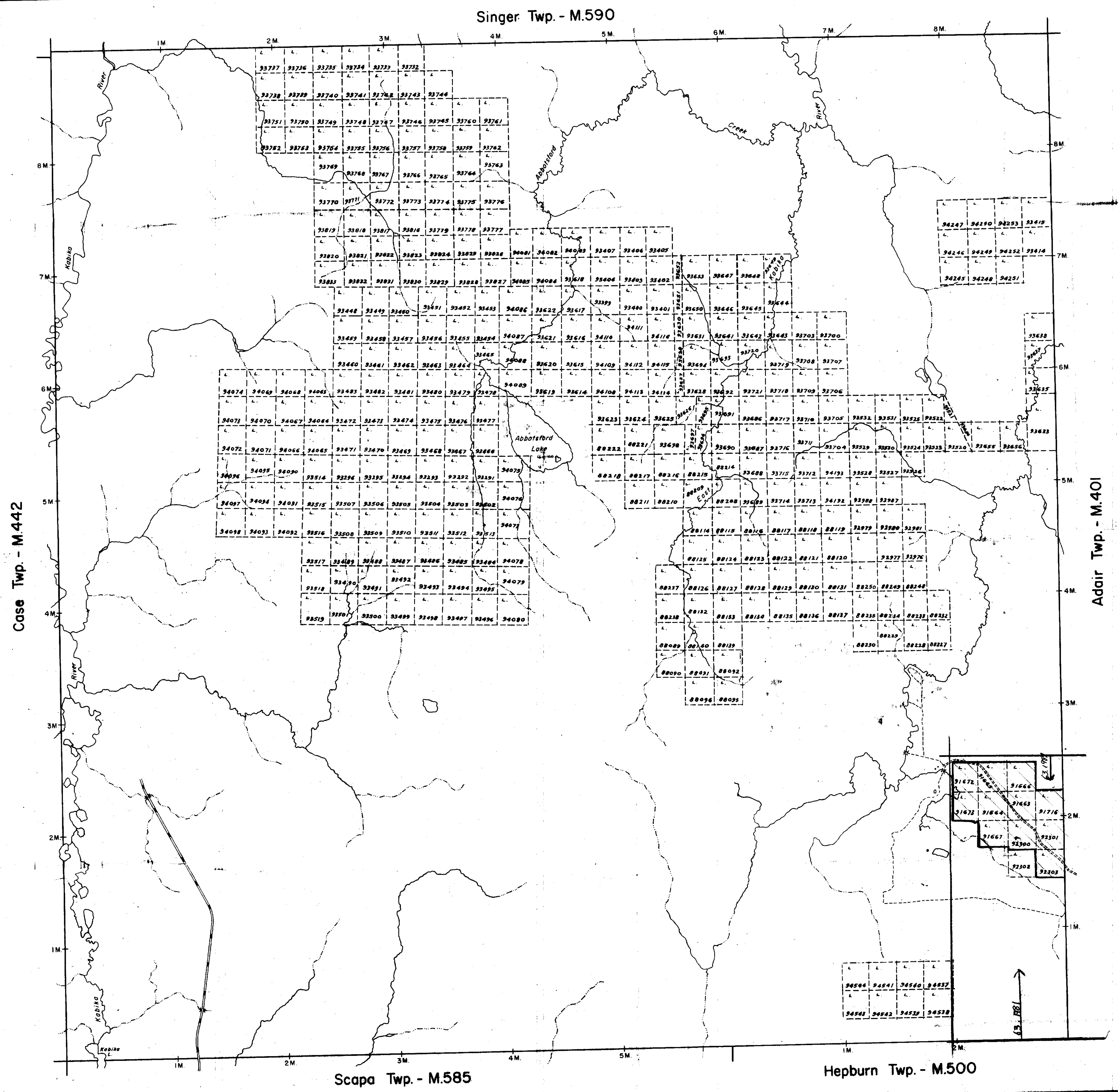
TRIM LINE

32E04SE0024 63.1981 ADAIR

200

M.400

TRIM LINE



THE TOWNSHIP OF

ABBOTSFORD

DISTRICT OF COCHRANE

LARDER LAKE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
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.

NOTES

400' Surface Rights Reservation around all lakes and rivers.

ONT. DEPT. OF MINES MINING LANDS BR.
THIS MAP FOR CHECKING PURPOSES ONLY – MUST NOT BE SOLD.

DATE OF ISSUE
NOV 17 1966
ONTARIO DEPT. OF MINES

PLAN NO.- M.400

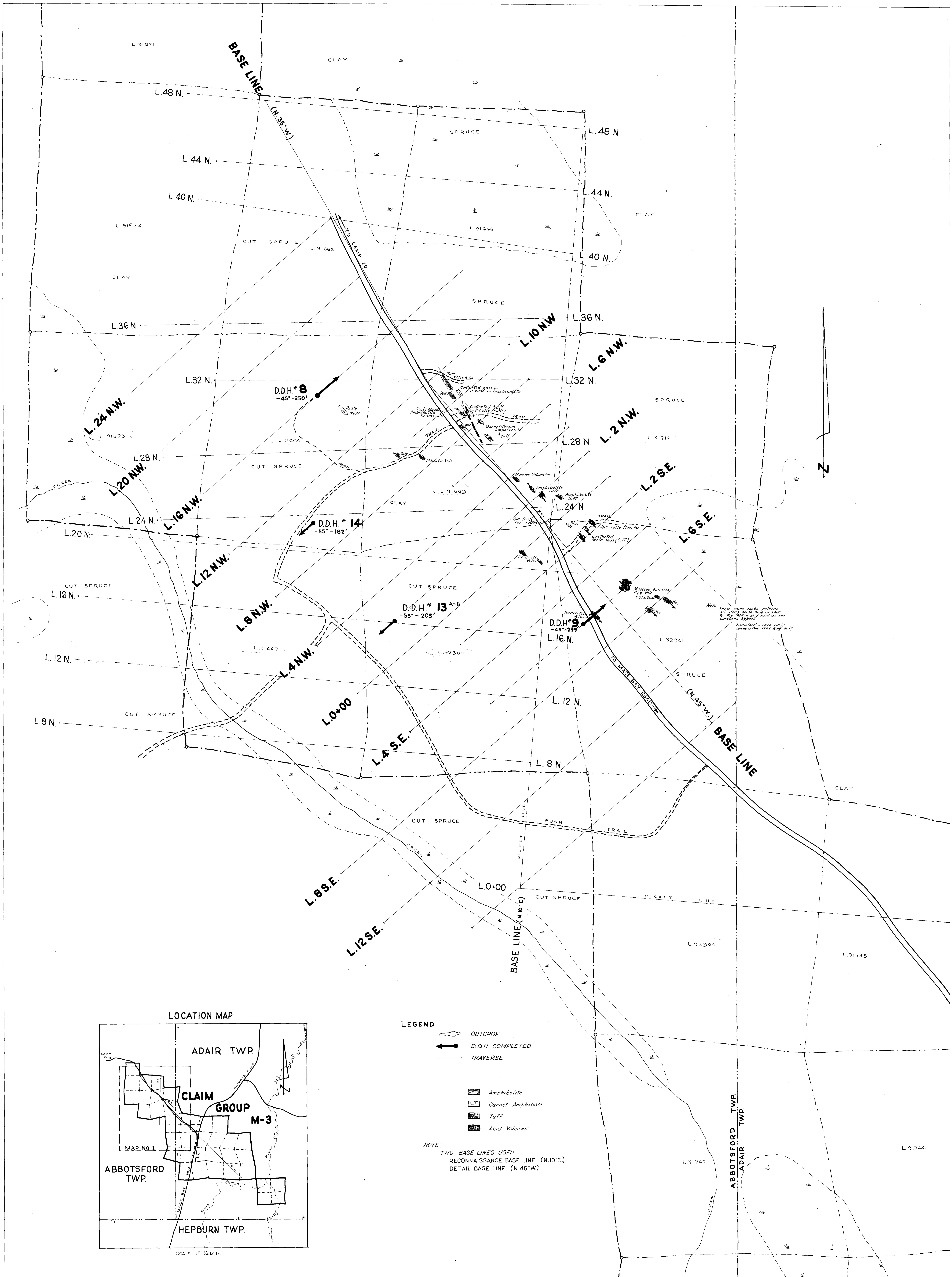
DEPARTMENT OF MINES
– ONTARIO –

TRIM LINE

M.400

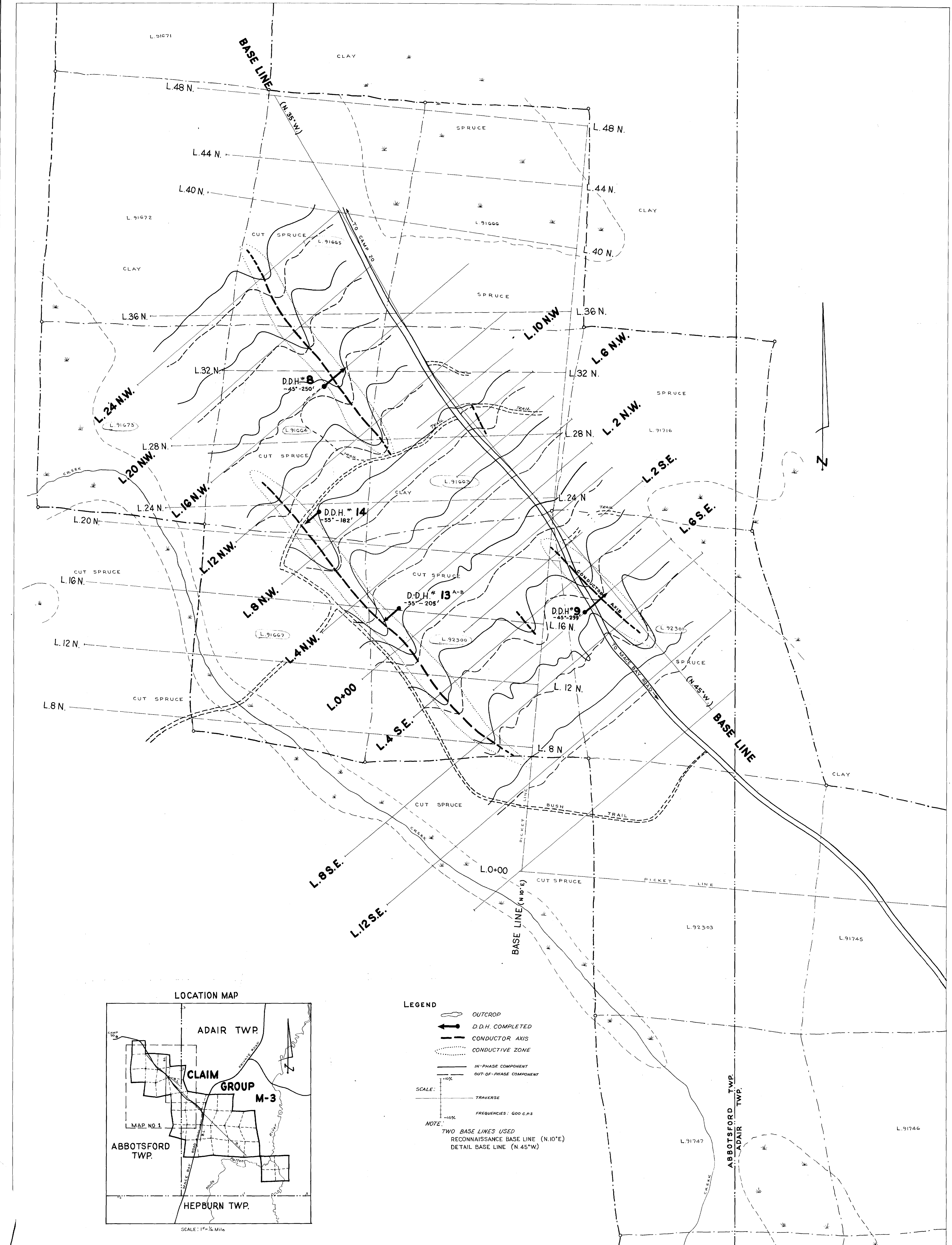
210


ABBOTSFORD
ADAIR
HEPBURN
JOE LAKE
BILL LAKE
AREA BOUNDARY
ROAD
CREEK
PROVINCE OF ONTARIO
PROVINCE OF QUEBEC
T-1
T-5
T-10
T-15
T-21
(APPROX.)
LEGEND
1 A ANOMALY
1 B ANOMALY
2 A ANOMALY
2 B ANOMALY
3 ANOMALY
X type ANOMALY
MEAN TERRAIN CLEARANCE.....150 FEET
FLIGHT LINE SPACING..........1/8 MILE
RIVERS AND LAKES
HORIZONTAL CONTROL.......BASED ON PHOTO LAYDOWN
AIRBORNE ELECTROMAGNETIC SURVEY
JOE LAKE AREA
ONTARIO
CANADIAN JAVELIN LIMITED
SCALE: 1 INCH = 1/4 MILE (approx.)
CANADIAN AERO Mineral Surveys LTD.
OTTAWA & TORONTO, ONTARIO.
C.A.M.S. - 5060
63.1981
220
359



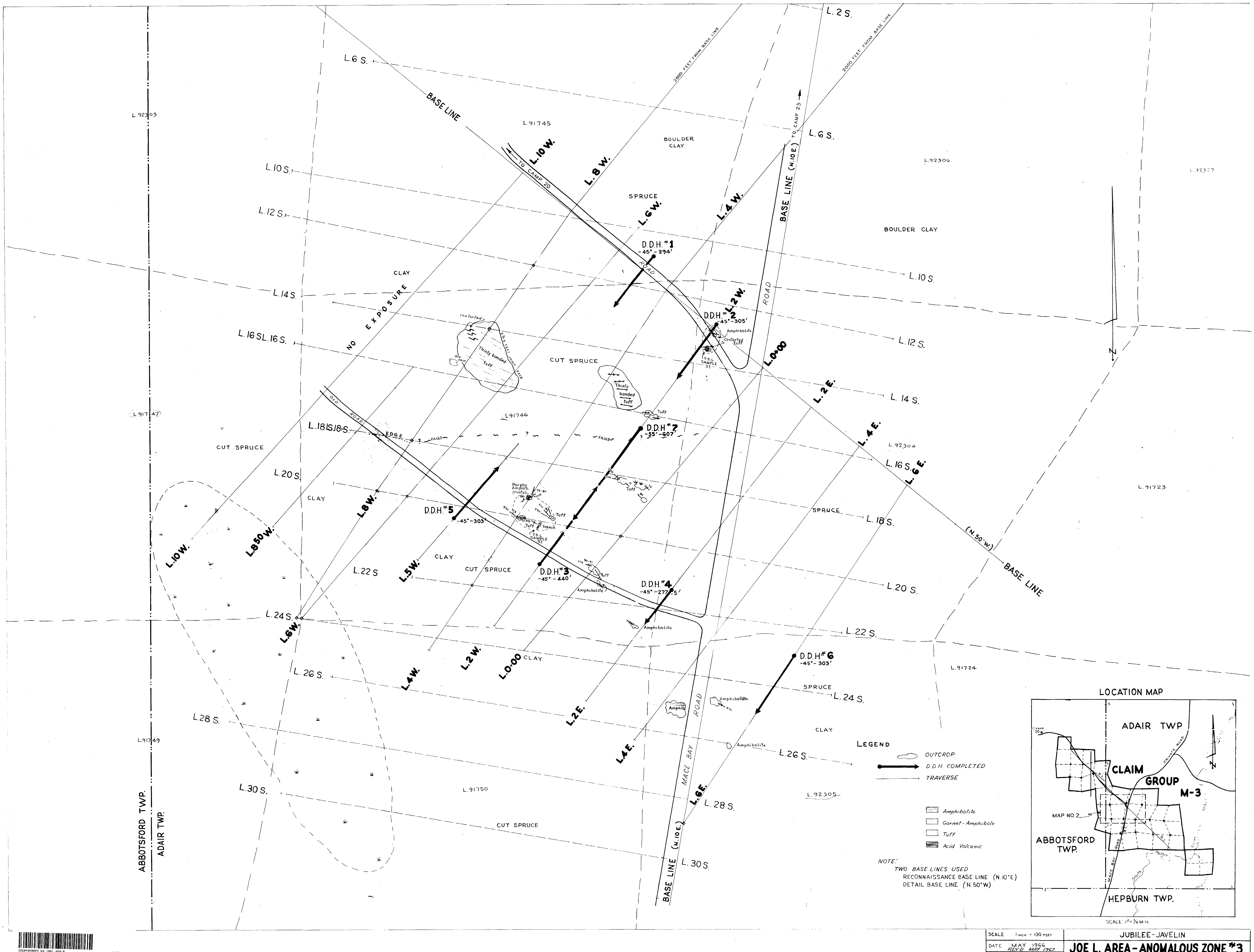
SCALE 1 INCH = 200 FEET	JUBILEE-JAVELIN
DATE MAY 1966 REV'D MAY 1967	**JOE L. AREA-ANOMALOUS ZONE # 1**
DWG. Leo D APP.	ABBOTSFORD AND ADAIR TWPS.
No. 1 FILE ONT.	GEOLOGY

230



SCALE 1 INCH = 200 FEET	JUBILEE - JAVELIN
DATE MAY 1966 REV'D MAY 1967	**JOE L. AREA - ANOMALOUS ZONE # 1**
DWG. Leo D APP.	ABBOTSFORD AND ADAIR TWPS.
No. 1 FILE ONT.	HOR. ELECTROMAGNETIC SURVEY

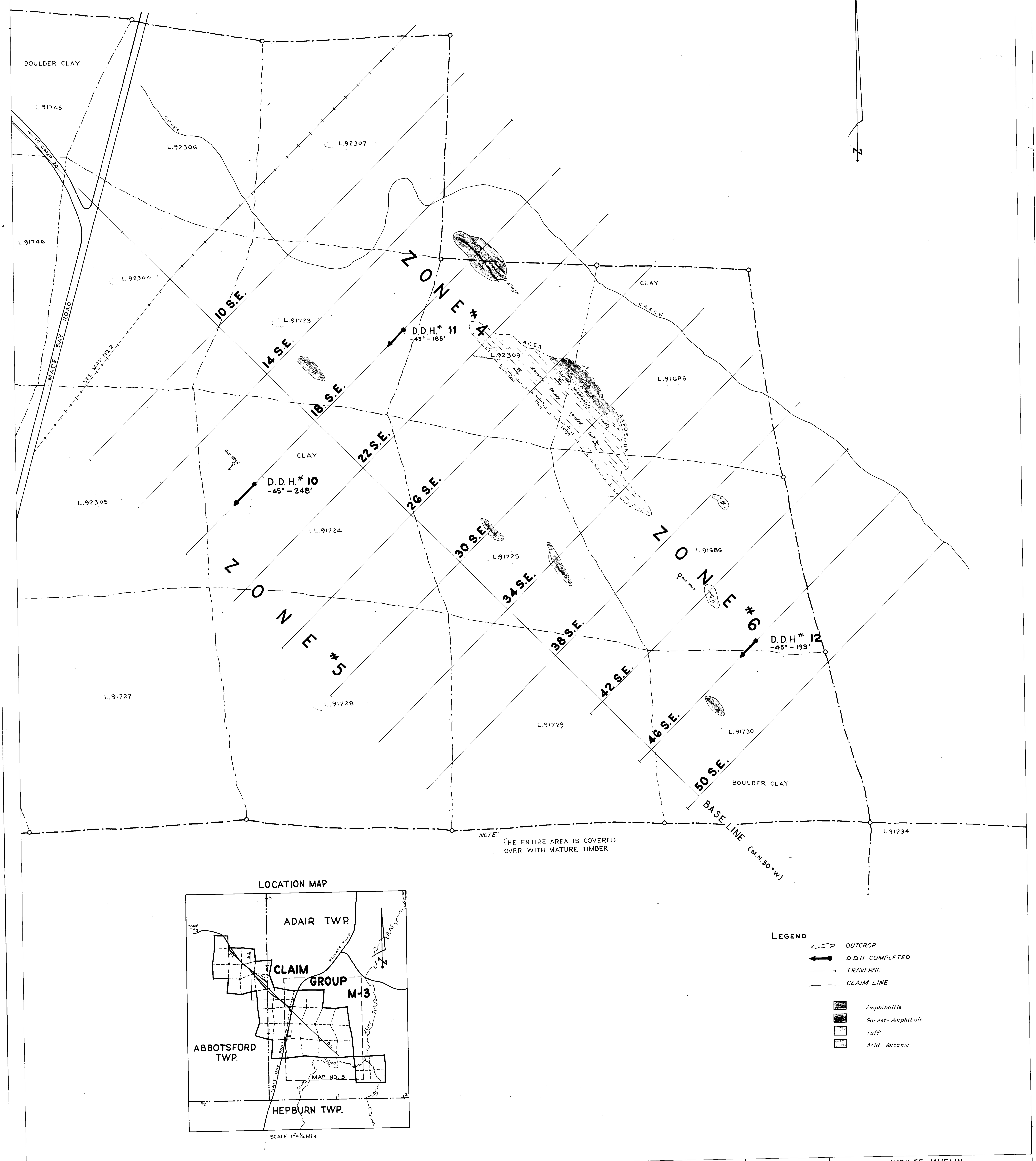
240



SCALE 1 INCH = 100 FEET	JUBILEE-JAVELIN
DATE MAY 1966 REV'D MAY 1967	**JOE L. AREA - ANOMALOUS ZONE #3**
DWG L.L. / APP.	ABBOTSFORD AND ADAIR TWPS
No. 2 / FILE ONT.	GEOLOGY

250

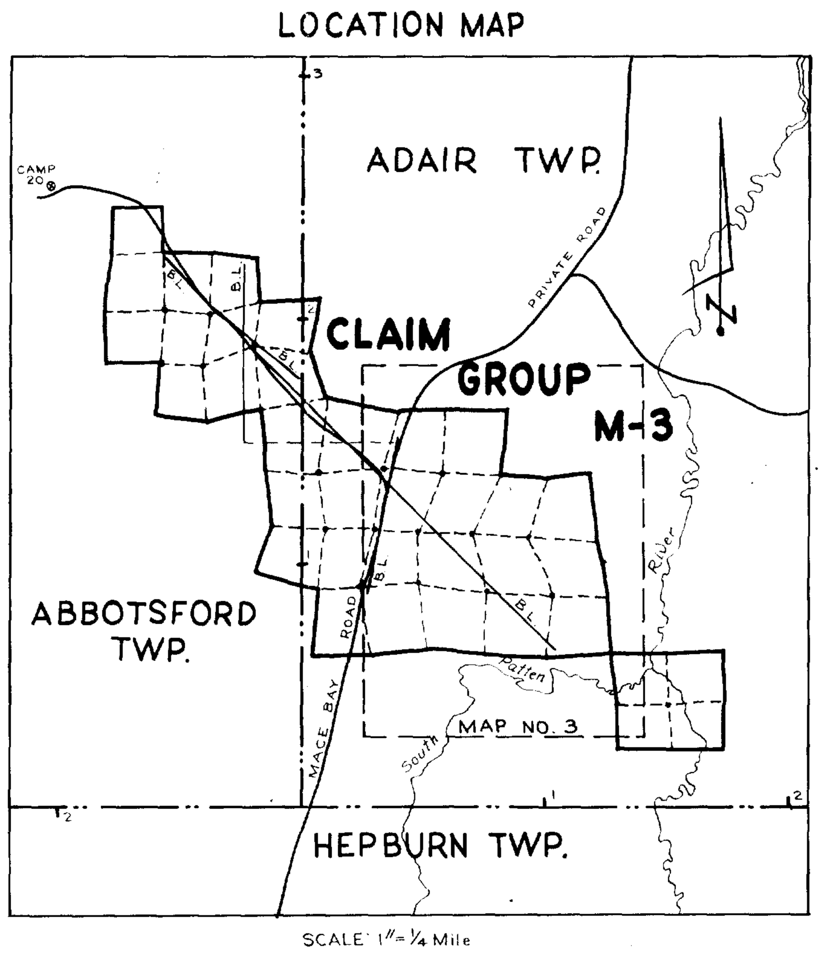

JUBILEE-JAVELIN
JOE L. AREA-ANOMALOUS ZONE #3
ABBOTSFORD AND ADAIR TWPS.
HOR. ELECTROMAGNETIC SURVEY
SCALE 1 INCH = 100 FEET
DATE MAY 1966 REV'D MAY 1967
DWG. APP.
No. 2 FILE ONT.
LOCATION MAP
ADAIR TWP.
CLAIM GROUP M-3
MAP NO. 2
ABBOTSFORD TWP.
HEPBURN TWP.
SCALE: 1" = 1/4 Mile
LEGEND
D.D.H. COMPLETED
CONDUCTOR AXIS
CONDUCTIVE ZONE
IN-PHASE COMPONENT
OUT-OF-PHASE COMPONENT
SCALE:
TRAVERSE
FREQUENCIES : 600 C.P.S.
NOTE:
TWO BASE LINES USED
RECONNAISSANCE BASE LINE (N.10°E.)
DETAIL BASE LINE (N.50°W.)
D.D.H. #1 45°-294'
D.D.H. #2 45°-305'
D.D.H. #3 45°-440'
D.D.H. #4 45°-277.5'
D.D.H. #5 45°-303'
D.D.H. #6 45°-303'
D.D.H. #7 55°-607'
BASE LINE (N.10°E.) TO CAMP 23
BASE LINE (N.50°W.)
TO CAMP 20
MACE BAY ROAD
OLD ROAD
2000 FEET FROM BASE LINE
NO EXPOSURE
BOULDER CLAY
CUT SPRUCE
SPRUCE
CLAY
ABBOTSFORD TWP.
ADAIR TWP.
260



SCALE 1 INCH = 200 FEET		JUBILEE-JAVELIN
DATE MAY 1966 REV'D MAY 1967		JOE L. AREA-ANOMALOUS ZONE #4,5,6
DWG Lea D.	APR.	ADAIR TWP.
No. 3	FILE ONT.	GEOLOGY

270

LOCATION MAP



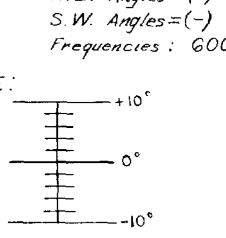
SCALE: 1" = 1/4 Mile

Reconnaissance Survey

Vertical E.M. "BROADSIDE" method, was used on Zones 4, 5 and 6.
The transmiter and receiver were moved simultaneously on two traverses, 400 feet appart.
"The Dip-Angle" was determined by means of the receiver used as a Clinometer.
All readings were plotted at the receiver which was S.E. of the transmiter

N.E. Angles = (+)
S.W. Angles = (−)
Frequencies : 600 cps.

SCALE:

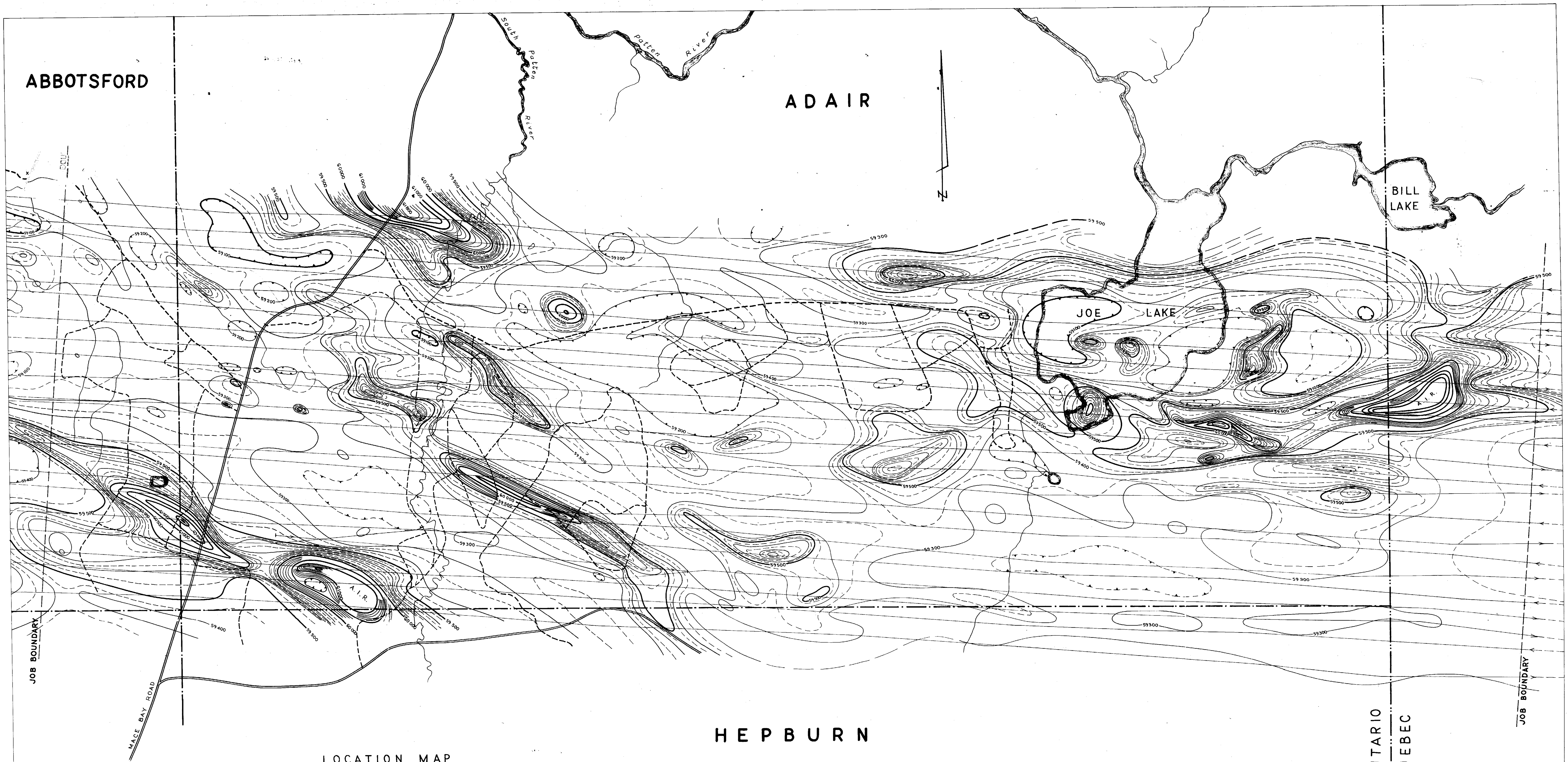


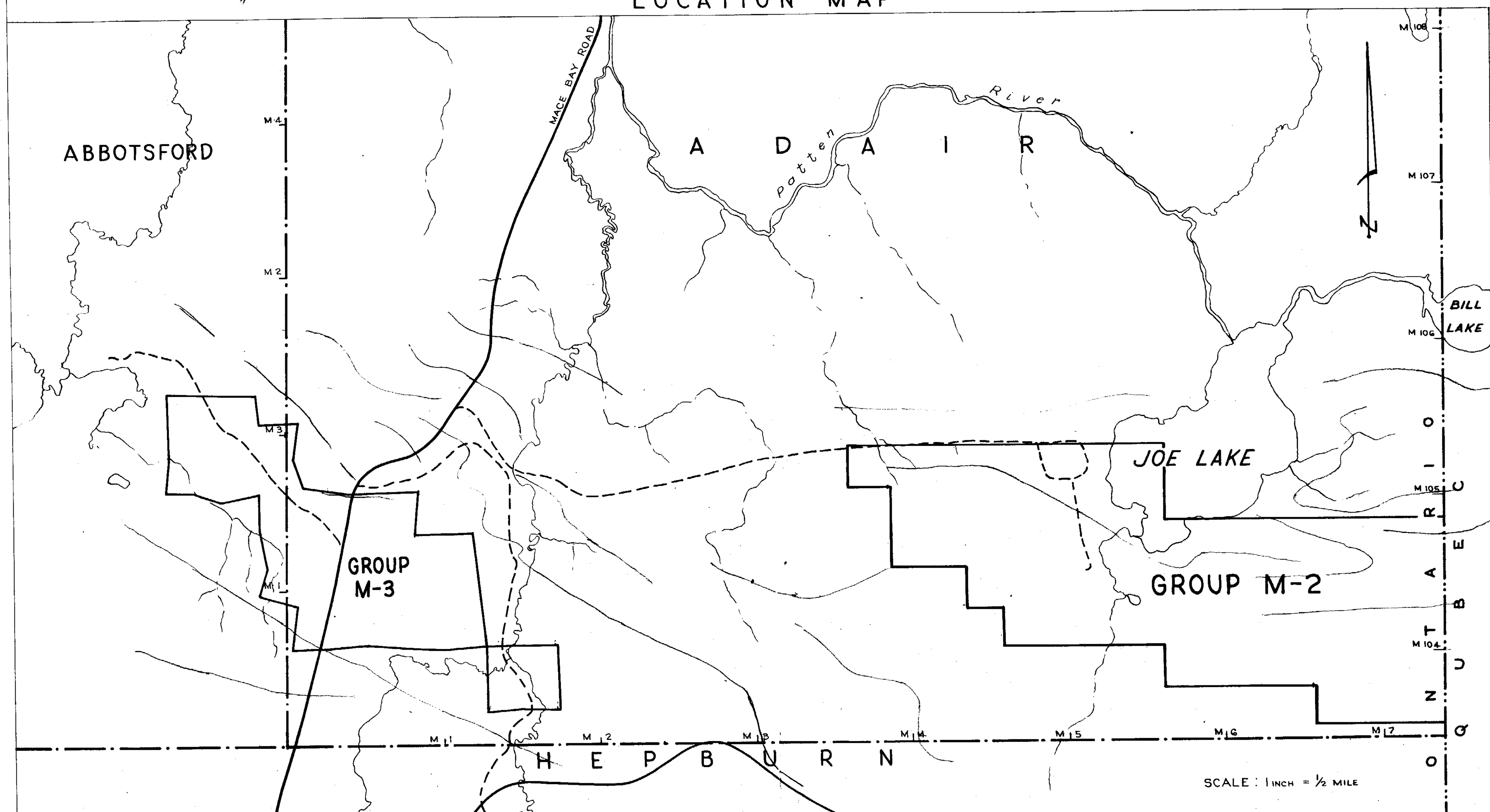
LEGEND

- D.D.H. COMPLETED
- CONDUCTOR AXIS
- CONDUCTIVE ZONE
- TRAVERSE
- CLAIM LINE

SCALE 1 INCH = 200 FEET		JUBILEE-JAVELIN
DATE MAY 1966 REV'D MAY 1967		**JOE L. AREA-ANOMALOUS ZONE #4,5,6** ADAIR TWP.
DWG. Leo D.	AP?	
No. 3	FILE ONT.	VERT. ELECTROMAGNETIC SURVEY

280





LEGEND

ISOMAGNETIC LINES

500 GAMMAS
100 GAMMAS
50 GAMMAS
MAGNETIC DEPRESSION
FLIGHT LINES

SYMBOLS

MAIN ROAD
SECONDARY ROAD
TOWNSHIP BOUNDARY
INTER PROVINCIAL BOUNDARY
CLAIM GROUP BOUNDARY

63.1731

SCALE 1 INCH = 0.25 MILE	JUBILEE – JAVELIN
DATE AUGUST 1965	AERO-MAGNETIC INFORMATION
DWG. Leo D. APP'D [signature]	ADAIR TWP., ONTARIO
No. FILE	

290