REPORT ON

MAX-MIN AND SPECTROMETER SURVEYS

HEARST AND SKEAD TOWNSHIPS, ONTARIO

I. INTRODUCTION

A Max-Min (horizontal loop) and spectrometer surveys were carried out over parts of previously cut lines from July 1980 to the fall of 1981. The results are plotted on the enclosed maps.

II. LOCATION, ACCESS, AND OWNERSHIP

The property is located in the south-central part of Hearst township and lots 7 to 10 Concession 6, Skead township. There are 36 claims covered by the surveys numbered L398188 to 398189; L522783 to 522787; L522789 to 522792; L531335 to 531336; L531360 to 531362; L531367 to 531369; L532083 to 532085; L532087 to 532092; L532253 to 532255 and L545052 to 545056 all inclusive. The claims are recorded in the name of Superior Northwest Inc., Box 1110, Sault Ste. Marie, Ontario.

A paved secondary highway No. 624 bisects the claims in an approximate N-S direction about 7 miles south of Larder Lake, Ontario. Old logging roads, usable as walking trails cover most of the property.

III. PREVIOUS EXPLORATION

The earliest known work on the property occurred during the period 1906-1911, by prospectors from the Cobalt Mining Camp. Several pits in the eastern and northwestern parts of the property were opened at that time. The encountered felsic agglomerate with pyrite and pyrrhotite clasts and sulfide bearing graphitic shales.

Previous Exploration (Continued)

In 1919, a visible gold showing was discovered in the south-west corner of the property, by two prospectors by the name of Manley and O'Reilly. (Thus the ManOr Property). The gold occurred on a slickensided contact between a thin quartz-porphyry dyke and a narrow band of green carbonate. In 1920, a two compartment shaft was sunk to a depth of 500' and approximately 1000' of lateral work was done at the 200', 400' and 475' horizons. The mine was closed in 1927 and there are no figures available regarding the production, grade and potential reserves of the mine. In 1938, some drilling was done from the 225'level, but resulted in no follow up work. The shaft was sunk in or immediately south of the Manor Fault, a major structural feature of the property which strikes northwest-southeast. The host rock of the quartz porphyry dyke and associated gold mineralization is a chloritized sheared gabbro.

The area of the property was officially mapped by the Ontario Department of Mines during the period 1941-1948. The results of the mapping appeared in two O.D.M. publications: "The Geology of Hearst and McFadden Townships" by J.E. Thompson; "The Geology of Skead Township" by D.F. Hewitt. The correlation of both stratigraphy and lithology of the two townships was excellent and aided greatly in Utah's mapping of the property.

The area of recent exploration interest has been the felsic volcanic belt in the eastern half of the property. In 1970, Kennco drilled two holes in the south central portion of this belt,

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Previous Exploration (Continued)

to test ground E.M. conductors. Hole #1 intersected a banded brown pyritic chert, which was anomalous in both zinc and copper. Hole #2 intersected a black slate, which was most likely graphitic and the cause of the conductor.

In 1972, Noranda established a grid over 14 claims in the same area, over which McPhar vertical loop E.M. and magnetometer surveys were completed. Six conductors two with co-incident mag highs, were delineated but no follow up drilling was reported.

In 1976, a Dighem airborne electromagnetic survey was flown for Superior Northwest Inc. over the property and it was subsequently optioned by the Dighem Syndicate in 1977. A ground investigation of 20 airborne anomalies ensued, employing VLF-EM, fluxgate magnetometer, and reconnaisssance geological mapping. Thirteen of these anomalies were determined to be barren graphite or economically barren sulfides (pyrite-pyrrhotite). The remaining seven were rejected as being either too weak or located in an unfavorable geological environment.

In the spring of 1979, the Ontario Department of Natural Resources completed an input survey over 24 townships in the Kirkland Lake-Larder Lake area, including both Hearst and Skead Townships. Several 3, 4, and 5 channel airborne electromagnetic anomalies occurred in both the eastern and western felsic volcanic belts on the property.

IV. TOPOGRAPHY

The property has approximately 20% outcrop exposure, the majority of which occurs in the far western and eastern portions.

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Topography (Continued)

The outcrop is of predominently high relief, on average, 20-50' above the surrounding swampy lowlands.

A large esker ridge, approximately 1000' wide and 100' above the surrounding topography trends southeast through the central portion of the property.

Extensive areas of spruce, alder and grassy swamp occupy the low lying areas between outcrops and esker features. The largest swamp on the property strikes southeast from Highway 624 along the western edge of the esker, and is approximately 1600' wide.

Only one major body of water occurs on the property, that being Grace Lake, in the far northwest corner. The lake is a narrow elongate, northwest-southeast striking body of water which occupies a fault gouge of similar orientation. The lake drains north to Larder Lake via Sharp Creek. Numerous small beaver ponds occur throughout the property, particularly in areas of extensive swamp-land.

All Accessible timber in the area has been harvested, and thick undergrowth of alder, hazlenut, cherry and maple now occupy these havested areas. A recent reforestation program has occurred in the northwest portion of the property. Small stands of white birch, poplar and spruce are localized in small areas between outcrops and in the inaccessible reaches of the property.

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V. GEOLOGY

The property is underlain by Keewatin felsic to mafic volcanics, quartz feldspar and dacite porphyries, and sheared gabbro. Post Keewatin serpentinized peridotite is present in minor amounts as thin sills. An unconformity separates these rocks from the overlying Timiskaming sediments which consist of thinly bedded turbidite shales and slates, greywackes and conglomerates. Also present within the Timiskaming sedimentary sequence are chloritized, often strongly schistose metasediments derived from reworked intermediate ot mafic volcanics. A few thin amphibolite and lamprophyre dykes intrude the rocks of the property and are dated as Algoman.

VI. SURVEY PROCEDURE

In order to accomodate the changing structural orientation of the bedrock on the property, a western and eastern grid was established. The western grid consisted of north-south bearing lines of 400' spaced intervals, while the eastern grid lines ran east-west, also at 400' intervals. Each grid was centred about a baseline, which acted as a control during cutting operations. Tie lines were cut at grid line extemities, to provide additional control. Pickets were placed at 100' intervals and marked accordingly.

A Max-Min survey was completed over the eastern grid of the property by geophysical personnel during the period July-August 1980. A coil separation of 400' was employed, as overburdern depths were not great. In-Phase and Out-of-Phase readings were taken at the 1777, 888, and 444 Hz frequencies and the results were plotted as line sections.

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VI. Survey Procedure (Continued)

A spectrometer survey was run by geophysical personnel during the fall of 1981 using a GIS-5 Digital Intregating Spectrometer, with a reading time of 10 seconds. Readings were taken at 100-foot intervals. The type of terrain is noted on the geological map which has already been submitted with a previous report. The looping method was used for control of variation.

VII. DISCUSSION OF RESULTS

1) Horizontal Loop (Max-Min) EM Survey

Conductor A

This conductor trending north-south from Line 96N at 15W to Line 88N at 15W, shows a moderately strong response on the 1777 Hz frequency, and a much weaker response on the 888 and 444 frequencies. The conductor occurs in an area of interpreted andesite-gabbro.

Conductor B

Trending slightly northeast-southwest from Line 96N at 7E to 92N at 5E, this conductor shows a strong response, in the 1777 Hz frequency and a moderate response in the 888 and 444 Hz frequencies. The conductor occurs within a strongly magnetic altered andesite and local favorable geochemistry values warrant a short hole to test this conductor.

Conductor C

This conductor trends north-south from Line 88N at 25 + 50 W to Line 84N at 26W, exhibiting a weak response in the 1777 Hz frequency and no appreciable response in the lower frequencies. The conductor occurs within interpreted andesite.

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VII. Discussion of Results (Continued)

Conductor D

Trending slightly northeast-southwest from Line 80N at 22W to Line 72N at 27W this conductor exhibits a moderate response in the 1777 Hz frequency and a very weak to nil response in the lower frequencies. The conductor was drill tested during the 1980 drill season at Line 80N, 22W where graphite was encountered. No further work is recommended on this conductor.

Conductor E

This conductor trends northwest-southeast from line 76N, 18W to Line 72N, 13W, exhibiting a strong response in the 1777 Hz frequency and weaker responses in the 888 and 444 frequencies. The conductor occurs at the interpreted felsic-volcanic-pillowed basalt contact, a very favourable geological area. It may, however, represent an extension or alternate directional interpretation of the Conductor D, drill tested at Line 80 N, 22W and encountering graphite. Nevertheless, the favourable geologic environment and strong response of the conductor warrants drill testing.

Conductor F

This northwest-southeast trending conductor runs from Line 72N, 27W to Line 60N 10W, and exhibits a strong response on all three fequencies. It was drill tested at Line 68N, 23W during the 1981 drill season, and encountered graphitic argillite. No further drill testing of this conductor is recommended.

Conductor G

This conductor trends north-south from Line 64N, 10W to Line 60N, 9 + 50W, and exhibits a strong response on all

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VII. Discussion of Results (Continued)

three frequencies. The conductor appears to occur at the rhyolite-andesite, gabbro contact, a very favourable geologic environment. It may represent an extension of Conductor E, which disappeared on Line 68 due to the intrusion of gabbro.

Conductor H

This isolated conductor occurs at Line 64N, 1E, within interpreted gabbro andesite. A weak response occurs in all three frequencies. To the east lies interpreted rhyolite and quartz feldspar porphyry, and this conductor may represent a graphitic horizon marking this contact.

Conductor I

This strong conductor occurs at Line 56N, 3 + 50W at the rhyolite-andesite contact. Geologically, the conductor represents an excellent target. However, the conductor may be an extension of the graphitic conductor F, as it lies on strike. The conductor, is recommended for drilling with perhaps a very short hole.

Conductor J

This conductor trends slightly northwest to southeast from Line 56N, 12W to Line 26N at 5W. The conductor exhibits a moderate to strong response in the 1777 Hz frequency, with much weaker reponses in the lower frequencies. The conductor occurs within dacites and rhyolites. It has been tested in four places (two Utah holes and two Kennco holes) and encountered primarily graphitic argillite and pyritic chert. It is interesting to note

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VII. Discussion of Results (Continued)

that all four holes encountered anomalous zinc mineralization, and this conductive zone may undergo a facies change at depth which warrants drill testing.

Conductor K

This north-south trending conductor runs from Line 28N 1W to Line 12N, 2 + 50 W, and exhibits a very strong response on all three frequencies. It occurs within interpreted rhyolites. The conductor may be a northern extension of Conductor L, which is interpreted as being graphitic. However, the favourable geology and geochemistry results within the area of the conductor, I believe, warrant drill testing of Line 24N, 1 + 50 W, the conductors strongest response.

Conductor L

This slightly northwest southeast trending conductor runs from Line 12N, 2 + 50 W to Line 28N , 2 + 50 E, and apparently continues south off the property. It exhibits an exceptionally strong response on all three frequencies. The conductor occurs within the vicinity of the rhyolite-metasediment contact, where abundant graphitic shales are encountered on surface. It is believed that these graphitic shales are the cause of the conductor.

Conductor M

This isolated conductor occurs at Line 28N, 12E and exhibits a strong reponse on all three frequencies. It occurs directly over an outcrop of graphitic shale readily explaining its presence.

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VII. Discussion of Results

2) Spectrometer Survey

The spectrometer survey was conducted to test for radioactivity around the margins of the sedimentary basins. Readings were uniformly low, and no radioactivity of interest was found.

Respectfully submitted

R.A. MacGregor, P. Eng.

June 4, 1982

C E R T I F I C A T E

I, Robert A. MacGregor certify:

1. I am a Mining Engineer residing at 134 Palace Drive, Sault Ste. Marie, Ontario. I have worked as a mining engineer and geologist for the past 20 years.

2. I am a member of the Association of Professional Engineers of the Province of Ontario and a member of the Canadian Institute of Mining and Metallurgy.

3. I attended Queen's University for two years in the Mining-Geology course.

4. I personally have knowledge of the field work covered by this report.

June 4/82
Date

REGISTERED PROFESSIONAL ENGINEER
R. A. MacGREGOR
PROVINCE OF ONTARIO

R. A. MacGregor

900

1984 02 22

Your File: 185 186
Our File : 2.4954

Mining Recorder
Ministry of Natural Resources
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

RE: Geophysical (Electromagnetic & Radiometric) Survey on Mining Claims L 398188 et al in the Townships of Skead and Hearst

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The Geophysical (Electromagnetic & Radiometric) Survey assessment work credits as listed with my Notice of Intent dated January 18, 1984 have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours very truly,

J.R. Morton
Acting Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

D. Kinvig:sc

cc: Superior Northwest Inc
P.O. Box 1110
Sault Ste. Marie, Ontario
P6A 5N7

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

cc: Resident Geologist
Kirkland Lake, Ontario

Ministry of Natural Resources
Ontario

Technical Assessment Work Credits

File 2.4954

Date 1984 01 18

Mining Recorder's Report of Work No. 185, 186

AMENDED

Recorded Holder
SUPERIOR NORTHWEST INC

Township or Area
SKEAD AND HEARST TOWNSHIPS

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic _____ days	
Magnetometer _____ days	
Radiometric 17 days	L 522783 522785 522790 to 92 incl 531335 - 36 531360 to 62 incl 531367 to 69 incl 532083 to 85 incl 532087 to 92 incl 532253 to 55 incl 545052 to 56 incl
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days ☐ Airborne ☐	
Special provision ☒ Ground ☒	
☐ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77(19) — 60.

828 (83/6)

Feb 8, 1984

1984 01 18

Your File: 185, 186
Our File : 2.4954

Mining Recorder
Ministry of Natural Resources
4 Government Road East
P.O. Box 984
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

RE: Geophysical (Electromagnetic & Radiometric) Survey submitted on Mining Claims L 398188 et al in the Townships of Skead and Hearst.

The Geophysical (Electromagnetic & Radiometric) Survey assessment work credits as allowed in the Notice of Intent dated November 25, 1983 were in error and have been amended as per the enclosed revised Notice of Intent. I sincrely apologize for any inconvenience this error may have caused.

Yours very truly,

J.R. Morton
Acting Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

D. Kinvig:sc

cc: Superior Northwest Inc
P.O. Box 1110
Sault Ste. Marie, Ontario
P6A 5N7

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario.

Ministry of Natural Resources

Ontario

Your file: 185, 186

.1984 01 18

Our file: 2.4954

Mining Recorder
Ministry of Natural Resources
4 Government Road East
P.O. Box 984
Kirkland Lake, Ontario
P2N 1A2

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

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

Yours very truly,

E.F. Anderson
Director
Land Management Branch

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

D. Kinvig:sc

Encls:

cc: Superior Northwest Inc
P.O. Box 1110
Sault Ste. Marie, Ontario

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

FILE

B45

Ministry of
Natural
Resources

Ontario

Notice of Intent

for Technical Reports

2.4954

1984 01 18

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Land Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.

Ontario

Geochemical and Expenditures)

(File L522783)

Lands Admin

The Mining Act

Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

#186

Type of Survey(s)	Township or Area
SPECTROMETER	Hearst & Skead

Claim Holder(s)	Prospector's Licence No.
SUPERIOR NORTHWEST INC.	T-626

Address: P.O. Box 1110, Sault Ste. Marie, Ontario P6A 5N7

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
Utah Mines Ltd.	Day 9 Mo. 81 Yr. / Day 4 Mo. 6 Yr. 82	

Name and Address of Author (of Geo-Technical report): Robert A. MacGregor, 134 Palace Dr. Sault Ste. Marie, Ontario

Credits Requested per Each Claim in Columns at right

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

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	522783	
	522785	
	522790	
	522791	
	522792	
	531335	
	531336	
	531360	
	531361	
	531362	
	531367	
	531368	
	531369	
	532083	
	532084	
	532085	
	532087	
	532088	
	532089	
	532090	
	532091	
	532092	
	532253	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	532254	
	532255	
	545052	
	545053	
	545054	
	545055	
	545056	

RECEIVED
JUN 22 1982
MINING LANDS SECTION

LARDER LAKE MINING DIV.
RECEIVED
JUN - 7 1982
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

See serviced work Statement

Total number of mining claims covered by this report of work: 30

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures: $ ÷ 15 = Total Days Credits

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

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
600	JUN - 7 1982	
	Date Approved as Recorded	Branch Director

Date: June 4, 1982

Recorded Holder or Agent (Signature)

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: Robert A. MacGregor, P.O. Box 1110, Sault Ste. Marie, Ont. P6A 5N7

Date Certified: June 4 1982

Certified by (Signature)

Ontario — Geochemical and Expenditures) — The Mining Act — Note: — Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns. — Do not use shaded areas below.

(Ghi L532082) Lands Admin #185

Type of Survey(s)	Township or Area
MAGNETIN H.E.M.	Skead & Hearst

Claim Holder	Prospector's Licence No.
Superior Northwest Inc.	6 T-626

Survey Company	Survey Dates (linecutting to office)	Total Miles of line Cut
Utah Mines Ltd.	Day 8 Mo. 80 Yr. — Day 4 Mo. 6 Yr. 82	

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

Robert A. MacGregor, 134 Palace Dr. Sault Ste. Marie, Ontario

Special Provisions Credits Requested

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

Man Days

Instructions		Days per Claim
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits

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

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

Instructions

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

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	398188	
	398189	
	522784	
	522785	
	522786	
	522787	
	522789	
	522790	
	522791	
	522792	
	531335	
	531336	
	531367	
	531368	
	532084	
	532085	
	532087	
	532088	
	532089	
	532090	
	532091	
	532092	
	532255	
	545055	
	545056	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

RECEIVED
JUN 22 1982
MINING LANDS SECTION

LARDER LAKE MINING DIV.
RECEIVED
JUN -7 1982
7 8 9 10 11 12 1 2 3 4 5 P.M.

Cpe journal work statements

Total number of mining claims covered by this report of work. 25

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
500	JUN - 7 1982	
	Date Approved as Recorded	Regional/Branch Director

Report Completed

Date of Report	Recorded Holder or Agent (Signature)
June 4/82	

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying

Robert A. MacGregor, P.O. Box 1110, Sault Ste. Marie, Ont. P6A 5N7

Date Certified	Certified by (Signature)
June 4, 1982	

Ministry of Natural Resources
Ontario

Dec 16, 1983

Your file: 185 & 186

Our file: 2.4954

1983 11 25

Mr. George J. Koleszar
Mining Recorder
Ministry of Natural Resources
4 Government Road East
P.O. Box 984
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

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

Yours very truly,

E.F. Anderson
Director
Land Management Branch

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

D. Kinvig:mc

Encls:

cc: Superior Northwest Inc
P.O. Box 1110
Sault Ste. Marie, Ontario
P6A 5N7

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

845

FILE

Ministry of Natural Resources

Ontario

Notice of Intent

for Technical Reports

1983 11 25

2.4954/185 and 186

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Lands Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.

Ministry of Natural Resources
Ontario

Technical Assessment Work Credits

File 2.4954

Date 1983 11 25

Mining Recorder's Report of Work No. 185

Recorded Holder
SUPERIOR NORTHWEST INC

Township or Area
SKEAD AND HEARST TOWNSHIPS

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	L 398188 - 89
Electromagnetic 17 days	522784 to 87 inclusive
Magnetometer ____ days	522789 to 92 inclusive
Radiometric ____ days	531335 - 36
Induced polarization ____ days	531367 - 68
Other ____ days	532084 - 85
Section 77 (19) See "Mining Claims Assessed" column	532087 to 92 inclusive
Geological ____ days	532255
Geochemical ____ days	545055 - 56
Man days ☐ Airborne ☐	
Special provision ☒ Ground ☒	
☒ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77(19) — 60.

Ministry of Natural Resources
Ontario

Technical Assessment Work Credits

File 2.4954

Date 1983 11 25

Mining Recorder's Report of Work No. 186

Recorded Holder: SUPERIOR NORTHWEST INC

Township or Area: SKEAD AND HEARST TOWNSHIPS

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	L 522783 522785 522790 to 92 inclusive 531335 - 36 531360 to 62 inclusive 531367 to 69 inclusive 532083 to 85 inclusive 532087 to 92 inclusive 532253 to 55 inclusive 542052 to 56 inclusive
Electromagnetic _____ days	
Magnetometer _____ days	
Radiometric 17 days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days ☐ Airborne ☐	
Special provision ☒ Ground ☒	
☒ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

AMENDED

Special credits under section 77 (16) for the following mining claims

A

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77 (19) — 60:

B28 (83/6)

Ministry of Natural Resources
Ontario

Geotechnical Report Approval

File 2.4954

Mining Lands Comments — You wanted to see this file again

☑ To: Geophysics Mr. Roger Barlow

Comments

☑ Approved ☐ Wish to see again with corrections | Date Oct 30/83 | Signature R Barlow

☐ To: Geology - Expenditures

Comments

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

☐ To: Geochemistry

Comments

L. D.

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

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

1693 (81/10)

FROM THE DESK OF

Robert A. MacGregor

11/10/83

R Pickette —

Sorry for long delay, but took some time to get raw data readings plotted. I am re-submitting Radiometric plan as is since a geological report & map has already been submitted & approved for this area. I understand this covers the regiment & all little else in duplicating same

R MacGregor

Ontario

Action Memo

Time

Date Aug 30/83

To R.F. MacGregor

From (Name and City)

R. Pichette, Mining Lands.

I.C.N. No.	Area Code	Telephone No.	Ext.	Message Taken By

☐ Phoned	☐ Please Call	☐ Will Call Back	☐ Waiting in Person	☐ Will Return
☐ On Hold	☐ Returned Your Call	☐ Wishes Appointment	☐ Was Here	

☐ File	☐ Draft Reply For My Signature	☐ Provide More Details	☐ For Your Information
☐ Type Draft	☐ For Your Approval and Signature	☐ Keep Me Informed	☐ Per Discussion
☐ Type Final	☐ Circulate, Initial and Return	☐ Take Appropriate Action	☐ Per Your Request
☐ Make Copies ——	☐ Return With Comments	☐ Note and See Me	☐ Returned With Thanks
☐ Please Answer	☐ Investigate and Report	☐ Note and Return	☐

Comments

As per our telephone conversation on Aug 29/83, attached are the duplicate copy of the maps. Please return these maps & the originals to this office when corrections are made. I apologize for any inconvenience this has caused.

7540-1037 (Rev. 78/08)

☐ Over

1983 06 24 2.4954

Superior Northwest Inc.
P.O. Box 1110
Sault Ste. Marie, Ontario
P6A 5N7

Attention: R.A. MacGregor

Dear Sirs:

RE: Geophysical (Electromagnetic and Radiometric)
Survey submitted on Mining Claims L398188 et al
in the Townships of Skead and Hearst

Enclosed are the plans, in duplicate, for the above-mentioned survey. Please provide the following:

a) signature of the author of the report on all plans

b) E.M. plans need raw data readings plotted at each station

c) radiometric plan must be supplemented by an outcrop map

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

Yours very truly,

1983

E.F. Anderson
Director
Land Management Branch

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

R. Pichette:mc

Encl.

cc: Mining Recorder
Kirkland Lake, Ontario

1983 06 24 2.4954

Superior Northwest Inc.
P.O. Box 1110
Sault Ste. Marie, Ontario
P6A 5N7

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RE: Geophysical (Electromagnetic and Radiometric)
Survey submitted on Mining Claims L398188 et al
in the Townships of Skead and Hearst

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a) signature of the author of the report on all plans

b) E.M. plans need raw data readings plotted at each station

c) radiometric plan must be supplemented by an outcrop map

Geological Survey has been previously submitted - it shows O/C

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

Yours very truly,

Aug 30/83
Duplicate copies of the maps were not sent with originals. Duplicates sent on Aug 30/83 - allow at least one month prior to sending 10 day notice

E.F. Anderson
Director
Land Management Branch

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

R. Pichette:mc

Encl.

cc: Mining Recorder
Kirkland Lake, Ontario

Ministry of Natural Resources
Ontario

Geotechnical Report Approval

File 2.4954

Mining Lands Comments

- maps not signed

☑ To: Geophysics Mr. Barlow

Comments

- EM maps need raw readings

☐ Approved	☑ Wish to see again with corrections	Date May 11/83	Signature R.R.

☐ To: Geology - Expenditures

Comments

☐ Approved	☐ Wish to see again with corrections	Date	Signature

☐ To: Geochemistry

Comments

☐ Approved	☐ Wish to see again with corrections	Date	Signature

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

1593 (81/10)

1982 07 30 2.4954

Mining Recorder
Ministry of Natural Resources
4 Government Road East
P.O. Box 984
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

We have received reports and maps for a Geophysical (Magnetometer) & Radiometric Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims L 398188 et al in the Townships of Hearst and Shead.

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

Yours very truly,

E.F. Anderson
Director
Land Management Branch

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

J. Skura/sc

cc: Superior Northwest Inc
Sault Ste Marie, Ontario

cc: R. A. MacGregor
Sault Ste Marie, Ontario

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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

Type of Survey(s) Max-Min and Spectrometer
Township or Area Hearst & Skead
Claim Holder(s) Superior Northwest Inc.

Survey Company Utah Mines Ltd.
Author of Report Robert A. MacGregor
Address of Author 134 Palace Dr. S.S. Marie, Ont.
Covering Dates of Survey July 1980 - June 1982 (linecutting to office)
Total Miles of Line Cut _____

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
--Electromagnetic	20
--Magnetometer	
--Radiometric	20
--Other	
Geological	
Geochemical	

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

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

DATE: June 4, 1982 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications 2 1102

Previous Surveys

File No.	Type	Date	Claim Holder

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
L398188	L532085
L398189	L532087
L522783	L532088
L522784	L532089
L522785	L532090
L522786	L532091
L522787	L532092
L522789	L532253
L522790	L532254
L522791	L532255
L522792	L545052
L531335	L545053
L531336	L545054
L531360	L545055
L531361	L545056
L531362	
L531367	
L531368	
L531369	
L532083	
L532084	

If space insufficient, attach list

RECEIVED
JUL 21 1982
MINING LANDS SECTION

TOTAL CLAIMS 36

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 978 Max-Min 1131 (Spectrometer) Number of Readings 5860 1131

Station interval 100 feet Line spacing 400 feet

Profile scale 1" = 40°

Contour interval

MAGNETIC

Instrument

Accuracy – Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument Apex Parametrics MaxMin II EM

Coil configuration Horizontal Loops

Coil separation 400'

Accuracy 2% per scale division

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

Frequency 444 Hz 1777 Hz (specify V.L.F. station)

Parameters measured In-Phase & out-of Phase components of secondary electromagnetic field

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

– Integration time

Power

Electrode array

Electrode spacing

Type of electrode

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument Scintrex GIS - 15

Values measured Total Count

Energy windows (levels) 10 second counting period

Height of instrument 3 feet Background Count _____

Size of detector 5.0 cu. in.

Overburden variable outcrop to swamp to sand plain
(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____
(specify for each type of survey)

Accuracy _____
(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

_____

_____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

_____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

_____

Drainage Development _____

Estimated Range of Overburden Thickness _____

_____

_____

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

_____

_____

_____

General _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ANALYTICAL METHODS

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

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

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

	E.M.	Radio
L.- 398188	✓	
398189	✓	
522783		1/4
84	1/2	
85	3/4	1/2 ✓
86	✓	
522787	3/4	
522789	3/4	
90	✓	3/4
91	✓	1/2
522792	3/4	1/2
	1/4	3/4

PRO-RATED C.M.

$25 \times 20 \div (25 + 20\frac{3}{4}) =$

$= 16.66$

$= 17$ days

	E.M.	Radio
531335	1/2	✓
531336	1 ✓	1/4
531360		✓
61		✓
531362		✓
531367	✓	✓
68	✓	✓
531369		1/4
532083		1/2
84	1/2	✓
532085	✓	✓
	3/4	3/4

PRO-RATED C.M.

$30 \times 20 \div (30 + 20\frac{3}{4}) =$

$= 16.66$

$= 17$ days

2.4954

	E.M.	Radio
532087	✓	> 1/2
88	1	✓
89	✓	> 1/2
90	✓	✓
91	✓	> 1/2
532092	✓	> 1/2
532253		✓
54		✓
532255	1/2	✓
545052		1/2 (1/2)
53		✓
54		1/2
55	✓	✓
545056	✓	✓
	3/4	1/4

D.K.

McVITTIE TWP. M-370

McELROY TWP. M-366

McFADDEN TWP. M-368

SKEAD TWP. M-387

THE TOWNSHIP
OF

HEARST

DISTRICT OF
TIMISKAMING

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

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

NOTES

4.30' Surface Rights reservation along the shores of all lakes and rivers.

Township of Hearst lies wholly within the CORPORATION of the TOWNSHIP of LARDER LAKE File L.9282.

Staking of mining claims within the Town of Larder Lake shown thus [illegible] subject to Sec. 37(b) of the Mining Act (R.S.O. 1970).

SAND AND GRAVEL

(G) QUARRY PERMIT

Areas withdrawn from staking under Section 43 of the Mining Act (RSO1970)

Order No.	File	Date	Disposition
(R) W14/80NR.	164586	26/11/80	S.R.O.

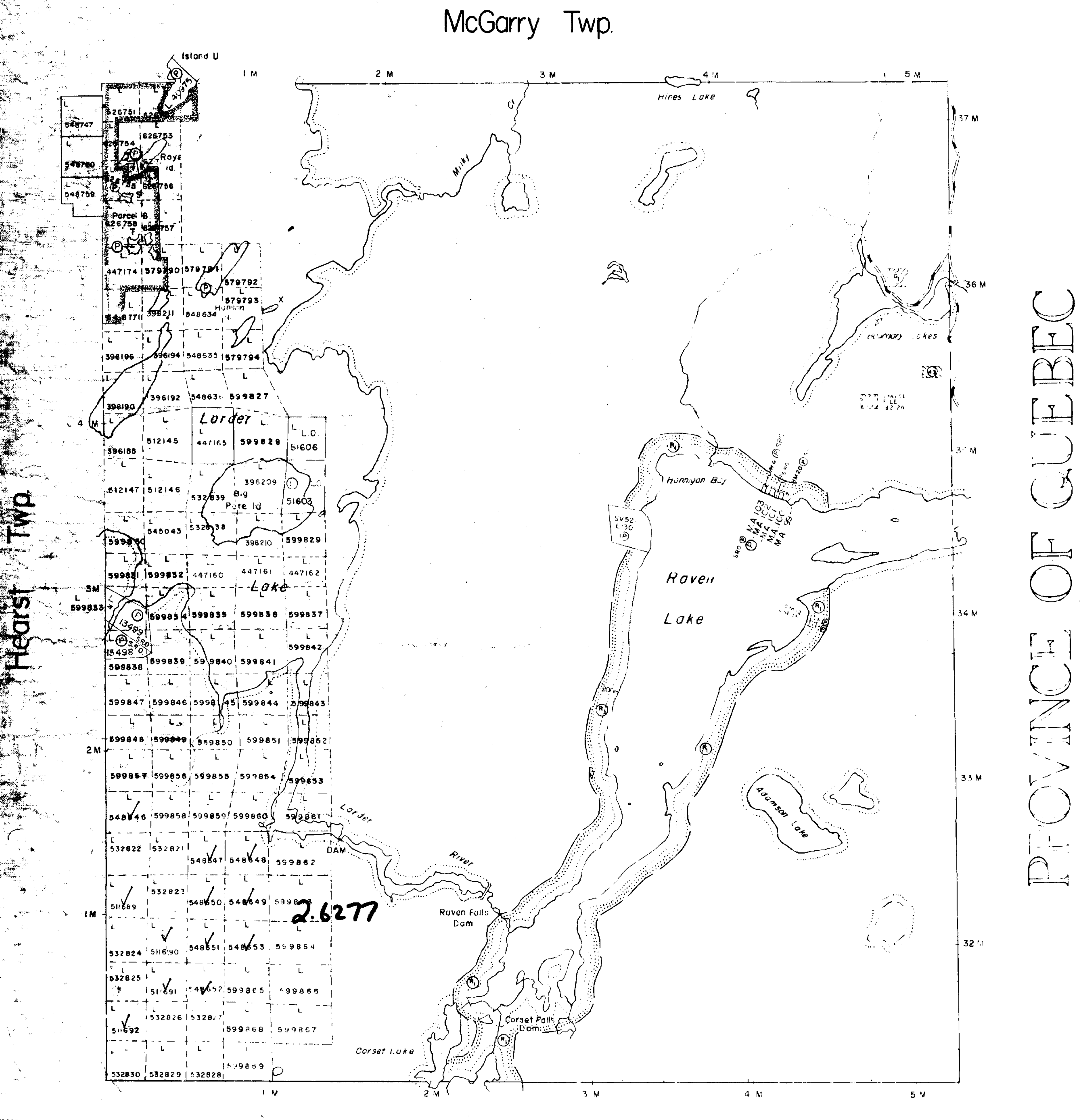
DATE OF ISSUE
NOV 16 1983
Ministry of Natural Resources
TORONTO

PLAN NO. M-354

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

2.4954

32D04SE0199 2.4954 HEARST



THE TOWNSHIP
OF

McFADDEN

DISTRICT OF
TIMISKAMING

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.

L.O. 12010 shown thus:

[illegible] under Sect. [illegible]

	File	Date	Disposition
W 52 74	42124	15/10/74	S.R.
W 11 75	88522	19/6/74	S.R. & M.R.

SAND and GRAVEL

[illegible] GRAVEL RESERVE [illegible]

DATE OF ISSUE
APR 3 1991
Ministry of Natural Resources
TORONTO

PLAN NO.-M.368

MINISTRY OF NATURAL RESOURCES

32D04SE0199 2.4954 HEARST

210

15000N

14000N

13000N

12000N

11000N

10000N

9000N

19000E

20000E

21000E

22000E

LEGEND

FREQUENCY - 444

INPHASE = ————————

OUTPHASE = - - - - - - - - - - - -

SCALE: (VERT. AXIS) 1 IN = 40 UNITS

UTAH MINES LIMITED

EXPLORATION DEPARTMENT

TORONTO ONTARIO CANADA

MANOR PROPERTY

MAX - MIN

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
24/11/80	MG					1 OF 2

SCALE

0 200 400 600

N

2.4954

19000E

20000E

21000E

22000E

23000E

24000E

230

21000N

20000N

19000N

18000N

17000N

16000N

L88N

L92N

L84N

L80N

L76N

L72N

L68N

L64N

L60N

LEGEND

FREQUENCY - 444

INPHASE = ————————

OUTPHASE = - - - - - - - - - - - -

SCALE: (VERT. AXIS) 1 IN = 40 UNITS

UTAH MINES LIMITED

EXPLORATION DEPARTMENT

MANOR PROPERTY

MAX - MIN

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
24/11/80	MG					2 of 2

N

2 4954

15000N

14000N

13000N

12000N

11000N

10000N

9000N

20000E

21000E

22000E

LEGEND

FREQUENCY - 888

INPHASE = ————————

OUTPHASE = - - - - - - - - - - -

SCALE: (VERT. AXIS) 1 IN = 40 UNITS

UTAH MINES LIMITED

EXPLORATION DEPARTMENT

TORONTO ONTARIO CANADA

MANOR PROPERTY

MAX - MIN

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
24/11/80	MG					1 OF 2

SCALE

0 200 400 600

N

2.4954

19000E

20000E

21000E

22000E

23000E

24000E

21000N

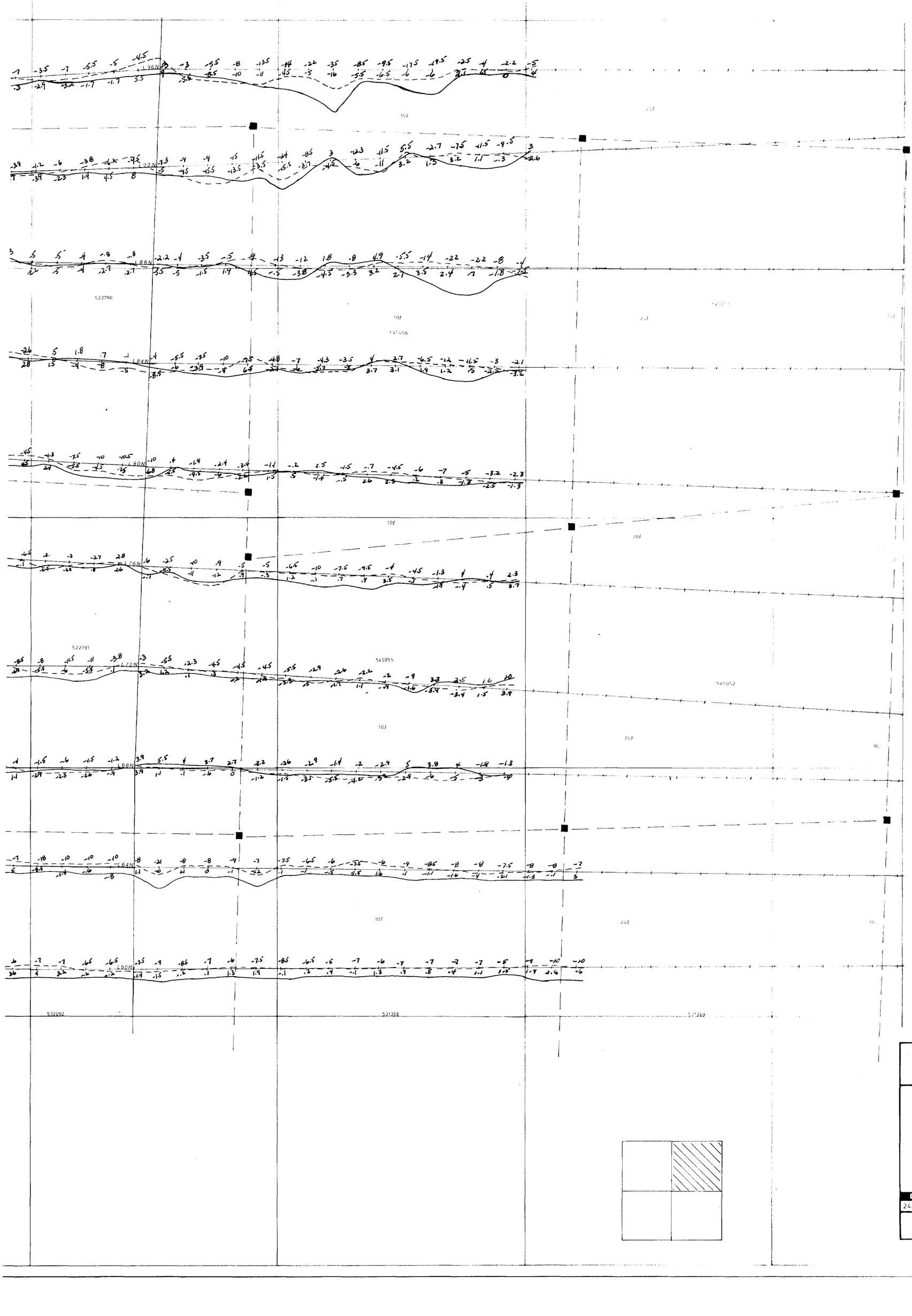
20000N

19000N

18000N

17000N

16000N



LEGEND

FREQUENCY - 888
INPHASE = ————————
OUTPHASE = - - - - - - - - - - - -
SCALE: VERTICAL 1 IN = 40 UNITS

UTAH MINES LIMITED
EXPLORATION DEPARTMENT

MANOR PROPERTY

MAX - MIN

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
24/11/80	MG					2 - 2

N

24954

15000N

14000N

13000N

12000N

11000N

10000N

9000N

20000E

21000E

22000E

L 56 N

L 52 N

L 48 N

L 44 N

L 40 N

L 36 N

L 32 N

L 28 N

L 24 N

L 20 N

L 16 N

L 12 N

L 8 N

L 4 N

L 0 N

10E

20E

30E

531368

531369

531367

532090

532089

532087

532088

396263

LEGEND

FREQUENCY - 1777

INPHASE = ————————

OUTPHASE = - - - - - - - - - - -

SCALE: (VERT. AXIS) 1 IN = 40 UNITS

READINGS: 20 40 20 ← IN-PHASE
10 15 30 OUT OF PHASE

UTAH MINES LIMITED

EXPLORATION DEPARTMENT

TORONTO ONTARIO CANADA

MANOR PROPERTY

MAX - MIN

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
24/11/80	MG					1 OF 2

SCALE 0 200 400 600

N

2.4754

19000E 20000E 21000E 22000E 23000E 24000N

21000N

20000N

19000N

18000N

17000N

16000N

L 80N L 76N L 72N L 68N L 64N L 60N

10E 20E 30E

522790 545053 545056

522791 545055 545052

532092 531368 531369

LEGEND

FREQUENCY - 1777
INPHASE = ————
OUTPHASE = - - - - - - - - - - -
SCALE: (VERT. AXIS) 1 IN = 40 UNITS

UTAH MINES LIMITED

EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

MANOR PROPERTY

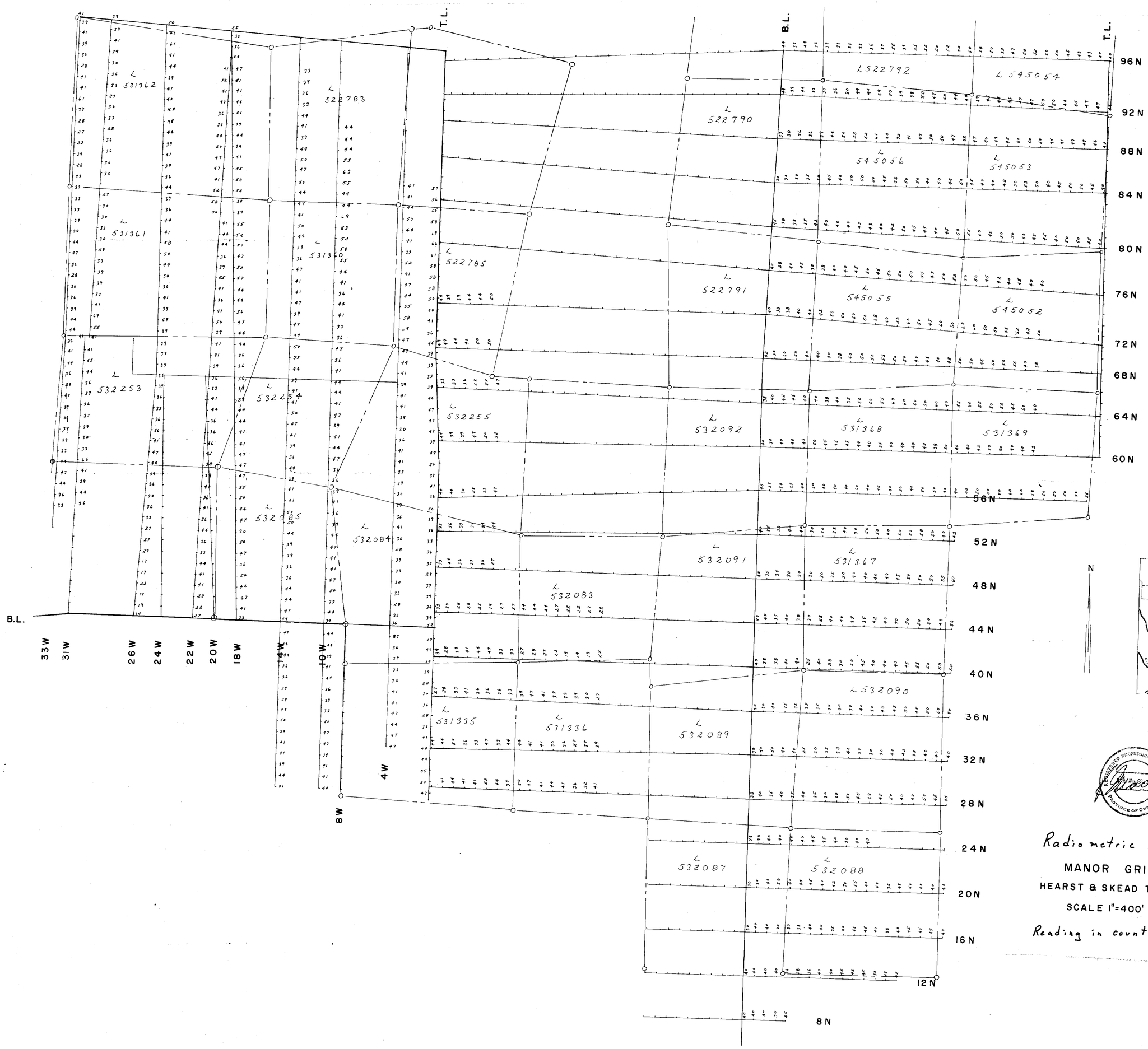
MAX - MIN

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
24/11/80	MG					2 OF 2

SCALE
0 200 400 600

N

2.49-54



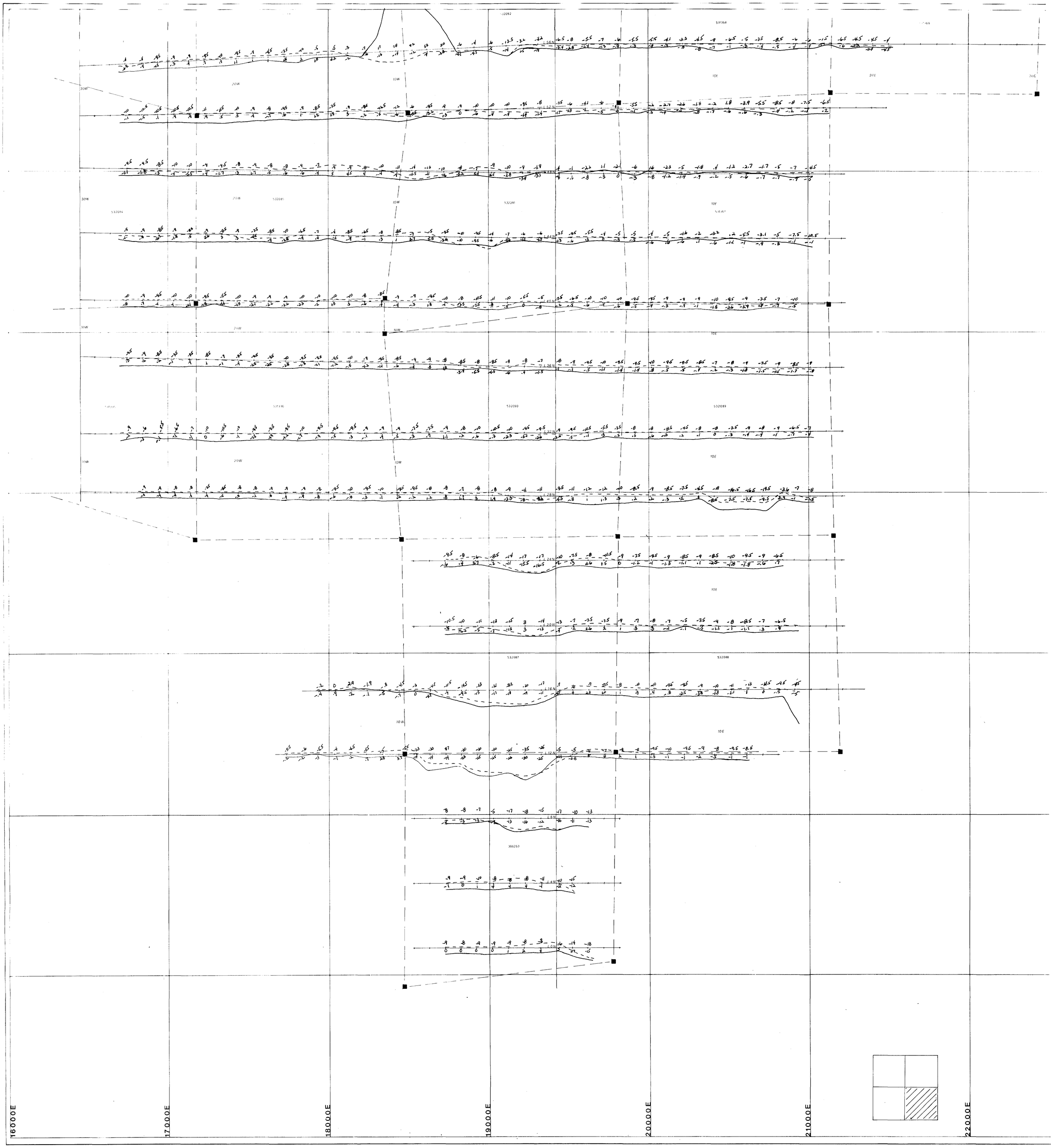
Radiometric Survey

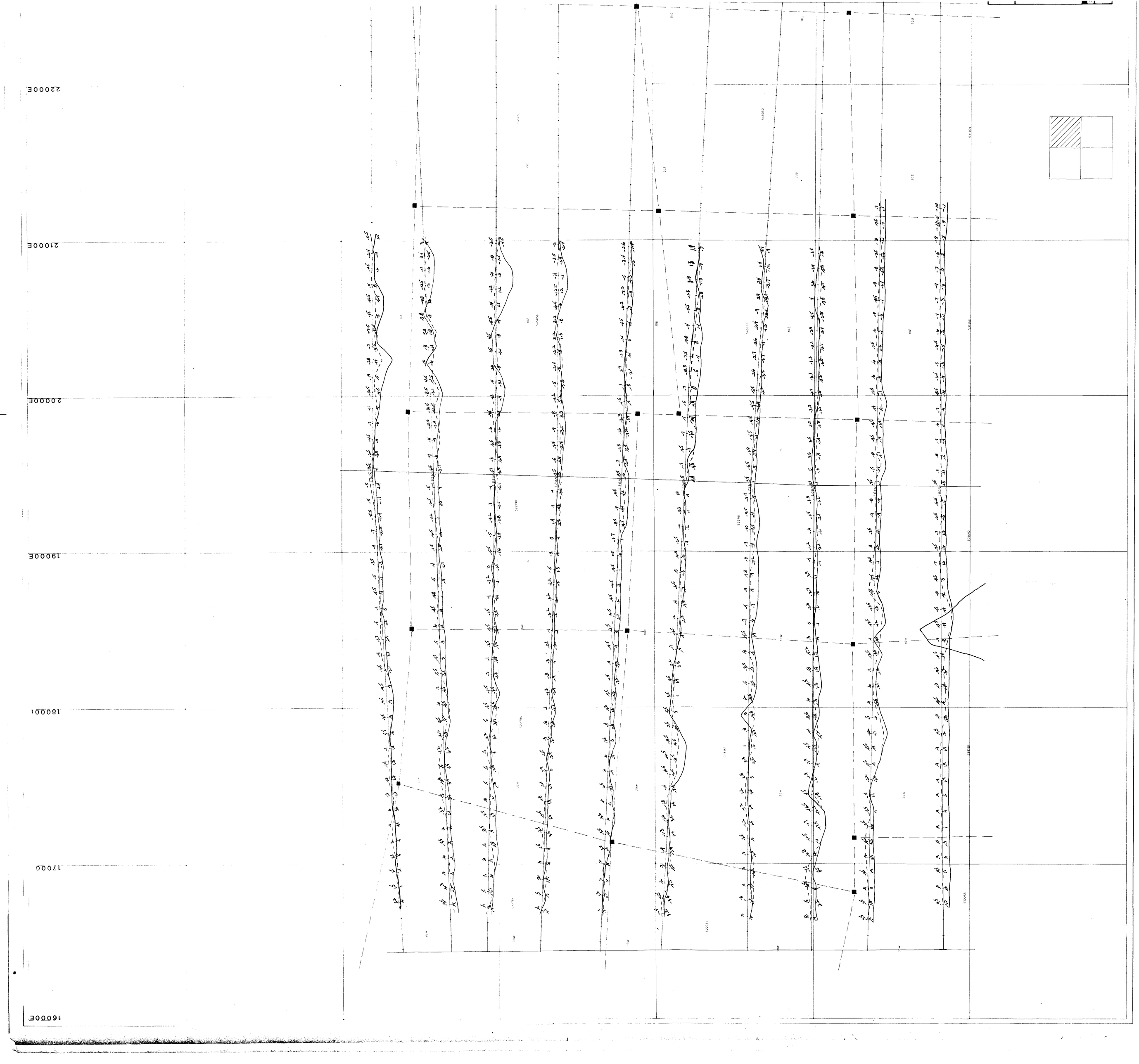
MANOR GRID

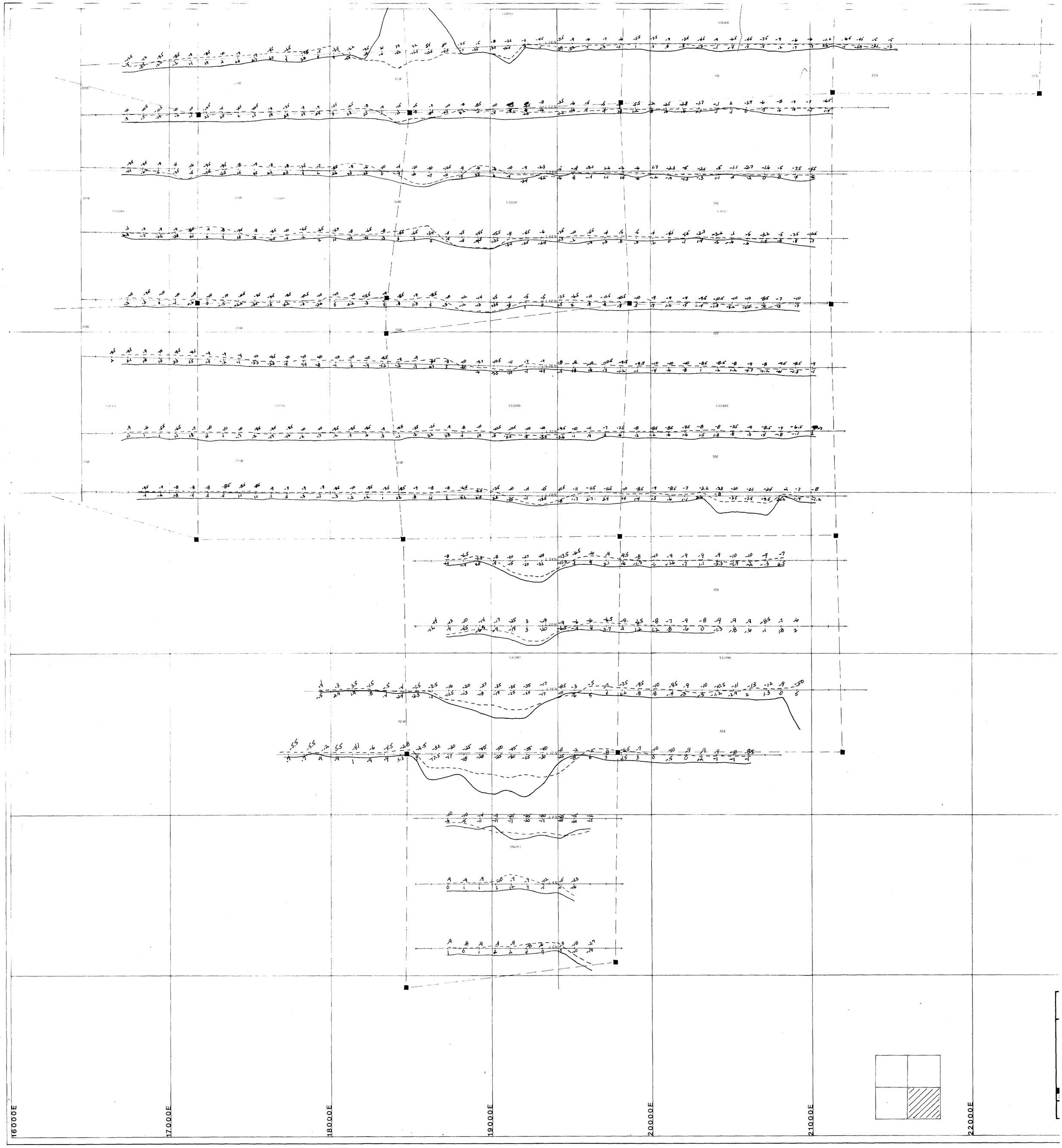
HEARST & SKEAD TWPS.

SCALE 1"=400'

Reading in counts/second 2.4954




220000E
210000E
200000E
190000E
180000E
170000E
160000E



16000E

17000E

18000E

19000E

20000E

21000E

22000E

1.98N

1.92N

1.84N

1.80N

1.76N

1.72N

1.68N

1.64N

1.60N

10W

20W

10E

20E

522786

522790

522791

498189

545055

545052

532255

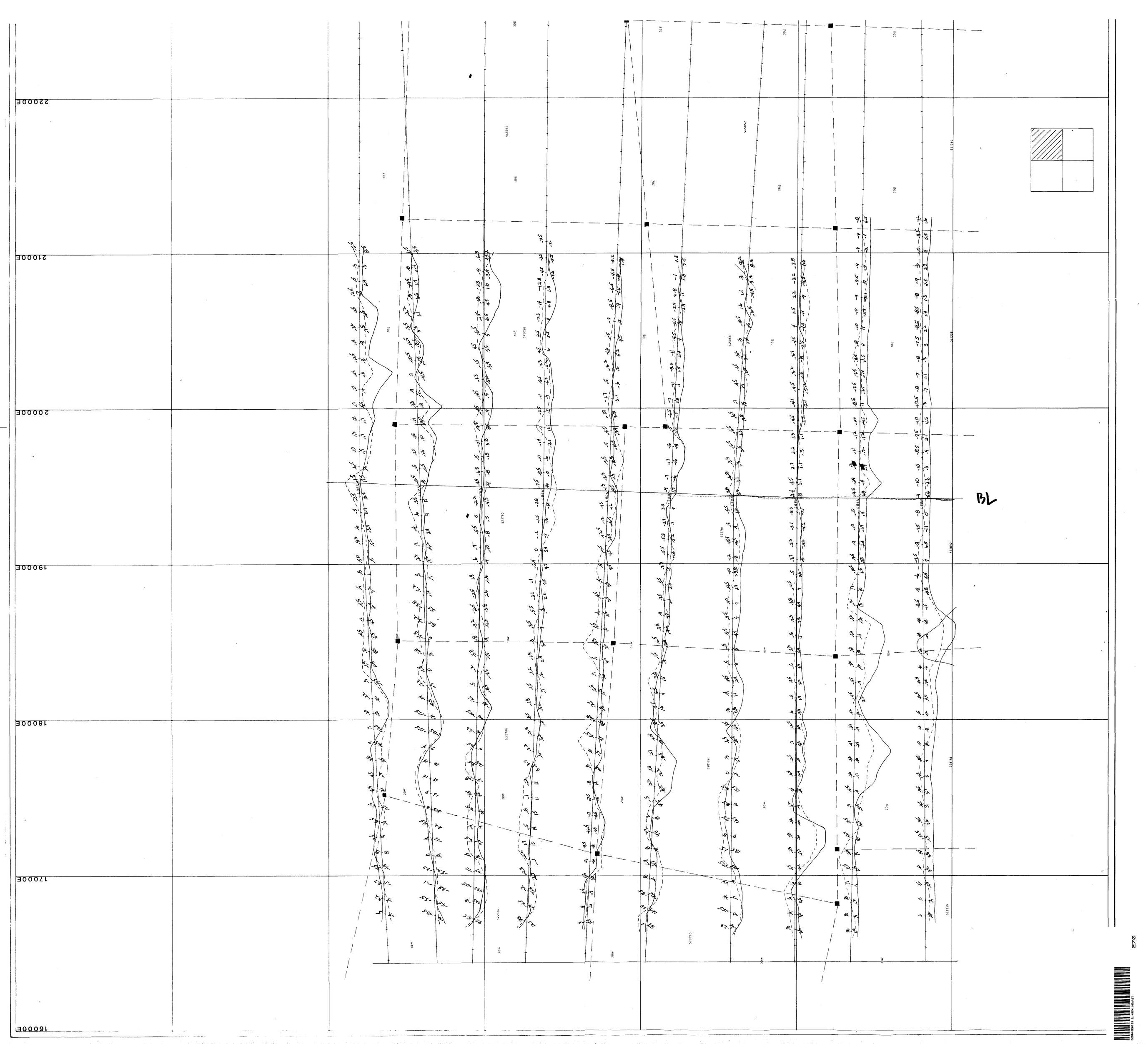
398188

532092

531368

527259

531335
531336
532090
532089
531368
531369
531084
532085
532091
531367
531334
531337
532087
532088
531263
30W
20W
10W
10E
20E
30E
32N
28N
24N
20N
16N
12N
8N
4N
0
16000E
17000E
18000E
19000E
20000E
21000E
22000E


220000E
210000E
200000E
190000E
180000E
170000E
160000E
BL