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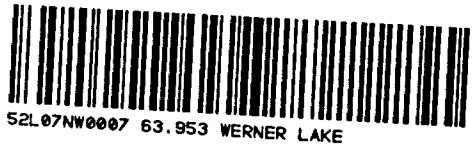

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S O G E M I N E S D E V E L O P M E N T C O M P A N Y.

Report on The

ELECTRO-MAGNETIC SURVEY

on the

GRANT CLAIM GROUP

UPPER FORTUNE LAKE

Werner Lake Area
B. M. Middleton.

District of Kenora.
October 26th, 1958.

INTRODUCTION.

The claim group consists of 8 claims numbered as follows:

K 25659	K 25664
K 25660	K 25665
K 25662	K 25666
K 25663	K 25667

The above claims are all located in the Werner Lake area in the mining district of Kenora.

LOCATION AND ACCESS. The property lies approximately 50 miles north of the town of Kenora and is accessible by aircraft to Upper Fortune Lake, which is in the centre of the claim block. A road is presently being built to Gordon Lake about six miles to the west, to service the copper-nickel deposit held by Eastern Mining and Smelting.

TOPOGRAPHY: The area is more rugged than is usual in the Pre-Cambrian Shield with elevation differences of up to 150 feet. Two east-west depressions transect the property which includes much swamp. There are also two marked north south depressions. Overburden is thin throughout the group except for the swampy areas.

REASON FOR ELECTRO-MAGNETIC SURVEY: Mineralisation in the Werner Lake nickel belt occurs in two forms; as narrow but continuous replacement bodies of nickeliferous pyrrhotite, and as 20% concentrations of sulphides in peridotites. Both of these type deposits should be detectable by E. M. surveys.

The survey was done to try and locate similar deposits either in the areas of overburden or occurring at shallow depth within the gneisses.

ELECTRO-MAGNETIC SURVEY.

RESULTS OF SURVEY. Results of the survey on the claim block were negative with no strong conductors being indicated. The instrument used in the survey was the Electro-Magnetic unit made by Sharpes Instruments, Toronto. It is a low frequency unit operating at 1200 cycles per second. A current of 14 amperes is passed from the generator to the transmitter coil. A secondary induced current is then received by the receiver coil which would be zero when the receiver coil is normal to the plane of the transmitting coil. The presence of a conducting body will cause the secondary field to be distorted so that the null point on the receiving coil will be "dip angle" as measured in the survey.

Readings were taken up to a distance of 1200 feet from the transmitter to the receiving coil. Readings were taken at 100 feet intervals along picket lines spaced 400 feet apart. There was insufficient encouragement for taking any detail readings at closer intervals. The picket lines were out on a bearing of true North.

A total distance of 4.9 miles of line were surveyed and a total of 252 readings were taken. 9 separate transmitter set-ups were used.

The results of the E-M survey were remarkably flat. Dip angles varied only from 1.0 N. to 1.0 S.

No diamond drilling or further work on the claims can be recommended as a result of the E-M Survey.

Submitted by,

B. M. Middleton.

SOCKEYE'S DEVELOPMENT [illegible]

REPORT ON THE

[illegible]

OF THE [illegible]

Werner Lake Area

District of Kenora

The survey was confined mainly to the claims south of the lake where overburden obscures much of the ground.

A total of 2.8 miles of line were surveyed and 158 readings were taken. The readings were taken at 100 feet intervals except near the anomalous area where readings were taken at 50 and 25 feet intervals.

Readings were tied into an arbitrary zero point located at L 16E, 00N on the property adjoining to the west.

Values obtained in the survey ranged from a peak of -352 mv to a low of -8. The general background value appeared to be about -50 mv.

A zone of anomalous values runs from L 44E, 6+00N to L 64E, 0+50 s. Within this zone disseminated sulphides have been noted in the paragneiss.

The isolated high values on L 48E, 2+00S and at L 64E 9+00S are not regarded as being significant.

RECOMMENDATIONS: No further work is recommended on the results of this survey.

Submitted by,

M. E. Penstone.

SOGEMINES DEVELOPMENT COMPANY LTD.

REPORT ON THE MAGNETOMETER SURVEY ON THE GRANT CLAIM GROUP UPPER FORTUNE LAKE

WERNER LAKE AREA

B. W. MIDDLETON.

DISTRICT OF KENORA.

SEPTEMBER 6th, 1958.

INTRODUCTION:

The claim group consists of 8 claims numbered K25659 to K25660 and K25662 to K25667 inclusive, located in the Werner Lake area, District of Kenora. The property lies approximately 50 miles north of the town of Kenora and is accessible by aircraft to Upper Fortune Lake which lies in the centre of the claim block. A road is presently being built to Gordon Lake about six miles to the west, to service the copper-nickel deposit held by Eastern Mining and Smelting.

REASON FOR MAGNETOMETER SURVEY: The magnetic survey was carried out to locate pyrrohite or masses of the favourable intrusive peridotite.

The instrument used was a Sharpe D2 vertical variometer having a scale factor of 20.2 gammas per scale division.

A baseline was established across the south of the claim group on a true bearing of 90°, and picket lines were turned off and cut at 400' intervals. The lines on the north side of the lake were cut from a baseline, previously tied in by transit. Total length of line cut and picketted at 100' intervals was 5.8 miles.

Base stations were established along the base lines and tied in to the adjoining surveys. A total of 305 readings were taken excluding check and repeat readings.

TOPOGRAPHY:

The area is more rugged than is usual in the Pre-Cambrian shield with elevation differences on the property of up to 150 feet. Marked east-west depressions transect the property with frequent development of cliff faces up to 30 feet high. The ground is well drained and very few swamps occur. Overburden is thin throughout the group and over the high ground the rocks are almost totally exposed.

GEOLOGY:

The consolidated rocks of the area are all Pre-Cambrian in age. The main rock types consist of a sedimentary series with occasional associated bolcanics, all highly metamorphosed, and an intrusive series ranging from granite to diorite with much associated pegmatite. Much assimilation of the paragneisses by the granite has occurred and contacts in the area are largely transitional. Locally around Werner and Rex Lakes small bodies of peridotite are found which are lenticular in shape with lengths of a few hundred feet and widths of up to 100 feet.

The strike of the sediments in the region is east-west and this is also the strike direction of the main breaks in the area. Topographic lineaments show to the North with north-south and north-easterly directions.

MAGNETOMETER SURVEY:

The general level of magnetic intensity on these claims lies between 800 and 1000 gammas. Local magnetite concentrations give extreme readings from a peak of 2467 to a low of minus 1468 gammas.

INTERPRETATION:

Owing to the erratic distribution of magnetite in the granites and paragneisses of the area, the survey probably shows only general trends of magnetic horizons within these rocks. It is doubtful if pyrrohite or peridotite can be interpreted as contributing to any of the anomalies.

It may be of some significance that in the higher magnetic area at the south end of Lower Fortune Lake, a self potential anomaly was found. Although the electromagnetic survey results were negative, this section should be checked by drilling.

Submitted by,

B. M. Middleton.

For Sogemines Development Col Ltd.

SOGEMINES DEVELOPMENT COMPANY LIMITED

GEOLOGICAL REPORT
on the
GRANT CLAIM GROUP
UPPER FORTUNE LAKE

Werner Lake Area,
District of Kenora.

October 11th, 1957.

M. E. Penstone.

INTRODUCTION:

The claim group consists of eight claims numbered as follows:

K 25659	K 25660
K 25662	K 25663
K 25664	K 25665
K 25666	K 25667

The claims are located in the Werner Lake area in the District of Kenora. The property lies some 50 miles north of the town of Kenora and is accessible by air to either Upper or Lower Fortune Lakes which both abut the property. A road is presently being built to Gordon Lake to service the copper-nickel deposit of Eastern Mining and Smelting, about seven miles to the west.

TOPOGRAPHY:

The northern part of the property is quite rugged and is from 75 to 100 feet higher than the lake level. The rocks are excellently exposed in this area. As the north shores of the lake are approached the ground falls away quite suddenly with the development of a steep rocky shoreline.

The southern part of the ground is much flatter and swamp occupies a large portion of the ground. Outcrops are much scarcer and the bush is thick with much young balsam.

It is difficult to determine the extent of glacial erosion in the area as the strike of the rocks, the main fault directions and the glacial direction only vary slightly by a few degrees.

WORK DONE:

Lines were cut at 400' intervals, running N-S from two baselines both being extensions of baselines cut on the adjoining property to the west. A tie line was cut from L 64 E westwards to the shore of Upper Fortune Lake to cover ground lying between the two lakes.

GEOLOGY

General:

The area was first mapped in 1929 by D. R. Derry for the Ontario Department of Mines. The mapping was of a reconnaisance type following the main waterways and with only limited traversing through the bush.

The consolidated rocks of the area are all Pre-Cambrian in age. The main rock types consist of a sedimentary series with occasional associated volcanics which have all been highly metamorphosed, and an intrusive series ranging from diorite to granite with much associated pegmatite. The intrusive bodies are of great extent. Locally around Werner and Rex Lakes small lenses of peridotite occur often with sulphide mineralisation.

TABLE OF FORMATIONS. (After D.R. Derry).

Quaternary:	Recent.	Peat, lake deposits of clay and sand.
	Pleistocene.	Glacial boulder clay.
Pre-Cambrian:	Algoman.	Pegmatite and aplite.
		White Binary granite.
		Porphyritic biotite granite.
		Grey granodiorite and oligoclase granite.
		Diorite.
	Keewatin.	Peridotite?
		Sedimentary Gneiss, Quartz biotite schists.
		Garnet hornblende schists.
		Basic schists.

DESCRIPTION OF FORMATIONS:

ALGOMAN. On the claim group the Algoman is represented by a pink granite and also a white granite very low in dark minerals almost reaching an Alaskite in composition. The granites are usually equigranular and consist of quartz, orthoclase hornblende and minor biotite. Biotite or hornblende clots occur frequently and are partly assimilated xenoliths of the sediments.

DESCRIPTION OF FORMATIONS. (Con't.)

Near the contacts the gneissec inclusions became more abundant and the contact zone is not sharp but transitional. The contact is taken as being where original gneissic structures are visible and can be traced along the strike.

A broad band of granite crosses through the centre of the property and has a width of about 1750 feet. Another mass approximately 400 feet wide occurs in the northeast corner of the property. To the south the picture is more confused with granite occuring in many narrow bands.

KEEWATIN. Pendotites. These rocks have been grouped in the Keewatin although insufficient is known about them to assign them to any specific period. In form the bodies are lenticular in shape with lengths up to several hundred feet and widths of up to 100 feet. They appear as very altered fine grained rocks with the degree of alteration varying with grain size. Generally the finer the texture, the higher the metamorphism. Thin section studies have shown some specimens to have a high hypersthene content. There are no occurrences of peridotite on the Grant group.

Sedimentary Gneisses. The sedimentary rocks were placed by Derry in the Keewatin as they comprise the oldest rocks in the area and are also lithologically similar to those of the series occuring at the town of Keewatin, 50 miles to the south.

Three main types of gneisses are present; namely a biotite hornblende gneiss, which is dark and fine to medium grained, a garnet hornblende gneiss which is medium to coarse grained, and a silicieous garnet gneiss. Considerable lit par lit injection has occured in these rocks and also they are frequently riddled by irregular dykes of granitic and pegmatitic material. In some parts the injected material may constitute more than 50% of the rock, but where the original gneissic or sedimentary features are still recognisable, the rocks are still classed as paragneiss.

Sedimentary Gneisses. (Con't.)

On the north boundary, the paragneiss is highly siliceous. South of the lake, biotite, hornblende and garnet paragneiss are more developed.

STRUCTURE

The regional and local strike of the metasediments is east-west. Dips are vertical or slightly to the north. Folding is present only on a small scale and can be regarded as local contortion rather than as a structural feature.

No faults or breaks are exposed on the ground although suspected loci of such breaks are the easterly depressions striking through the lake and through the swamp area near the south boundary.

MINERALISATION

General: The claims are located in the same belt of paragneisses that are hosts to the small but high grade copper nickel deposits of Norpox Mines and Oils, and of Eastern Mining and Smelting, and also of the Cobalt property worked by the Ventures group in the last war. At the two first named deposits, mineralisation occurs in two forms, namely as replacements of a narrow pegmatite zone by nickeliferous pyrrhotite and chalcopyrite, or as replacements of peridotites by the same minerals. A common "break" is said to link all three deposits and it is considered likely that this same break continues eastwards to Upper Fortune Lake.

There are no exposures in the claim group which have sufficient sulphides present to be termed a showing. Showings do occur just outside the East and west boundaries in the southern part of the group. Between these two showings there is a zone of garnetiferous paragneiss with disseminated chalcopyrite which runs from the western showing at a strike of 100° to the area of overburden on the south shore of Lower Fortune Lake. The Self Potential survey showed that this zone continues beneath the overburden and joins with the showing just south of the baseline outside the east boundary.

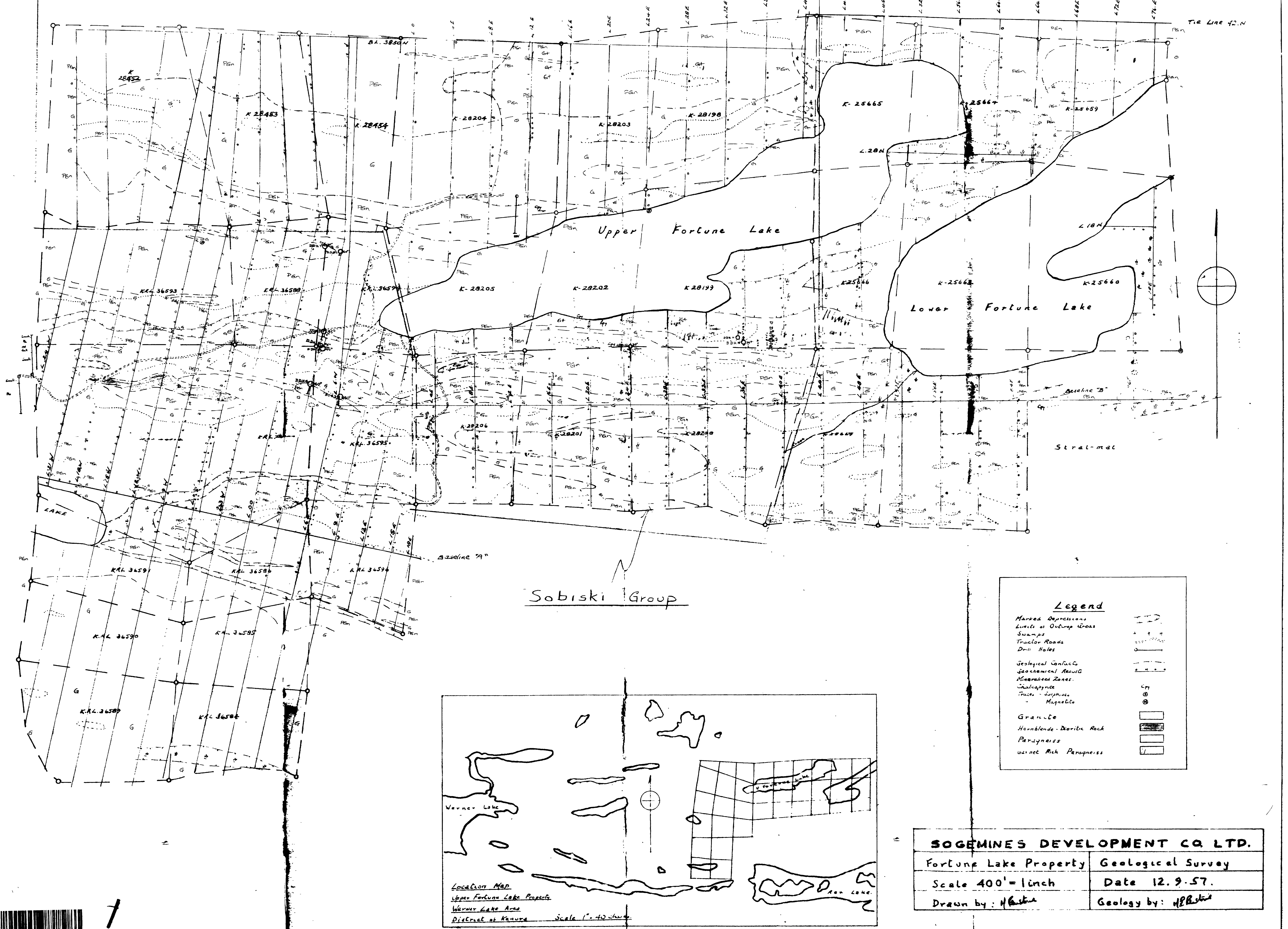
GEOCHEMICAL SURVEY

Geochemical sampling was done over the entire group along picket lines at 100' intervals, with sampling at 50' intervals in the main depressions. All samples were taken at bedrock depth as far as could be determined. Samples were analysed in the field with check samples being sent to McGill University for comparison with the field results. Results of the comparison were encouraging. The field analytical method was a colorimetric test for heavy metals by placing the sample in a test tube and adding 5 ccs. of a buffer solution. To this was added a dilute solution of Dithozone in Xylene which remained green in the absence of heavy metals but turns pink in the presence of traces of copper or zinc.

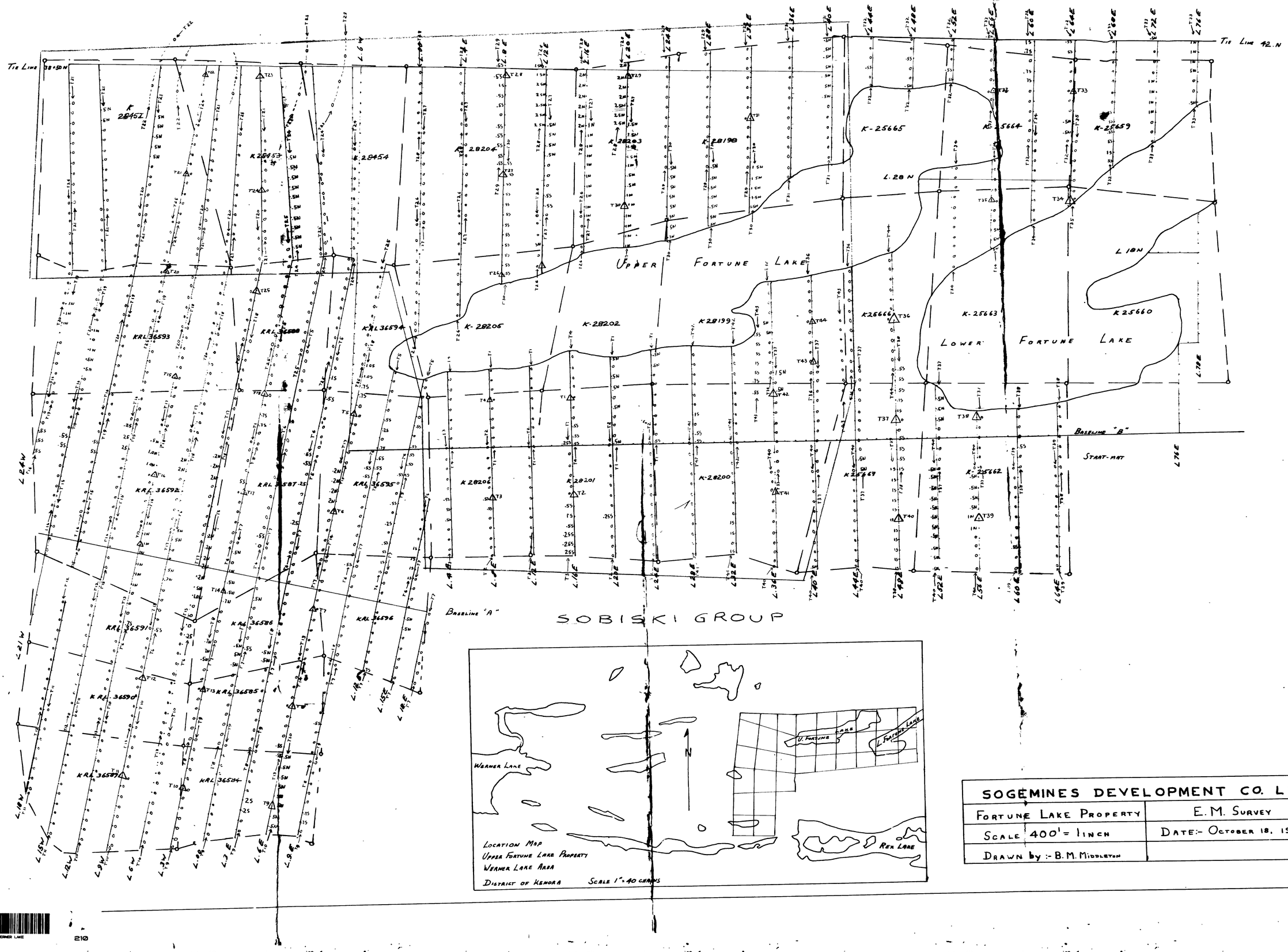
No anomalous samples were taken on the property.

Signed,

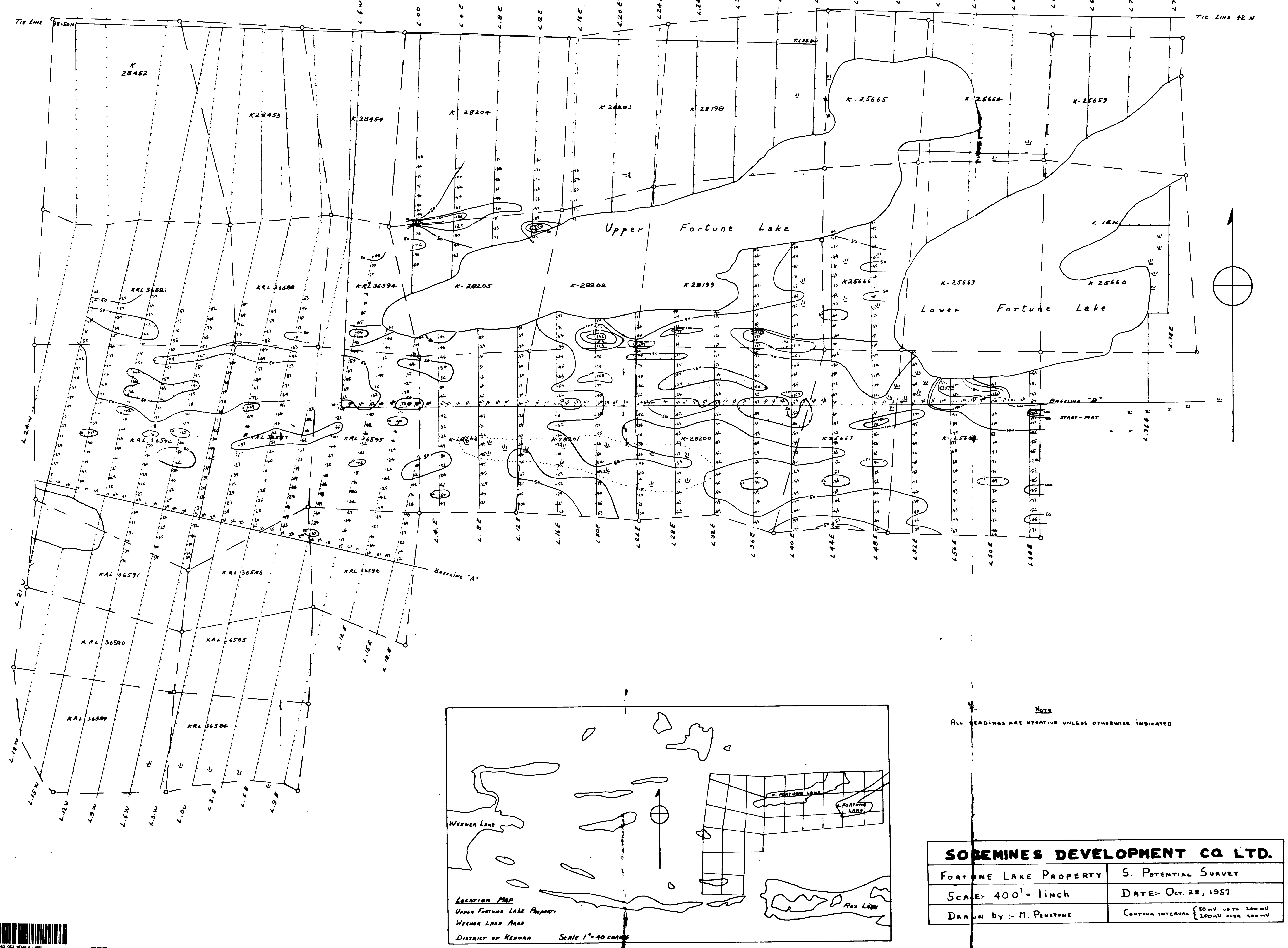
M. E. Penstone.

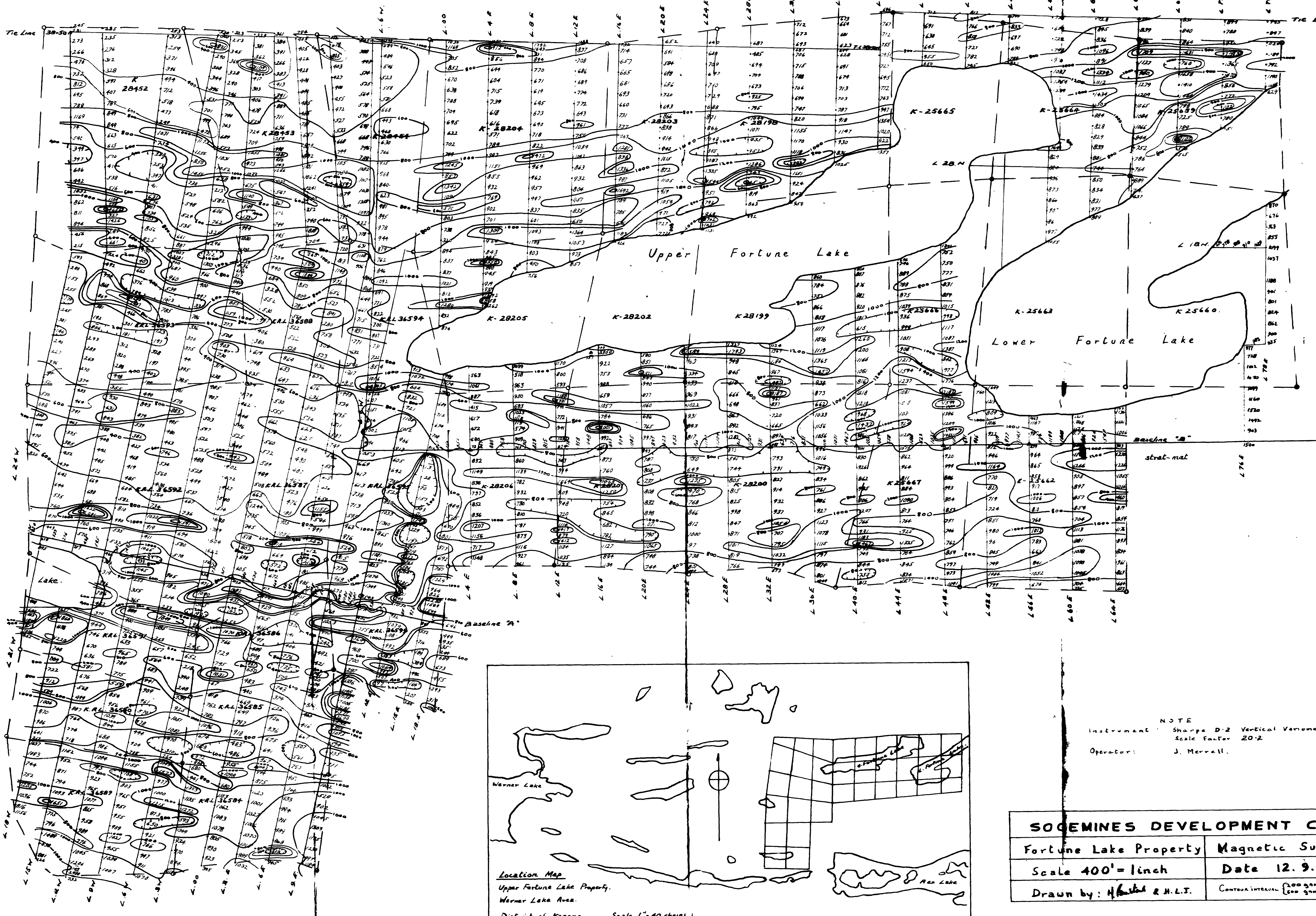

Tie Line 42 N
BL 3850 N
Upper Fortune Lake
Lower Fortune Lake
K-25665
K-25664
K-25659
K-25663
K-25660
K-25666
K-28204
K-28203
K-28198
K-28205
K-28202
K-28199
K-28206
K-28201
K-28200
K 28453
K 28454
KRL 36593
KRL 36588
KRL 36591
KRL 36586
KRL 36594
KRL 36590
KRL 36595
KRL 36589
KRL 36584
Baseline "A"
Baseline "B"
Strel-mac
LAKE
Sobiski Group
Legend
Marked Depressions
Limits of Outcrop Areas
Swamps
Tractor Roads
Drill Holes
Geological Contacts
Geochemical Result
Mineralised Zones.
Chalcopyrite
Traces - Sulphides
" Magnetite
Granite
Hornblende - Dioritic Rock
Paragneiss
Garnet Rich Paragneiss
Werner Lake
Location Map
Upper Fortune Lake Property
Werner Lake Area
District of Kenora
Scale 1" = 40 chains.
SOGEMINES DEVELOPMENT CO. LTD.
Fortune Lake Property
Geological Survey
Scale 400' = 1 inch
Date 12.9.57.
Drawn by:
Geology by:

200



SOGEMINES DEVELOPMENT CO. LTD.	
Fortune Lake Property	E.M. Survey
Scale 400' = 1 inch	Date:- October 18, 1957.
Drawn by :- B.M. Middleton	


Tie Line 38+50N
Tie Line 42 N
Upper Fortune Lake
Lower Fortune Lake
K 28452
K 28453
K 28454
K 28204
K 28203
K 28198
K-25665
K-25664
K-25659
K-28205
K-28202
K 28199
K 25666
K-25663
K 25660
KRL 36693
KRL 36588
KRL 36594
KRL 36595
KRL 36597
K-28206
K-28201
K-28200
K 25667
K-25668
KRL 36591
KRL 36586
KRL 36596
KRL 36590
KRL 36585
KRL 36589
KRL 36584
Baseline "A"
Baseline "B"
Start-Mat
L.18N
Note
All readings are negative unless otherwise indicated.
Location Map
Upper Fortune Lake Property
Werner Lake Area
District of Kenora
Scale 1" = 40 chains
Werner Lake
U. Fortune Lake
L. Fortune Lake
Rex Lake
SOGEMINES DEVELOPMENT CO. LTD.
Fortune Lake Property
S. Potential Survey
Scale:- 400' = 1 inch
Date:- Oct. 28, 1957
Drawn by :- M. Penstone
Contour interval {50 mV up to 200 mV / 200 mV over 200 mV}



NOTE

Instrument: Sharpe D-2 Vertical Variometer
Scale Factor 20.2

Operator: J. Merrell.

SOGEMINES DEVELOPMENT CO. LTD.	
Fortune Lake Property	Magnetic Survey
Scale 400' = 1 inch	Date 12.9.57
Drawn by: H. [signature] & H.L.T.	Contour interval {200 gammas up to 1400 gammas; 600 gammas after 1400 gammas

52L07NW0007 63.953 WERNER LAKE

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