REPORT ON

GEOPHYSICAL AND GEOCHEMICAL SURVEYS, KAKAGI LAKE AREA, MCLENNAN PROPERTY

FOR

WELCOME NORTH MINES LIMITED

December 1983

J.M. Siriunas, P.Eng.

Qual 2.6104

SUMMARY

A program of soil geochemical, magnetometer and VLF-EM surveys has been carried out on the Kakagi Lake area McLennan Property on the behalf of Welcome North Mines Limited.

A number of geophysical and geochemical anomalies or anomalous zones have been located on the property. The geophysical anomalies can be tentatively explained by geological or topographic features while the geochemical anomalies may be due to gold-bearing mineralization.

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1.0 PREAMBLE

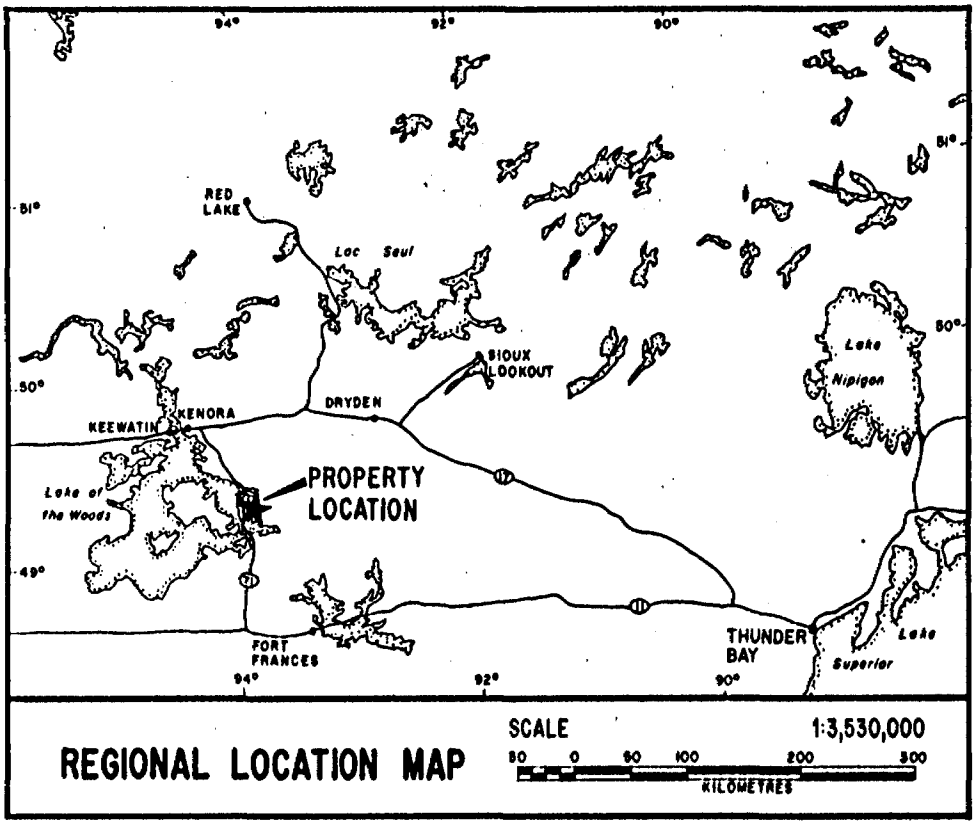
This report presents the results of geochemical and geophysical surveys carried out on behalf of Welcome North Mines Ltd. of Vancouver, British Columbia by MPH Consulting Limited on the former's Kakagi Lake area McLennan Property. The purpose of the program which included magnetometer, VLF-EM and soil geochemistry surveys was to explore for extensions to the known mineralization on the property and to explore the property for additional areas of gold mineralization.

Numerous gold occurrences have been explored throughout this region of northwestern Ontario since the turn of this century; gold production from the region has totalled about 150,000 troy ounces over the years. Most recently a renewal of exploration activity in the region has been spurred by the reinvestigation of the Cameron or Beggs Lake property by Nuinsco Resources Ltd. and Lockwood Petroleum Inc. Reported possible reserves of this property are presently quoted at 1,000,000 tons grading 0.15 oz Au/ton.

2.0 LOCATION AND ACCESS

The Welcome North Mines Ltd. McLennan property is comprised of seven unpatented mining claims numbered K 590645 - 590651 incl. and seven patented mining claims numbered K 10024 - K 10030 incl. in the Dogpaw Lake area, Kenora Mining Division, Ontario. The claims are registered in the name of Jack D. Martin of North Bay, Ontario. The property is located approximately 65 km (40 miles) southeast of the town of Kenora (see Figure 1). Access to the property is by road (Hwy. #71) and either by boat from the west end of Kakagi (Crow) Lake or by air from Nestor Falls, 24 km (15 miles) to the south. The main zone of mineralization is approximately 1500m south of Dogpaw Lake, 1500m northwest of Cedartree Lake and 1800m north of Emm Bay of Kakagi Lake and is located on claim K 10025.

Topographically the property shows slight relief with maximum range in elevation of 21m (70 feet) being present. A number of north-northeast south-southeast trending ridges parallel the stratigraphy. Bedrock is well exposed on these ridges. The ground between the ridges is generally covered by muskeg and cedar swamps. Thick accumulations of boulder clay are also reported to be present between the ridges.



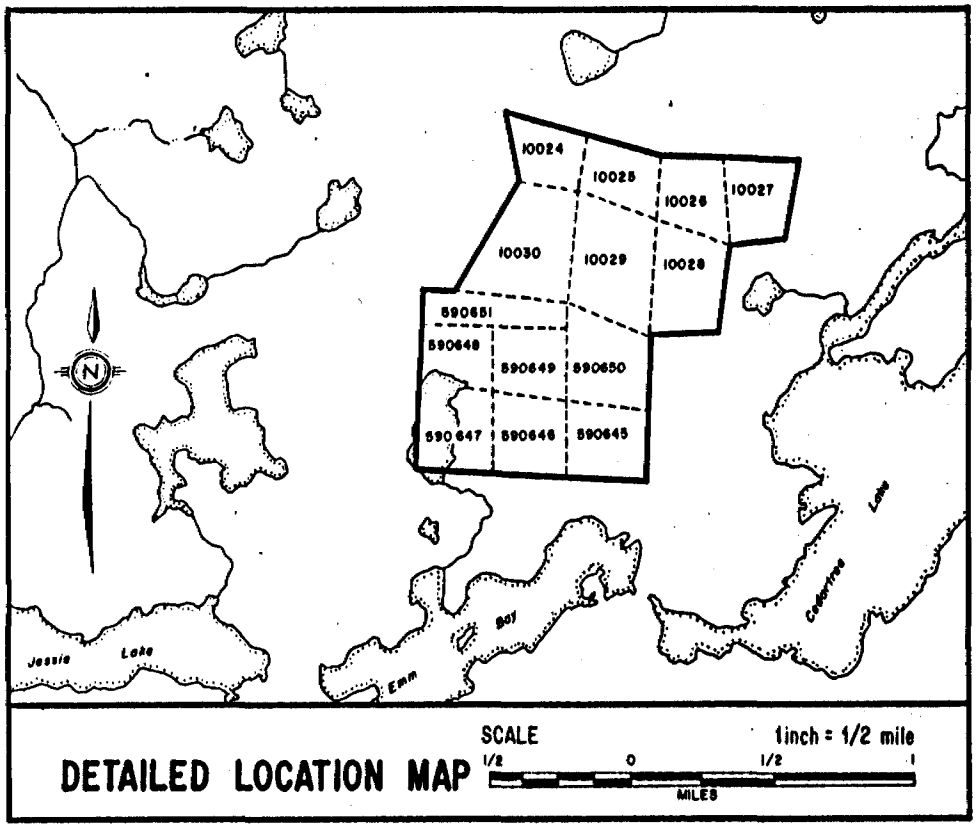


Figure 1: Location Maps

3.0 PREVIOUS WORK

The region (Cedartree Lake area) has been most recently mapped for the Ontario Government by Davies and Morin (1976). Thomson (1947) summarized the work done on the property in the 1940's. General geology and the discussion of some of the previous work are drawn largely from accounts in that report.

The work carried out on the patented mining claims (K 10024 - 10030) was summarized by Thomson (1947) as follows:

> "After the discovery by J. Kenty and Roy Martin (for Noranda Mines) of the gold occurrence in Claim K 9992, near the south end of Dogpaw Lake, interest in the prospecting possibilities of the adjacent area was aroused. Mr. G.E. McLennan staked the group of 9 claims, south of and tying on to the Noranda claims, in the spring of 1944. During the course of staking he discovered a one inch quartz vein giving an assay return of 0.3 ounce of gold per ton. Sylvanite Gold Mines Limited secured an option shortly after the claims were staked and prospecting was undertaken by Mr. A. MacDonald and Mr. A. Gauthier. In a short time the "Main Showing" in the northeast corner of claim K 10025 was discovered. At the discovery point visible gold was found in noteworthy amount with the result that a program of trenching [over 20 trenches] was carried out during 1944. In late 1944 and early 1945 fourteen diamond drill holes were put down along the Main Showing. Later in 1945 Sylvanite Gold Mines Ltd. relinquished their option and no work has been done on the property since then. Work on the property to date has been confined almost exclusively on the Main Showing in Claim K 10025 and its extension into K 10029 to the south; a carbonated zone in claim K 10029 about 1,200 feet east of the Main Showing discovered by A.G. MacDonald is reported to carry gold but it has not been systematically investigated. The property as a whole has not been prospected to date."

Minor field work is reported to have been carried out on the property circa 1980 by Calvert Gas and Oils Ltd. and Canray Resources Ltd.

Immediately to the north of the property lies the Consolidated Golden Arrow prospect. Surface trenching and diamond drilling by Noranda Mines Ltd. and Consolidated Golden Arrow Mines Ltd. has outlined a 96,650 ton ore body grading 0.43 oz Au/ton to a depth of 600 feet. The property is presently owned by Canadian Arrow Mines Ltd.

In the southeastern part of the immediate property vicinity some trenching was done on one of the "Robertson" occurrences (Davies and Morin, 1976). Channel sampling here is reported to have resulted in very low assay values for gold.

4.0 SURVEY PARAMETERS

4.1 Linecutting

The linecutting on the property was carried out by Les Relevés C.D.I. Surveys Inc. of Val d'Or, Quebec. Approximately 25.4km (15.8 miles) of line was cut and chained. About half of this line covered the unpatented mining claims.

The grid consists of a 2300m baseline cut at an azimuth of 030°. Cross lines at a spacing of 100m were cut from the baseline and driven to the approximate property boundaries. Pickets were placed on all lines at 25m intervals.

4.2 Geochemical Survey

A total of 812 B-horizon soil samples were collected over the horizon. These samples were collected along the cross lines of the grid at an interval of 25m. The soil samples were analyzed for Au.

In addition a total of 39 rock samples from various parts of the property were submitted for analysis of Au. Many of these samples were collected from fresh rock faces after blasting in the vicinity of the old surface workings.

Results of the soil geochemical survey are presented on a 1:2500 scale map (Map 1).

4.3 Magnetometer Survey

The entire cut grid was surveyed with a total field magnetometer survey. Coverage was at a station interval of 25m.

5.0 GEOLOGY

The property is located within the Kakagi Lake volcanics (Trowell et al, 1980) of the Wabigoon Subprovince of the Superior Structural Province of the Canadian Shield. These volcanics are comprised of a sequence of pillowed mafic flows which are overlain by intermediate pyroclastic rocks and metasediments that has been extensively intruded by differentiated mafic sills. A number of east-northeast trending folds occur within the sequence.

The western part of the claim group is underlain by mafic to intermediate pillowed to massive metavolcanic rocks with minor mafic tuffs. The eastern portion of the property is underlain by a mafic to ultramafic sill. Minor quartz porphyry intrusives (dykes) are also present.

Mineralization is reported to be associated with pyritic-silicified-carbonatized zones trending north-northeast within both the metavolcanics and the sill.

6.0 GEOCHEMISTRY

6.1 Introduction

6.1.1 Soil Geochemistry Methodology

A total of 812 samples of "B" horizon soils was submitted to TerraMin Research Labs Ltd. of Calgary, Alberta for analysis for Au. Gold was selected for the analyses as it is found to be one of the best pathfinder elements for gold mineralization.

As previously mentioned, there is a fair amount of relief on the property and a number of northeast-southwest trending ridges parallel the stratigraphy. Soil profile development varies from moderately-well developed between the ridges to poorly developed on the ridges where outcrop is abundant.

Samples were collected from the "B" horizon at an average depth of about 10 cm. This depth would vary, of course, according to the development of the soil profile. Approximately 50 grams of material was collected at each station using a grub hoe and then transferred to kraft paper sample bags by hand. In many places less than 25 grams of material was collected.

Laboratory preparation of the samples included oven drying of the collected material at about 40°C followed by sieving of the material to -80 mesh.

Analysis for Au was performed by the fire assay preconcentration of 25 g of sample material followed by acid dissolution and atomic absorption analysis.

Detection limit for Au was 2 ppb on 25 g of material. The detection limit was correspondingly higher in smaller (less than 25 g) samples.

Certificates for all soil sample analyses are presented in Appendix 1.

6.1.2 Lithogeochemical Methodology

A total of 39 rock samples, each about 400 g in weight, was submitted to Swastika Laboratories Ltd. of Swastika, Ontario, for Au analysis.

Analysis for Au was performed by fire assay and atomic absorption analysis.

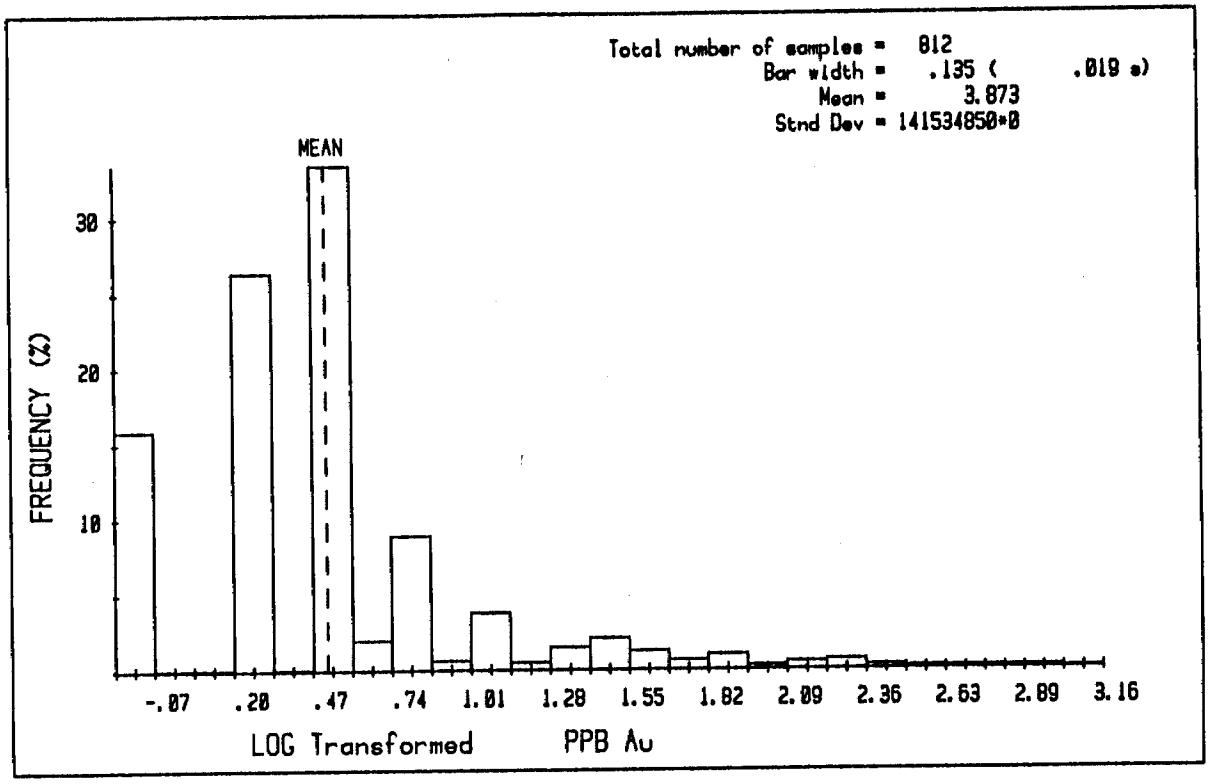
Certificates for all rock analyses are presented in Appendix 2.

6.2 Soil Geochemistry Results

Thresholds for possibly anomalous (upper 5.0% of population; 30 ppb) and probably anomalous (upper 2.5% of population; 70 ppb) Au in soils have been selected based on the population distribution of $\log_{10}$ transformed data (see Figure 2).

Four main areas of anomalous gold values in soils were outlined by the survey. These areas are outlined of Figure 3.

Zone 1 stretches across the eastern ends of Lines 5+00N through 12+00N. This is the most extensive of the anomalous zones and may coincide with the "Robertson" occurrence. It is possible that this zone may lie just east of the property boundary.



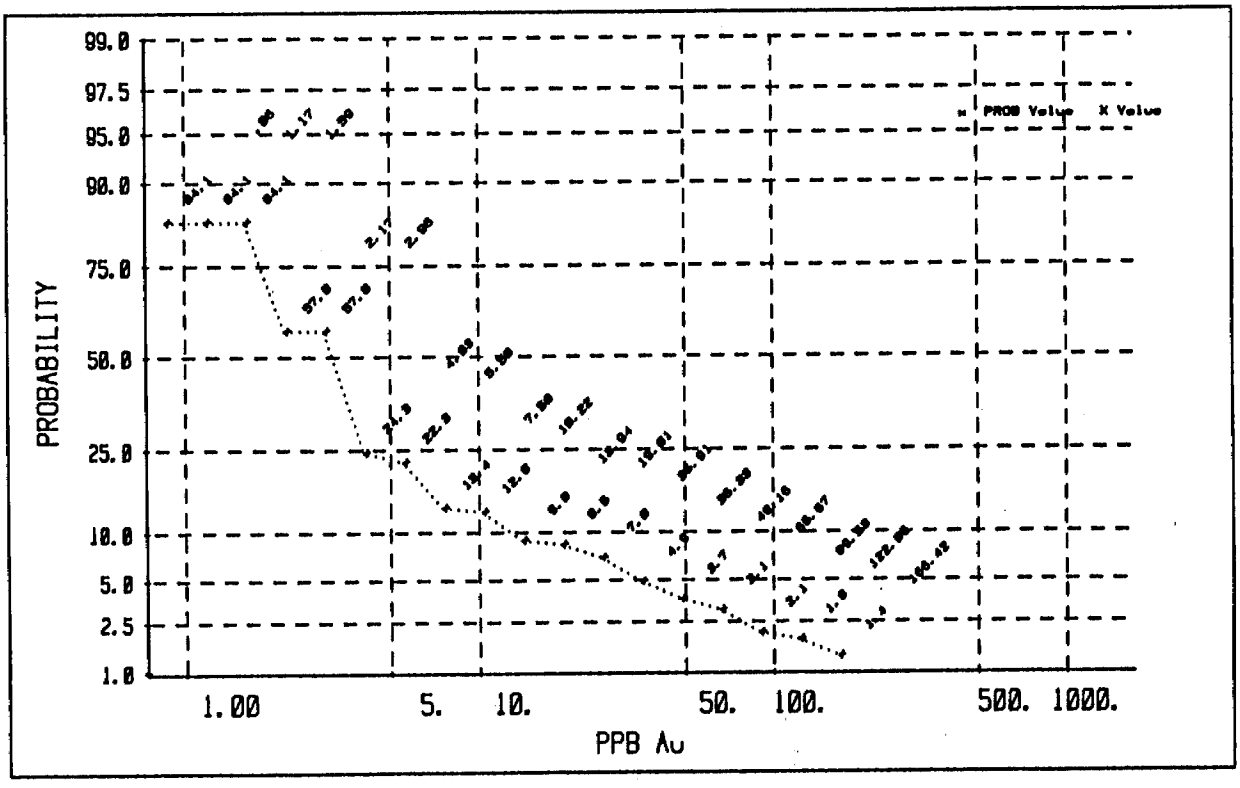


Figure 2: Log_{10} transformed data histogram and probability plot for Au in soils

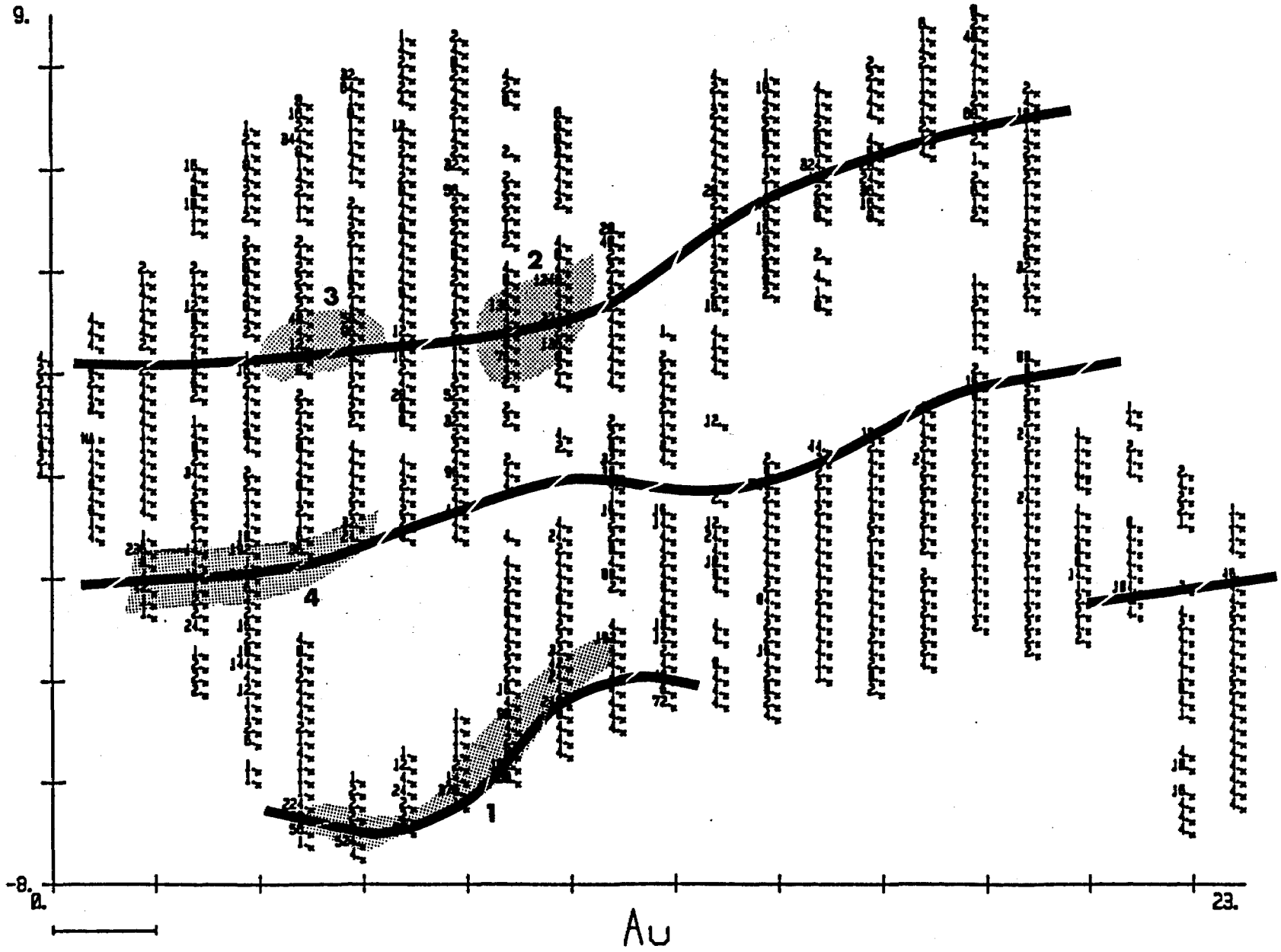


Figure 3: Au (ppb) in soils; anomalous zones and geochemical trends

Zone 2 is the most intense of the anomalous areas with one sample reporting 1248 ppb Au. The zone covers Lines 9+00N and 10+00N at about 2+50W.

Zone 3 is a small area of minor anomalous responses on Lines 5+00N and 6+00N at about 2+50W. It is conceivable that Zones 2 and 3 could be caused by the southward extension of the main mineralized zone which lies in the vicinity of Lines 15+00N through 17+00N at about 5+75W.

Zone 4 is a small area containing some anomalous gold values between Lines 3+00N and 6+00N. It is open to the south and there are a few other anomalous values that lie along strike to the north of this zone.

In the vicinity of the known mineralization only one sample (on Line 15+00N) was significantly anomalous (324 ppb Au).

7.0 GEOPHYSICAL SURVEYS

7.1 Introduction

The objectives of the geophysical surveys were to geophysically map the property and trace any structures or features that may be favourable locales for gold-bearing mineralization.

7.2 Equipment and Survey Procedures

7.2.1 Magnetometer Survey

The magnetic survey was conducted with a Geometrics G-816 total field proton precession magnetometer. This magnetometer utilizes the precession of the spinning protons of a hydrogen atom within a hydrocarbon fluid. These spinning magnetic dipoles are polarized by applying a magnetic field using a current within a coil of wire. Discontinuation of the current causes the protons to precess about the earth's magnetic field which in turn generates a small current in the wire. This current is proportional to the precession frequency which in turn is proportional to the earth's total magnetic field.

The instrument is read nT (gammas) and the reading is the absolute value of the earth's total field for that station.

Diurnal variations in the earth's magnetic field were monitored and removed from the results by "looping" and re-occupying at regular intervals (approximately 1 hour) base stations established at the intersections

of the baseline and crosslines. The specifications for the G-816 magnetometer are presented in Appendix 3.

7.2.2 VLF Electromagnetic Survey

The VLF-EM method employs as a source one of the numerous submarine communications transmitters in the 15 to 25 kHz band located throughout the world. At the surface of the earth these radio waves progagate predominately in a single mode along the earth-air interface. This mode is known as the "surface wave". Over flat homogenous ground in the absence of vertical conductive discontinuities the magnetic field component of this radio wave is horizontal and perpendicular to its direction of propagation.

Where non-horizontal structures such as faults, contacts, conductors given rise to change in ground conductivity, secondary modes are generated which produce a vertical component of the magnetic field. This produces an elliptical polarization of the total field in a plan perpendicular to the direction of propagation.

Commercial VLF instruments enable detection of disturbing structures by measuring the tilt angle of the major axis of the polarization ellipse. On flat homogeneous ground the tilt angle will be zero, but in the vicinity of conducting disturbances it will acquire a finite value. Direction of tilt indicates direction of the disturbing structure. Ability to deduce such parameters as depth, depth extent, dip, and width of anomalous structures is minimal.

Fortunately, this does not serious affect the geographic estimation of where VLF profiles cross the upper limit of dipping structures which are recognized as areas of the greatest change in tilt angle per unit of distance.

A Geonics EM-16 was employed and the transmitting station used during the survey was Seattle, Washington.

The data is read as a percentage of the incline from the horizontal, i.e. (100 x tan ϕ), where ϕ is the title angle of the major axis of the polarization ellipse in degrees.

The instrument's specifications are given in Appendix 3.

7.3 Presentation of Results

All the field data is presented in a series of three maps at a horizontal scale of 1:2500.

The magnetic data is presented as a series of isomagnetic contours superimposed on a map (Map 2) of the corrected magnetic values recorded at each station. Contour lines at 1000 nT (gamma) intervals (and in some cases 500 nT (gamma) intervals) were found suitable to highlight the magnetic expression in the survey area.

The inphase (dip angle) data from the VLF-EM survey is presented in profile form along the survey lines. The vertical scale is 1 cm = 10 percent (Map 3). In addition the

profiled data has been reduced to produce a first derivative contour map of the survey area (Map 4).

The first derivative values are computed as a simple gradient of percent change per unit distance. Each derivative value was plotted at the midpoint of the two dip angle values from which it was computed.

The data was originally plotted such that negative derivative values outlined the conductive axes of the anomalies. Consequently, only the negative first derivative values have been contoured.

7.4 Results and Interpretation

7.4.1 Magnetometer Survey

The magnetometer survey recorded values from 58854 nT (gammas) to 66,740 nT (gammas) with background readings being in the range of 60,000 nT to 61,000 nT.

Anomalies recorded consist of a number of short strike length magnetic highs with gradients up to 5,000 nT over relatively short distances (100 m) and trending in a north-northeast to south-southeast direction. A concentration of these anomalies occurs west of the baseline and is probably indicative of the area underlain by mafic volcanic units. The rapid variations in magnetic intensity in this region are probably due to the shallow depths to the source of the magnetic anomalies (i.e. outcropping magnetite-bearing volcanic flows).

The magnetic field east of the baseline is comparatively uniform with a number of isolated spot highs being present. It is believed that this portion of the grid is underlain by a mafic to ultramafic sill; the magnetic anomalies may be due to the effects of differentiation of magnetic minerals within the sill. In general the geological nature of the property is not known in sufficient detail to confirm this.

7.4.2 VLF-EM Survey

The results from the VLF-EM survey were consistent in that a north-northeast to south-southwest trend was outlined. Several conductive zones were delineated and are presented on Map 4. The anomalies have been labelled 'A' through 'G' and are discussed in detail as follows:

Anomaly A is located just west of the baseline and stretches from about Line 1+00N to Line 9+00N. This anomaly is approximately coincident with the change in character of the magnetic response and therefore may represent the contact between mafic volcanics (to the west) and the mafic intrusive (to the east).

Anomaly B lies between Lines 14+00N and 21+00N at about 2+00E. There appears to be another change in the character of the magnetic field response coincident with this anomaly. It is thought that minor internal variations within the mafic sill, believed to be the bedrock in this area, may be the cause of both the electromagnetic and magnetic responses.

Anomaly C lies between Lines 20+00N and 23+00N and is open to the north. It lies spatially close to Anomaly B and fits the change in magnetic character better than that at the north end of Anomaly B and hence may be an offset of that anomaly or the proper continuation of the geological feature that is believed to be mapped by Anomaly B.

Anomaly D is found between Lines 3+00N and 5+00N at about 4+00W. It is open to the south (into a swamp) and may represent a conductive overburden effect associated with that topographic feature.

Anomaly E is present as two short (traceable) length anomalies on Lines 22+00N and 23+00N at about 5+00E. These anomalies are open to both the north (off the grid) and to the south (into swamp).

There are no other features present which could help allay to the origin of this anomaly.

Anomaly F is located between Lines 11+00N and 14+00N at about 3+50E. There is no magnetic correlation with this anomaly. This may be a continuation of Anomaly E south of the swamp between Lines 15+00N and 21+00N.

Anomaly G is a strong single station anomaly on Line 13+00N at about 3+00W. It is postulated that this anomaly is strictly due to topographic effects.

There is reason to believe that dislocations in some of the magnetic and VLF-EM features indicate the presence of an east-west fault structure traversing

the property from about 11+00N, 8+00W to 15+00N, 5+00E. This geophysical feature also coincides with a topographic low that crosscuts the property in the same area.

8.0 CONCLUSIONS

The exploration program has focused on a geochemical and geophysical investigation of the Welcome North Mines Limited, McLennan Property. The main conclusions derived from the field work are:

1. The geochemical survey of the property has outlined four areas of anomalous Au in soils. These four areas may be parts of three overall trends which are subparallel to the known stratigraphy on the ground.

2. The geophysical surveys conducted on the property outlined a general north-northeast to south-southwest trend, conformable with the known geology of the area. From the magnetic response it was possible to subdivide the property in an area believed to be underlain by mafic volcanic rocks (west part) and an area underlain by a mafic to ultramafic sill (east part).

3. The VLF-EM did not outline any areas that are believed to be associated with gold mineralization. There was no significant geophysical response coincident with the known mineralization on the property.

4. There is no significant correlation between the geophysical and geochemical surveys.

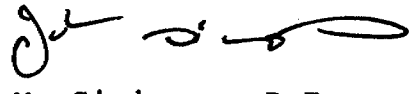
9.0 RECOMMENDATIONS

The following recommendations are made to further evaluate the gold potential of the property:

1. In light of the present results the area of the known mineralization on claim K 10025 has the highest potential for the development of economic ore reserves. Additional work in this area should include mechanical work and diamond drilling to properly evaluate the zone.

2. The areas of anomalous geochemical response should also be prospected in more detail in conjunction with a geological survey which could be carried out concurrent with further work on the zone of known mineralization.

Respectfully submitted,



J.M. Siriunas, P.Eng.

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CERTIFICATE OF QUALIFICATIONS

I, J.M. Siriunas, of 2803 Hollington Cres., Mississauga, Ontario, certify that:

1. I hold a Bachelor of Applied Science Degree (1976) in Geological Engineering and a Master of Applied Science Degree (1979) in Geology from the University of Toronto.

2. I am a member of the Association of Professional Engineers of the province of Ontario and have practised my profession continuously since graduation.

3. I have based conclusions and recommendations contained in this report on my experience and knowledge of geology, geochemistry and mineral deposits and on information obtained from the various referenced reports and on my observations while at the property site in August and September, 1983.

5. I hold no interest, directly or indirectly, in this property other than professional fees, nor do I expect to receive any interest in the property or in Welcome North Mines Ltd., or any of its subsidiary companies.

Toronto, Ontario
December, 1983

J.M. Siriunas, M.A.Sc., P.Eng

Appendix 1

Certificates of Analysis
Soil Samples

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 M.P.H. Consulting Ltd. Date

Client Project Page 1/33

Sample No.	Au ppb
KL-83-1	-8
2	2
3	8
4	-8
5	-2
6	2
7	4
8	-4
9	-4
10	4
11	-8
12	-8
13	-8
14	-4
15	8
16	2
17	-8
18	-8
19	-8
20	-2
21	-8
22	-8
23	8
24	4
25	6

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Appendix 1

Certificates of Analysis
Soil Samples

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 3/33

Sample No.	Au ppb
KL-83-52	-8
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54	2
55	16
56	-8
57	8
58	10
59	-2
60	-2
61	2
62	-2
63	-8
64	12
65	8
66	-4
67	4
68	6
69	8
70	6
71	2
72	-2
73	4
74	8
75	-4
76	34

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project

Sample No.	Au ppb
KL-83-77	-8
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79	6
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81	-2
82	14
83	4
84	16
85	-2
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89	-2
90	-4
91	-4
92	-2
93	-4
94	-2
95	-2
96	6
97	2
98	-2
99	-2
100	12
101	4

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ANALYTICAL REPORT

Job # 83-281 Date

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Sample No.	Au ppb
KL-83-102	144
103	18
104	2
105	16
106	2
107	4
108	6
109	208
110	-2
111	192
112	10
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115	-2
116	2
117	-4
118	-2
119	4
120	8
121	-8
122	-2
123	4
124	-4
125	16
126	-2

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project

Sample No.	Au ppb
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131	8
132	8
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134	-4
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136	-2
137	-4
138	-8
139	8
140	-2
141	2
142	-2
143	8
144	16
145	2
146	344
147	8
148	-2
149	-8
150	2
151	-2

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Sample No.	Au ppb
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154	-8
155	-4
156	-4
157	2
158	-4
159	40
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161	12
162	88
163	8
164	-4
165	-4
166	-8
167	2
168	8
169	-8
170	4
171	8
172	-2
173	2
174	-2
175	6
176	36

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ANALYTICAL REPORT

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Sample No.	Au ppb
KL-83-177	24
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180	-4
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182	4
183	-8
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191	-4
192	96
193	56
194	4
195	2
196	8
197	-2
198	-2
199	-4
200	-4
201	4

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ANALYTICAL REPORT

Job # 83-281 Date

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Sample No.	Au ppb
KL-83-202	2
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204	-8
205	-8
206	-2
207	-2
208	8
209	-2
210	64
211	32
212	-4
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214	-8
215	-8
216	-4
217	8
218	136
219	-4
220	224
221	-8
222	-8
223	1248
224	-8
225	8
226	-8

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 10/33

Sample No.	Au ppb
KL-83-227	-4
228	-8
229	-8
230	-8
231	-8
232	8
233	8
234	6
235	20
236	40
237	2
238	-4
239	-8
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242	-8
243	-2
244	-8
245	-8
246	-8
247	-8
248	-4
249	-4
250	8
251	32

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 11/33

Sample No.	Au ppb
KL-83-252	-8
253	8
254	-8
255	-2
256	-4
257	-8
258	-8
259	2
260	2
261	-2
262	16
263	-4
264	-8
265	-4
266	-8
267	-2
268	-4
269	-8
270	-4
271	20
272	-8
273	-8
274	4
275	-8
276	-8

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project

Sample No.	Au ppb
KL-83-277	-4
278	-2
279	2
280	-8
281	-2
282	18
283	-8
284	-4
285	-4
286	8
287	2
288	-2
289	-4
290	-2
291	48
292	8
293	16
294	8
295	-4
296	8
297	8
298	-4
299	8
300	-2
301	-8

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ANALYTICAL REPORT

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Client Project Page 13/33

Sample No.	Au ppb
KL-83-302	-4
303	8
304	8
305	-4
306	12
307	324
308	6
309	8
310	-4
311	-8
312	-2
313	-8
314	I.S.
315	2
316	-4
317	-8
318	-8
319	4
320	I.S.
321	-8
322	6
323	28
324	24
325	36
326	16

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 14/33

Sample No.	Au ppb
KL-83-281	8
328	-4
329	-2
330	6
331	2
332	-2
333	2
334	-2
335	68
336	-4
337	-2
338	-2
339	-4
340	-8
341	-2
342	6
343	I.S.
344	4
345	8
346	-4
347	40
348	4
349	4
350	-2
351	-4

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 15/33

Sample No.	Au ppb
KL-83-352	-8
353	16
354	-2
355	-8
356	-4
357	-4
358	-4
359	-2
360	-2
361	-2
362	-8
363	2
364	6
365	32
366	-2
367	-4
368	-2
369	-2
370	-8
371	-2
372	-4
373	-2
374	-8
375	4
376	-2

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 16/33

Sample No.	Au ppb
KL-83-377	-8
378	4
379	12
380	4
500	-8
501	8
502	4
503	2
504	-8
505	-8
506	4
507	-4
508	-2
509	4
510	-2
511	-2
512	-2
513	224
514	36
515	56
516	-2
517	-2
518	2
519	-4
520	2

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 17/33

Sample No.	Au ppb
KL-83-521	-4
522	524
523	-8
524	-2
525	12
526	-8
527	24
528	-4
529	-4
530	32
531	-2
532	-2
533	-2
534	-2
535	-4
536	14
537	376
538	-2
539	-8
540	-8
541	-8
542	12
543	8
544	8
545	28

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project

Sample No.	Au ppb
KL-83-546	-8
547	2
548	16
549	8
550	12
551	-8
552	-8
553	8
554	-8
555	-8
556	-8
557	-8
558	8
559	-8
560	-8
561	8
562	-4
563	-8
564	-4
565	-8
566	-8
567	-8
568	-4
569	-8
570	-4

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 19/33

Sample No.	Au ppb
KL-83-571	-8
572	-2
573	-4
574	-8
575	8
576	-4
577	-8
578	-8
579	-4
580	-2
581	-8
582	2
583	32
584	-2
585	56
586	-4
587	-4
588	-4
589	-8
590	8
591	-8
592	2
593	-8
594	-2
595	-4

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project

Sample No.	Au ppb
KL-83-596	-4
597	-2
598	-2
599	-2
600	-4
601	52
602	-4
603	32
604	-4
605	-4
606	-4
607	-8
608	76
609	8
610	-4
611	-8
612	136
613	-8
614	8
615	4
616	-4
617	-2
618	-4
619	-4
620	-4

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 21/33

Sample No.	Au ppb
KL-83-621	-4
622	I.S.
623	2
624	I.S.
625	8
626	-4
627	-8
628	2
629	-4
630	-8
631	96
632	38
633	-8
634	-2
635	16
636	2
637	2
638	8
639	-8
640	80
641	-4
642	-8
643	192
644	-8
645	-8

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 22/33

Sample No.	Au ppb
KL-83-646	-8
647	-8
648	-8
649	-8
650	-8
651	60
652	152
653	8
654	2
655	4
656	98
657	4
658	16
659	2
660	2
661	-4
662	-8
663	4
664	8
665	4
666	2
667	-2
668	-8
669	-8
670	-8

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 23/33

Sample No.	Au ppb
KL-83-671	24
672	-4
673	-8
674	-8
675	-8
676	8
677	4
678	2
679	2
680	32
681	42
682	24
683	4
684	248
685	8
686	-8
687	-8
689	-8
690	72
691	6
692	40
693	-8
694	2
695	12
696	10

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 24/33

Sample No.	Au ppb
KL-83-697	6
698	4
699	8
700	-8
701	-4
702	-8
703	-8
704	14
705	16
706	4
707	-8
708	-4
709	-4
710	-8
711	44
712	-8
713	-8
714	2
715	4
716	-4
717	2
718	6
719	-4
720	8
721	768

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 25/33

Sample No.	Au ppb
KL-83-722	2
723	4
724	-8
725	-8
726	-8
727	-8
728	-8
729	-4
730	84
731	-8
732	-4
733	-4
734	16
735	-8
736	-4
737	8
738	-4
739	-8
740	-8
741	-8
742	-8
743	8
744	-8
745	-8
748	-8

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 26/33

Sample No.	Au ppb
KL-83- 749	8
750	2
751	4
752	24
753	12
754	10
755	2
756	44
757	2
758	-4
759	-4
760	-2
761	-4
762	-8
763	4
764	-8
765	-8
766	-8
767	-2
768	-4
769	-8
770	-8
771	-8
772	-8
773	-2

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 27/33

Sample No.	Au ppb
KL-83-774	-2
775	-4
776	8
777	-4
778	-8
779	2
780	-8
781	-8
782	-8
783	-8
784	-8
785	8
786	-2
787	-4
788	-4
789	-8
790	-8
791	-2
792	4
793	-8
794	2
795	16
796	2
797	-4
798	-4

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 28/33

Sample No.	Au ppb
KL-83-799	-8
800	2
801	-2
802	-4
803	-4
804	-4
805	4
806	2
807	-8
808	2
809	-4
810	-8
811	24
812	-4
813	-8
814	4
815	4
816	-2
817	-2
818	-2
819	-8
820	-4
821	46
822	-8
823	4

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ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 29/33

Sample No.	Au ppb
KL-83-824	-4
825	-4
826	-8
827	-8
828	-8
829	2
830	2
831	-8
832	-8
833	-8
834	-8
835	-8
836	-8
837	-8
838	-8
839	-8
840	-8
841	-8
842	-8
843	16
844	4
845	10
846	-8
847	-2
848	-8

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 30/33

Sample No.	Au ppb
KL-83-849	8
850	-2
851	-8
852	-8
853	-8
854	-4
855	4
856	I.S.
857	2
858	-2
859	2
860	-4
861	4
862	2
863	-8
864	-8
865	-8
866	4
867	-2
868	-8
869	8
870	8
871	14
872	-2
873	-4

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 31/33

Sample No.	Au ppb
KL-83-874	-4
875	-8
876	-4
877	-8
878	8
879	104
880	-8
881	-8
882	-8
883	4
884	8
885	4
886	-8
887	-4
889	-8
890	-2
891	-8
892	-2
893	-8
894	-4
895	-4
896	-2
897	-8
898	4
899	-2

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TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-281 Date

Client Project Page 32/33

Sample No.	Au ppb
KL-83-900	8
901	16
902	2
903	-2
904	-2
905	-2
906	-2
907	-2
908	24
909	-2
910	-8
911	-8
912	-2
913	-4
914	-2
915	-2
916	-2
917	2
918	2
919	-4
920	-4
921	-2
922	-2
923	2
924	-4

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ANALYTICAL REPORT

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Client Project Page 33/33

Sample No.	Au ppb
KL-83-925	-2
926	4
927	-2
928	-2
929	-2
930	-4
931	-2
932	2
933	-2
934	-4
935	-8
936	88
937	8
938	8
939	-4
940	8
941	-4
942	24
943	-4
944	8
993	-2

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Appendix 2

Certificates of Analysis
Rock Samples

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 55983 Date: September 27, 1983

Received Sept. 12, 1983 39 Samples of Ore

Submitted by MPH Consulting Limited, Toronto, Ontario Attn: Mr. W. Brereton

Project # C-587 Samples Per: Mr. J. Siriunas

SAMPLE NO.	GOLD PPB	GOLD Oz./ton
WNKL-83-1	240	--
WNKL-83-2	850	--
WNKL-83-3	9600	0.310
WNKL-83-4	1300	--
WNKL-83-5	620	--
WNKL-83-6	860	--
WNKL-83-7	1170	--
WNKL-83-8	1570	--
WNKL-83-9	27020	0.628
Second Pulp		0.790 0.872
WNKL-83-10	5070	0.140
WNKL-83-11	1150	--
WNKL-83-12	1230	--
WNKL-83-13	900	--
WNKL-83-14	180	--
WNKL-83-15	7060	0.206
WNKL-83-16	60	--
WNKL-83-17	30	--
WNKL-83-18	10	--
WNKL-83-19	440	--
WNKL-83-20	180	--

SAMPLE NO.	GOLD PPB	GOLD Oz./ton
WNKL-83-21	1520	--
WNKL-83-22	10	--
WNKL-83-23	30	--
WNKL-83-24	10	--
WNKL-83-25	70	--
WNKL-83-26	1800	0.058
WNKL-83-27	10	--
WNKL-83-28	80	--
WNKL-83-29	590	--
WNKL-83-30	60	--
WNKL-83-31	180	--
WNKL-83-32	Nil	--
WNKL-83-33	30	--
WNKL-83-34	10	--
WNKL-83-35	40	--
WNKL-83-36	10 Nil	--
WNKL-83-37	10	--
WNKL-83-38	10	--
WNKL-83-39	10	--

Per G. Lebel - Manager

ESTABLISHED 1928

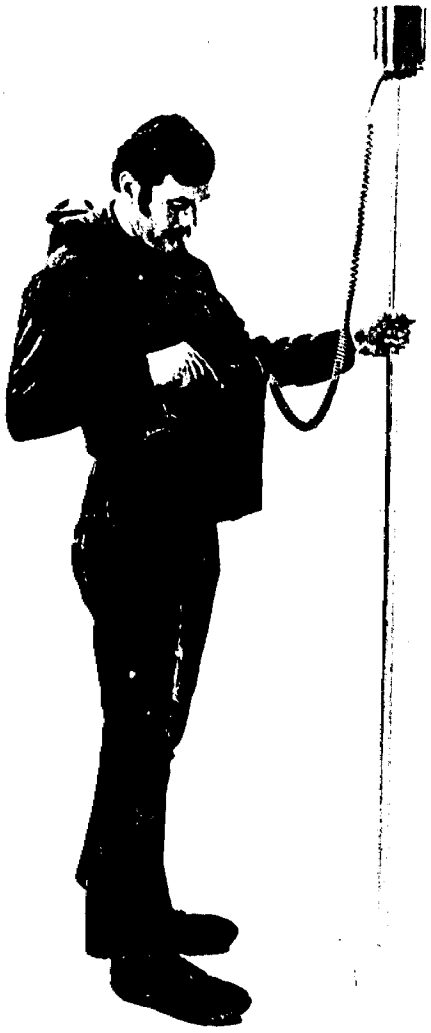
Appendix 3

Instrument Specifications

geoMetrics

Instrument Division

PORTABLE PROTON MAGNETOMETER
MODEL G-816



- ★ 1 gamma sensitivity and repeatability
- ★ Very small size and weight: less than 12 lbs complete with batteries and sensor
- ★ Over 10,000 readings per set of alkaline "D" cell (flashlight) batteries
- ★ Provision to attach sensor to carrying harness for use without staff
- ★ Pushbutton operation—numeric display directly in gammas
- ★ Total field measurements—independent of orientation—no calibration—no leveling

The Model G-816 is a complete portable magnetometer for all man-carry field applications. As an accurate yet simple to operate instrument, it features an outstanding combination of one gamma sensitivity and repeatability, compact size and weight, operation on standard universally available flashlight batteries, ruggedized packaging and very low price.

The G-816 magnetometer allows precise mapping of very small or large amplitude anomalies for ground geophysical surveys, or for detail follow-up to aeromagnetic reconnaissance surveys. It is a rugged, lightweight, and versatile instrument, equally well suited for field studies in geophysics, research programs or other magnetic mapping application where low cost, dependable operation and accurate measurements are required.

For marine, airborne or ground recording systems consider GeoMetrics Models G-801, G-803, and G-826A

"Hands-free" Back Pack Sensor

Based upon the principle of nuclear precession (proton) the G-816 offers absolute drift-free measurements of the total field directly in gammas. (The proton precession method is the officially recognized standard for measurement of the earth's magnetic field.) Operation is worldwide with one gamma sensitivity and repeatability maintained throughout the range. There is no temperature drift, no set-up or leveling required, and no adjustment for orientation, field polarity, or arbitrary reference levels. Operation is very simple with no prior training required. Only 6 seconds are required to obtain a measurement which is always correct to one gamma, regardless of operator experience. Only the Proton Magnetometer offers such repeatability—an important consideration even for 10 gamma survey resolution.

Complete Field Portable System

The Model G-816 comes complete, ready for portable field operation and consists of:

1. Electronics console with internally mounted and easily replaced "D" cell battery pack.
2. Proton sensor and signal cable for attachment to carrying harness or staff.
3. Adjustable carrying harness.
4. 8 foot collapsible aluminum staff.
5. Instruction manual, complete set of spare batteries, applications manual, and rugged field suitcase.

Price and lease rates on the G-816 magnetometer are available upon request.

SPECIFICATIONS

Sensitivity: ±1 gamma throughout range

Range: 20,000 to 100,000 gammas (worldwide)

Tuning: Multi-position switch with signal amplitude indicator light on display

Gradient Tolerance: Exceeds 800 gammas/ft

Sampling Rate: Manual push-button, one reading each 6 seconds

Output: 5 digit numeric display with readout directly in gammas

Power Requirements: Twelve self-contained 1.5 volt "D" cell, universally available flashlight-type batteries. Charge state or replacement signified by flashing indicator light on display.

Battery Type	Number of Readings
Alkaline	over 10,000
Premium Carbon Zinc	over 4,000
Standard Flashlight	over 1,500

NOTE: Battery life decreases with low temperature operation.

Temperature Range: Console and sensor: −40° to +85°C

Battery Pack: 0° to +50°C (limited use to −15°C; lower temperature battery belt operation—optional)

Accuracy (Total Field): ±1 gamma through 0° to +50°C temperature range

Sensor: High signal, noise cancelling, interchangeably mounted on separate staff or attached to carrying harness

Size: Console: 3.5 x 7 x 10.5 inches (9 x 18 x 27 cm)
Sensor: 3.5 x 5 inches (9 x 13 cm)
Staff: 1 inch diameter x 8 ft length (3 cm x 2.44 m)

Weight:

	Lbs.	Kgs.
Console (w/batteries):	5.5	2.5
Sensor & signal cable:	4	1.8
Aluminum staff:	2	0.9
Total:	11.5	5.2

All magnetometers and parts are covered by a one year warranty beginning with the date of receipt but not to exceed fifteen months from the shipping date.

geoMetrics, INC. A SUBSIDIARY OF EG&G
395 JAVA DRIVE
SUNNYVALE, CA. 94086 U.S.A.
TEL: (408) 734-4616
CABLE: "GEOMETRICS"
TELEX NO: 357-435

geoMetrics SERVICES (CANADA) LTD.
436 LIMESTONE CRESCENT
DOWNSVIEW (TORONTO),
ONTARIO, CANADA
TEL: (416) 661-1966
TELEX NO: 06-22694

geoMetrics INTERNATIONAL CORP.
80 ALFRED ST.,
MILSON'S POINT
SYDNEY NSW 2061
AUSTRALIA
TEL: 929-9942
TELEX NO: 790-22624

EM16

VLF Electromagnetic Unit

Pioneered and patented exclusively by Geonics Limited, the VLF method of electromagnetic surveying has been proven to be a major advance in exploration geophysical instrumentation.

Since the beginning of 1965 a large number of mining companies have found the EM16 system to meet the need for a simple, light and effective exploration tool for mining geophysics.

The VLF method uses the military and time standard VLF transmissions as primary field. Only a receiver is then used to measure the secondary fields radiating from the local conductive targets. This allows a very light, one-man instrument to do the job. Because of the almost uniform primary field, good response from deeper targets is obtained.

The EM16 system provides the *in-phase* and *quadrature* components of the secondary field *with the polarities indicated.*

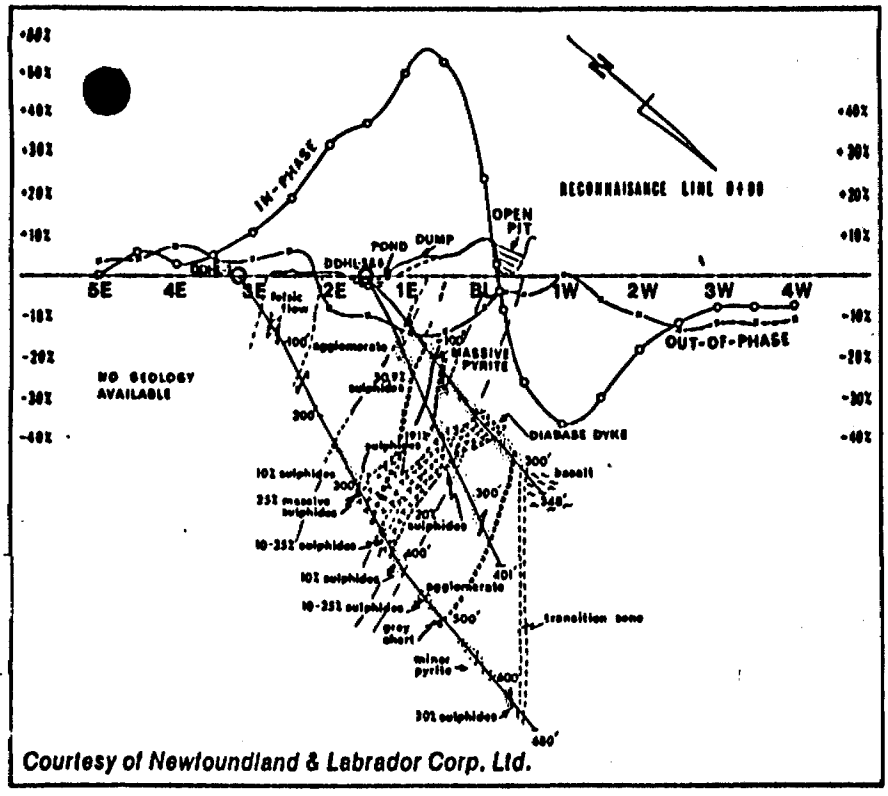
Interpretation technique has been highly developed particularly to differentiate deeper targets from the many surface indications.

Principle of Operation
The VLF transmitters have vertical antennas. The magnetic signal component is then horizontal and concentric around the transmitter location.

Specifications

Source of primary field	VLF transmitting stations.
Transmitting stations used	Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.
Operating frequency range	About 15-25 kHz.
Parameters measured	(1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).
Method of reading	In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.
Scale range	In-phase ± 150%; quadrature ± 40%.
Readability	± 1%.
Reading time	10-40 seconds depending on signal strength.
Operating temperature range	−40 to 50° C.
Operating controls	ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature, dial ± 40%, inclinometer dial ± 150%.
Power Supply	6 size AA (penlight) alkaline cells. Life about 200 hours.
Dimensions	42 x 14 x 9 cm (16 x 5.5 x 3.5 in.)
Weight	1.6 kg (3.5 lbs.)
Instrument supplied with	Monotonic speaker, carrying case, manual of operation, 3 station selecto plug-in tuning units (additional frequencies are optional), set of batterie
Shipping weight	4.5 kg (10 lbs.)

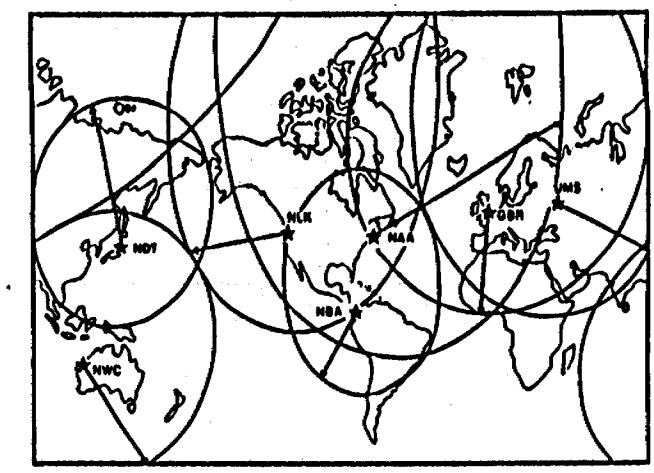
GEONICS LIMITED Designers & manufacturers of geophysical instruments
2 Thorncliffe Park Drive, Toronto/Ontario/Canada



Courtesy of Newfoundland & Labrador Corp. Ltd.

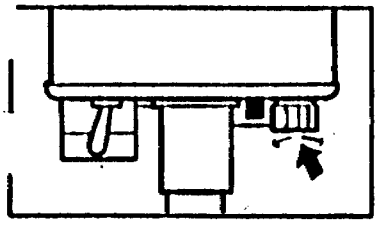
EM 16 Profile over Lockport Mine Property, Newfoundland

Additional case histories on request.



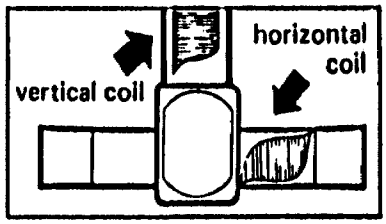
Areas of VLF Signals

Coverage shown only for well-known stations. Other reliable, fully operational stations exist. For full information regarding VLF signals in your area consult Geonics Limited. Extensive field experience has proved that the circles of coverage shown are very conservative and are actually much larger in extent.



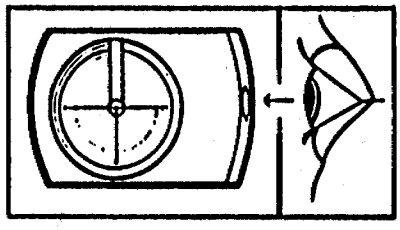
Station Selector

Two tuning units can be plugged in at one time. A switch selects either station.



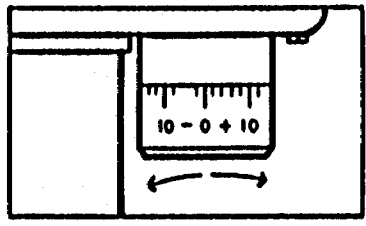
Receiving Coils

Vertical receiving coil circuit in instrument picks up any vertical signal present. Horizontal receiving coil circuit, after automatic 90° signal phase shift, feeds signal into quadrature dial in series with the receiving coil.



In-Phase Dial

shows the tilt-angle of the instrument for minimum signal. This angle is the measure of the vertical in-phase signal expressed in percentage when compared to the horizontal field.



Quadrature Dial

is calibrated in percentage markings and nulls the vertical quadrature signal in the vertical coil circuit.

By selecting a suitable transmitter station as a source, the EM 16 user can survey with the most suitable primary field azimuth.

The EM 16 has two receiving coils, one for the pick-up of the horizontal (primary) field and the other for detecting any anomalous vertical secondary field. The coils are thus orthogonal, and are mounted inside the instrument "handle".

The actual measurement is done by first tilting the coil assembly to minimize the signal in the vertical (signal) coil and then further sharpening the null by using the reference signal to buck out the remaining signal. This is done by a calibrated "quadrature" dial.

The tangent of the tilt angle is the measure of the vertical in-phase component and the quadrature reading is the signal at right angles to the total field. All readings are obtained in per centages and do not depend on the absolute amplitude of the primary signals present.

The "null" condition of the measurement is detected by the drop in the audio signal emitted from the patented resonance loudspeaker. A jack is provided for those preferring the use of an earphone instead.

The power for the instrument is from 6 penlight cells. A battery tester is provided.

Appendix 4

Technical Data Statement

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) Geochemical, Magnetometer, EM
Township or Area Dogpaw Lake
Claim Holder(s) Jack D. Martin

Survey Company MPH Consulting Limited
Author of Report J.M. Siriunas
Address of Author 2406 - 120 Adelaide St. W., Toronto
Covering Dates of Survey 20 Aug. 1983 - 9 Sept. 1983
(linecutting to office)
Total Miles of Line Cut 15.8

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	20
–Radiometric	
–Other	
Geological	
Geochemical	40

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

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

DATE: 22 Dec. 1983 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications 2.6104

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
K	590645
	590646
	590647
	590648
	590649
	590650
	590651
	10024
	10025
	10026
	10027
	10028
	10029
	10030

TOTAL CLAIMS 14

If space insufficient, attach list

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations: 910 Number of Readings: Mag: 1027; VLF: 910

Station interval: 25 m Line spacing: 100 m

Profile scale: VLF: 1 cm = 10%

Contour interval: Mag: 1000 nT; VLF: -10

MAGNETIC

Instrument: Geonics G-816 see report

Accuracy – Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument: Geonics EM-16 see report

Coil configuration

Coil separation

Accuracy

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

Frequency (specify V.L.F. station)

Parameters measured

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

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken 14

Total Number of Samples 812

Type of Sample soils
(Nature of Material)

Average Sample Weight 50 g

Method of Collection hand

Soil Horizon Sampled B

Horizon Development poor to moderate

Sample Depth 10 cm

Terrain

Drainage Development poor

Estimated Range of Overburden Thickness
0 - 10 m

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis
-80 mesh

General

ANALYTICAL METHODS

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

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

Others Au

Field Analysis (_____ tests)
Extraction Method
Analytical Method
Reagents Used

Field Laboratory Analysis
No. (_____ tests)
Extraction Method
Analytical Method
Reagents Used

Commercial Laboratory (812 tests)
Name of Laboratory TerraMin
Extraction Method FA
Analytical Method AA
Reagents Used

General

Appendix 5

Maps

FWM

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures) #126

The Min

52F05SW0099 2.6210 DOGPAW LAKE 900

Type of Survey(s)	Township or Area
GEOCHEMICAL, MAGNETOMETER, VLF-EM	DOGPAW LAKE m-2585

Claim Holder(s)	Prospector's Licence No.
Jack D. Martin	C 26202

Address: 682 Morin Street, North Bay, Ontario P1B 5R7

Survey Company	Date of Survey (from & to) Day / Mo. / Yr.	Total Miles of line Cut
MPH CONSULTING LIMITED	30 07 83 / 15 09 83	8

Name and Address of Author (of Geo-Technical report): J.M. Siriunas, MPH Consulting, 120 Adelaide Street, West Ste. 2406 Toronto, Ontario M5H 1W5

Credits Requested per Each Claim in Columns at right

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

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

Airborne Credits		Days per Claim
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.
K	590645	
	590646	
	590647	
	590648	
	590649	
	590650	
	590651	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

RECEIVED
NOV 14 1983
MINING LANDS

KENORA MINING DIV.
RECEIVED
OCT 25 1983
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

see revised work statement

590645

Total number of mining claims covered by this report of work: 7

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
560	Oct 25/83	
	Date Approved as Recorded	Branch Director

Date	Recorded Holder or Agent (Signature)
19 OCT 1983	

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: J.M. Siriunas MPH Consulting Ltd. 120 Adelaide St. W. Toronto, Ont.

	Date Certified	Certified by (Signature)
	19 OCT 1983	

1362 (81/9)

2.6210

1984 05 04

Your File: 126-83
Our File: 2. 6210

Mr. Wade S. Mathew
Mining Recorder
Ministry of Natural Resources
808 Robertson Street
Box 5080
Kenora, Ontario
P9N 3X9

Dear Sir:

RE: Geophysical (Electromagnetic and Magnetometer) and Geological Surveyson Mining Claims K 590645 et al in the Area of Dogpaw Lake

---

The Geophysical (Electromagnetic and Magnetometer) and Geological Survey assessment work credits as listed with my Notice of Intent dated April 12, 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 sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-6918

M.E. Anderson:mc

cc: Jack D. Martin
682 Morin Street
North Bay, Ontario
P1B 5R7

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

cc: Resident Geologist
Kenora, Ontario

Ministry of Natural Resources
Ontario

Technical Assessment Work Credits

File 2.6210

Date 1984 04 12

Mining Recorder's Report of Work No. 126-83

Recorded Holder: JACK D. MARTIN

Township or Area: DOGPAW LAKE AREA

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	K 590646
Electromagnetic 20 days	590648 to 51 inclusive
Magnetometer 20 days	
Radiometric ____ 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.	

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

15 DAYS CREDITED	10 DAYS CREDITED
K 590645	K 590647

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 2.6210

Date 1984 04 12

Mining Recorder's Report of Work No. 126-83

Recorded Holder: JACK D. MARTIN

Township or Area: DOGPAW LAKE AREA

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	K 590646 590648 to 51 inclusive
Electromagnetic _____ days	
Magnetometer _____ days	
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical 40 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

30 DAYS CREDITED	20 DAYS CREDITED
K 590645	K 590647

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)

Ministry of
Natural
Resources

Ontario

april 27/84

1984 04 12

Your File: 126-83
Our File: 2.6210

Mr. Wade S. Mathew
Mining Recorder
Ministry of Natural Resources
808 Robertson Street
Box 5080
Kenora, Ontario
P9N 3X9

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 416/965-6918.

Yours very truly,

S.E. Yundt

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316
M.E. Anderson:mc

Encls.
cc: Jack D. Martin
682 Morin Street
North Bay, Ontario
P1B 5R7

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

Ministry of Natural Resources

Ontario

Notice of Intent

for Technical Reports

1984 04 12

2.6210/126-83

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

Geotechnical Report Approval

File 2.6210

Mining Lands Comments

☑ To: Geophysics Mr. R. Barlow.

Comments

☑ Approved ☐ Wish to see again with corrections | Date Jan 21/84 | Signature R. Barlow

☐ To: Geology - Expenditures

Comments

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

☑ To: Geochemistry Dr. Fortescue.

Comments

L.D.

☑ Approved ☐ Wish to see again with corrections | Date Feb 17th 1984 | Signature

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

1593 (81/10)

Initial Check

Mary-Ellen Andesa Jan 4/84

Assessed

Approved Reports of Work sent out

Notice of Intent filed

MEA March 15/84

Approval after Notice of Intent sent out

Duplicate sent to Resident Geologist

Duplicate sent to A.F.R.D.

1984 01 05

Your File: 126-83
Our File: 2.6210

Mr. Wade Mathew
Mining Recorder
Ministry of Natural Resources
808 Robertson Street
Box 5160
Kenora, Ontario
P9N 3X9

Dear Sir:

We have received reports and maps for a Geophysical (Electromagnetic and Magnetometer) and Geological surveys submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims K 590645 et al in the Area of Dogpaw Lake.

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

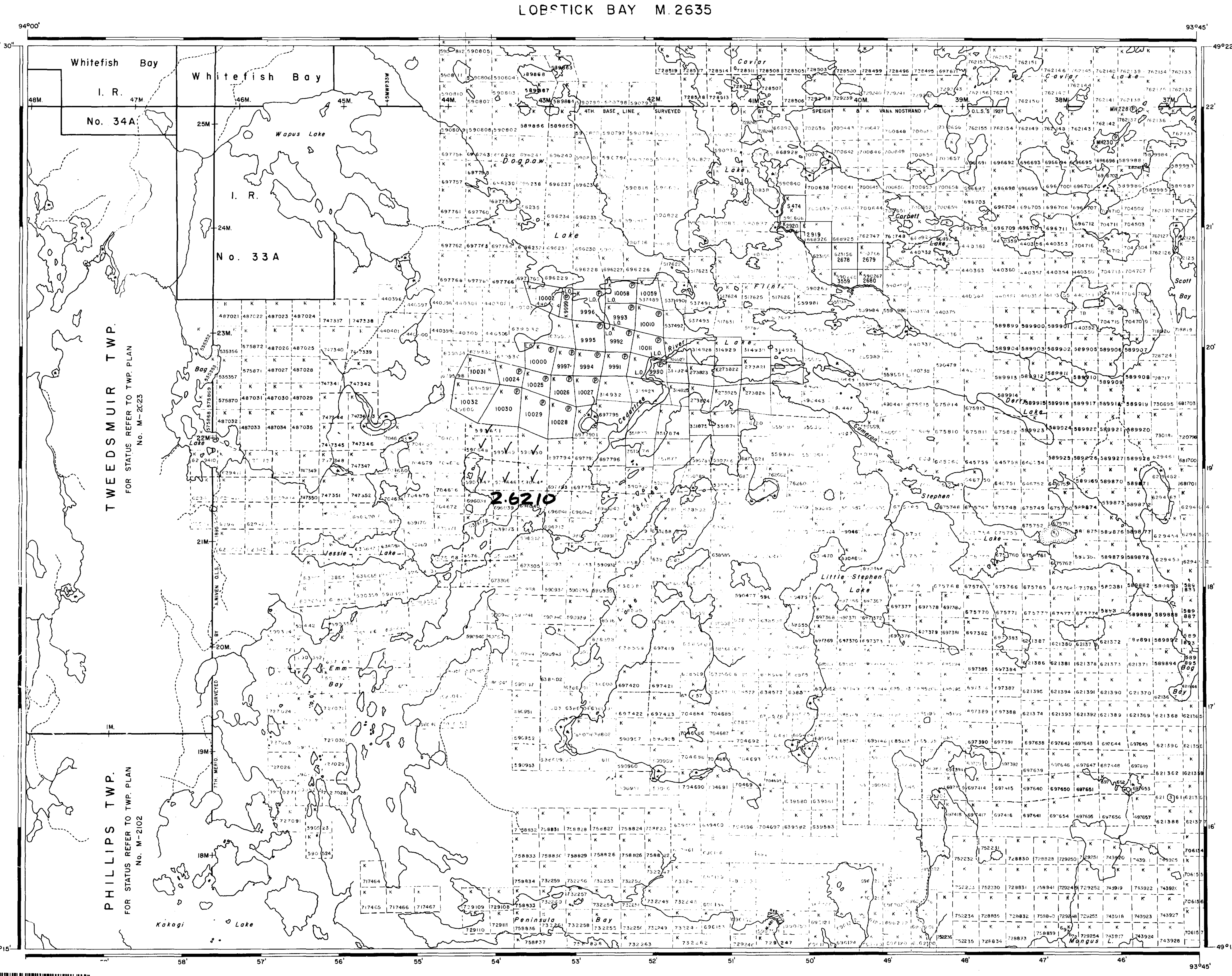
Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-1380

A. Barr:mc

cc: Jack D. Martin
682 Morin Street
North Bay, Ontario
P1B 5R7

cc: M.P.H. Consulting
Suite 2406
120 Adelaide Street West
Toronto, Ontario
M5H 1W5
Attention: J.M. Siriunas

	Em	MAG	GEOCH			2.6210
K 590645	1/4	1/4	1/4			
46	✓	✓	✓			
47	1/2	1/2	1/2			MEA
48	✓	✓	✓			
49	✓	✓	✓			
50	✓	✓	✓			
51	✓	✓	✓			



AREA OF

DOGPAW LAKE

DISTRICT OF KENORA

KENORA 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 along the shores of all lakes and rivers.

Areas withdrawn from staking under Section 43 of the Mining Act R.S.

		Date	Disposition
Ⓢ	163473	1 Mar. '72	surface & mining rights

NATIONAL TOPOGRAPHIC SERIES 52 F5

PLAN NO. M.2585

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

52F05SW0099 2.6210 DOGPAW LAKE

200

493934

WELCOME NORTH MINES LTD.

KAKAGI LAKE GRID

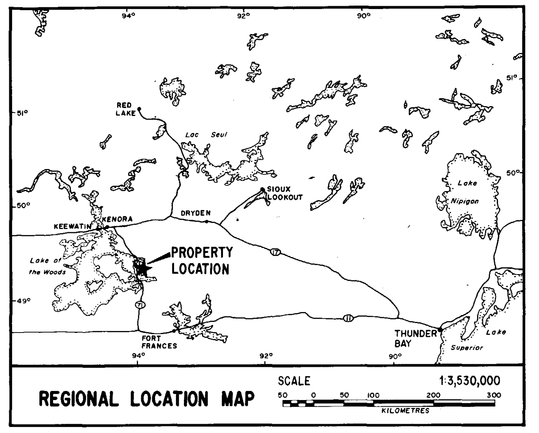
GEOCHEMICAL SURVEY

Project No:	C-587	By	W.E. Brereton
Scale:	1 : 2,500	Drawn:	GCS Limited
Drawing No:	Map 1	Date:	September, 1983

MPH Consulting Limited

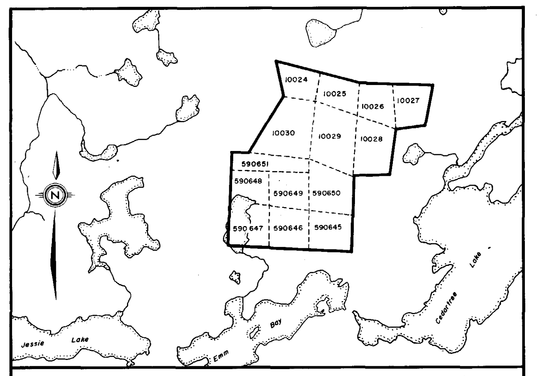
2.6210

210



REGIONAL LOCATION MAP

SCALE 1:3,530,000
KILOMETRES



DETAILED LOCATION MAP

SCALE 1 inch = 1/2 mile
MILES

LEGEND

INSTRUMENT: Geonics G-816

61001 Absolute Magnetic Value (nt)

Magnetic Contour

Magnetic Depression

CONTOURS Interval 500 nt

5000 nt

1000 nt

500 nt

SCALE
METRES

KAKAGI LAKE
(EMM BAY)
CAMP
TL 5+50E

WELCOME NORTH MINES LTD.

KAKAGI LAKE GRID

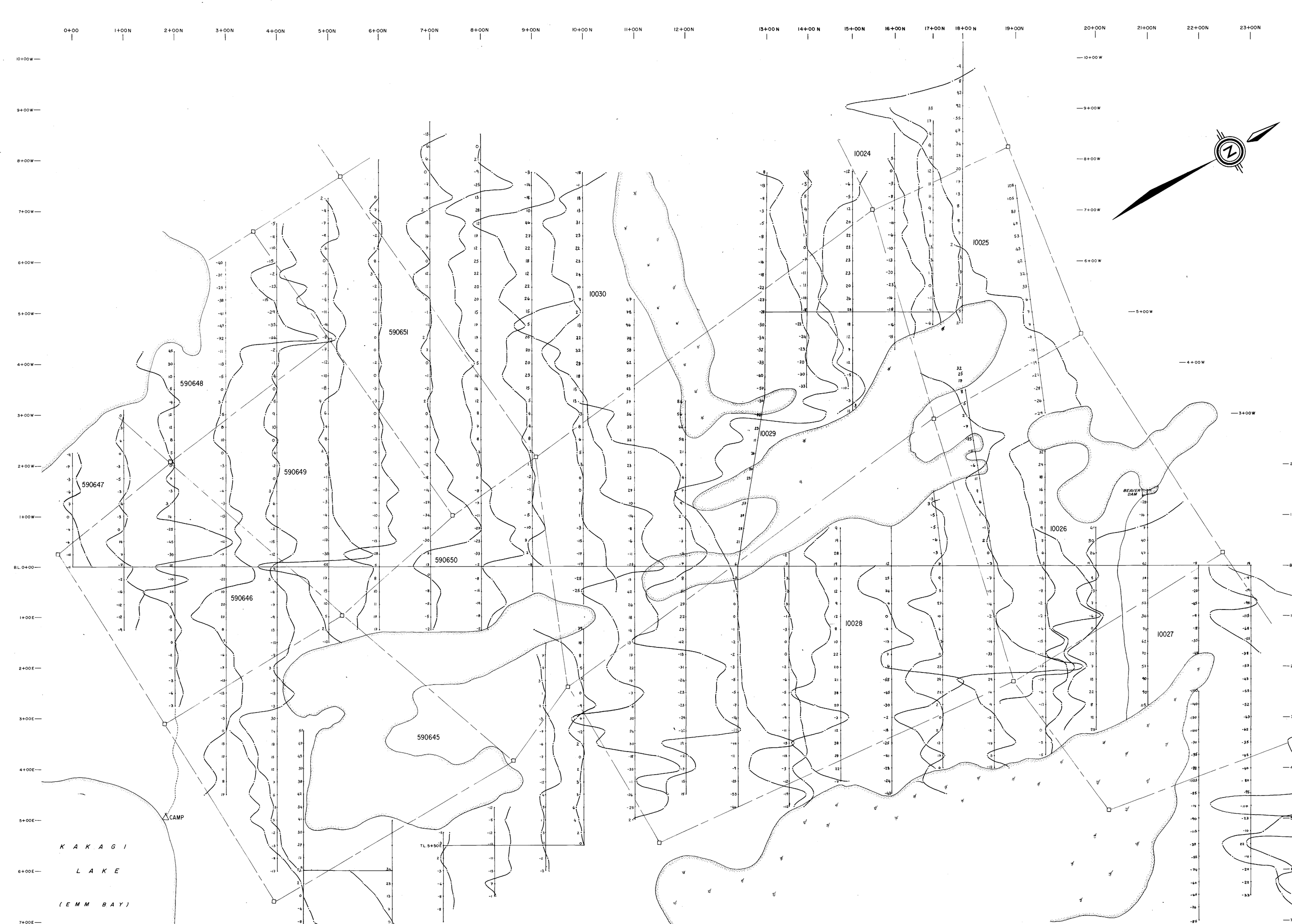
MAGNETOMETER SURVEY

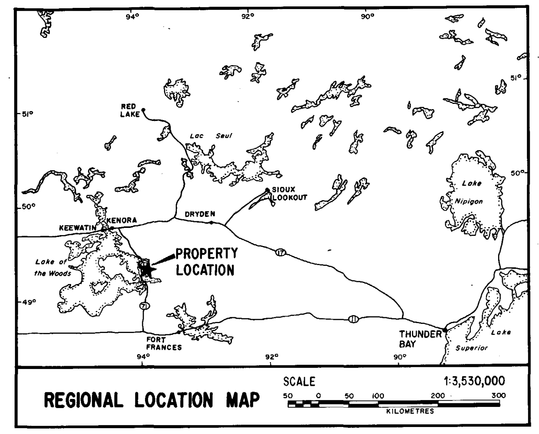
Project No:	C-587	By:	W.E. Brereton
Scale:	1 : 2,500	Drawn:	GCS Limited
Drawing No:	Map 2	Date:	September, 1983

MPH Consulting Limited

220

26210

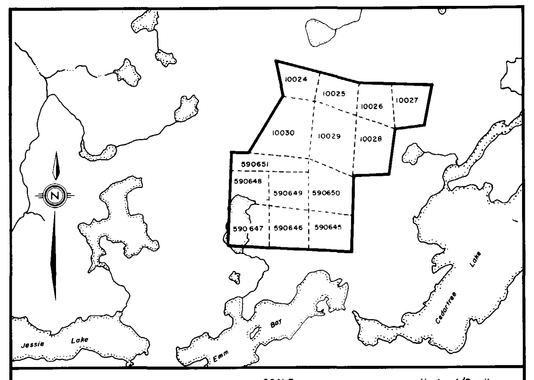




REGIONAL LOCATION MAP

SCALE 1:3,530,000

50 0 50 100 200 300 KILOMETRES



DETAILED LOCATION MAP

SCALE 1 inch = 1/2 mile

1/2 0 1/2 MILES

LEGEND

INSTRUMENT: Geonics EM-16

STATION: Seattle, Washington, Frequency 18.6 KHz

+ve -ve

Inphase Profile

SCALE: 1 cm. = 10%

SCALE

50 0 50 100 150 200 METRES

WELCOME NORTH MINES LTD.

KAKAGI LAKE GRID

VLF - EM SURVEY

INPHASE RESPONSE

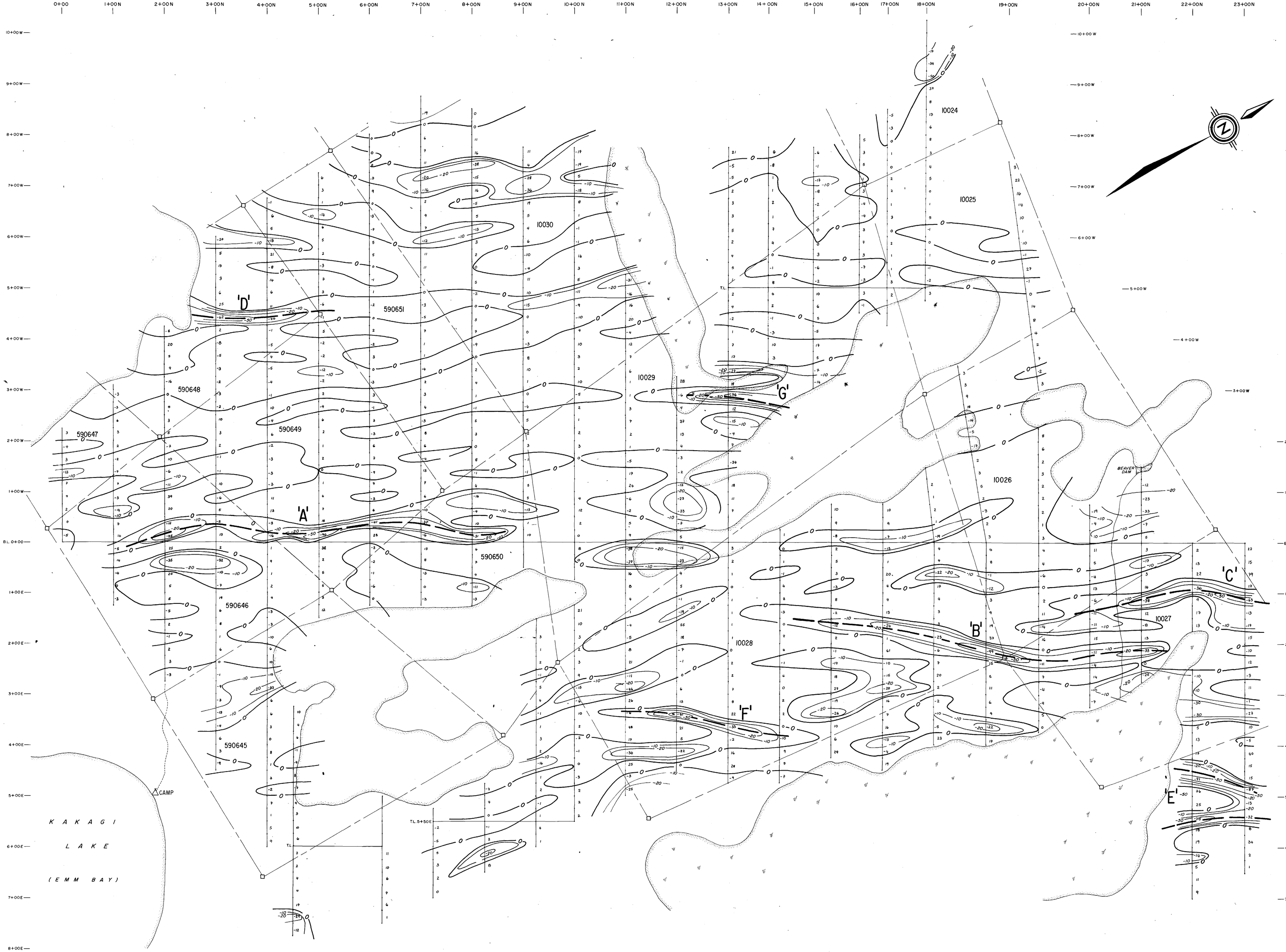
18.6 KHz SEATTLE, WASHINGTON

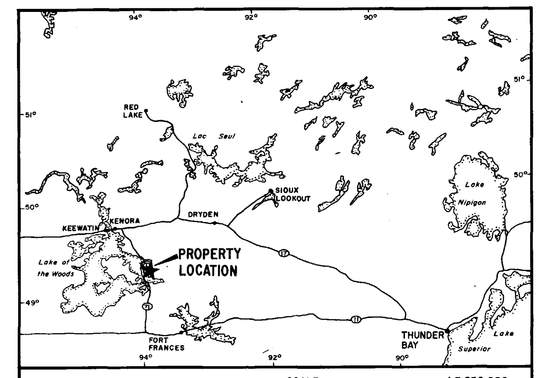
Project No:	C-587	By:	W.E. Brereton
Scale:	1 : 2,500	Drawn:	GCS Limited
Drawing No:	Map 3	Date:	September, 1983

MPH Consulting Limited

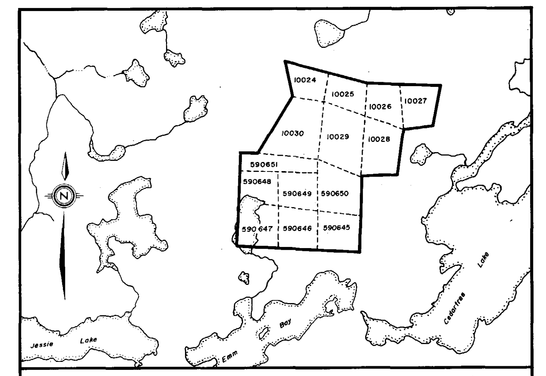
230

2610





REGIONAL LOCATION MAP



DETAILED LOCATION MAP

LEGEND

INSTRUMENT:	Geonics EM-16
STATION:	Seattle, Washington; Frequency 18.6 KHz
-10	VLF-EM First Derivative
CONTOURS:	
	0
	-10
	Conductor Axis

SCALE
50 0 50 100 150 200
METRES

WELCOME NORTH MINES LTD.

KAKAGI LAKE GRID

VLF- FIRST DERIVATIVES

NEGATIVE MAXIMA PLOTTED

Project No:	C-587	By:	W.E. Brereton
Scale:	1 : 2,500	Drawn:	GCS Limited
Drawing No:	Map 4	Date:	September, 1983

MPH Consulting Limited

240

26210