DIAMOND DRILLING

TOWNSHIP: GAUTHIER

REPORT NO.: 17

WORK PERFORMED BY: CASAN MINING LIMITED

CLAIM NO.	HOLE NO.	FOOTAGE	DATE	NOTE
L 440945	1	205.0	Aug./80	(1)

NOTES: (1) # 468-80

REPORT

ON

DIAMOND DRILLING PROGRAM & PROPERTY EVALUATION

OF

CASAN MINING LTD.

DOBIE MINERAL CLAIMS

GAUTHIER TOWNSHIP , TIMISKAMING DISTRICT

LARDER LAKE MINING DIVISION

FOR THE YEAR 1979-1980

Date: October 29, 1980

Prepared by:

CANDALE MINING MANAGEMENT
SERVICES LTD.

G.L. ROBERTS, P.ENG M.E.I.C
PRESIDENT

GENERAL

This report describes the results of a diamond drilling program conducted during 1980 and the analysis of the extensive surveys conducted during the previous 4 years that have led to the targeting of a proposed drilling program.

This work was carried out under the supervision of Candale Mining Management Services Ltd. covering the 22 claim property of Casan Mining Limited located in Gauthier Township East Kirkland Lake gold area, Ontario. The contract for the Diamond drilling was given to Dynamic Construction Ltd. of Toronto. The work detailed herein was carried out in August, September and October of 1980.

SURVEYED CLAIM AREA

The 18 claims covered by this report are continuous and are identified as follows;

L-482772	L-440934	L-489661
L-482774	L-440935	L-489660
L-482775	L-440936	L-489659
L-482776	L-440937	L-489658
L-482777	L-440938	
L-482778	L-440939	
	L-440940	
	L-440941	
	L-440942	
	L-440943	
	L-440944	
	L-440945	

LOCATION AND ACCESS

The property is located at the north central part of Gauthier Township, one mile north of Dobie, tying onto the north of Upper Canada Mine. It extends northwesterly with its northwest part adjoining to the northeast of Crestland Mines Limited, formerly Northland Mines Limited.

Access was made by truck from Kirkland Lake via Highway 66 to Northlands Park, and by a bush road from Northlands Park eastward through the No. 1 shaft area of Northland Mines to the bush road which runs across the central part of the property.

PREVIOUS WORK

In the winter of 1976-77, the company conducted a program of geophysical surveys on this 22 claim group. The surveys were carried out by Cana Exploration Consultants Limited, and the results were described by Dr. S.S.Szetu in a report dated January 20, 1977. Readers are referred to this report for the geophysical data and also to the history of the property.

It should be noted here that the airborne E.M. anomaly referred to in said report was conducted by Upper Canada Mines Limited, apparently prior to May, 1966, and the ground follow-up E.M. surveys were conducted in March and May, 1966 by Moreau Woodward & Company Limited of Toronto. While the first survey failed, the second survey succeeded in detecting a

conductor zone at an inferred depth of over 210' on the ground held under option by Upper Canada. The conductor zone opens to the west to a patented claim then held by Northland.

Data in the office of the Resident Geologist at Kirkland Lake also showed one hole drilled in 1966 on the then known as Taylor Option, logged by J.G.Bragg, Chief Geologist, Upper Canada Mines Limited. This hole was located at the central part of then Claim 79866 across the eastern section of the airborne E.M. anomaly, which showed stronger conduction to the west. The hole cut a narrow band of graphite sediments with occasional bands and nodules of pyrite at a considerable depth.

Another hole was drilled to a shallow depth of 148.6' at a location further east by the then owner of the property, Mr. T. C. Taylor, for assessment work purposes. According to Mr. Taylor, the drill site found near L28N, 1450' E. was the setup for this shallow hole.

As Casan Mining Limited now has claims covering the full lengths of the airborne conductor, including the unchecked and apparently more outstanding western section, detailed information about these drill holes and other relavent data will be added to the company's compilation map for further evaluation. During the month of June 1978 the company, Casan Mining Limited, conducted two programs, a geological survey and a radiation survey on this 22 claim group. The surveys were carried out by Cana Exploration Consultants Limited under the direction of Dr. S.S.Szetu and the results are described by the author, Dr. S.S. Szetu in his reports dated July 20, 1978 and August 21, 1978.

The geological report produced for Casan Mining Limited by Cana Exploration Consultants Ltd. and written by Dr. S.S. Szetu dated July 20, 1978 requested that detailed surface sampling of the claims held by this company should be carried out before any drilling exploration be undertaken.

Casan Mining Limited contracted with Dynamic Construction Ltd. of Toronto to undertake the excavation of trenches and surface blasting, trenching and drilling that would allow detailed sampling of the rock areas available for exploration. This work was carried out in 1978 and submitted in our report dated December 10,, 1978. An extensive geo-chemical survey of the property was carried out and submitted in our report dated October 20, 1980.

TOPOGRAPHY

Most of the area covered by the claims involved is covered with glacial sand overburden to depths of up to 150'. Few areas have rock exposed on or near the surface which would allow sampling to a definitive extent. Many swamps and a few creek are present. Sand eskers rising to 100'are common. A section map of the topography is shown on the map of Appendix **V** I.

GEOLOGY

The north part of the property is mostly underlain by Keewatin acid volcanics and the central part is underlain by Timiskaming sediments with two narrow zones of interbanded acid volcanics. The south west part of the property is underlain by Algoman Syenite and

popery syenite, intruding the sediments.

The volcanics and sediments are steeply dipping and apparently schistosed to various degrees. The contacts between the various rock formations are all covered by overburden.

OLD SURVEYS

A personal discussion with Mr. Byrne a director and officer of the Northland Gold Mines Ltd confirmed that their previous Diamond Drilling Program had been conducted by Geological and Surface Sampling Techniques and that no systematic geophysical or geochemical surveys had ever been conducted on these properties.

OLD DIAMOND DRILL HOLE PROGRAMS

A detailed map showing the previous Diamond Drill Holes sunk on this property failed to penetrate the E M anomolies uncovered by our surveys. This map is shown on our report dated December 10, 1978, which has previously been filed.

ANALYSIS OF 1979 AIRBORN E M AND MAGNOMETER SURVEY

In October of 1979, The Ontario Government released the results of their recently conducted Airborn Magnometer and Deep E M Survey conducted over our 22 Claim Area.

A section of this released OGS- P2265 Map is shown in Appendix III.

To locate the E M anomolies shown on the OGS Map P2265 on our detailed 1"-200' Map,we had the section in question of Map P2265 blown-up by photographic processes and superimposed this result on our detailed map shown in Appendix X herein.

This E M corresponds to and extends the E M anomoly previously uncovered by Upper Canada Mines Ltd. as detailed on Page 2 of this report.

ANALYSIS OF OUR PREVIOUS SURVEYS

Our previous work on these 22 claim group includes the following:

1/ Detailed Magnometer Survey

2/ Detailed Ground E M Survey

3/ Detailed Radiometric Survey

4/ Detailed Geology Survey

5/ Detailed Geo-Chemical Survey

6/ Detailed Trenching and Rock Analysis Program

7/ Detailed Study of Old Diamond Drilling Programs

8/ Analysis of Previous Government Airborn Magnometer Survey

9/ Analysis of Previous Private E M Surveys

10/ Analysis of Recent Government Magnometer and E M Survey conducted and released in October, 1979.

We have decided that if a gold vein exists near the surface of this property that has yet to be uncovered. Our best method would be to correlate the Geochemical Anomolies with the previously detected Ground E M Anomolies. Since there seems to be a direct correlation between the Geochemical Anomolies with the E M Anomolies we have assumed that the Geochemical anomolies have been caused by an upward osmotic or capillary process and not caused by glacial deposits. Efforts to detect Tellurium(Te)

in the gold samples were unsuccessful.

The geological survey and previous rock outcrop sampling had shown Iron (Fe), and Calcium(Ca) present in the more promising areas and it was basically these three perameters that have led us in selecting the target areas for a diamond drilling program.

TARGET AREAS

Our claim map (Appendix X) has detailed the pertinent data for the E M (Ground) E M (Aerial) and Geo-Chemical Anomolies

These areas which are coloured represent the target areas for future diamond drilling.

DIAMOND DRILLING

As a result of the geological, geophysical and geo-chemical programs through our survey programs from 1977 to 1980 three prime areas were defined for testing by diamond drilling.

Early in 1980 a contract was initiated with Dynamic Construction Ltd. of Toronto for 500 feet of "BQ" wire line drilling using a Smit Hydraulic Diamond Drill. Generallly the drill proved adequate for the program although numerous mechanical break downs were experienced which led to a considerable amount of down time.

The core recovery averaged between 85-95%. Drilling was slow due to the difficult overburden and fractured rock encountered. Lost circulation was also a major problem and the drill hole had to

be abandoned before the proposed depth was reached. Drilling operations were carried out between August 4, 1980 and September 24, 1980. One Drill hole totaling 200 feet was drilled during this period.

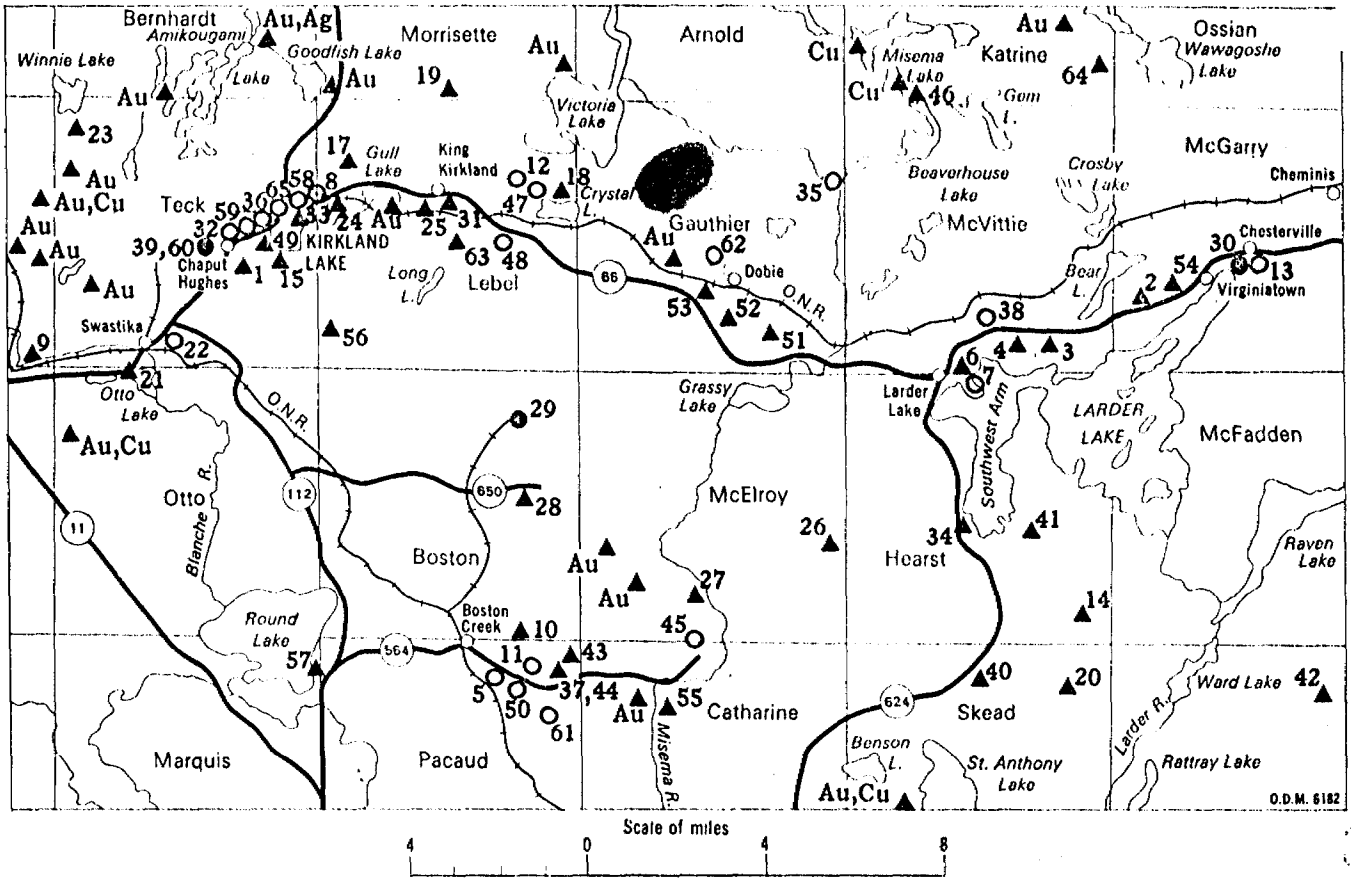
DDH	Bearing	Dip	Ultimate Depth(Feet)
#1	260°	45°	200'

CONCLUSION

Because swamp conditions prevented the placing of the drill over the E M area without an expensive road building program, it was agreed to drill a secondary hole approximately 500 ft. from the proposed initial test area. The primary test area is to be drilled during the winter when the extremely quick sand overburden will be frozen.

Although no gold has been found in the first 200 ft of D D Hole No. 1, the geological indications are promising and this and other holes will be continued in the 1981 season.

PROPERTIES, PAST AND PRESENT PRODUCERS, MINERAL OCCURRENCES



▲ Occurrence
● Producer
○ Past Producer

Ag – Silver Pb – Lead
Au – Gold U – Uranium
Cu – Copper Zn – Zinc
Fe – Iron

1. Amalgamated Kirkland Mines .... Au
   Amalgamated Larder Mines
2. Barber-Larder occurrence ..... Au
3. Cheminis occurrence ..... Au
4. Fernland occurrence ..... Au
5. Amity mine ..... Cu
   Argosy Mining Corp.
6. New Laguerre occurrence ..... Au
7. Raven River mine ..... Au
8. Associated Arcadia Nickel Corp. (Toburn mine) ..... Au
9. Baldwin Consolidated Mines ..... Au
10. Bargnesi Mines ..... Cu,Au
11. Barry-Hollinger mine ..... Au
12. Bidcop Mines (Bidgood mine) .... Au
13. Chesterville Mines ..... Au
14. Combined Larder Mines, The .... Au
15. Consolidated Canorama Explorations (Hudson-Rand) ..... Au
16. Consolidated Northland Mines ..... Au
17. Continental Kirkland Mines ..... Au
18. Crystal Kirkland (Max Kaplan) . U,Au
19. Dolsan Mines (Mallard Lake) ..... Pb,Ag,Cu
20. Fabis (LaFond) occurrence ..... Au
    Gateford Mines
21. Crescent occurrence ..... Au
22. Golden Gate mine ..... Au
23. Gauthier (Winnie Lake) ..... Cu,Zn
24. Glenora (Albert Kokotow) ..... Au
25. Harrison (Kirkrovale) ..... Au
26. Hearst-Larder (Detfield Lowe and Emil Chorzepa) Zn,Pb,Cu
27. Hennesey occurrence ..... Au
28. Jalore Mining Co. ..... Fe,Pb,Zn
29. The Adams Mine ..... Fe
30. Kerr Addison Mines ..... Au
31. King Kirkland Gold Mines ..... Au
32. Kirkland Minerals Corp. (Kirkland Lake gold mine) ..... Au
33. Kirkland Townsite Gold Mines ... Au
34. Korola-Larder Mines ..... Au
35. Upper Beaver Mine (Argonaut) (Lake Beaverhouse) ..... Cu,Au
36. Lake Shore Mines ..... Au
37. Lebon Gold Mines ..... Au
38. Lomega (Omega) mine ..... Au
39. Macassa Gold Mines ..... Au
40. Manor occurrence ..... Au
41. Martin-Bird Gold Mines ..... Au
42. Mathias occurrence ..... Cu
43. Miller occurrence ..... Au
44. Miller Independence ..... Au
45. Mirado Nickel Mines (Cathroy mine) ..... Au
46. Misema Lake Mining Corp. (Forwood) ..... Au,Cu
47. Moffat-Hall mine ..... Au
48. Morris-Kirkland Gold Mines ..... Au
49. Northgate Exploration (Kirkland-Hudson Bay) ..... Au
50. Patterson mine ..... Cu
51. Princeton Gold Mines (Ritoria mine) ..... Au
52. Queenston Gold Mines ..... Au
53. Queenston Gold Mines (Anoki mine) ..... Au
54. Rio Algom Mines (Armistice) .... Au
55. Riverton Gold Mines (Gold Hill) . Au
56. Shelp (Dane Copper) ..... Cu
57. Sheroomac Mining Corp. (Round Lake cooper) ..... Cu,Zn
58. Sylvanite gold mine ..... Au
59. Teck Corporation (Teck-Hughes mine) ..... Au
60. Tegren Goldfields ..... Au
61. Trethewey-Ossian mine (Mrs. Claire Cameron) ..... Cu
62. Upper Canada Mines ..... Au
63. Upper Canada Mines (Pawnee-Kirkland) ..... Au
64. Wadge Mines (Walsh Katrine) ..... Cu
65. Wright-Hargreaves Mine ..... Au

Core Log

D.D. Hole No. 1

Claim # L440945

Logged by: G. C. Roberts

Elevation 1100 Ft. A.M.S.L.

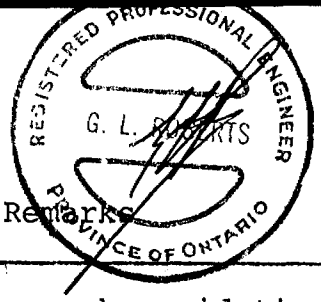
Dip: 45°

Location: L20N

23 + 00N Offset 130' East

Depth Ft.	Length Ft.	Material	Remarks
0-1	1	Organic Top Soil	
1-2	1	Light Brown Sand	
2-80	78	Light Gray Sand	Extremely Quick
80-85	5	Various Sized Pebbles & Boulders	Very Rounded, Extremely compacted
85-97	12	Light Gray Fine Sand	
97-100	3	Shattered- Broken Loose Rock	
100-101	1	Extremely Shattered Tuff	- Yellowish-Stains, Some Iron-Oxidation
101-103	2	White-Gray Yellowish-Tuff	Zones of Dark Green
103-106	3	White Tuff	Layers of Yellow stains, Calcium, Pyrite
106-110	4	" " "	Devoid of Mineralization, - some Quartz
110-111	1	Whitish-Yellow Tuff	zones of darker rock.
111-114	3	almost Porphyry like Tuff	Quartz pockets -sulphides, - pyrite, - silver like mineral.

	Depth Ft.	Length Ft.	Material	Remarks
	114-120	6	Tuff interbanded with darker rock	- quartz - dark spotted areas
*	120-122	2	Tuff	- Zones of oxidation, mineralization, reddish areas
	122-124	2	Tuff-mixed with Dark Green Rock	- quartz
	124-125	1	plain Tuff white spots	- calcium
	125-129	4	plain Tuff	- quartz, yellowish-rock -calcium
	129-130	1	" "	- zones of oxidation, quartz, mineralization
	130-134	4	" "	dark green Zones
	134-136	2	heavily banded darker rock in tuff	-quartz -yellowish areas
	136-140	4	Tuff with dark green rock	-quartz, zone of gray rock -quartz veins, mineralization, light gray sulphides
	140-142	2	Tuff with dark green	- Porphyry
	142-144	2	Tuff-dark gray white	
	144-148	4	Tuff with grayish spots	-yellow bands, quartz veins
	148-150	2	" " " interbanded with green, gray, yellow	- zones of oxidation
	150-155	5	Tuff-interbanded green, grey rock	-quartz veins, yellow stains



Depth Ft.	Length Ft.	Material	Remarks
155-157	2	Tuff with darker green, grayish bands	-cracks-oxidation
157-160	3	Tuff- Grayish white	-yellowish bands, oxidized shattered zone
160-161	1	" " "	-large Quartz pockets
161-165	4	" " "	-interband with grey porphyry like rock - zones of spotted areas.
165-170	5	Tuff	Zones of darker rock
170-175	5	Tuff	-quartz, calcium gray-green rock
175-180	5	Tuff	Yellow stains
180-185	5	Tuff	
185-190	5	Tuff with gray, green-zones	Quartz , large zones of oxidation (iron)
190-195	5	Tuff	
195-197	2	Tuff-Quartz	-Pyrite, iron, slight calcium possibility
197-205	7	Last Core	-ground up
		Hole Capped	

ANALYSIS SAMPLE LOCATION

Analysis Number from DDH 1-80	Related Footage of Sample from DDH 1-80
101	101 feet
104	104 feet
211	111 feet
217	117 feet
320	120 feet
321	121 feet
327	127 feet
434	134 feet
437	137 feet
541	141 feet
546	146 feet
654	154 feet
656	156 feet
663	163 feet
667	167 feet
773	173 feet
783	183 feet
785	185 feet
896	196 feet
897	197 feet

• CHEMICAL RESEARCH AND ANALYSIS
• CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES
DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Casan Mining,
1350 Winding Trail,
Unit 86,
Mississauga, Ontario.

Attn. G. L. Roberts

REPORT No. T - 4530

Inv. #14387

SAMPLE(S) OF: DRILL CORE

	Gold (Au) oz/ton
101	0.001
104	0.001
211	<0.001
217	<0.001
320	0.001
321	0.001
327	0.001
434	0.001
437	0.001
541	0.001
546	0.001
654	<0.001
656	<0.001
663	<0.001
667	<0.001
773	<0.001
783	0.001
785	<0.001
896	<0.001
897	<0.001

Samples, Pulps and Rejects discarded after two months

DATE October 9th, 1980. SIGNED A. Debroan

CTA

• CHEMICAL RESEARCH AND ANALYSIS
• CONTRACT LABORATORIES

TECHNICAL SERVICE LABORATORIES
DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

Semiquantitative Spectrographic

SAMPLE(S) FROM Casson Mining,
1350 Winding Trail,
Unit 36,
Mississauga, Ontario.

REPORT No.
T - 4620

Inv. #14513

SAMPLE(S) OF PULP

	Sample #321	Sample	Sample		Sample #321	Sample	Sample
Aluminum	15%			Manganese	.4%		
Antimony	-			Magnesium	3%		
Arsenic	-			Molybdenum	-		
Barium	.02%			Neodymium	-		
Beryllium	.0001%			Nickel	.001%		
Bismuth	-			Phosphorus	-		
Boron	.001%			Silver	<.1 oz/t		
Calcium	5%			Silicon	H		
Cadmium	-			Sodium	3%		
Cerium	-			Strontium	.03%		
Chromium	.01%			Tantalum	-		
Cobalt	.001%			Thorium	-		
Columbium	-			Tin	-		
Copper	.005%			Titanium	.3%		
Gallium	.001%			Tungsten	-		
Germanium	-			Uranium	-		
Iron (Fe)	10%			Vanadium	.01%		
Lanthanum	-			Yttrium	.001%		
Lead	.002%			Zinc	-		
Lithium	-			Zirconium	<.01%		
Extra Elements							
Caesium				Platinum			
Gold				Rhenium			
Hafnium				Rubidium			
Indium				Tellurium			
Palladium				Thallium			

Figures are approximate:

CODE H – High – 10 – 100% approx.
M – Medium – 1 – 10% approx.
L – Low – .1 – 1% approx.

– Not Detected – Elements looked for but not found
X Not Looked For
< Less Than

Samples, Pulps and Rejects discarded after two months

DATE October 27th, 1980. SIGNED

TSL FORM # 2

CTA

MAP SECTION

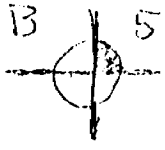

6 Channel Anomaly


5 Channel Anomaly


4 Channel "


3 Channel


Magnetic Correlation

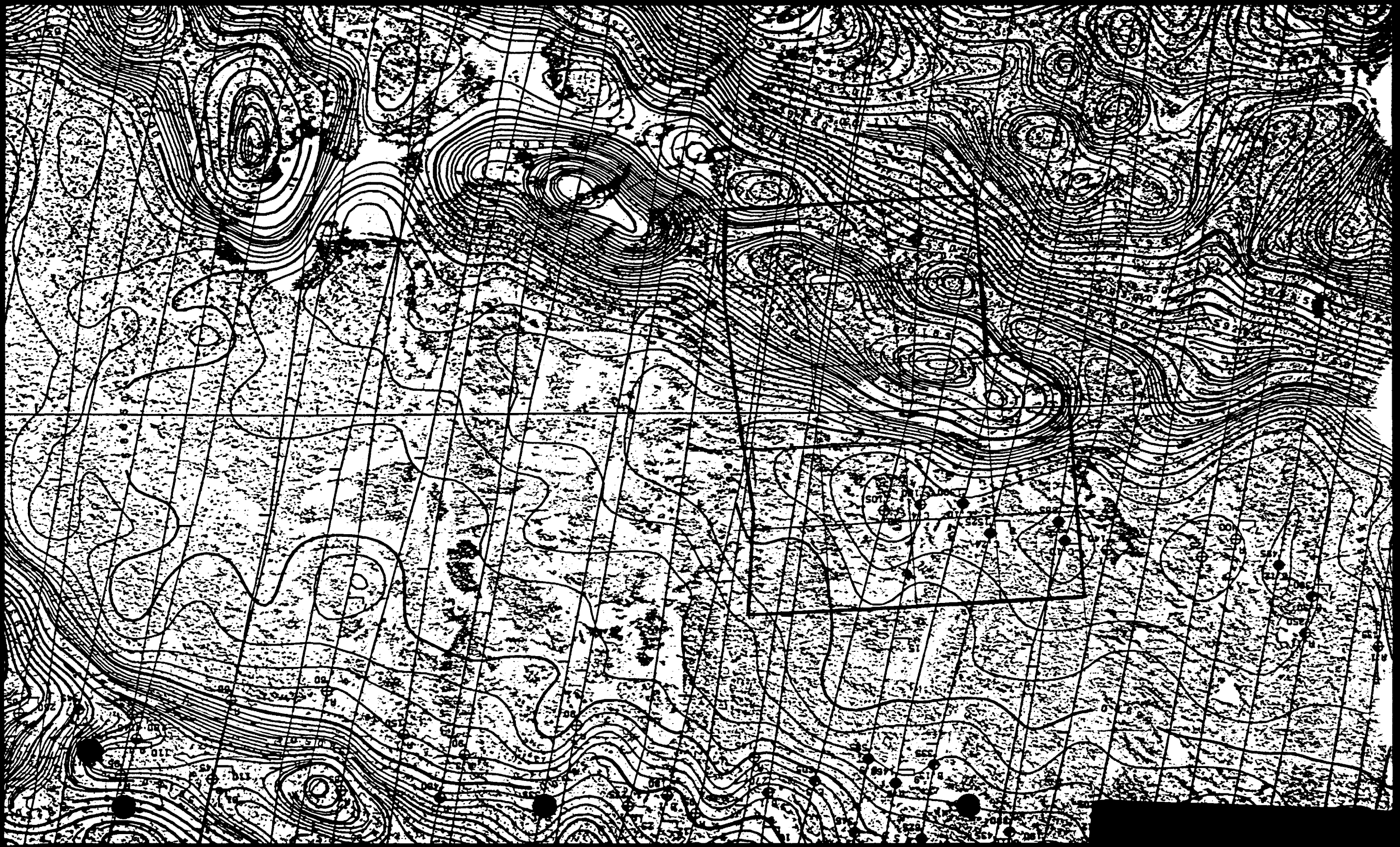


Apparent Conductor Width

Date of Issue. Sept 1979.

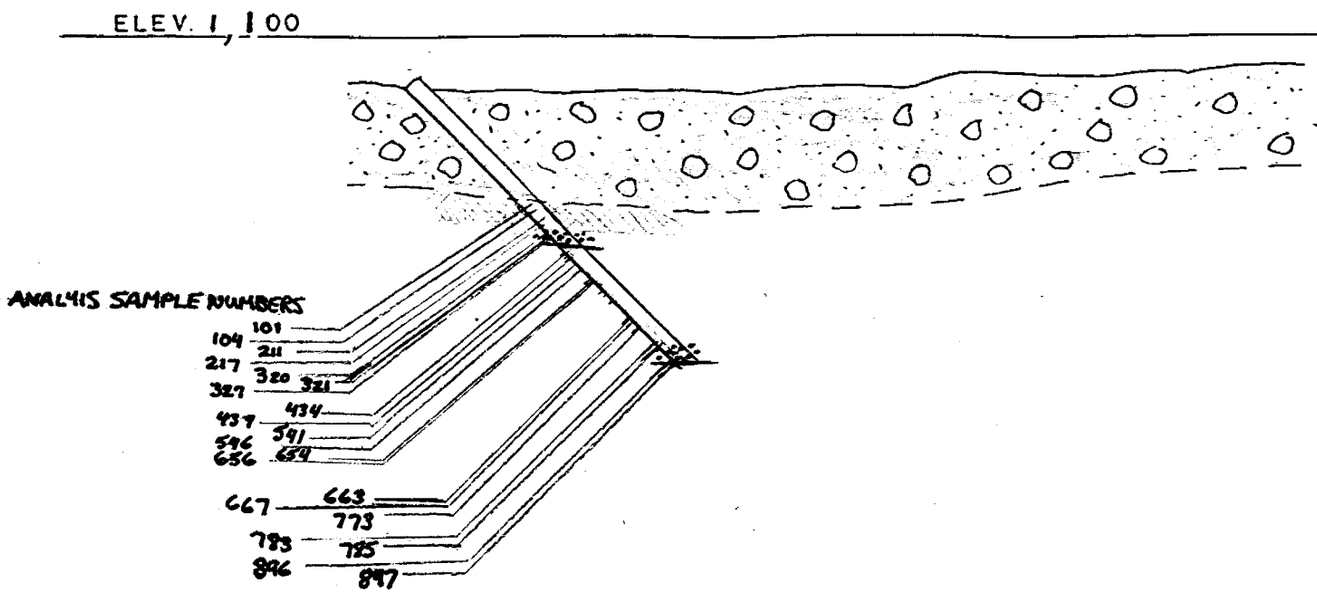
Ontario Geological Survey
Preliminary Map P 2265.
Kirkland Lake Area.
Airborne Electromagnetic Survey
& Total Intensity Magnetic Survey

Scale
1/4 mile 0 1/2 mile



LEGEND

- Sheared Tuff
- Quartz
- Extremely Shattered Zone
- Altered and mineralized zone
- Overburden



CLAIM	L440945
CO-ORDINATES	L20N 23+00N Offset 130' East
ELEVATION	1100' A.M.S.L.
BEARING	260°

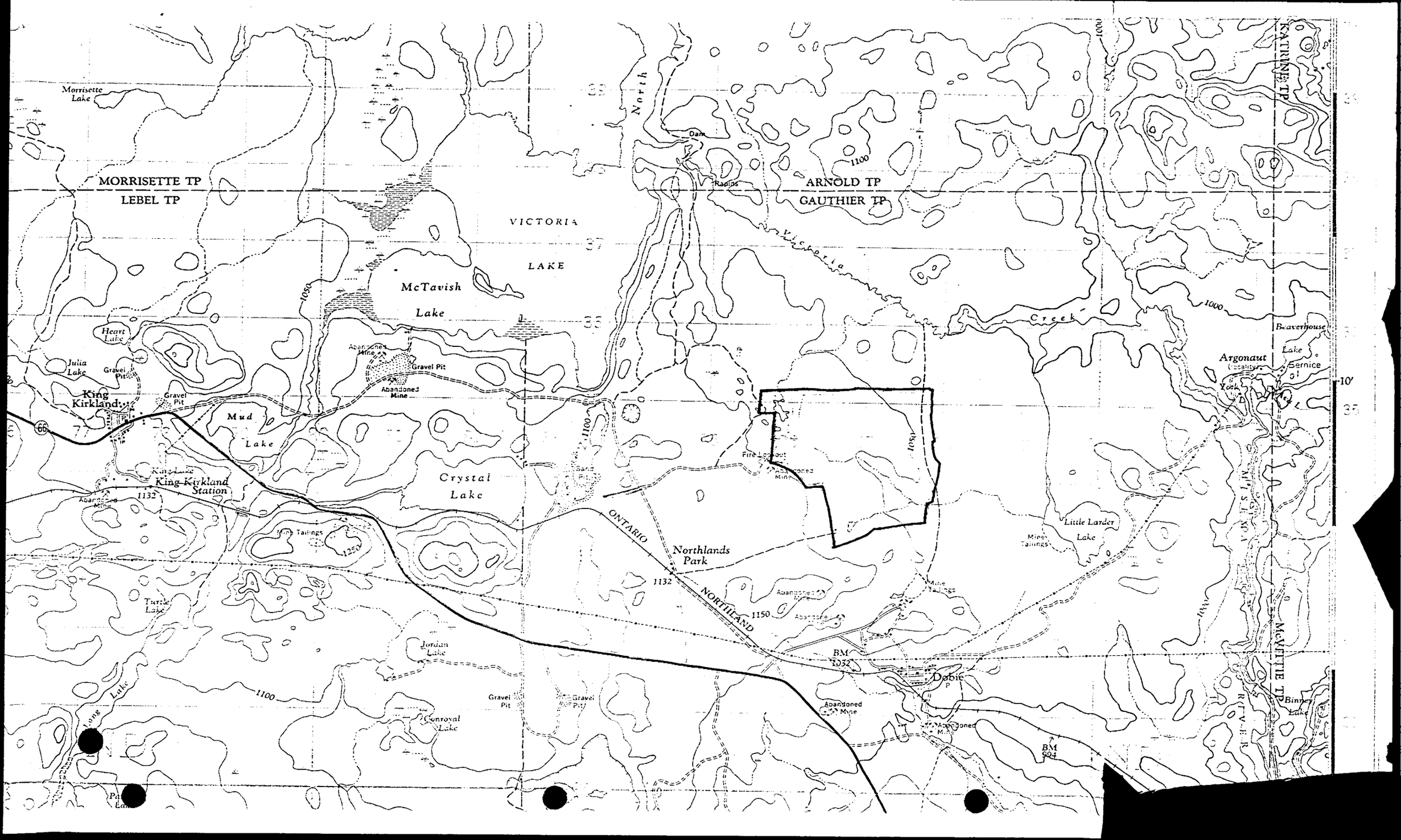
CROSS SECTION - HOLE

DRAWN BY	
REVISED	
DATE	Oct/80

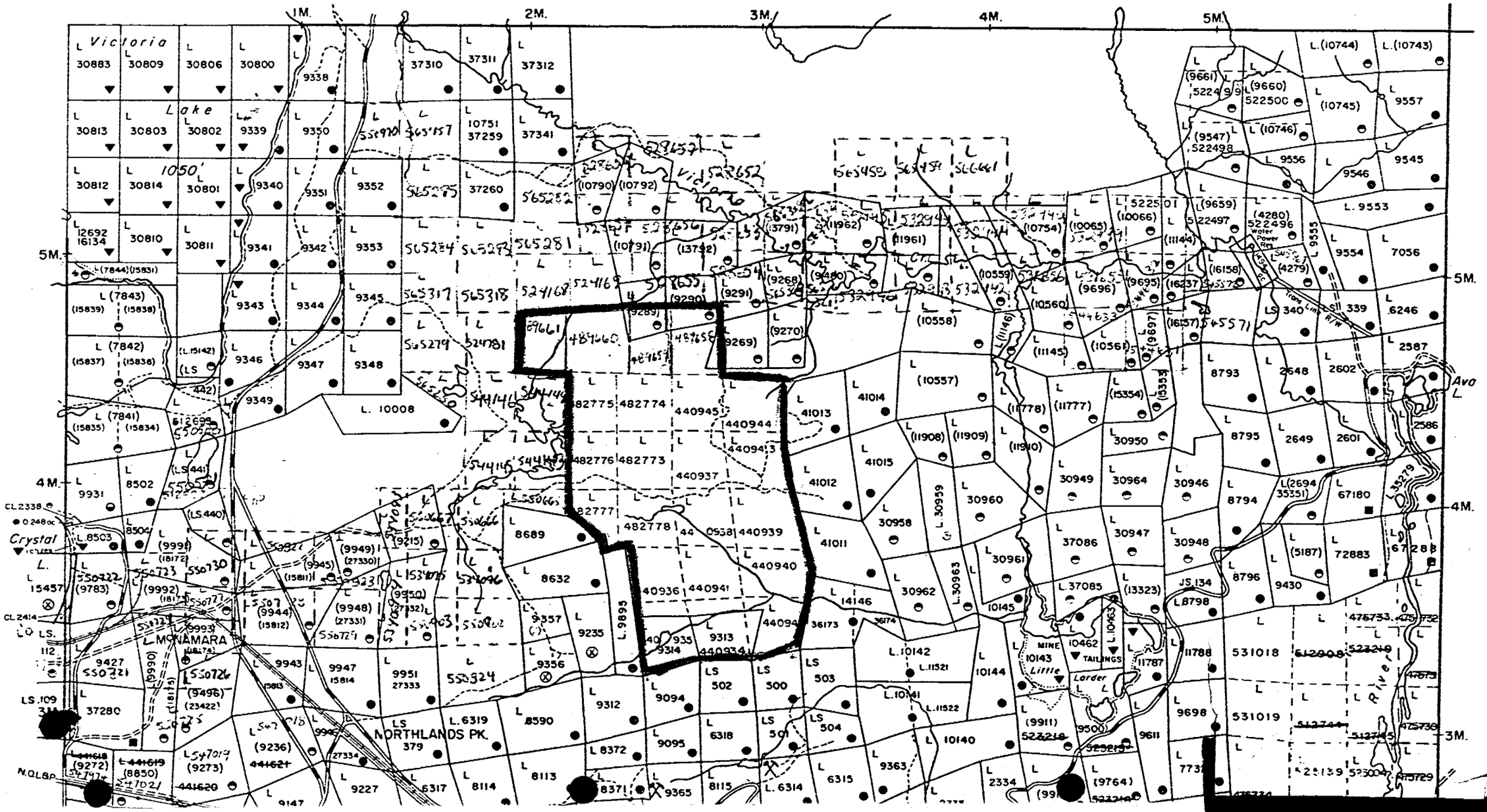
0 100 200

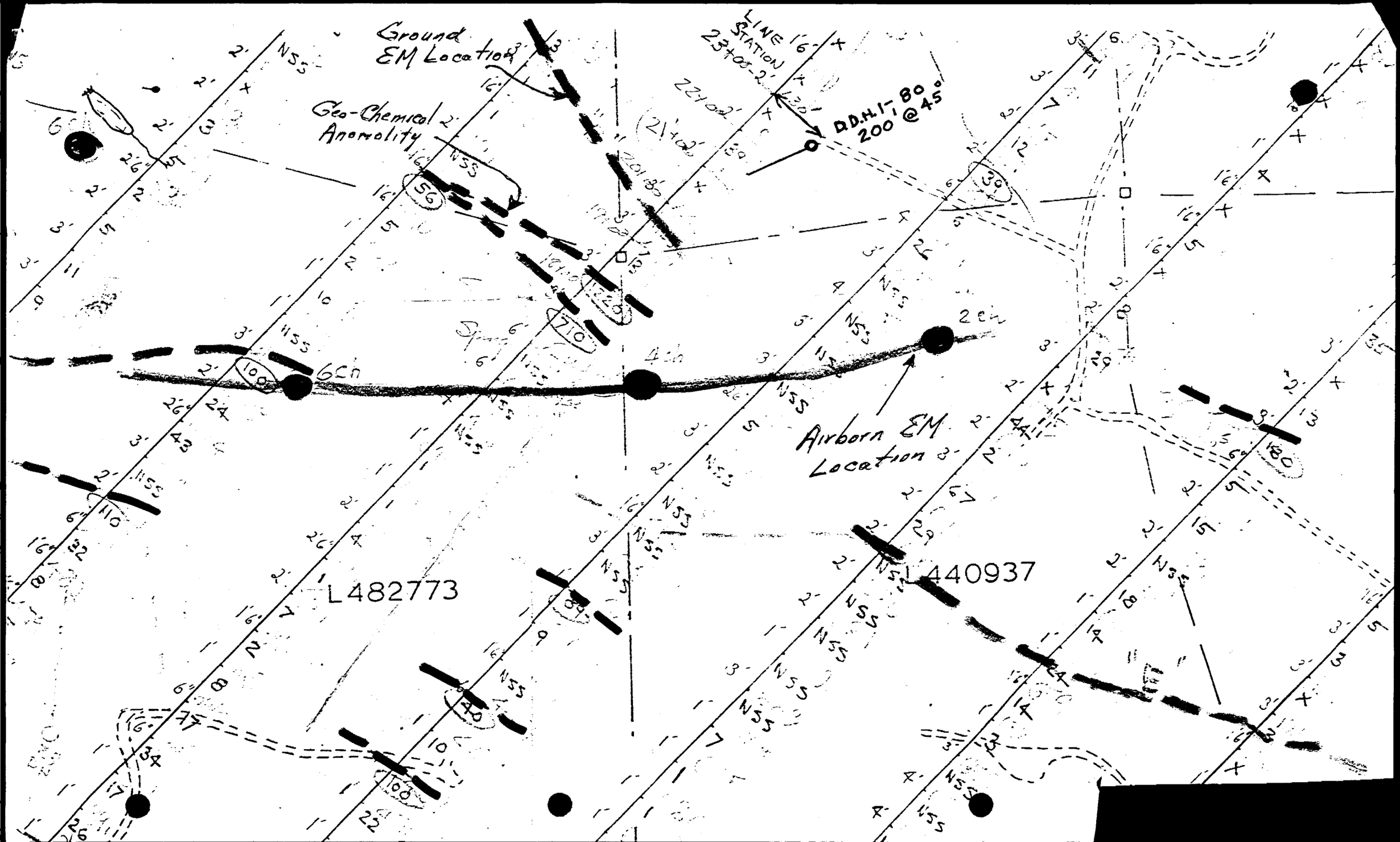
SCALE

1" = 100'


MORRISETTE TP
LEBEL TP
ARNOLD TP
GAUTHIER TP
KATRINE TP
McTAVISH TP
VICTORIA
LAKE
McTavish
Lake
Morrisette
Lake
North
Dam
Rapids
Victoria
Creek
Heart
Lake
Julia
Lake
Gravel
Pit
King
Kirkland
Mud
Lake
Crystal
Lake
Kingslane
King-Kirkland
Station
Abandoned
Mine
Mine Tailings
Fire Lookout
ONTARIO
NORTHLAND
Northlands
Park
Little Lander
Lake
Argonaut
(locality)
Beaverhouse
Lake
Sernice
Lake
York
Turtle
Lake
Jordan
Lake
Long
Lake
Conroyal
Lake
Dobie
BM
1032
BM
904
Binner
Lake
MATTAGAMI
RIVER
1100
1050
1000
1150
1132
1250
66

ARNOLD TP. M.321




Ground EM Location
Geo-Chemical Anomolity
LINE
STATION
23+00-2'
D.D.H.I- 80°
200' @45°
Airborn EM Location
L482773
L440937

L-48N
L-44N
L-40N
L-36N
L-32N
L-28N
L-24N
L-20N
L-16N
L-12N
L-8N
L-4N
L-0
L-4S
L-8S
L-12S
L-20S
L-24S
L-28S
L-32S
BASE LINE
No. 1
No. 2
L482775
L482774
L482776
L482773
L482777
L482778
L440945
L440944
L440937
L440943
L440938
L440939
L440936
L440941
L440940
L440935
L440934
L440942
Shaft

LEGEND

- ALDER AND/OR GRASS SWAMP
- SWAMP WITH TREES
- HIGH GROUND
- CREEK
- POND OR LAKE
- BEAVER DAM
- BUSH ROAD
- TRENCH
- CLAIM POST OBSERVED
- CLAIM LINE OBSERVED
- CLAIM LINE ASSUMED
- CHEMICAL ANAMOLY
- "X" EM ANMOLY
- AIRBORN EM
- TWO CHANNEL
- FOUR CHANNEL
- SIX CHANNEL

PLAN No. 11

CASSAN ONTARIO LIMITED

GAUTHIER TOWNSHIP CLAIMS

LARDER LAKE MINING DIVISION

ONTARIO

R. L. ROBERTS

CERTIFIED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

200