



52J02SW0031 52J02SW0043 FOURBAY LAKE

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Report
on
Geologic Mapping

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Kuryliw, 112 Claim West Block
King Bay Area of Sturgeon Lake
District of Patricia, Ontario

May 1, 1984

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Property, Location and Access

The Kuryliw West block Claim group consists of one contiguous group of 113 claims located North-West of King Bay of Sturgeon Lake. The claim group is included in the claim plan of Fourbay Lake, District of Patricia, Northwestern Ontario.

The claim numbers are listed as follows:

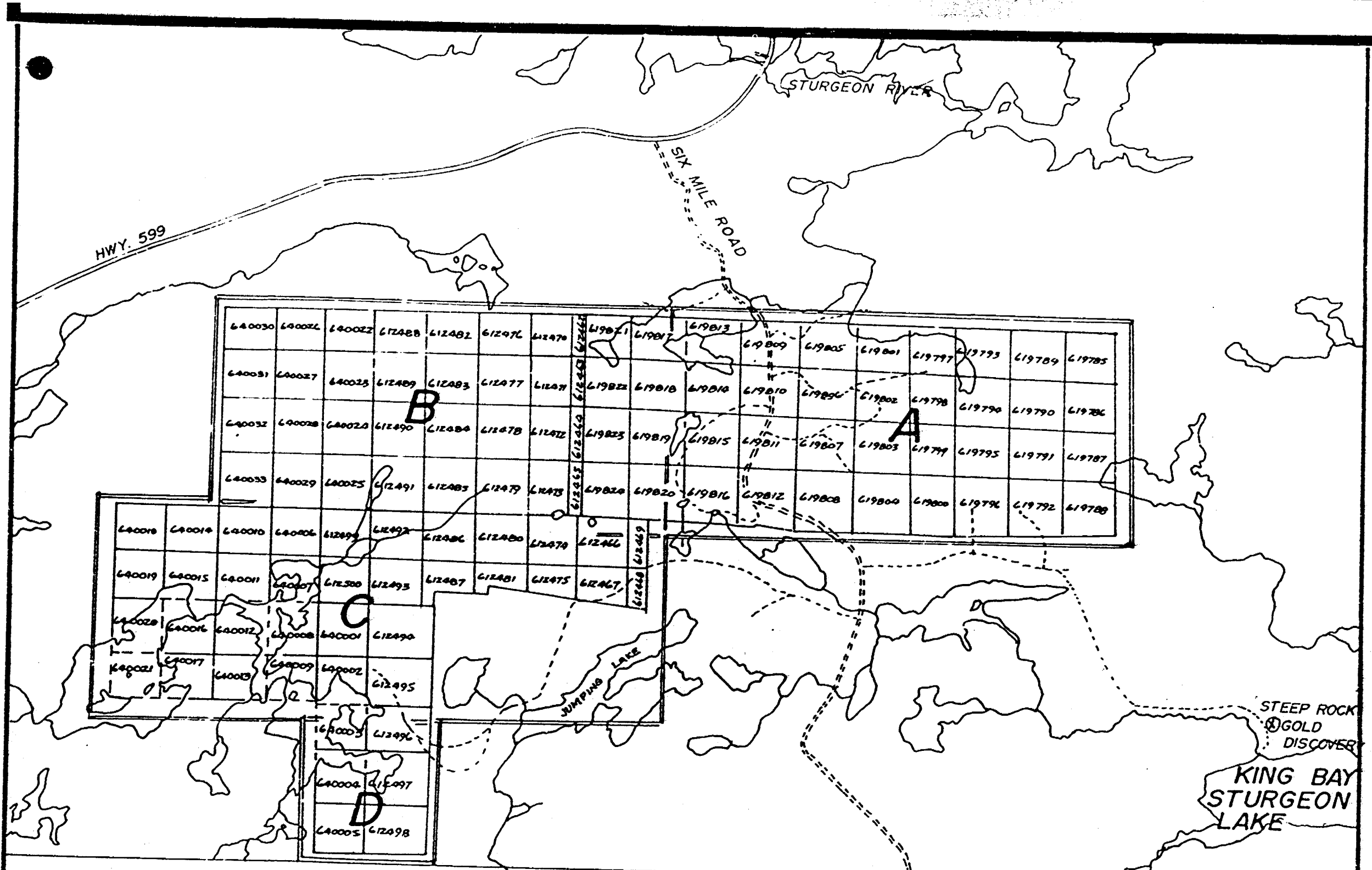
Pa. 619785 - 619824, inclusive (40 claims)

Pa. 612462 - 612500, inclusive (39 claims)

Pa. 640001 - 640033, inclusive (34 claims)

Total 113 claims

The property is located about 70 miles North of Ignace. The Town of Ignace is 150 miles West of Thunder Bay along the Trans Canada Highway. The property is accessible from Ignace by following highway 599 Northwards from the Trans Canada Highway to the Six Mile Lake logging road which crosses near the centre of the large claim group. A number of logging "feeder" truck roads branch through this claim group.



HWY. 599

STURGEON RIVER

SIX MILE ROAD

B

A

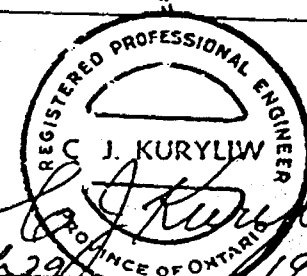
C

D

KEY MAP

1" = 1/2 mile

SCALE: 1" = 1/2 Mile



J. Kuryllw
 Feb 29 1984

STEEP ROCK
 GOLD
 DISCOVER
 KING BAY
 STURGEON
 LAKE

Introduction

This claim group was staked in late December 1982 and early January 1983 over ground that appeared to have geologic potential for the discovery of gold deposits as extensions of or similar to the gold discovery made by Steep Rock Mines just North of the West end of King Bay of Sturgeon Lake. The Steep Rock discovery was published in a January 13, 1983 issue of the Northern Miner Press.

Line cutting was carried out by contractors Gaston and Gilbert Gratton of Vawa, Ontario during the period May to November 1983. The grid consisted of generally E-W base lines and N-S picket lines. The picket lines were spaced at 400 foot intervals between lines. The picket lines were chained with stations every 100 feet. A total of 104 miles of line were cut. During early January 1984 additional lines were run on the lake ice of small lakes that total 4.5 miles.

Subsequent to the staking of the Claims, Great Lakes Paper Company, timbered and scarified some areas of this claim group. A number of claim posts were uprooted and ground into the brush and moss.

Eighty to ninety percent of the area of this claim block had been burned over during a massive forest fire in 1980. Recently prevailing westerly winds stacked piles of windfall across the northerly trending picket lines. The picket lines were well cut using chain saws but the eastern area of the claim block which was cut during the spring and summer were later subjected to several windstorms so that parts of some lines have been partly covered with new windfall.

Geologic mapping was carried out by this writer from May to November 1983. Most visible rock outcrops on and between lines were mapped on a scale 1" = 200 feet.

A magnetic ground survey was carried out over the whole claim block on all lines. The instrument used was a Scintrex MP-2 precision magnetometer with a sensitivity of (\pm) 1 gamma. The instrument operator was John Nose of Wawa, Ontario, who carried out the ground survey in November 1983. The small lake grids were covered by Jack Cureatz of Wawa, Ontario, in January 1984.

An electromagnetic VLF survey was carried out over the picket lines by operator Jack Cureatz of Wawa, Ontario, during November 1983. The instrument was a Geonics EM-16 tuned in to the Cutler Maine, VLF transmitter station with a frequency of 17.8 kHz. A total of 96 miles of picket lines were covered with readings at 100 foot stations and some additional readings at 50 foot stations where rapid changes in the readings occurred. In January 1984 Jack Cureatz covered the small lake grids with the EM-16 survey.

The drafting of plans and report preparation for the magnetic and electromagnetic surveys was carried out by this writer during the period November 15, 1983 to February 15, 1984. All plans were drafted on a scale of 1" = 200 feet.

General Geology

The general geology of the Sturgeon Lake area consists of a belt of Precambrian Volcanic and sedimentary rocks of Archean age that encircle the Lewis Lake and Lake of the Bays granite batholiths. In the area of the North and North-East arms of Sturgeon Lake the volcanic belt wraps around the southern and eastern edges of the Lewis Lake batholith. Embayments of the granite into the volcanics along the eastern edge of the batholith coincides with several gold occurrences of economic significance.

The volcanic belt has been resolved into two main sequences, the more southerly volcanic sequence that surrounds the lower area of Sturgeon Lake exhibits an abundance of sulphide occurrences. The area adjacent to and south of the lake hosts the 4,000 ton per day Mattabi Mine which produces Cu - Zn - Pb - Ag ore. The northerly sequence of volcanics up against the Lewis Lake batholith contains numerous gold occurrences which includes the St. Anthony mine, a past gold producer and the newly discovered Steep Rock gold deposit.

The geology to the northwest of King Bay up to the Lewis Lake batholith consists of a sequence of rock formations of volcanic origin. This sequence of formations was mapped by this writer over a length of 5 miles and a depth of 3 miles with some periferal reconnaissance geology. The "Kuryliw" sequence of rock formations going south from the Lewis Lake batholith is as follows,

- (1) Basaltic Pillow Lava formation (1,500 feet thick)
- (2) Andesitic Pillow Lava formation (500 feet thick)
- (3) Felsic Volcanogenic Sediments formation (1,500 - 2,000 ft thick)
- (4) Andesite-Basalt Pillow Lava formation (15,000 feet thick)

(5) Intrusives

The "Kuryliw" sequence of volcanic formations was extensively intruded by basic rocks, largely gabbro and some amphibolite. 10 to 25% of the area of the "Kuryliw" volcanic sequence is occupied by gabbroic intrusions. The majority of the intrusions are concentrated along and near the volcanogenic sediments. About 4 miles west of King Bay the "Kuryliw" sequence of formations has been intruded by gran diorite that occurs as a complex of dykes and dykelets that form a broad stockwork. These granodiorite dykes cut across all gabbros in the volcanics. Some narrow irregular intrusions of sericitic quartz porphyry dykes were located in the mapping.

(6) The Lewis Lake "Granite" Batholith

The mineral composition of the batholith near its southern and eastern edges consists mainly of coarse white plagioclase feldspar which is in part porphyritic. It also contains 5 - 10% quartz and up to 7% ferromagnesian. The batholith extends as a nose to the southeast into Sturgeon Lake just north of the junction of East Bay and King Bay. There is a gradual phase change in the composition of the batholith rock in the nose to the southeast. It becomes depleted in Quartz and ferromagnesian so that they become white syenitic rock composed almost completely of feldspar.

There is a progressive zoning of the nose of the batholith southeastwards. The zoning is arbitrarily delineated in the mapping as follows,

(A) Syenite

(B) Syenite with 10 - 30% inclusions of volcanics and gabbro.

(C) Volcanics with gabbro intruded by numerous dykes of syenite.

The known gold occurrences at the batholith nose intrusion consists of a gold bearing blue-grey quartz vein located at the contact of Syenite and a long inclusion of narrow lavas on Rainbow Island. On Rickaby point the gold bearing blue-grey quartz similarly occurs at the contact of a syenitic dyke and massive lava.

(7) Quartz - Porphyry Felsic Rock

South of King Bay on the Kerr Addison this rock trends eastwards towards East Bay and westwards across the Six Mile Road.

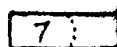
TABLE OF FORMATIONS

PRECAMBRIAN

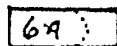


QUARTZ VEINS

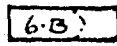
ACID INTRUSIVES



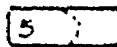
QUARTZ-FELDSPAR PORPHYRY DYKES



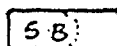
GRANITE, LEWIS LAKE BATHOLITH.



SYENITIC GRANITE DYKES (WHITE FELDSPAR PORPHYRY)

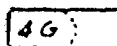


GRANODIORITE, INTRUSIVE

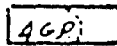


GRANODIORITE, DYKES AND INFILLING OF BLOCK BRECCIA

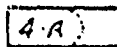
BASIC INTRUSIVES.



GABBRO

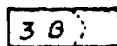


GABBRO (PORPHYRITIC ANORTHOSITE)



AMPHIBOLITE

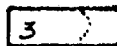
VOLCANICS - 'KURYLIW SEQUENCE' (SOUTH FROM LEWIS L. BATHOLITH)



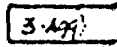
BASALTIC LAVA, PILLOWED, AMPHIBOLIZED. (1500')



ANDESITIC PILLOW LAVA, FELDSPAR PORPHYROBLASTS (500')



FELSIC VOLCANOGENIC SEDIMENT GROUP, FELDSPATHIC (1500-2000')



AGGLOMERATE



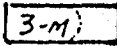
LAPILLI-AGGLOMERATES AND TUFFS



TUFFS



ANDESITE-BASALT LAVAS, PILLOWED (15 000')

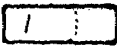


" " " , MASSIVE

STURGEON LAKE-EAST BAY



SEDIMENTS: ARGILLITE 2-A, CHERT 2-C, MUDSTONE 2-M, IRON FORMATION IF,



DACITIC AGGLOMERATES & LAPILLI-TUFFS

Structural Geology

The "Kuryliw" sequence of volcanic formations occurs wrapped around the south and east side of the Lewis Lake batholith. The southern outline of the batholith curves southeastwards above King Bay. This causes folds and crenulations in the formations of the "Kuryliw" sequence for a length of three miles and it includes the west end of King Bay and the Steep Rock gold discovery.

A strong east-west fault that dips 57° southwards at the north side of East Bay is shifted southwards to follow King Bay by the wedging action of the southeasterly nose intrusion of syenite from the Lewis Lake batholith. The westward extension of the east-west fault follows the north side of King Bay and extends at least seven miles westwards beyond King Bay. About four miles west of King Bay the "Kuryliw" sequence of formations is cut by a series of north-south faults that progressively displace the rock formations $\frac{1}{4}$ mile northwards over a one mile length. These north-south faults traced southwards are found to swing southwestwards as branches of the East Bay - King Bay fault.

There is a recognizable progression in the results of the tectonic dynamics of the area. The highest temperature and fluidity of the periphery of the Lewis Lake batholith occurs at its south-east nose where the formations of the "Kuryliw" sequence are truncated, also block stoping of the volcanics occurs and numerous dykes finger south-eastwards from the nose intrusion. To the north and northwest of King Bay the formations of the "Kuryliw" sequence accommodated the batholith intrusion by folding and crenulating when subjected to the stresses. About 4 miles to the west of King Bay the rocks of the "Kuryliw" formation were faulted and sheared when subjected to the stresses of the intrusion.

At the southeast nose of the batholith the formations of the "Kuryliw" sequence are truncated and only the largest southerly formation now occurs to the east and north of the nose. Mapping of the pillow lava trends indicate that the trend of the formation generally follows the outline of the batholith rim.

Rock Types

(1) Sturgeon Lake, East Bay, Felsic Volcanics

Dacitic Agglomerate

This rock is light greenish grey, dacitic and composed of fragments of volcanic ejecta most of which are 1 cm - 5 cm in diameter. This rock forms the main formation along the northeast arm. At the entrance to East Bay the agglomerate is brownish due to some oxidation near the East Bay fault.

Lapilli Tuff

This rock was recognized on the large island claim 590678 where it was dark brownish due to strong carbonatization and oxidation. This granular textured tuff also carries some fucshite.

(2) Sturgeon Lake, East Bay, Sediments

These sediments consist of argillite, mudstones, cherts, Felsic-Tuffs, and lean iron formation.

Cherts and lean Iron formation

These are finely banded chert-sediments that are composed mainly of Silica but these can grade across the bedding into lean cherty iron formation. Immediately north of the East Bay fault the lean iron formation carries heavy pyrite and pyrrhotite that forms a large gossan outcrop.

Argillite, Mudstone, and Felsic Tuffs

These sediments are finely banded and interlayered and carry 1 - 4% Iron Sulphides. Due to surface oxidation these light coloured rocks have a brownish appearance on weathering.

(3) Volcanics - The "Kuryl.w" Sequence (south of the Lewis Lake Batholith)Basaltic Pillow Lava Formation

This basaltic pillow lava is about 1,500 feet thick and lies at the north end of the sequence up against the Lewis Lake Batholith. The rocks are dark greenish, amphibolized and metamorphosed. The pillows are elongated parallel to the granite contact. This formation is overturned and dips steeply southwards at 60° - 80° with flow tops to the north.

Andesitic Pillow Lava formation

This Andesitic pillow lava lies immediately south of the Basaltic pillow lava formation and it is about 500 feet thick. This rock is epidotic-light green in colour and its distinctive characteristics are knots of white feldspar that resemble spherulites but are most likely feldspar porphyroblasts. The porphyroblasts are up to 2 cms in diameter with the majority being 1 cm in diameter. These feldspar porphyroblasts occur throughout the pillows and comprise 5 - 30% of the well pillowed lava.

This formation is distinctive and easily recognizable so that it makes a unique stratigraphic horizon marker. This formation has been traced for a distance of 7 miles and is known to extend to the west of Highway 599.

Felsic Volcanogenic Sediments

This formation of sediments consists of a series of members that were formed from volcanic ejecta that resulted in the formation of felsic agglomerates, felsic lapilli-tuffs and tuffs. There

appears to be a progression of the coarser agglomerates occurring at the north side, granular lapilli-tuffs in the central part, and tuffs on the south side of the formation.

The rocks of this formation are all characterized by a light buff weathering, and unusually high white feldspar content and a lack of ferromagnesian minerals. The southern most contact of the tuffs is mineralized with Pyrite and in the few outcrops observed forms some light Gossan.

This formation is 1,500 - 2,000 feet thick, its true thickness is difficult to determine because of the numerous gabbro sills and intrusions that occur. Members of this formation dip from 45 - 85° southwards. The strikes and dips of the sediments in local areas are commonly warped by the gabbro intrusions.

Andesite-Basalt Pillow Lava Formation

This pillow lava forms the most common rock of the area and is about 15,000 feet thick. This formation embraces the Steep Rock gold discovery at King Bay and it has been traced to the east and northeast as it wraps around the Lewis Lake Batholith at Sturgeon Lake. This formation has been intruded by numerous sills and dykes of Gabbro. The pillows of this formation dip 35 - 80° southwards and the formation is overturned with tops to the north.

(4) Basic Intrusives

Gabbro

This rock is a fairly typical dark greenish gabbro that is composed chiefly of ferromagnesian with little Feldspar showing

in hand specimens. This gabbro is low in magnetite and cannot be distinguished from the Andesite-Basalt lava that it intrudes. This rock occurs as an irregular group of sills and intrusives and some later age north trending gabbro dykes. This gabbro comprises 75 - 80% of the area of the volcanogenic sediment and 10 - 25% of the Andesite-Basalt formation.

Amphibolite

This is generally a coarse grained sill intrusion composed almost completely of coarse amphiboles up to 1 cm in diameter. It is up to 200 feet thick and roughly traces the contact between volcanogenic sediments and the Andesitic pillow lava formation.

Anorthositic Gabbro

This gabbro sill which is 50 - 100 feet thick occurs following near the southern contact of the volcanogenic sediment formation. Outcrops of this rock have an unusual "conglomerate-like" appearance due to the coarse nodular feldspar phenocrysts that form up to 95% of the rock and these nodules are most commonly 5 cms in diameter.

(5) Granodiorite

This rock is medium grained and is composed of 80 - 95% white feldspar with the dark minerals predominately amphibole where the granodiorite intrudes gabbro and a mixture of amphibole and biotite where it intrudes pillow lavas. This rock occurs abundantly about 4 miles west of King Bay and it occurs as local dykes and intrusives and also as an in-filling between block breccia of volcanics or gabbro.

(6) Granite - Lewis Lake Batholith

The granite near the south boundary of the batholith is composed of coarse white feldspar with 5 - 10% quartz and 3 - 7% ferromagnesian.

Syenitic Granite Nose of Batholith

The nose and offshoot dykes from the Lewis Lake Batholith are whitish feldspathic rocks almost devoid of quartz and ferromagnesian minerals. Swarms of these dykes occur from King Bay on its north shore to the large area around Rainbow Island.

(7) Quartz - Feldspar - Porphyry Dykes

These buff coloured sericitic dykes are narrow and irregular and occur sparsely in the formations of the "Kuryliw" sequence. At the south shore of King Bay a large continuous sericitic quartz-porphyry extends for several miles to the west of King Bay and to east up to East Bay. It is not yet established if this rock is quartz-porphyry intrusion or a porphyritic, felsic crystal-tuff.

(8) Quartz Veins

The Andesite-Basalt formation has a clear grey quartz that fills some of the inter-pillow spaces but these have not been found to be significantly auriferous. The gold bearing vein deposits of the area all have the common characteristics of dark blue-grey quartz with finely disseminated pyrite and pyrrhotite and finely divided gold. (The Steep Rock discovery at King Bay, the Rainbow Island, Rickaby, and Oz Island all have this similar dark blue-grey quartz.)

Local Geology

The geologic plan of the West Block "A" illustrates the trend of the formations which is near west-north-west. The pillowed lavas of the large andesite-basalt formation that covers the southern half of the map area dips southwards at 30° - 80° , these lavas are overturned with tops to the north. The lava formation was overlain to the north by the felsic volcanic sediments. These sediments have been extensively intruded by gabbros so that the sediments now occur as remnants between irregular masses of gabbro. To the north of the sediment formation a distinctive porphyroblastic andesitic pillow lava overlies the volcanic sediments. These formations and the gabbros are cut by an east-west trending porphyritic anorthosite dyke that is 50 - 100 feet thick. It extends for several miles across most of the block "A" and "B" mapped areas.

A strong north-south fault that occurs at 66E and trends $N-15^{\circ}E$ cuts across the above formations and the porphyritic anorthosite dyke. This fault displaces the block to the east of the fault about 1,000 feet southwards. This fault adjustment maybe due to the intrusion of the south-east nose of the Lewis Lake Batholith. Good VLF-EM conductors trace some drag folding near the fault and these should be checked by diamond drilling for possible gold mineralization in such a favourable structural environment.

A whitish-grey quartz commonly occurs as an "in-filling" of the spaces between lava pillows of the andesite basalt formation. A set of narrow fractures filled with grey quartz that range from a few mm to

10 cms in thickness occur striking west-north-west to north-west and these fractures dip 50° - 80° northwards. These fractures cut at an acute angle to the pillow trends and dips. Over 100 grab samples were taken and fire assayed. The quartz "in-filling" between lava-pillows did not return any gold assays. Most of the fracture filling quartz was also barren with the exception of a 4" vein that was exposed for a length of 10 feet across an outcrop assayed 0.06 oz gold per ton at 13+00W and 5+00S. A six inch quartz vein at 12+20N and 14+00W assayed 0.02 oz gold per ton.

Geologic Plan West Block "B"

The volcanic formations traced on plan "A" curve from west-north-west to due west on plan "B". On the western half of geologic plan "B" the area between lines 100-W and 132-W has been shifted northwards for a distance of over $\frac{1}{2}$ mile as a block between north trending faults. The fault displacement can be measured by the displacement of the contacts between volcanic formations on either side of the faults. The fault traces are marked by narrow valleys that are now filled with swamps and creeks. These faults displace VLF-EM conductors and some faults are themselves conductive.

A north-east trending shear zone that dips 47° south-eastwards was mapped on line 100-W and 10-S. This old shear zone is over 20 feet thick and is sericitized and silicified and has been traced from line 88-W to line 140-W under valleys. This old shear zone has been shifted by the series of north-south faults. One of these north-south faults was stripped of overburden near line 32-W at 27-S to 29-S. The fault was marked by a steep white to grey quartz vein up to three feet thick that carried some chalcopyrite and minor pyrite and pyrrhotite. Six

grab samples were taken on this vein and these ran 0.04, 0.02, 0.02, and three traces when assayed for gold in ounces per ton.

Numerous drilling targets present themselves especially where east-west, EM conductors or north-east old shear zones are intersected by north-south faults.

Geologic Plan West Block "C" and "D"

This plan is underlain by the Andesite basalt formation with its intrusions of gabbroic dykes and later irregular intrusions of granodiorite.

The numerous north-south faults located on plan "B" extend southward onto plan "C" and "D" but these faults curve south-westerly. The northward shift of a large portion of this block includes the westerly extension of the Steep Rock King Bay gold bearing structure as traced by a string of VLF conductors. This northward shift of the VLF-EM conductors on plan "C" and "D" will have to be taken into account when drilling to test this westerly extension of the Steep Rock zone.

Conclusions

The results of the geologic mapping, magnetic survey, and VLF, EM Survey were successful in locating a number of good drilling targets that are required to test for gold mineralization. In the "A" portion of the West Block all three surveys indicate that the Easterly trending formations swing to the South-East at the east end of the property towards the Steep Rock, King Bay gold discovery. Where the formations are folded towards the South-East local crenulations occur which provide good structural factors for possible gold deposition. The relatively flat magnetic relief of the area changes in the folded area due to tectonic stresses so that a few magnetic high trends were traced. This folded area deserves check drilling of the best conductor locations.

The "B" portion of the West Block has been cut by several north-easterly trending faults at the western end of the property. There is good evidence that a block about 1 mile wide has been shifted at least $\frac{1}{2}$ mile northwards by a series of progressive block movements. The movement of the rocks can be measured from the shift of the contact between the Andesite-Basalt pillow lava formation and the Felsic Volcanic sediment formation. The conductor trends which are generally east-west terminate at each north-south fault. The magnetic relief which is low and flat over the area increases in amplitude up against faults. Some old north-easterly trending shear zones that are slightly conductive were also shifted by the north-south faults.

The occurrence of extensive faulting across rock contacts, old shear zones, etc, could provide fracturing favourable to gold deposition. The faults themselves are potentially favourable locations.

The "C" and "D" portions of the west block are underlain by Andesite-Basalt volcanics with numerous Porphyry-Granodiorite intrusions. The north-south faults that cut the "B" block swing south-westwards in the "C" block. The east-west fault traced along King Bay westwards crosses the southern portion of the "C" block and may form the limiting extensions of the north-south faults as they swing south-westwards to branch into the east-west fault.

This complex faulting pattern indicates that extensive fracturing has occurred and that numerous favourable sites for gold mineralization are present.

The location of numerous VLF conductors, some of which are in highly favourable structural locations warrant the expenditure of funds to diamond drill the recommended 23 drill holes to check for gold mineralization and deposits. This first diamond drilling phase which totals 6,250 feet will cost an estimated \$175,000.



February 15, 1984

C.J. Kuryliw, M.Sc., P.Eng.

Recommendations

Diamond Drilling Recommended

Conductor	Drill Hole Number	Target Location	Bearing	Dip	Depth	Total Feet
A-3	1	68-E, 22+50-N	N	-50°	250'	
A-4	2	68-E, 10-N	N	-50°	250'	
A-4	3	76-E, 7-N	N	-50°	250'	
A-4	4	8-E, 3+50-N	N	-50°	250'	
A-4	5	20-W, 29+50-N	N	-50°	250'	
A-5	6	68-E, 8+50-S	N	-50°	250'	
A-5	7	56-E, 5+50-S	N	-50°	250'	
A-5	8	16-E, 16-S	N	-50°	250'	
A-6	9	60-E, 17+50-S	N	-50°	250'	
						2,250
B-4	10	56-W, 18+50-N	N	-50°	400'	
B-5	11	48-W, 8-N	N	-50°	250'	
B-12	12	129-W, 6-N	N-E	-50°	350'	
B-13	13	104-W, 2+50-N	N	-50°	250'	
B-14	14	112-W, 7-S	N	-50°	250'	
						1,500
C-1	15	44-W, 18-S	N-E	-50°	250'	
C-5	16	112-W, 11-S	N-E	-50°	250'	
C-6	17	4-W, 0+50-N	N	-50°	250'	
C-7	18	00-W, 9-S	N	-50°	250'	
C-8	19	4-E, 24-S	N	-50°	250'	
C-9	20	12-W, 32-S	N	-50°	250'	
C-10	21	136-W, 58+50-S	N	-50°	250'	
C-11	22	16-W, 6-N	N	-50°	250'	
						2,000
D-1 & 2	23	00-W, 45+50-S, 48-S	N	-50°	500'	
						<u>500</u>
					Total	<u>6,250</u>

A total of 6,250 feet of drilling is required to test the best combinations of conductors with their magnetics and structural geology of the numerous conductors located.

A-Q core drilling would be best suited for the frequent moves and the use of lighter equipment. This should also reduce contract drilling costs.

Estimated cost which includes contract drilling, engineering, assaying, etc, @ \$28.00 per foot.

6,250 feet @ \$28.00 per foot, Total = \$175,000.00

February 15, 1984



C.J. Kuryliw, B.Sc., P.Eng.

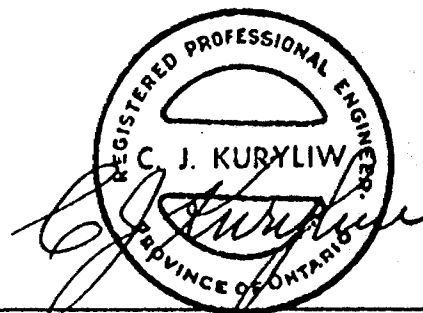
CHESTER J. KURYLIW, M.Sc., P.Eng.
Consulting Geologist

C E R T I F I C A T E

I, Chester J. Kuryliw of 50 Thunder Drive, Dryden, Ontario, do hereby certify that:

- (1) I am a Professional Engineer and I am currently employed as a Consulting Geologist for several mining companies.
- (2) I am a graduate of:
The University of Manitoba B.Sc. Degree, 1949
The University of Manitoba M.Sc. Degree, 1966
- (3) I am a registered Engineer of the Association of Professional Engineers of Ontario and also Manitoba. I am a fellow of the Geologic Association of Canada, also a member of the Canadian Institute of Mining and Metallurgy.
- (4) I have practiced my profession for over 35 years, most of those years at gold mines, during which time I often planned, supervised and directed underground exploration, development and production.
- (5) My report is based upon a study of the magnetic and electro-magnetic survey results on the property which were carried out under my supervision and I plotted the results. I also carried out geologic mapping in the field over the property, plotted the results with correlations and interpretations and these are incorporated in this report.

May 1, 1984



Chester J. Kuryliw, M.Sc., P.Eng.



52J02SW0031 52J02SW0043 FOURBAY LAKE

900



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) GEOLOGIC MAPPING
 Township or Area FOURBAY LAKE, SILVER LAKE
 Claim Holder(s) CHESTER J. KURYLIW
CHESTER J. KURYLIW, M.Sc., P.ENG.
CONSULTING GEOLOGIST
 Survey Company 50 THUNDER DR.
 Author of Report DRYDEN, ONTARIO
P8N 1W1
 Address of Author 807 223-6080
 Covering Dates of Survey MAY 15 1983 - MAY 1984
 (linecutting to office)
 Total Miles of Line Cut 108.5

MINING CLAIMS TRAVERSED
List numerically

P. 61-19785 - 619824
 (prefix) (number)
P. 612462 - 612500
P. 640001 - 640033
see attached list

SPECIAL PROVISIONS
CREDITS REQUESTED

ENTER 40 days (includes
line cutting) for first
survey.
ENTER 20 days for each
additional survey using
same grid.

Geophysical
 - Electromagnetic _____
 - Magnetometer _____
 - Radiometric _____
 - Other _____
 Geological 20
 Geochemical _____

DAYS
per claim

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

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

DATE: Oct 5, 1984 SIGNATURE: C. J. Kuryliw
 Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

TOTAL CLAIMS 112

If space insufficient, attach list

OFFICE USE ONLY

Dec 15th

#84-147

17316

The Mining Act

GEOLOGIC MAPPING

2543
FOURDAY LAKE DIST OF PATRICK

CHESTER J. KORYLLIN

P 8658

50 THUNDER DRIVE DRYDEN ONT PBN-1W1

CHESTER J KORYLLIN INC PBN, ONT CANADA Date of Survey (from & to) 15 5 83 1 5 84 Total Miles of line Cut 100.5

50 THUNDER DR, DRYDEN, ONT PBN-1W1

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

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

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

Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys	- Electromagnetic	

Expenditures (excludes stripping)

Type of Work Performed
Performed on Claim(s) 7, 8, 9, 10, 11, 12, 1, 2, 3, 4, 5, 6

Calculation of Expenditure Days Credits	
Total Expenditures	Total Days Credits
\$	15 =

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.

Date Oct 5 84 Recorded Holder or Agent Signature

Certification Verifying Report of Work
I hereby certify that I have a personal and intimate knowledge of the facts on which 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
50 THUNDER DR
DRYDEN, ONT PBN 1W1
Date Certified Oct 5, 1984 Certified by Signature

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
Pa	619 785		Pa	619 808	
	619 786			619 809	
	619 787			619 810	
	619 788			619 811	
	619 789			619 812	
	619 790			619 813	
	619 791			619 814	
	619 792			619 815	
	619 793			619 816	
	619 794			619 817	
	619 795			619 818	
	619 796			619 819	
	619 797			619 820	
	619 798			619 821	
	619 799			619 822	
	619 800			619 823	
	619 801			619 824	
	619 802			612 462	
	619 803			612 463	
	619 804			612 464	
	619 805			612 465	
	619 806			612 466	
	619 807			612 467	

Pa. 612462

Total number of mining claims covered by this report of work. 16

For Office Use Only			
Total Days Cr. Recorded	Date Recorded	Mining Recorder	
2240	Oct. 16, 1984		
Date Approved as Recorded	Branch Director		



Report of Work
Form 100
Government of Ontario

The Mining Act

Type of Survey(s) Geologic Mapping Township of Area Four Bay Lake Dist. of Parry
 Claim Holder(s) CHESTER J. KURYLIW Prospector's License No. P. 8658
 Address 50 THUNDER DR., DRYDEN ONT. PBN 1W1
 Survey Company CHESTER J. KURYLIW, M.Sc., P.Eng. CONSULTING GEOLOGIST
 Date of Survey (from & to) 15 Day 5 Mo. 83 Yr. 5 Day 5 Mo. 84 Yr. Total Miles of line Cut 108.5
 Name and Address of Author (of Geo-Technical Report) 50 THUNDER DR., DRYDEN, ONTARIO PBN 1W1

Credits Requested per Each Claim in Columns 1 to 4 20

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

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
<u>Pa</u>	<u>612 468</u>		<u>Pa</u>	<u>612 491</u>	
	<u>612 469</u>			<u>612 492</u>	
	<u>612 470</u>			<u>612 493</u>	
	<u>612 471</u>			<u>612 494</u>	
	<u>612 472</u>			<u>612 495</u>	
	<u>612 473</u>			<u>612 496</u>	
	<u>612 474</u>			<u>612 497</u>	
	<u>612 475</u>			<u>612 498</u>	
	<u>612 476</u>			<u>612 499</u>	
	<u>612 477</u>			<u>612 500</u>	
	<u>612 478</u>			<u>64 0001</u>	
	<u>612 479</u>			<u>64 0002</u>	
	<u>612 480</u>			<u>64 0003</u>	
	<u>612 481</u>			<u>64 0004</u>	
	<u>612 482</u>			<u>64 0005</u>	
	<u>612 483</u>			<u>64 0006</u>	
	<u>612 484</u>			<u>64 0007</u>	
	<u>612 485</u>			<u>64 0008</u>	
	<u>612 486</u>			<u>64 0009</u>	
	<u>612 487</u>			<u>64 0010</u>	
	<u>612 488</u>			<u>64 0011</u>	
	<u>612 489</u>			<u>64 0012</u>	
	<u>612 490</u>			<u>64 0013</u>	

Expenditures (excluding power stripping)

Type of Work Performed Geologic Mapping
 Performed on Claim(s) 7, 8, 9, 10, 11, 12, 1, 2, 3, 4, 5, 6
 Date OCT 16 1984

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.

Date Oct 5 1984 Recorder/Holder or Agent (Signature) Chester J. Kuryliw

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. CHESTER J. KURYLIW, M.Sc., P.Eng.

Name and Postal Address of Person Certifying CONSULTING GEOLOGIST 50 THUNDER DR. DRYDEN, ONTARIO PBN 1W1
 Date Certified Oct 5, 1984 Certified by (Signature) Chester J. Kuryliw

For Office Use Only
 Total Days Cr. Recorded Date Recorded Mining Recorder
 Date Approved as Recorded Branch Director
see revised statement

Total number of mining claims covered by this report of work. 46

The Mining Act

Geologic Mapping
 Claim Holder(s) **CHESTER J. KURLIOW**
 Address **50 THUNDER DR., DRYDEN ONT. P8N 1W1**
 Survey Company **CHESTER J. KURLIOW, M.Sc., P.Eng.**
 Name and Address of Author (of Geo. Technic) **DRYDEN, ONTARIO P8N 1W1**
 Township or Area **FOURBAY LAKE, DIST. OF PATRICIA**
 Producer's Licence No. **P. 8658**
 Date of Survey (from & to) **15 5 83** Day Mo. Yr. **1 5 84** Day Mo. Yr.
 Total Miles of line Cut **108.5**

Credits Requested per Each Claim in Columns 8079223-6080

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

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.
	640015				
	640016				
	640017				
	640018				
	640019				
	640020				
	640021				
	640022				
	640023				
	640024				
	640025				
	640026				
	640027				
	640028				
	640029				
	640030				
	640031				
	640032				
	640033				

Expenditures (excludes power & printing)
 Type of Work Performed
 Performed on Claim(s) **A.M. 7, 8, 9, 10, 11, 12, 1, 2, 3, 4, 5, 6 P.M.**
 PATRICIA MINING DIV. RECEIVED OCT 16 1984

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.

Date **Oct 5 1984** Recorded Holder or Agent (Signature) *Chester J. Kurliw*

Total number of mining claims covered by this report of work. **30**

For Office Use Only
 Total Days Cr. Recorded Date Recorded Mining Recorder *[Signature]*
 Date Approved as Recorded Branch Director *[Signature]*
All revised statement

Certification Verifying Report of Work

I hereby certify that I have a personal and independent 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 **CHESTER J. KURLIOW, M.Sc., P.Eng. CONSULTING GEOLOGIST 50 THUNDER DR. DRYDEN, ONTARIO P8N 1W1 P87 223 6080**
 Date Certified **Oct 5, 1984** Certified by (Signature) *Chester J. Kurliw*



Ministry of
Natural
Resources

Ontario

Technical Assessment
Work Credits

File
2.7316

Date
1984 10 30

Mining Recorder's Report of
Work No. 84-144

Recorded Holder	CHESTER J. KURLIOW
Township or Area	FOURBAY LAKE AREA

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ 20 _____ days Geochemical _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	PA 619785 to 824 inc. 612462 to 500 inc. 640001 to 006 inc. 640010 to 019 inc. 640022 to 033 inc.

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

<u>10 days</u> PA 640007 to 009 inc. 640020	<u>5 days</u> PA 640021
---	----------------------------

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)—80;

Mining Lands Section

File No 27214

Control Sheet

TYPE OF SURVEY GEOPHYSICAL
 ✓ GEOLOGICAL
 GEOCHEMICAL
 EXPENDITURE

MINING LANDS COMMENTS:

claims misnumbered on map sheet "B"
geology not matched well in overlap areas between map sheets.

LD

Derry
Signature of Assessor

24/10/84
Date

112 CLONMORRIS
FERRIS LAKE AREA

PA 619 785	PA 619 821	PA 612 493
619 786	619 822	612 494
619 787	619 823	612 495
619 788	619 824	612 496
619 789		612 497
619 790	612 462	612 498
619 791	612 463	612 499
619 792	612 464	612 500
619 793	612 465	
619 794	612 466	640001
619 795	612 467	640002
619 796	612 468	640003
619 797	612 469	640004
619 798	612 470	640005
619 799	612 471	640006
619 800	612 472	640007
619 801	612 473	640008
619 802	612 474	640009
619 803	612 475	640010
619 804	612 476	640011
619 805	612 477	640012
619 806	612 478	640013
619 807	612 479	640014
619 808	612 480	640015
619 809	612 481	640016
619 810	612 482	640017
619 811	612 483	640018
619 812	612 484	640019
619 813	612 485	640020
619 814	612 486	640021
619 815	612 487	640022
619 816	612 488	640023
619 817	612 489	640024
619 818	612 490	640025
619 819	612 491	640026
619 820	612 492	640027
		640028
		PA 640029
		640030
		640031
		640032
		640033



Ministry of
Natural
Resources

Nov. 14/84

1984 10 30

Your File: 84-144

Our File: 2.7316

Mining Recorder
Ministry of Natural Resources
P.O. Box 309
Sioux Lookout, Ontario
POV 2T0

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. R.J. Pichette at 416/965-4888.

Yours sincerely,

S. E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3

RD D. Isherwood:ig
Encls.

cc: Chester J. Kuryliw
50 Thunder Drive
Dryden, Ontario
P8N 1W1

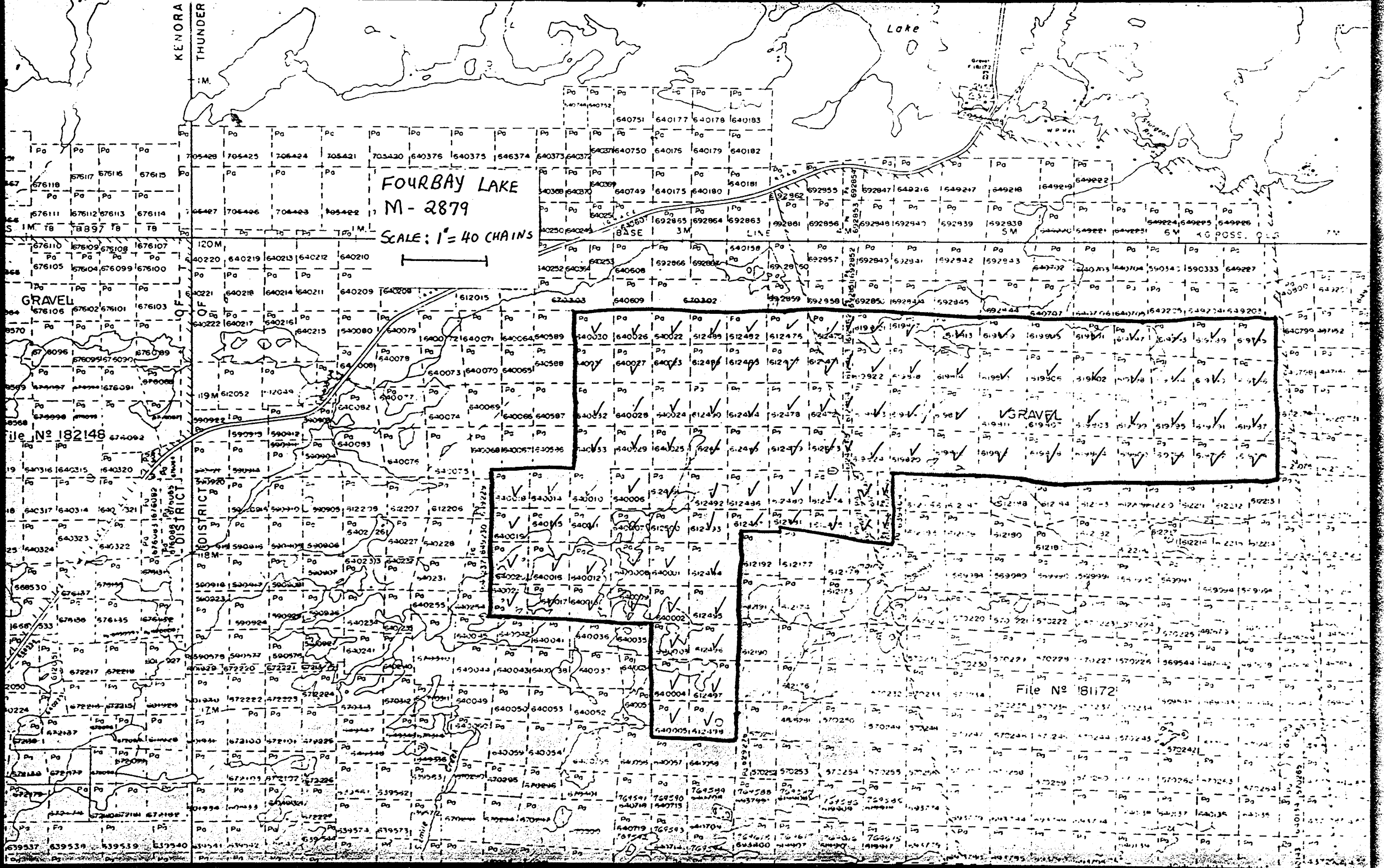
cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

KENORA
THUNDER

Lake

FOURBAY LAKE
M-2879

SCALE: 1" = 40 CHAINS



File No 182148

File No 181172



Ministry of
Natural
Resources

Notice of Intent
for Technical Reports

1984 10 30

2.7316/84-144

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

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

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

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



Ministry of
Natural
Resources

52 J/2 SW (62)

1984 11 20

Your File: 84-144
Our File: 2.7316

Mining Recorder
Ministry of Natural Resources
P.O. Box 309
Sioux Lookout, Ontario
POV 2T0

Dear Sir:

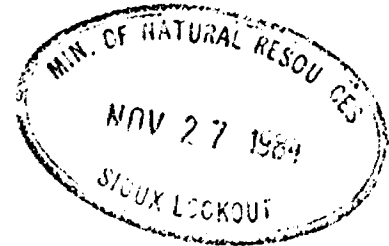
RE: Notice of Intent dated October 30, 1984.
Geological Survey on Mining Claims
PA 6i2462 et al in the Fourbay Lake Area.

The assessment work credits, as listed with the
above-mentioned Notice of Intent, 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

D. Isherwood:sc

cc: Chester J. Kuryliw
50 Thunder Drive
Dryden, Ontario
P8N 1W1

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

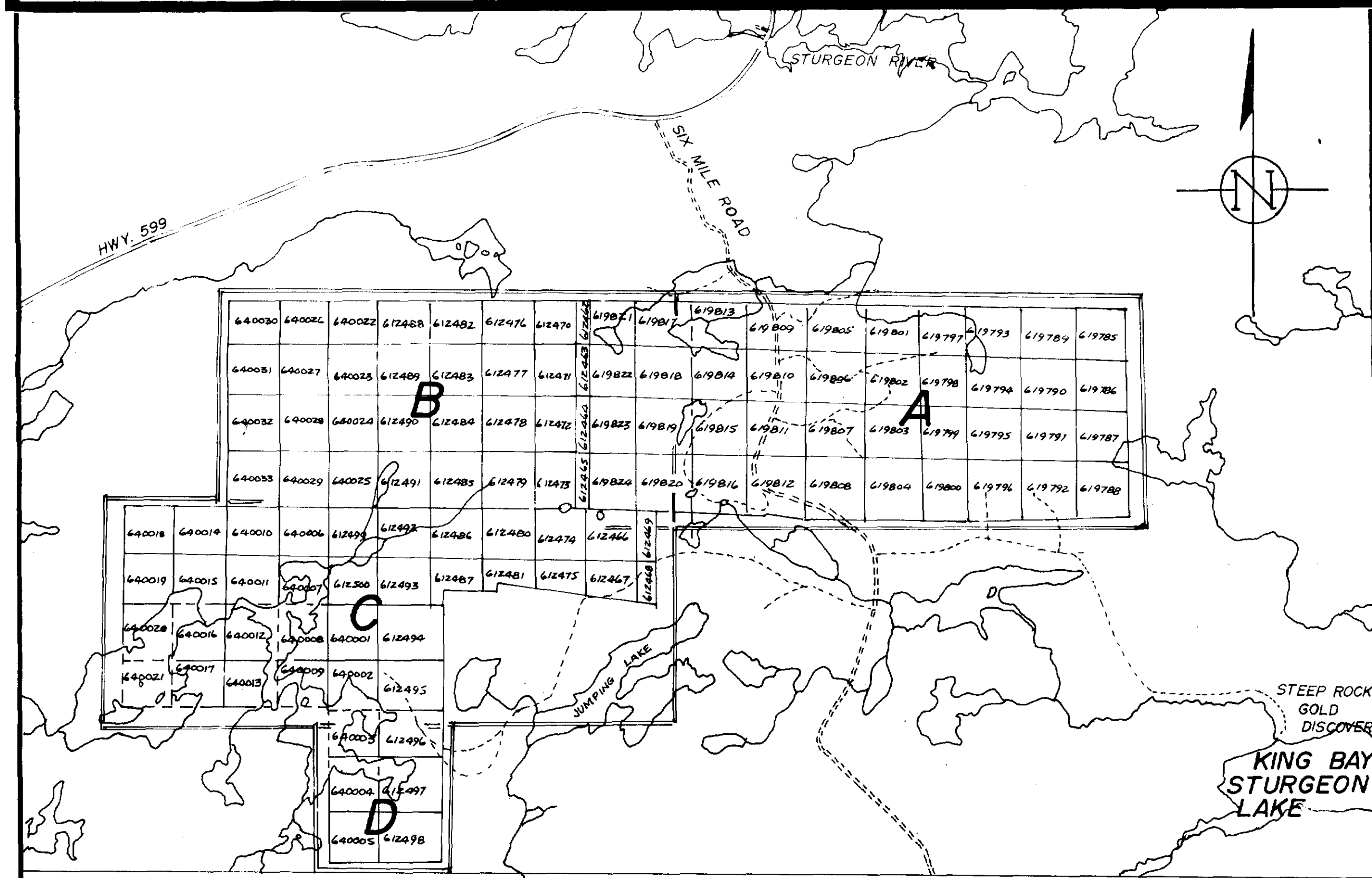
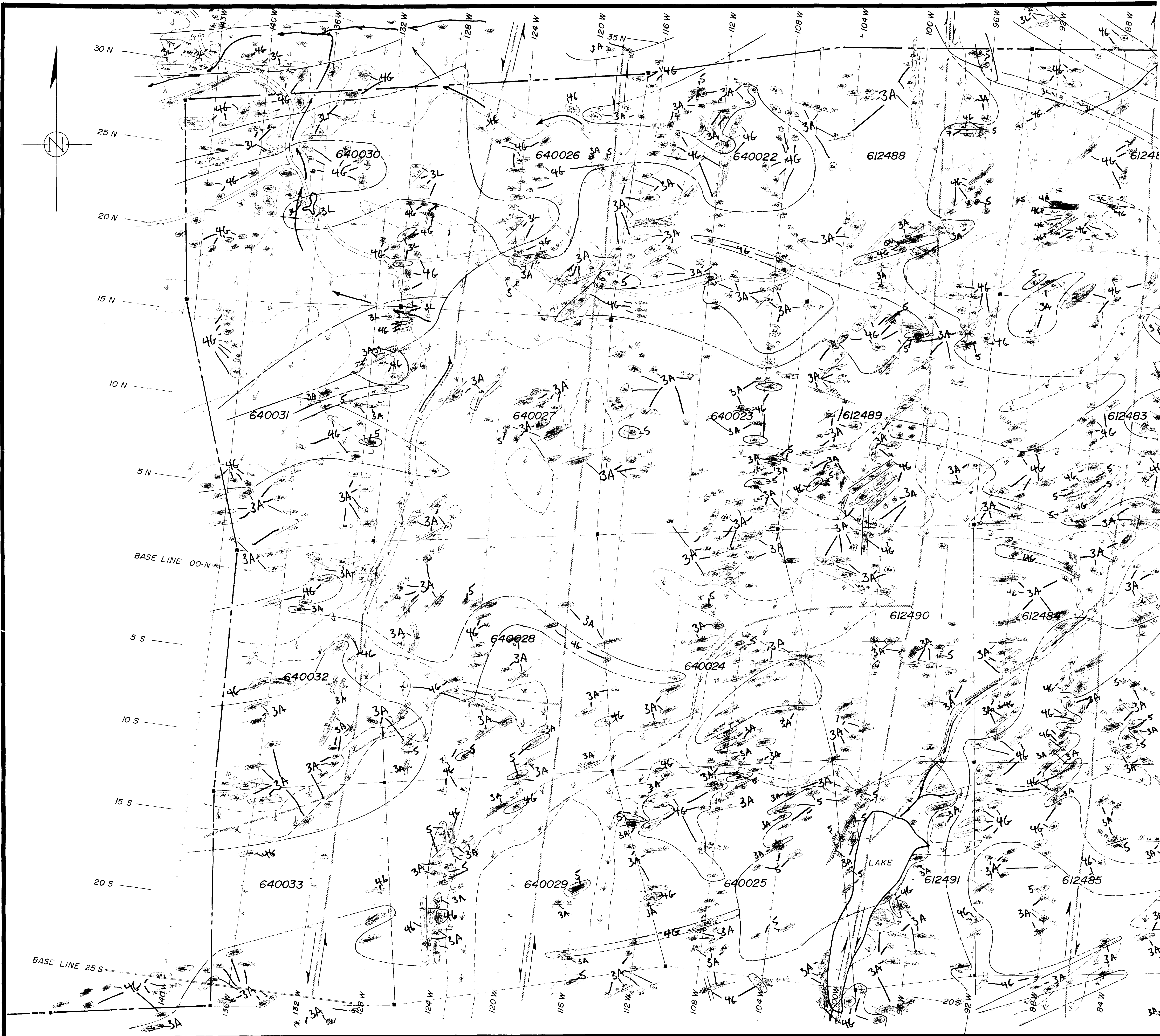
cc: Resident Geologist
Sioux Lookout, Ontario

FOR ADDITIONAL

INFORMATION

SEE MAPS:

52J/02 SW-0043 # 1-3



KEY MAP
SCALE: 1" = 1/2 Mile

SYMBOLS

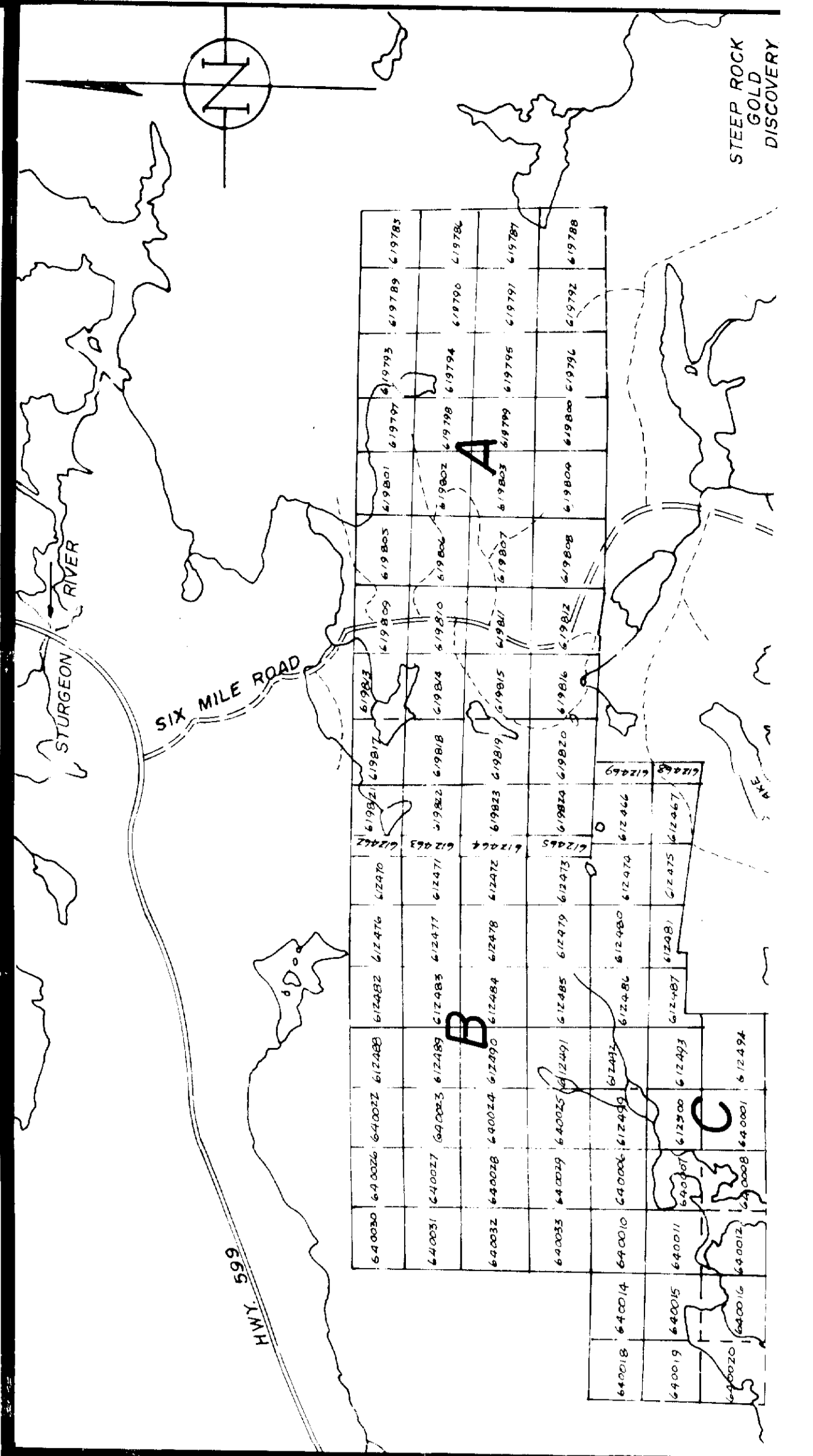
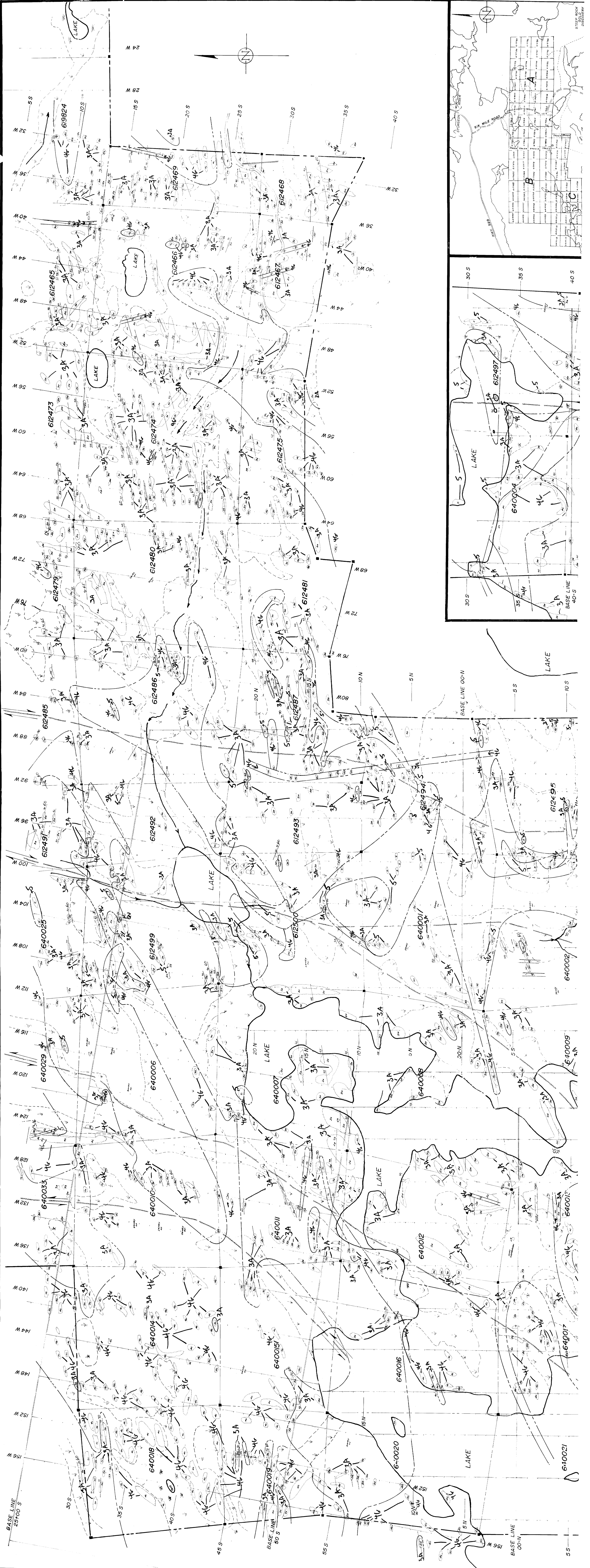
- OUTLINE OF SWAMP OR MUSKEG
- OUTLINE OF BOG
- STREAM
- GRAVEL ROAD
- TRUCK ROAD
- CLAIM POST LOCATION
- CUT PICKET LINES
- OUTCROP
- STRIKE & DIP OF BEDDING
- STRIKE & DIP OF SHEARING
- GEOLOGIC CONTACT, INTERPRETED
- FAULT, INTERPRETED

LEGEND

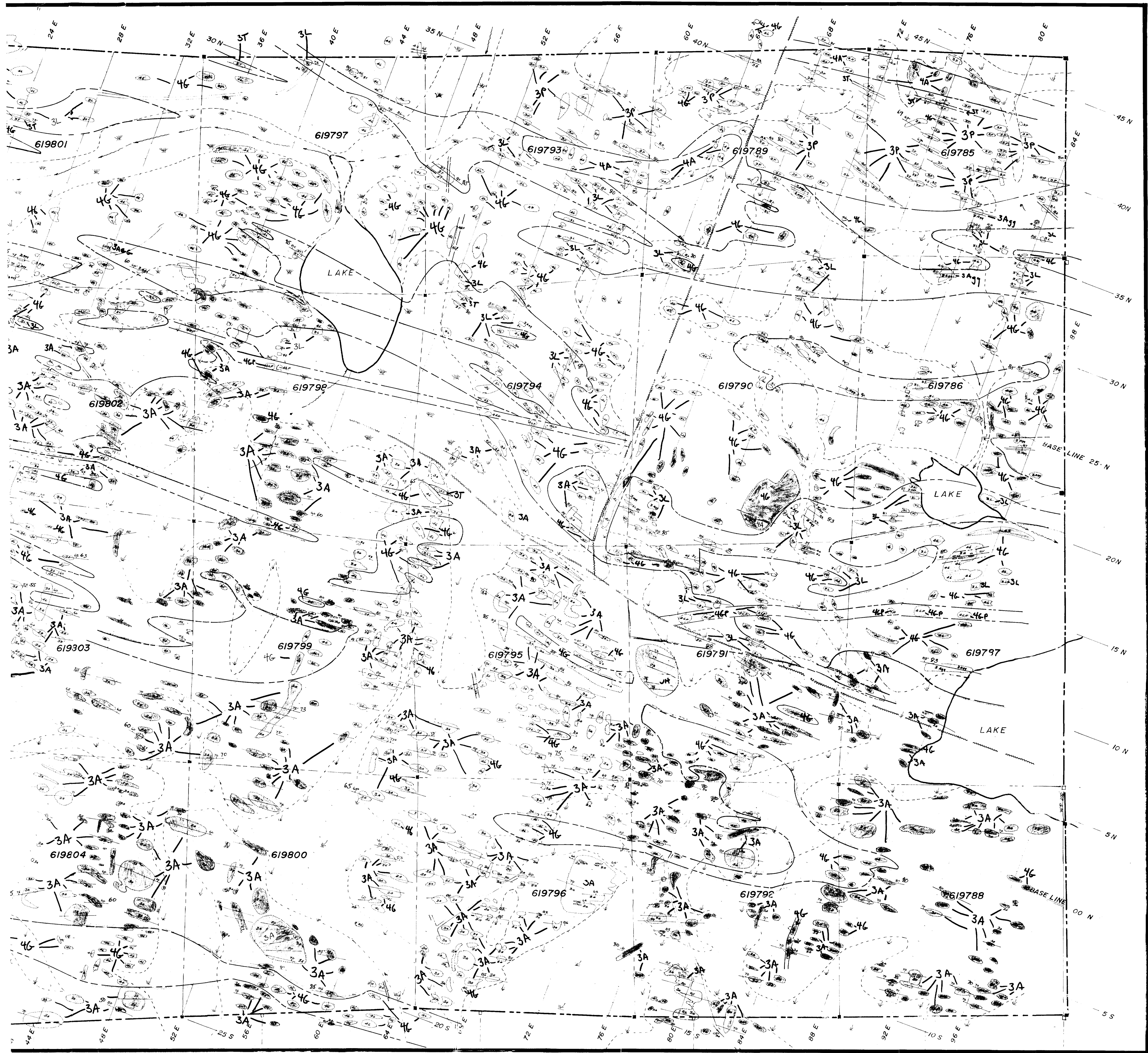
TABLE OF FORMATIONS

- PRECAMBRIAN
 - QUARTZ VEINS
 - ACID INTRUSIVES
 - QUARTZ-FELDSPAR PORPHYRY DYKES
 - GRANITE, LEWIS LAKE BATHOLITH
 - SYENITIC GRANITE DYKES (WHITE FELDSPAR PORPHYRY)
 - GRANODIORITE, INTRUSIVE
 - GRANODIORITE, DYKES AND INFILLING OF BLOCK BRECCIA
 - BASIC INTRUSIVES
 - GABBRO
 - GABBRO (PORPHYRITIC ANORTHOISITE)
 - AMPHIBOLITE
- VOLCANICS - 'KURYLIW SEQUENCE' (SOUTH FROM LEWIS LAKE BATHOLITH)
 - BASALTIC LAVA, PILLOWED, AMPHIBOLIZED (1500'-3000')
 - ANDESITIC PILLOW LAVA, FELDSPAR PORPHYROBLASTS (500')
 - FELSIC VOLCANOGENIC SEDIMENT GROUP, FELDSPATHIC (1500'-2000')
 - AGGLOMERATE
 - LAPILLI-AGGLOMERATES AND TUFFS
 - TUFFS
 - ANDESITE-BASALT LAVAS, PILLOWED (15 000')
 - " " " " MASSIVE
- STURGEON LAKE-EAST BAY
 - SEDIMENTS: ARGILLITE 2-A, CHERT 2-C, MUDSTONE 2-N, IRON FORMATION IF,
 - DACITIC AGGLOMERATES & LAPILLI-TUFFS

52J/02sw-0043 #2



STEP ROCK
DISCOVERY



KURYLIV CLAIM GROUP
 WEST BLOCK 'A'
 KING'S BAY, STURGEON LAKE AREA
 DISTRICT OF PATRICIA, NORTHWESTERN ONTARIO

**PLAN of
 GEOLOGY**

IR PORPHYRY)
 OCK BRECCIA
 UTH FROM LEWIS L. BATHOLITH)
 1500'-3000')
 OBLASTS (500')
 ELDSPATHIC (1500-2000')

SCALE: 1" = 200'

1983

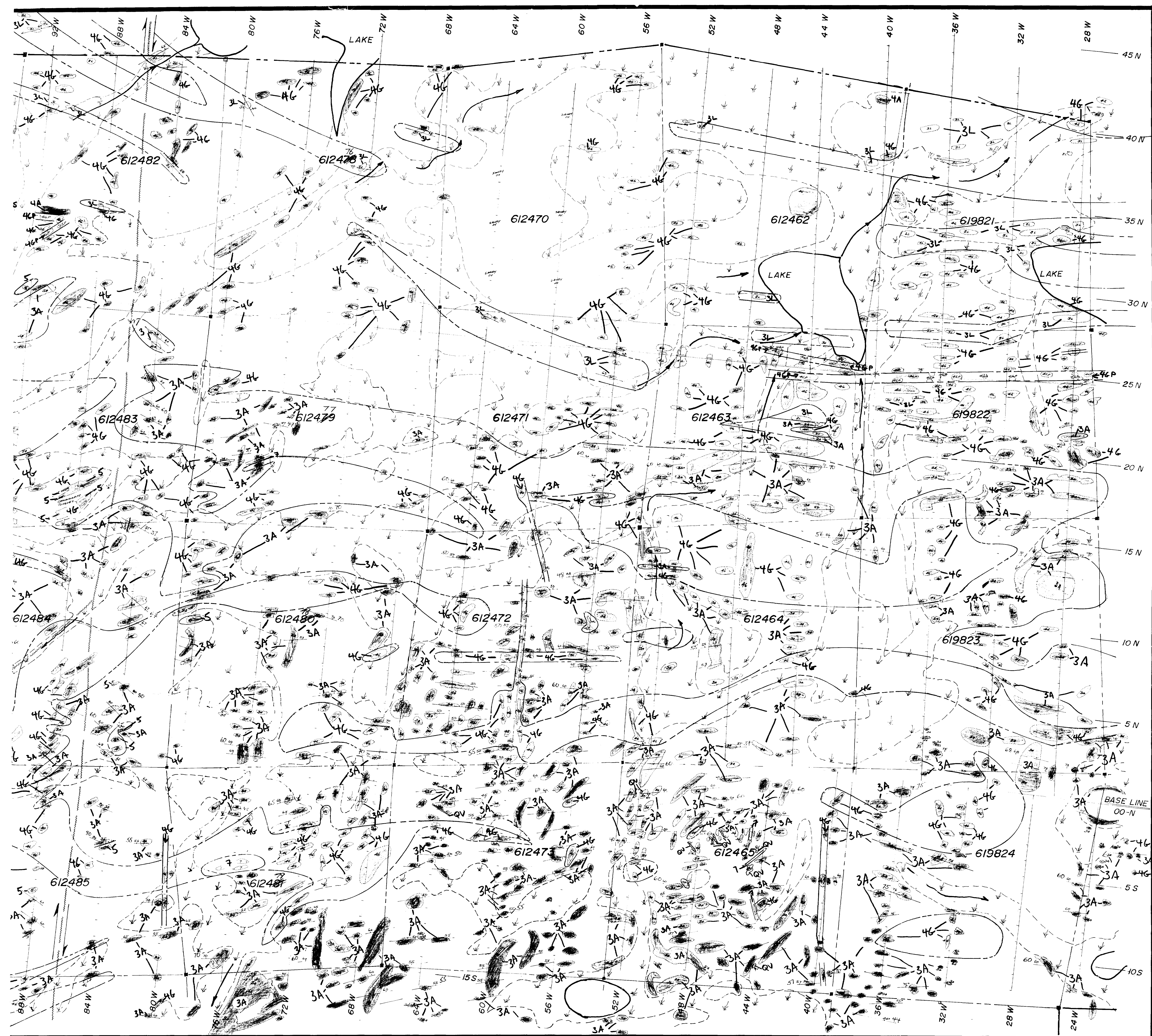
CHESTER J. KURLIV



27316

52J/02 SW - 0043 #1

STONE 2-M, IRON FORMATION IF.



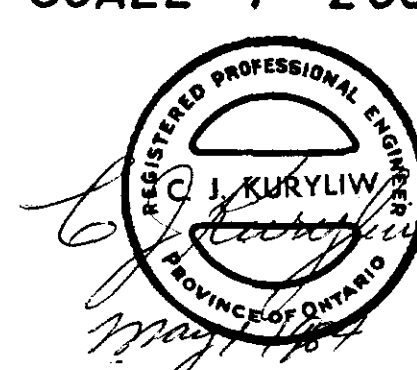
KURLIOW CLAIM GROUP 52J/02 SW-0043 #2
WEST BLOCK 'B'
KING'S BAY, STURGEON LAKE AREA
DISTRICT OF PATRICIA, NORTHWESTERN ONTARIO

**PLAN of
 GEOLOGY**

SCALE: 1" = 200'

1983

CHESTER J. KURLIOW



27316

PORPHYRY)
 BRECCIA
 TH FROM LEWIS LAKE BATHOLITH)
 500'-3000')
 BLASTS (500')
 LDSPATHIC (1500'-2000')
 MUDSTONE 2-M, IRON FORMATION IF,

