

52J02SW0020 OP93-016 FOUR BAY LAKE

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REPORT
ON
DIAMOND DRILLING
KURYLIW CLAIM BLOCKS
SIX MILE ROAD - STURGEON LAKE AREA
DISTRICT OF PATRICIA, NORTHWESTERN, ONTARIO

AUGUST 07, 1993

CHESTER J. KURYLIW, M.SC., P.ENG.

PROPERTY, LOCATION AND ACCESS

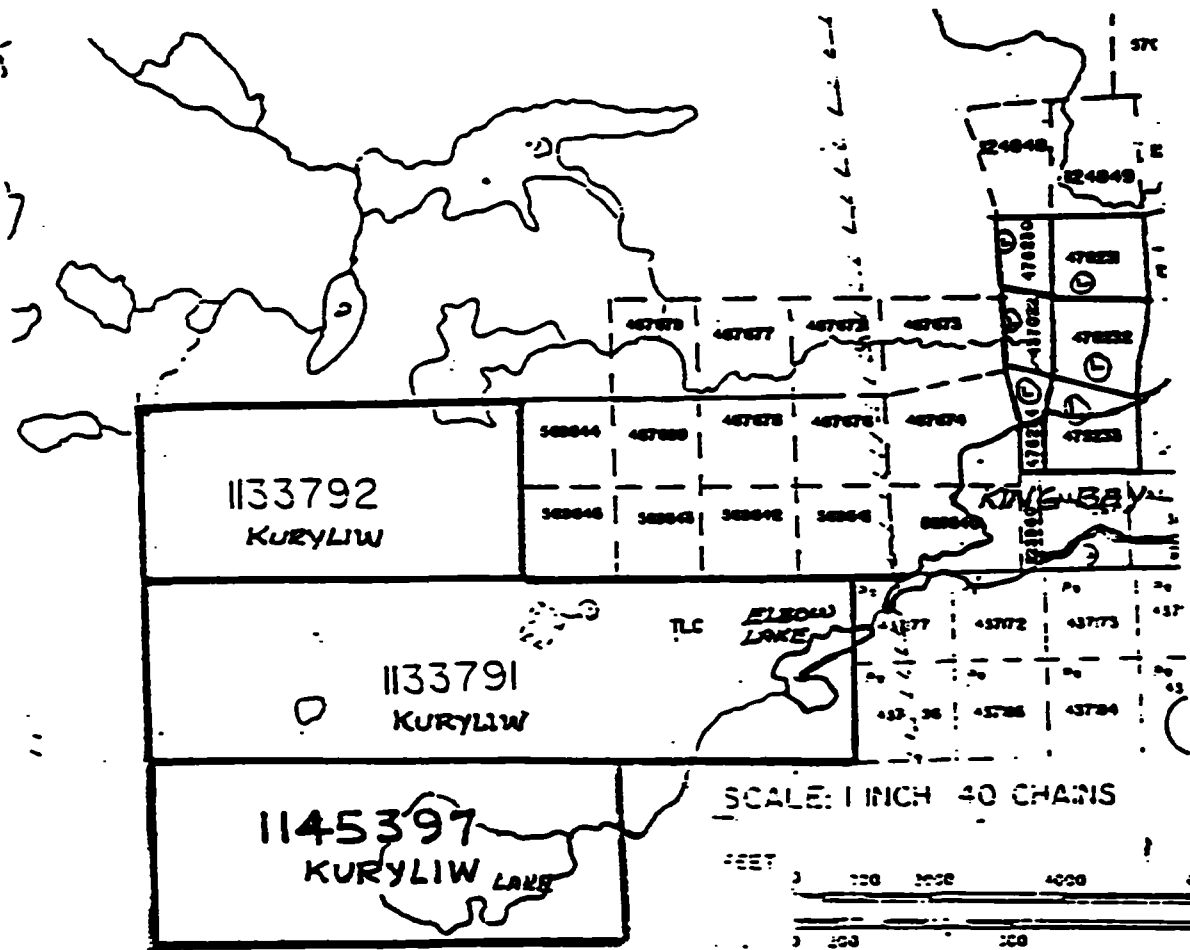
The Kuryliw claim group in the six mile road area of Sturgeon Lake consists of three claim blocks that encompass a total of thirty four of sixteen hectare claims (roughly 1360 acres).

Claim block PA 1133791 (16 claims)
Claim block PA 1133792 (8 claims)
Claim block PA 1145397 (10 claims)

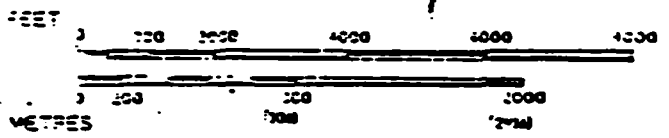
The claim blocks are located on map G-2543, Patricia Mining Division, Northwestern Ontario.

These claim blocks are accessible from the Trans-Canada highway 17 East at Ignace, then northwards about 110 km. along highway 599, then 11 km. southwards along the six-mile road which crosses the central portion of the claim group.

The topography of the area is one of relatively low relief. Much of the grid is underlain by cedar swamps. In the late 1970's heavy timbering was carried out in the six-mile road area followed by a regional fire in 1980. These cleared areas are now covered with dense second growth. Some immature timber that bordered the swamps were left uncut and these have all been flattened by wind storms that resulted in near to 100 % blowdowns. These blowdowns make all bush work difficult and hazardous. The cedar swamp areas are commonly bordered by immature black spruce. There is no significant timber left in the area.



SCALE: 1 INCH = 40 CHAINS



AREA

FOURBAY LAKE

M.N.R. ADMINISTRATIVE DISTRICT

IGNACE
MINING DIVISION

PATRICIA
LAND TITLES REGISTRY DIVISION

KENORA / THUNDER BAY



Ministry of Natural Resources
Land Management Branch

Date: JANUARY, 1984

Number: G-2543

51' 50'

-2561

CLAIM MAP 1993
KURYLIW CLAIM BLOCKS



C. J. Kuryliw
Aug 17 1993

INTRODUCTION

In 1992 the line grid was located in the central part of the claim block 1133791. The grid was oriented with the base line running - E-W near the southern boundary of the claim block. The picket lines were turned N-S at 200 foot intervals between lines and in one portion 400 foot intervals between lines. All picket lines and the base line were chained and marked with pickets at 100 foot intervals along lines.

In June 1993 this grid was extended to the east with lines at 300 foot intervals and to the south into claim block 1145397 with lines at 200 foot intervals.

In July 1989 Aerodat Limited carried out an airborne survey over the area that included these claim blocks for 007 Precious Metals Inc. The air VLF, EM survey located some short conductors.

The line-cutting was carried out under contract by G. Cratton of Wawa, Ontario under the supervision of C. Kuryliw during September-October 1992. During this same period the grid was covered by a ground magnetic survey, a V.L.F. - EM- 16 survey, Geologic mapping and sampling all by C.J. Kuryliw.

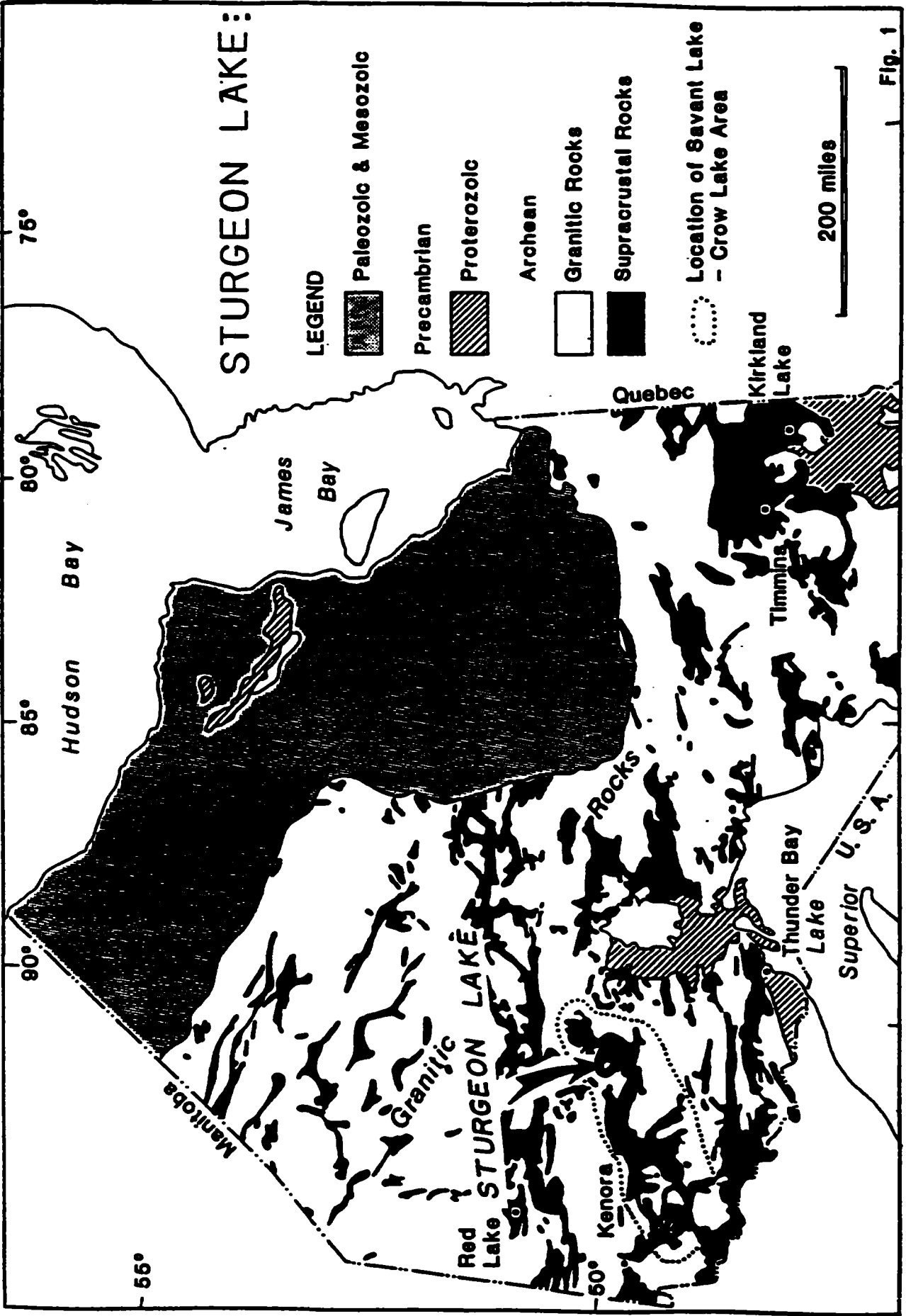
In June 1993 the extensions of the line grid was carried out under contract by J. Cureatz and G. Cratton of WaWa, Ontario. Kuryliw with a Field Assistant carried out a VLF Survey, Magnetic Survey and Geologic Mapping over the new grid extensions. Kuryliw also supervised and logged two drill holes on claim block 113791 that totalled 622 feet of BQ Core.

The magnetic survey used a Scintrex Precession Magnetometer MP2. The instrument has a sensitivity of + 1 gamma. The readings were taken at 50 foot stations along lines. The readings were corrected and plotted on plans 1" = 200 ft/

The line grid was also covered using a Geonics VLF EM - 16 unit. The readings were taken at 100 ft. intervals with some readings at 50 ft. intervals in conductive areas. These readings were then plotted on a plan scale 1" = 200 ft. and the EM profiles were drawn on the plan. The conductor axes were then interpreted and traced on those plans.

Geologic mapping was carried out over the grid by C.J. Kuryliw who also plotted, correlated and interpreted the data written in this report. All significant looking Quartz veins were grab-sampled during the mapping for later assaying at Wawa Assaying Inc., Wawa, Ontario.

Two holes 1993 C-1 and C-2 were drilled to test combined VLF conductors and magnetic anomaly shoulders to the conductors.



LOCATION MAP

Fig. 1

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. (Arstronc-Best Property)

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 five miles and a depth of three miles in 1983 (CDM Files) 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 - 2000 feet thick)
- (4) Basalt Pillow Lava formation (15,000 feet thick)
(This included the Six Mile Kuryliw Claim Blocks, 1992)
- (5) INTRUSIVES

The "Kuryliw" sequence of volcanic formations was extensively intruded by basic rocks, largely gabbro and some amphibolite. Ten to twenty-five percent 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 four miles west of King Bay the "Kuryliw" sequence of formations has been intruded by granodiorite 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 and feldspar which is in part porphyritic. It also contains five to ten percent quartz and up to seven percent ferromagnesian. The batholith extends as a nose to the southeast into Surgeon 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 south east.

It becomes depleted in Quartz and ferromagnesian so that they become white syenitic rock composed almost completely of feldspar.

(7) Quartz - Porphyry Rock

Immediately South of King Bay a chain of Quartz-porphyry intrusions trends eastwards towards East Bay westwards across the Six Mile Road.

The Quartz-Porphyry intrusions have a spatial relationship with known gold occurrences in the area. The chain of intrusives forms the southern boundary of gold mineralization.

ROCK TYPES

BASALT LAVAS

The Basalt lavas that underlie the claim blocks are part of a major formation at least three miles thick and it extends eastwards and westwards along strike for scores of miles in each direction.

The rock is a dark greenish grey fine grained lava. The majority of the formation exhibits well formed ellipsoidal structures (pillows). These pillows show tops facing southwards and they dip seventy-five degrees to eighty-five degrees northwards, indicating the formation is slightly overturned. The exposed outcrops mapped do not show any marked fissility or shearing. Some rare fractures are filled with white quartz veinlets and these were sampled and assayed with low gold values, that ranged from .003 - .055 oz. Au. per ton. This Basalt exhibits a relatively low and flat magnetic relief. The V.L.F. conductors occur beneath cedar swamps, any shearing or alteration will have to be tested for, by diamond drilling.

BASALT FLOW BRECCIA

This flow-top Breccia consists of a horizon 50 ft - 100 ft. thick within the Basalt formation and was mapped near 20 N. on lines 4 W - 14 W. This breccia horizon is a valuable marker because it traces a gently arched fold that conforms roughly with the outline of the quartz-porphyry intrusion nearly one-half mile to the S.-E. The flow-top breccia is recognizable from its almost nodular ellipsoidal texture, with the nodules averaging 1 cm - 3 cm. in diameter.

DIORITIC DYKE

This dyke which is about 150 ft. thick, runs E.- W and was mapped at 23 - N across lines 4 W - 18 W. The rocks forming this dyke are fine to medium grained, greyish-green with a slight brownish surface weathering. A few N-W trending tension fractures were filled with white quartz. Two grab samples taken returned values of 0.008 and 0.055 oz. Au. per ton.

QUARTZ PORPHYRY

This intrusive quartz-feldspar-porphyry occurs at the southwest portion of the property, it forms a stock about two miles long E-W, and up to three-quarters mile N-S. The northern contact of the porphyry drops in two steps going westwards. These steps drop southwards in the order of 800 ft. It is postulated that the step-like irregularity of the northern contact of the intrusion may have formed combinations of stresses and tension in the intruded basalts westward. These stresses may have produced favourable structures as indicated by the V.L.F. conductors.

The magnetic survey did not show any change in the intensity, the magnetics over the porphyry continues at the same level when extended from the basalts.

Near the northern contact, the quartz-porphyry is a lighter buff colour and contains a few quartz phenocrysts with abundant feldspar phenocrysts in a groundmass of feldspar and ferromagnesian. About 300 ft. south of the N. contact the porphyry does not have quartz phenocrysts, is a dark greenish-grey and is composed of feldspar phenocrysts in a groundmass of feldspar and abundant ferromagnesian.

One old pit at 29 + 50 E and 3 - 00S, contains an 8" - 10" dark grey-blue quartz vein with ten to fifteen percent coarse stubby arsenopyrite, with some pyrite and traces of chalcopyrite and sphalerite. Five samples were taken across this vein and these assayed from .117 - .274 oz Au. per ton.

TABLE OF FORMATIONS

CENOZOIC

PLEISTOCENE & RECENT

ORGANICS - BOGS, MUSKEG

OVERBURDEN - SAND, CLAY, DETRITALS

PRECAMBRIAN

ACID INTRUSIVES



QUARTZ - VEINS



QUARTZ - FELDSPAR PORPHYRY

INTERMEDIATE INTRUSIVE



DIORITIC DYKE

VOLCANICS



BASALT LAVAS - PILLOWED, MASSIVE



BASALT FLOW BRÉCCIA

REGIONAL ECONOMIC GEOLOGY

Please refer to the key map of gold occurrences and mineralization of the King Bay area, scale 1" = 1/2 mile accompanying this report.

The King Bay area of Sturgeon Lake occurs within an extensive Basalt Lava formation that is over three miles thick. In general the rocks trend E-W to E-N-E. Ellipsoidal flow structures in the Lavas indicate a steep northerly dip and overturned flow-tops that face southwards.

Immediately to the south of King Bay a chain of quartz porphyry intrusions intrudes the basalts and is generally conformable with the formation trend. This chain of intrusions extends for at least six miles (10 kms.) To the north of the quartz - porphyrys ten significant small but rich gold occurrences are known over the same length of six miles. This spatial relationship between the gold occurrences and the quartz porphyry is significant.

All ten known gold occurrences whether they occur in Basalts or Quartz- Porphyry as the host rock have the common characteristic of a distinctive dark-grey-blue to blackish quartz silicification.

This silicification carries the rich gold mineralization. The relatively unique and distinct blue-grey quartz leads to the conclusion that in these cases the known gold occurrences all shared a common genetic source and a common age of mineralization.

NOTE

- (A) It is significant the gold occurrences 1 to 7 on the accompanying map, all have the common characteristic of a uniquely similar silicification and mineralization even though they extend as a chain over a length of six miles. The gold associated mineralization is visible gold with pyrite and pyrrotite in the dark blue-grey quartz silicification. The tenor of grade in the veins is rich and ranges from 0.30 to 3.00 oz's Au. per ton.
- (B) It is significant that gold occurrence No. 10 found in drill hole 1983 - KB-26, drilled by Steep Rock (ODM files) intersected some acicular arsenopyrite in dark blue-grey quartz in quartz-porphyry that carried low gold values.
- (C) It is significant that gold occurrence No. 3 in quartz-porphyry occurs in the distinctive dark blue-grey quartz vein that carries gold values in the order of 0.20 oz. Au. per ton. The mineral associated with the gold is abundant coarse, stubby crystals of arsenopyrite with minor pyrite, chalcopyrite and sphalerite.

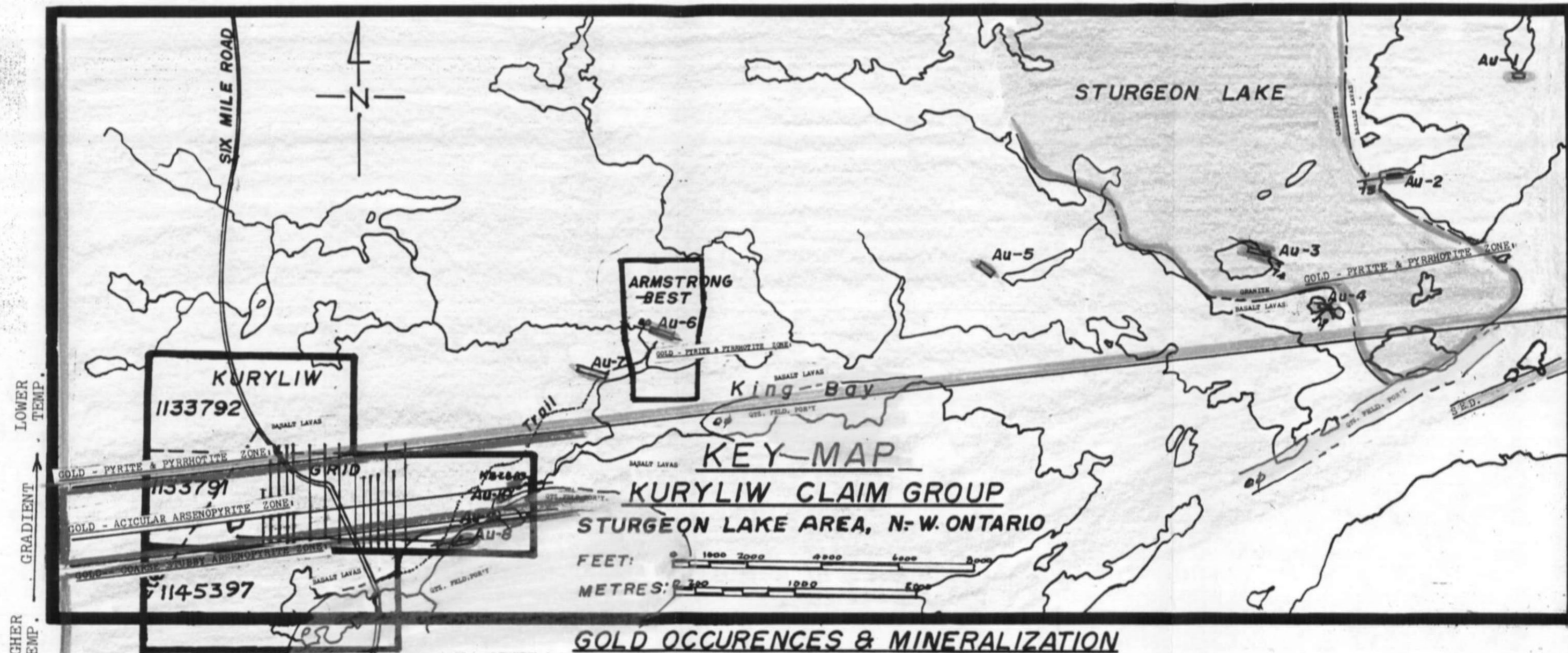
It is concluded from the common distinctive silicification that all the gold occurrences were derived from the same genetic source. There is a uniformity of gold associated mineralization in the E-N-E to easterly direction and also a progressive gold associated change in mineralization in the N-S direction. This N-S variation fits perfectly with the gold zoning system described and published by this writer. ("Some Observations on Gold Zoning" by Chester J. Kuryliw, published in the Northern Miner Magazine, September, 1988.) A copy of this published article is included in the addendum of this report for reference.

There is a thermal gradient recognizable to this period of gold mineralization that consists of a relatively hotter environment at the south of the grid (indicated by the stubby arsenopyrite - gold mineralization) to a cooler environment of mineralization one-half mile northwards (indicated by the gold-pyrite and pyrrhotite mineralization).

The length of claim block 1133791 is bracketed between the gold-pyrite and pyrrhotite zone to the north and the gold-coarse, stubby arsenopyrite zone to the South. This places the potentially richer gold- acicular arsenopyrite mineralization within the one-half mile wide claim block. A determined search for a significant structure within this claim block is warranted because of the potentially rich gold mineralization that should occur. The large quartz-porphry stock intrusion in the S-E part and to the South of claim block 1133791, that intrudes the Basalts, may be the required engine for producing host structures in the Basalts. There appears to be two step-like changes in the trend of the Northerly contact of the quartz-porphry intrusion. These "steps" can be expected to produce similar warps in the intruded Basalts. There is an indication that such warps exist from the traces of the V.L.F. conductors and the curved trend of the more distant flow-top-breccia mapped at 20-N on lines 4-W to 18-W.

The gold-mineral associated zoning indicates a thermal gradient in a N-S direction across the claim block with the relatively hotter zone at the South and the cooler zone at the North. This directional thermal gradient would be expected to influence depositions from hydrothermal activity within active structures. This appears to be the case with the V.L.F. conductors A and C where the more conductive portions occur over weak magnetic lows and are bordered to the North by a magnetic-high shoulder. (In the order of 200 gammas). This magnetic pattern is consistent with the possible migration of ferromagnesian and their deposition northwards. The uniformly low magnetic relief over the Basalts allows the weak anomalous magnetic pattern associated with the V.L.F. conductor to be recognized with some certainty.

Six drill holes have been recommended to test the V.L.F. conductors for favourable structures that could host rich gold deposits.



GOLD OCCURENCES & MINERALIZATION

GOLD - PYRITE & PYRRHOTITE ZONE:

- Au-1 JOHNSON OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-2 RICKABY OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-3 RAINBOW IS. OCCURRENCE: Dark Grey Qtz. V.G., Py., Po.
- Au-4 Oz. IS. OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-5 COPPER L. OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-6 ARMSTRONG-BEST OCCUR': DARK GREY QUARTZ, V.G., Py., Po.
- Au-7 BEST OCCURRENCE: Dark Grey Quartz, V.G., PY., Po.

GOLD - ACICULAR ARSENOPYRITE ZONE:

- Au-10 D.D. HOLE KB-28-83 Acicular arsenopyrite in Qtz.-Feld.-Por'y. Dark Grey Quartz
- Au-9 BROAD, ELBOW LAKE FRACTURE ZONE: D. Drilling, Q.-F.-Por'y Low V.G. Minor Py. AsPy. Dark Grey Quartz Veins

GOLD-- COARSE STUBBY ARSENOPYRITE ZONE:

- Au-8 SOUTH PIT: Dark Grey Quartz, Heavy Stubby Coarse Arsenopyrite with pyrite and traces of Sphalerite & Chalcopyrite in Qtz.-Feld.-Por'y.



RESULTS OF DIAMOND DRILLING

DRILL HOLES 1993 C-1, was drilled to test a strong VLF conductor with a magnetic high anomaly tracing the Northern Boundary of the conductor. The hole collared in bedrock and was drilled at - 40 degrees on a bearing south - 40 degrees east. The drill hole intersected a twelve foot wide zone of sheared Basalt immediately North of a gabbro dyke. The sheared zone is weakly auriferous. (sample assayed 0.003 oz. AW per ton). The 125 foot thick gabbro directly underlies the magnetic anomaly. The axis of the VLF anomaly which traces the south side of the gabbro, is not related to any recognizable mineralization of schistosity or other feature in the core rock. It is now assumed that the conductor traces an overburden related conductor beneath the swamp. This hole is 436 feet deep.

DRILL HOLE 1993 C-2, was drilled to test a weak to medium VLF conductor trend. Basalt Pillow Lavas were intersected but no recognizable feature that caused the conductor and higher magnetics was present in the core. It is now interpreted that the trace of the conductor follows conductive overburden beneath the swamp. This hole is 186 feet deep.

CONCLUSIONS

The widespread occurrences of gold, in rich, but limited sized structures in the King Bay area found to date, fall into a recognizable pattern. All ten listed occurrences have a single distinctive dark blue-grey quartz silicification that carries the gold. There is a variation of the minerals associated with the gold in the dark blue-grey quartz in the N-S direction, but there is a uniformity in the E-W direction. The suite of gold associated minerals falls perfectly into a zoned pattern of gold mineralization along a thermal gradient with the relatively hotter section at the south to the cooler section at the north. The extensive gold mineralization of the King Bay area which extends over six miles in length is related to a single common period of gold deposition with a common genetic source. The mineralization of the gold deposits immediately North of King Bay consists of pyrite and pyrrhotite with visible gold in a dark blue-grey quartz silicification. The vein material assays run in the order 0.30 - 3.00 ozs Au. per ton. The coarse arsenopyrite pit at the S-E part of the grid marks the higher temperatures associated with the same gold mineralization. Claim block 1133791 is bracketed between the gold pyritic zone to the North and the gold-coarse arsenopyrite zone to the South. This locates the potentially very rich blue-grey quartz-gold-acicular arsenopyrite zone within the claim. Acicular arsenopyrite was recognized in this bracketed zone within quartz-porphry from the drilling by Steep Rock in 1983-1984. The bracketed zone in the more favourable Basalts remain unexplored. The current V.L.F. ground surveys traced three conductors with associated weak magnetic anomalies. These conductors provide targets of high priority for the discovery of rich gold-arsenical mineralization.

The line grid should be extended eastwards and southwards to further trace the conductors, magnetics and geology in the claim block

A preliminary program of diamond drilling that consists of six drill holes totalling 1,600 ft. was recommended in 1992. Two drill holes were completed in 1993, with somewhat disappointing results. The high magnetic shoulder to the conductor was discovered to be a gabbro dyke and much of the conductivity is likely due to swamp overburden effects. However a significant well developed 12 foot wide shear zone was intersected on the north side of the gabbro, it is weakly auriferous.

This shear zone should be tested by drilling on its extension eastward where it meets the Basalt-Quartz Porphyry contact.

August 07, 1993



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

RECOMMENDATIONS

(1) DIAMOND DRILLING

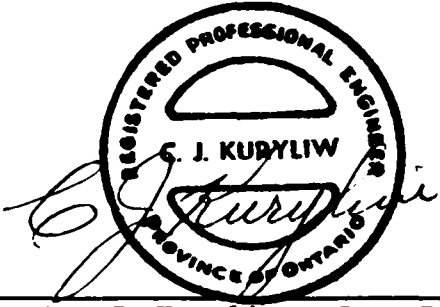
Preliminary of two drill holes totalling 600 ft., B.Q core
To test eastward extension of shear zone located in
drill hole 1993-C-1.

Estimated Costs

| | |
|--|--------------------|
| Mobilization, Demobilization, Moving between holes, All inclusive core drilling contract 600 ft at \$ 20./ft | \$12,000.00 |
| Engineering, Supervision, Core Logging Sampling Transportation Accommodation, Reports, Assaying 600 ft at \$ 4.00 per foot | <u>\$ 2,400.00</u> |
| Drilling Total | <u>\$14,400.00</u> |

Total Program \$ 14,400.00

August 07, 1993



Chester J. Kuryliw, M.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 46 Ingall Drive, Dryden, Ontario,
do hereby certify that:

- (1) I am a Professional Engineer and recently I was 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 forty 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 I carried out 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.

August 07, 1993



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

DIAMOND DRILL RECORD

0.4 CORE SIZE
(CORE STOP P AT
46 INCH DE, DEPTEN)
ONT.

HOLE NO. 93-C-1 SHEET NO. 1

GEOLOGY

STARTED JUNE 17, 93
COMPLETED JUNE 22, 93
ULTIMATE DEPTH 436.0

DATUM CHAMBER 1133791

DIP S - 40° - E

STRIKE - 45°

LATITUDE 31 50' N

DEPARTURE 01 50' E

REFERENCE CL. BLK. PEST 1500M. NEST OF HOLE P
LOCATION DRILL HOLE C-1 1995 COLLAR IS
INFORMATION 182.8 M (500 FT) TO WEST
185.4 M (500 FT) TO WEST.

| DEPTH FEET | FORMATION |
|-------------|--|
| 0-5.0 | CASING (COLLARED IN OUTCROP) |
| 5.0-95.8 | MASSIVE BASALT FLOW, SLIGHTLY FOLIATED, DARK GREENISH, A DISTINCTIVE ALTERATION THAT GIVES 2-3% FINE LATHS OF WHITE (GEOXENE?) TRACES OF FLUITE AND PYRAMITE. |
| 95.8-110.4 | SUGGESTED ZONE - OF DEVELOPMENT BRASH, BRASH, STRANGELY SPREAD AT 50° TO CORE AXIS. SOME TALC - CHLORITE ALTERATION WITH VERY BRUSHY ATZ-CARBONATE. PY AND PYRAMITE SPARSELY ALONG FOLIATION. |
| 110.4-284.7 | COARSE INTRUSION MEDIUM GRAINED, EQUIGRAINULAR, FRESH-UNALTERED LOOKING. FINE GRAINED (CHILLER CONTACT) FROM 110.4-115.0. RUSTY-BLOODY FRACTURE FROM 284.7-316.0 (A WATER SAND) |
| 284.7-436.0 | BASALT LAVA - ALTERED, GREENISH, MOTTLED LIME GREEN EPITAXIAL PORTIONS, FINE TO MEDIUM GRAINED VARIANTS. SOME MOTTLED PORTIONS RESEMBLE CHARTER SPHERULITES @ 284.7-288.5. VARIOUS QUARTZ (NEAR CONTACT) @ 410-420.0 AND @ 427.0-428.0. NARROW ATZ-SPHERULITE @ 207-208.0 436.0 END OF HOLE |

1000

DRAWN BY TERESA SOILY DRUMK

[Signature]

CHIEFSTER J. KURLIV, M.Sc., P.Eng.
CONSULTING GEOLOGIST

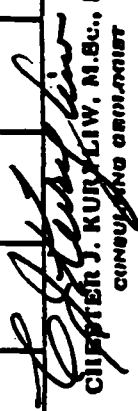
DIAMOND DRILL RECORD

SAMPLING

HOLE NO. 93.C-1 SHEET NO. 1

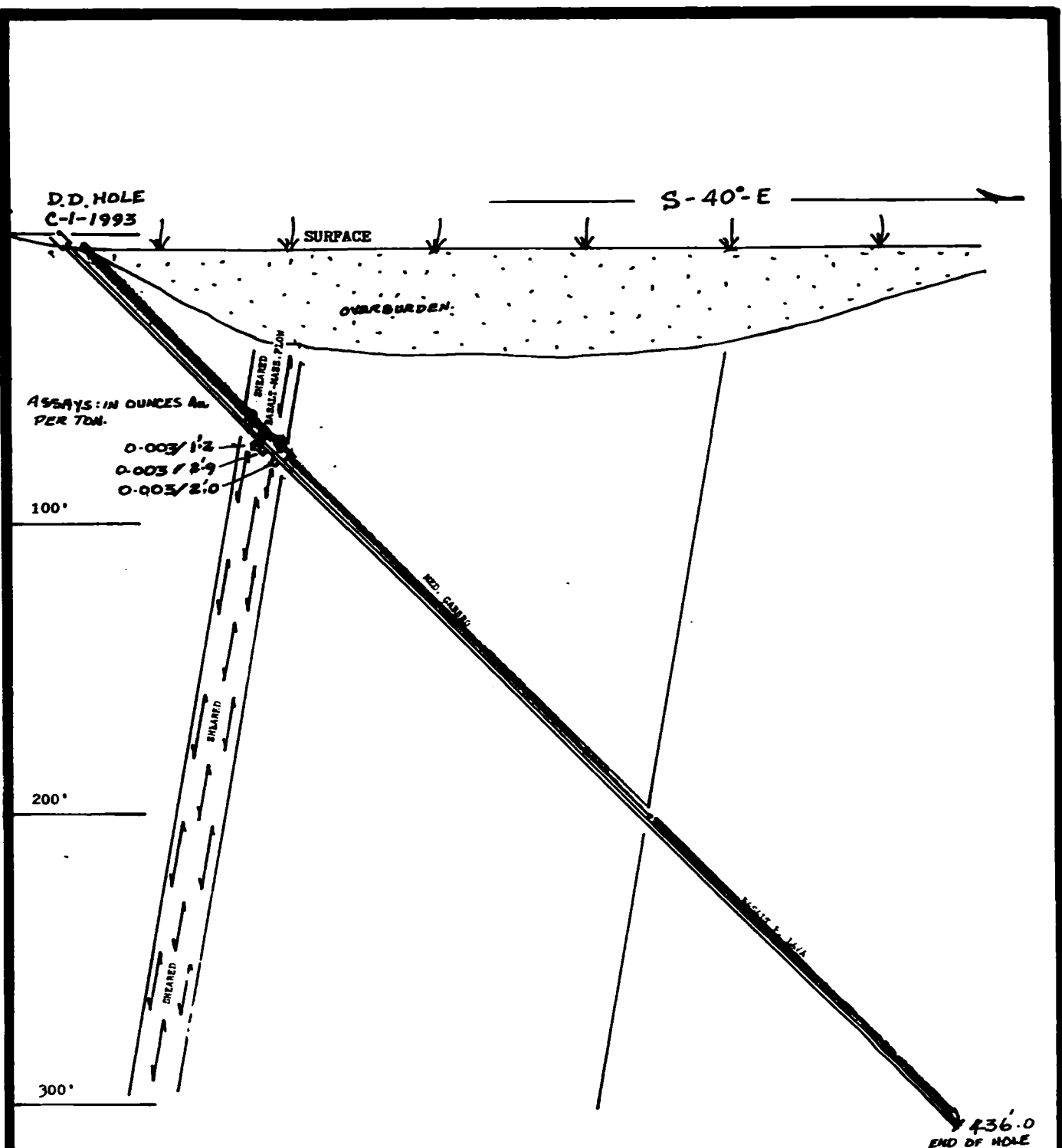
LATITUDE _____ DATUM _____ STARTED _____
 DEPARTURE _____ BEARING _____ COMPLETED _____
 ELEVATION _____ DIP _____ ULTIMATE DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | WPA. AM PER TON |
|-------------|---|------------|------|----|-------|-----------------|
| 101.3-104.2 | SHEARED BASALT 5% OTZ-CARB-TALC 1/2% PYRITE, 1 1/2% PYRRHOTITE ALONG. FOLIATION | 2 | | | 2.9 | 0.003 |
| 98.6-99.8 | SHEARED BASALT 5% OTZ-CARB-TALC 1/2% PYRITE, 1% PYRRHOTITE, TR. CANCER | 1 | | | 1.8 | 0.003 |
| 100.2-110.2 | SHEARED BASALT: 5% OTZ-CARB-TALC MINOR PYRITE AND PYRRHOTITE | 3 | | | 2.0 | 0.003 |
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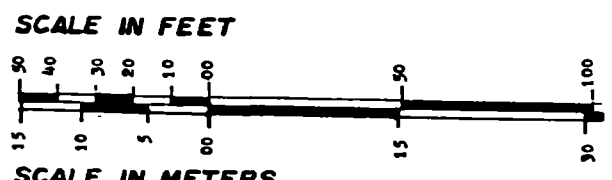

 CLIFTON J. KURYLEW, M.B.C., P. ENG.
 GEOTECHNICAL CONSULTANT

DRILLED BY _____

NICHES
 COUNCILING CONSULTANT



VERTICAL SECTION, D.D.H. C-1-1993
 KURYLIW CLAIM BLK PA 1133791
 SIX MILE ROAD, STURGEON LAKE, ONT.



JULY, 1993

C. J. KURYLIW



Q.W. CORE SIZE
CORE STORE AT
46 INGALL DR., DAYDEN,
ONT.

DIAMOND DRILL RECORD

HOLE NO. 95-C-3 SHEET NO. 1

GEOLOGY

LATITUDE 12° 50' - N DATUM CLARK BLK. 1133791 STARTED JUNE 22, 93

DEPARTURE 41° 00' - W BEARING S - 40° - E COMPLETED JUNE 23, 93

LOCATION REFERENCE: CL. BLK. POST 1500 M WEST OF H2 Post
DRILL HOLE C-2 1993 COLLEGE IS 1000'
394.2 M (1300 FT) TO WEST
543.8 M (1800 FT) TO NORTH

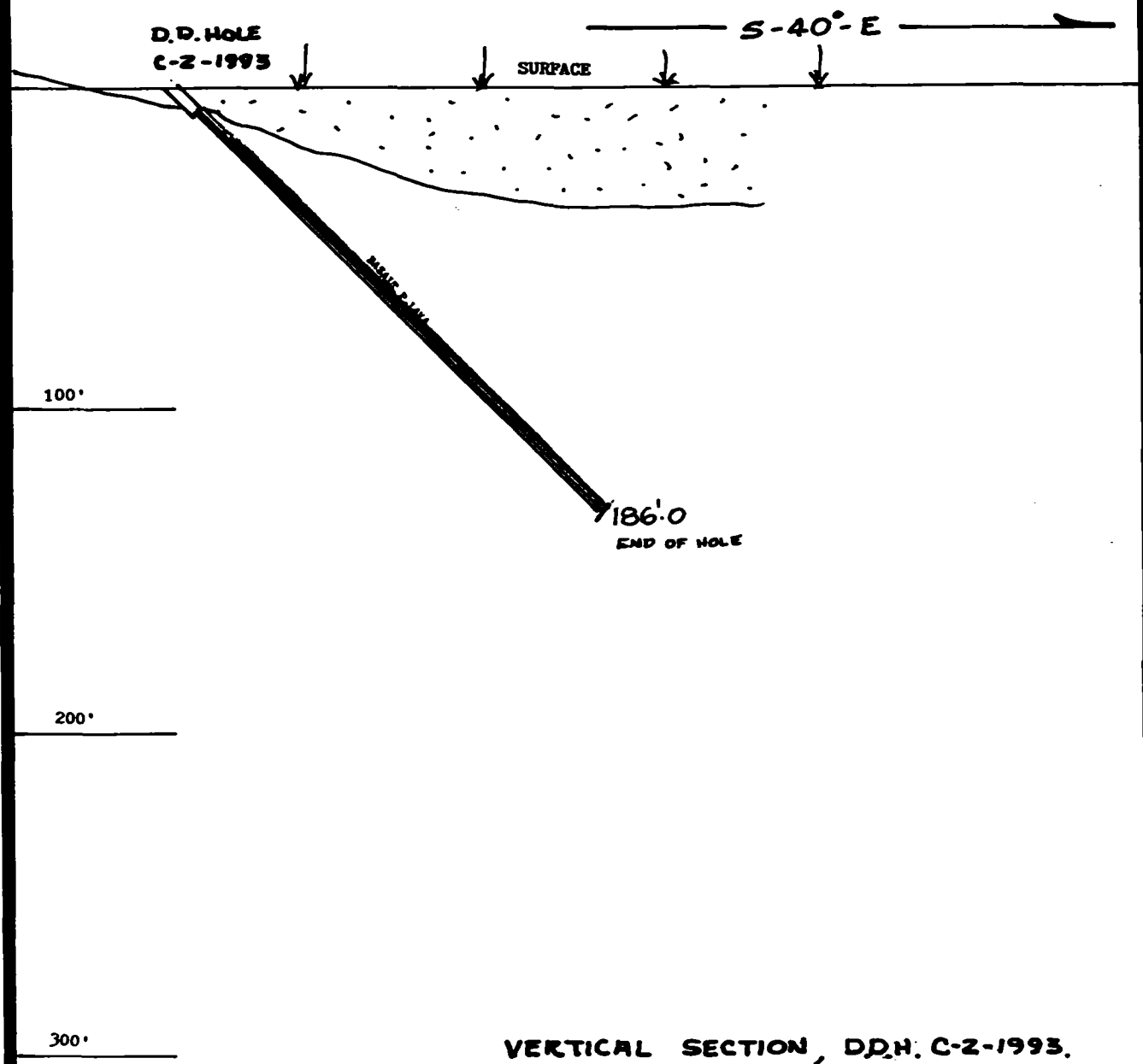
ULTIMATE DEPTH 186.0

| DEPTH FEET | FORMATION |
|-------------|--|
| 0-12.0 | CASING. (IN MUCK) |
| 12.0-112.0 | BASALT PILLOW LAVA - NUMEROUS WELL DEVELOPED PILLOW RIMS AND HIGHLY ANGYDRAUSAL PILLOW EDGES. DARK GREY-GREEN WITH SOME SLIGHT EPIDOTE ALTERATION IN PARTS GIVES THE LAVA A LIGHTER GREEN COLOR. REFINISHED |
| 112.0-186.0 | BASALT PILLOW LAVA - DARKER GREY-GREEN AS ABOVE, EPIDOTIC, PILLOW RIMS RECOGNIZABLE BUT LESS PROMINENT ANGYDRAUSAL. (LESS EPIDOTIC ALTERATION THAN ABOVE). |
| | 186.0 END OF HOLE. |

[Signature]

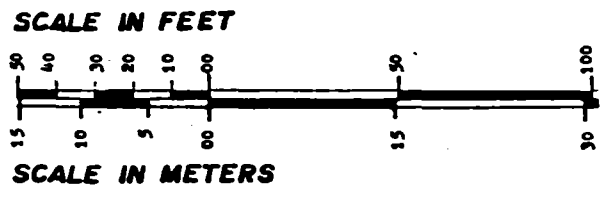
DRILLED BY HENNER SON & DRILLING

CHIBSTER KURYLYN, M.Sc., P. Eng.
CONSULTING GEOLOGIST



VERTICAL SECTION, D.D.H. C-2-1993.
 KURYLIW CLAIM BLK. PA. 1133791
 SIX MILE ROAD, STURGEON LAKE, ONT.

REGISTERED PROFESSIONAL ENGINEER
 C. J. KURYLIW
C. J. Kuryliw
 PROVINCE OF ONTARIO
 Aug 7 1993.



JULY 1993 C. J. KURYLIW



52J02SW0020 OP83-016 FOUR BAY LAKE

020

REPORT

ON

GEOLOGY

KURYLIW CLAIM BLOCKS

SIX MILE ROAD - STURGEON LAKE AREA

DISTRICT OF PATRICIA, NORTHWESTERN, ONTARIO

August 07, 1993

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

PROPERTY, LOCATION AND ACCESS

The Kuryliw claim group in the six mile road area of Sturgeon Lake consists of three claim blocks that encompass a total of thirty four of sixteen hectare claims (roughly 1360 acres).

Claim block PA 1133791 (16 claims)

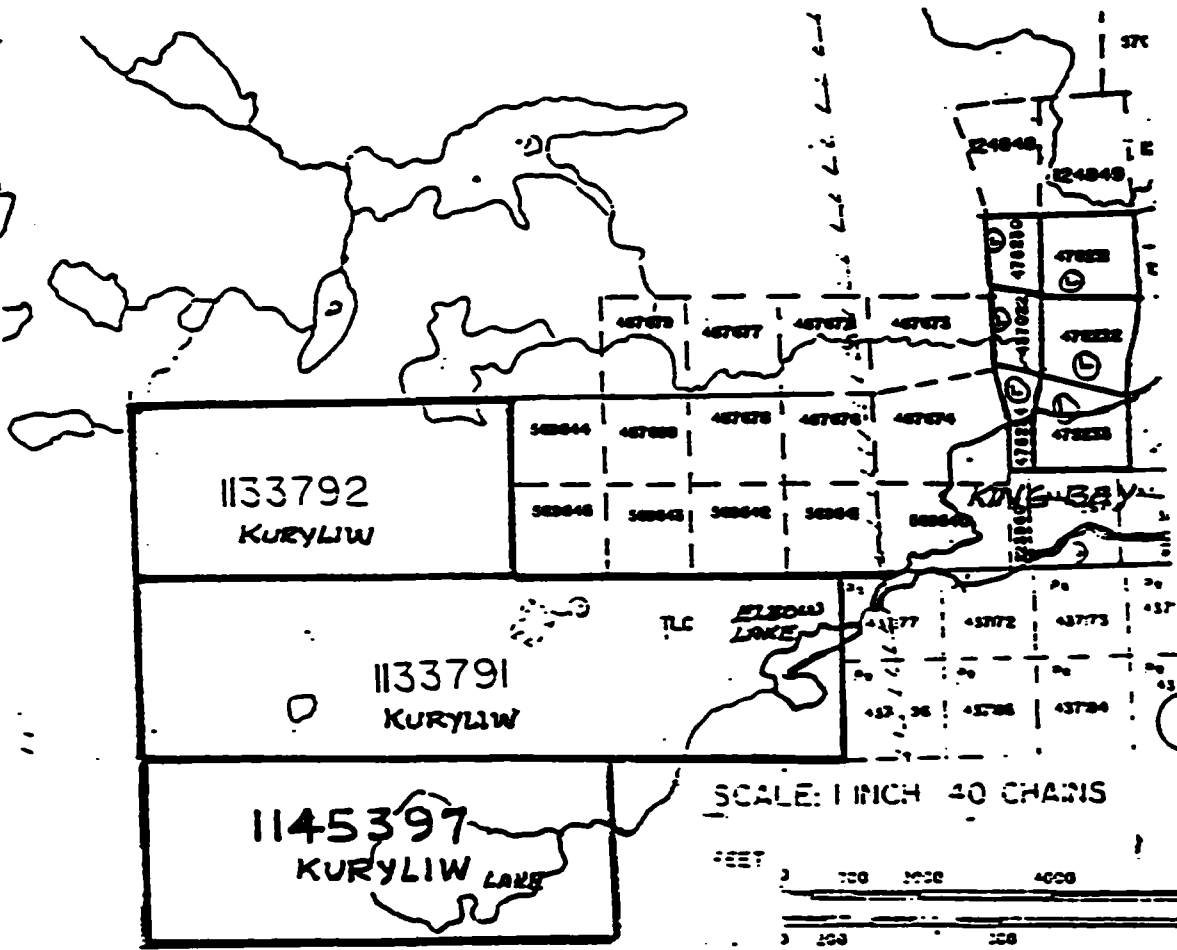
Claim block PA 1133792 (8 claims)

Claim block PA 1145397 (10 claims)

The claim blocks are located on map G-2543, Patricia Mining Division, Northwestern Ontario.

These claim blocks are accessible from the Trans-Canada highway 17 East at Ignace, then northwards about 110 km. along highway 599, then 11 km. southwards along the six-mile road which crosses the central portion of the claim group.

The topography of the area is one of relatively low relief. Much of the grid is underlain by cedar swamps. In the late 1970's heavy timbering was carried out in the six-mile road area followed by a regional fire in 1980. These cleared areas are now covered with dense second growth. Some immature timber that bordered the swamps were left uncut and these have all been flattened by wind storms that resulted in near to 100 % blowdowns. These blowdowns make all bush work difficult and hazardous. The cedar swamp areas are commonly bordered by immature black spruce. There is no significant timber left in the area.



51' 50'

-2561

CLAIM MAP 1993
KURYLIW CLAIM BLOCKS

REGISTERED PROFESSIONAL ENGINEER
C. J. KURYLIW
C. J. Kuryliw
PROVINCE OF ONTARIO
Aug 7 1993

AREA

FOURBAY LAKE

MUN. ADMINISTRATIVE DISTRICT

IGNACE

MINING DIVISION

PATRICIA

LAND TITLES REGISTRY DIVISION

KENORA / THUNDER BAY



Ministry of
Natural Resources
Land Management Branch

Date: JANUARY, 1984

Number
G-2543

INTRODUCTION

In 1992 the line grid was located in the central part of the claim block 1133791. The grid was oriented with the base line running - E-W near the southern boundary of the claim block. The picket lines were turned N-S at 200 foot intervals between lines and in one portion 400 foot intervals between lines. All picket lines and the base line were chained and marked with pickets at 100 foot intervals along lines.

In June 1993 this grid was extended to the east with lines at 300 foot intervals and to the south into claim block 1145397 with lines at 200 foot intervals.

In July 1989 Aerodat Limited carried out an airborne survey over the area that included these claim blocks for 007 Precious Metals Inc. The air VLF, EM survey located some short conductors.

The line-cutting was carried out under contract by G. Cratton of Wawa, Ontario under the supervision of C. Kuryliw during September-October 1992. During this same period the grid was covered by a ground magnetic survey, a V.L.F. - EM- 16 survey, Geologic mapping and sampling all by C.J. Kuryliw.

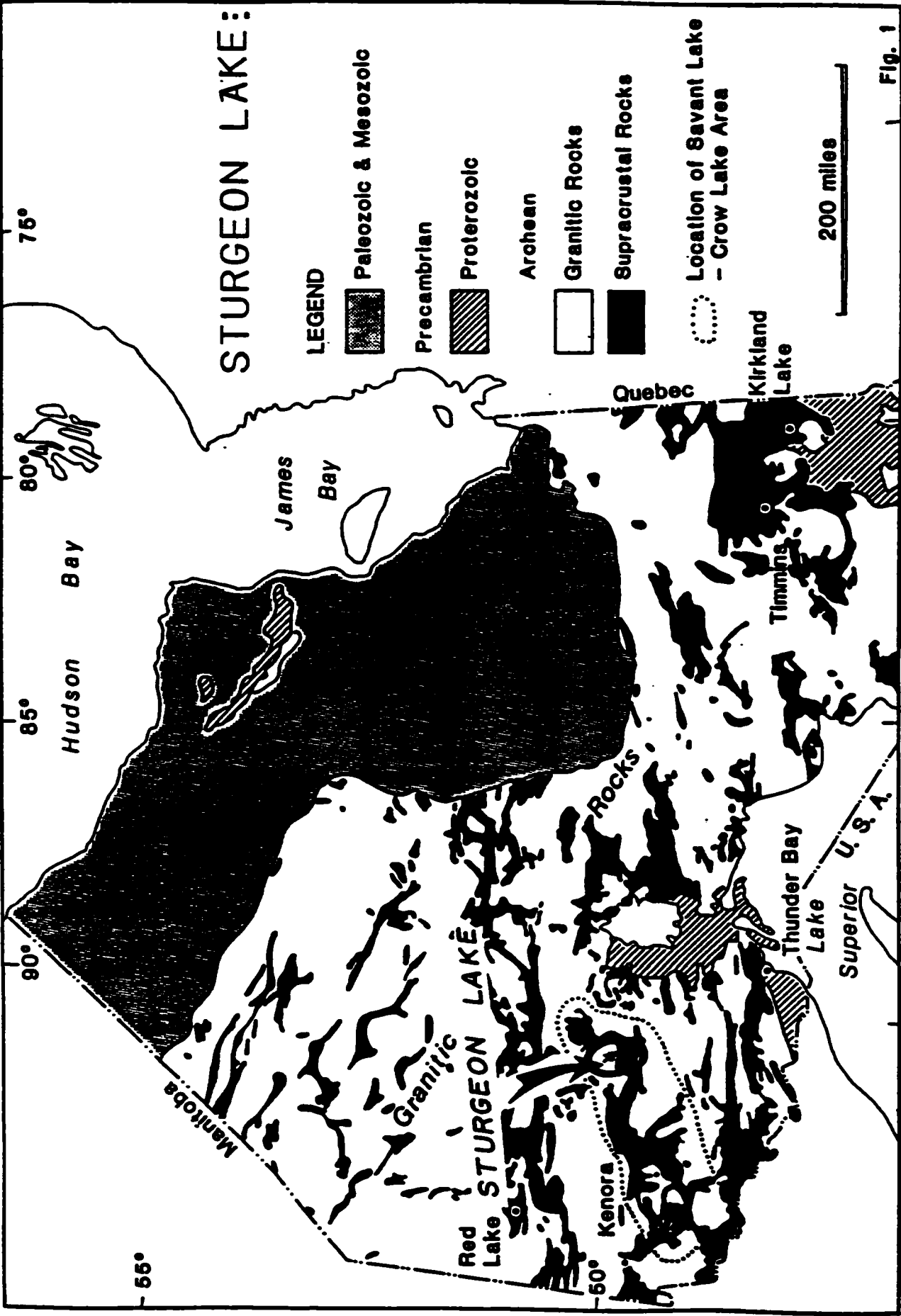
In June 1993 the extensions of the line grid was carried out under contract by J. Cureatz and G. Cratton of WaWa, Ontario. Kuryliw with a Field Assistant carried out a VLF Survey, Magnetic Survey and Geologic Mapping over the new grid extensions. Kuryliw also supervised and logged two drill holes on claim block 113791 that totalled 622 feet of BQ Core.

The magnetic survey used a Scintrex Precession Magnetometer MP2. The instrument has a sensitivity of + 1 gamma. The readings were taken at 50 foot stations along lines. The readings were corrected and plotted on plans 1" = 200 ft/

The line grid was also covered using a Geonics VLF EM - 16 unit. The readings were taken at 100 ft. intervals with some readings at 50 ft. intervals in conductive areas. These readings were then plotted on a plan scale 1" = 200 ft. and the EM profiles were drawn on the plan. The conductor axes were then interpreted and traced on those plans.

Geologic mapping was carried out over the grid by C.J. Kuryliw who also plotted, correlated and interpreted the data written in this report. All significant looking Quartz veins were grab-sampled during the mapping for later assaying at Wawa Assaying Inc., Wawa, Ontario.

Two holes 1993 C-1 and C-2 were drilled to test combined VLF conductors and magnetic anomaly shoulders to the conductors.



LOCATION MAP

Fig. 1

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. (Arstron-Best Property)

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 five miles and a depth of three miles in 1983 (ODM Files) 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 - 2000 feet thick)
- (4) Basalt Pillow Lava formation (15,000 feet thick)
(This included the Six Mile Kuryliw Claim Blocks, 1992)
- (5) INTRUSIVES

The "Kuryliw" sequence of volcanic formations was extensively intruded by basic rocks, largely gabbro and some amphibolite. Ten to twenty-five percent 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 four miles west of King Bay the "Kuryliw" sequence of formations has been intruded by granodiorite 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 and feldspar which is in part porphyritic. It also contains five to ten percent quartz and up to seven percent ferromagnesian. The batholith extends as a nose to the southeast into Surgeon 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 south east.

It becomes depleted in Quartz and ferromagnesian so that they become white syenitic rock composed almost completely of feldspar.

(7) Quartz - Porphyry Rock

Immediately South of King Bay a chain of Quartz-porphyry intrusions trends eastwards towards East Bay westwards across the Six Mile Road.

The Quartz-Porphyry intrusions have a spatial relationship with known gold occurrences in the area. The chain of intrusives forms the southern boundary of gold mineralization.

ROCK TYPES

BASALT LAVAS

The Basalt lavas that underlie the claim blocks are part of a major formation at least three miles thick and it extends eastwards and westwards along strike for scores of miles in each direction.

The rock is a dark greenish grey fine grained lava. The majority of the formation exhibits well formed ellipsoidal structures (pillows). These pillows show tops facing southwards and they dip seventy-five degrees to eighty-five degrees northwards, indicating the formation is slightly overturned. The exposed outcrops mapped do not show any marked fissility or shearing. Some rare fractures are filled with white quartz veinlets and these were sampled and assayed with low gold values, that ranged from .003 - .055 oz. Au. per ton. This Basalt exhibits a relatively low and flat magnetic relief. The V.L.F. conductors occur beneath cedar swamps, any shearing or alteration will have to be tested for, by diamond drilling.

BASALT FLOW BRECCIA

This flow-top Breccia consists of a horizon 50 ft - 100 ft. thick within the Basalt formation and was mapped near 20 N. on lines 4 W - 14 W. This breccia horizon is a valuable marker because it traces a gently arched fold that conforms roughly with the outline of the quartz-porphyry intrusion nearly one-half mile to the S.-E. The flow-top breccia is recognizable from its almost nodular ellipsoidal texture, with the nodules averaging 1 cm - 3 cm. in diameter.

DIORITIC DYKE

This dyke which is about 150 ft. thick, runs E.- W and was mapped at 23 - N across lines 4 W - 18 W. The rocks forming this dyke are fine to medium grained, greyish-green with a slight brownish surface weathering. A few N-W trending tension fractures were filled with white quartz. Two grab samples taken returned values of 0.008 and 0.055 oz. Au. per ton.

QUARTZ PORPHYRY

This intrusive quartz-feldspar-porphyry occurs at the southwest portion of the property, it forms a stock about two miles long E-W, and up to three-quarters mile N-S. The northern contact of the porphyry drops in two steps going westwards. These steps drop southwards in the order of 800 ft. It is postulated that the step-like irregularity of the northern contact of the intrusion may have formed combinations of stresses and tension in the intruded basalts westward. These stresses may have produced favourable structures as indicated by the V.L.F. conductors.

The magnetic survey did not show any change in the intensity, the magnetics over the porphyry continues at the same level when extended from the basalts.

Near the northern contract, the quartz-porphyry is a lighter buff colour and contains a few quartz phenocrysts with abundant feldspar phenocrysts in a groundmass of feldspar and ferromagnesian. About 300 ft. south of the N. contact the porphyry does not have quartz phenocrysts, is a dark greenish-grey and is composed of feldspar phenocrysts in a groundmass of feldspar and abundant ferromagnesian.

One old pit at 29 + 50 E and 3 + 00S, contains an 8" - 10" dark grey-blue quartz vein with ten to fifteen percent coarse stubby arsenopyrite, with some pyrite and traces of chalcopyrite and sphalerite. Five samples were taken across this vein and these assayed from .117 - .274 oz Au. per ton.

TABLE OF FORMATIONS

CENOZOIC

PLEISTOCENE & RECENT

ORGANICS - BOGS, MUSKEG

OVERBURDEN - SAND, CLAY, DETRITALS

PRECAMBRIAN

ACID INTRUSIVES



QUARTZ-VEINS



QUARTZ-FELDSPAR PORPHYRY

INTERMEDIATE INTRUSIVE



DIORITIC DYKE

VOLCANICS



BASALT LAVAS - PILLOWED, MASSIVE



BASALT FLOW BRECCIA

REGIONAL ECONOMIC GEOLOGY

Please refer to the key map of gold occurrences and mineralization of the King Bay area, scale 1" = 1/2 mile accompanying this report.

The King Bay area of Sturgeon Lake occurs within an extensive Basalt Lava formation that is over three miles thick. In general the rocks trend E-W to E-N-E. Ellipsoidal flow structures in the Lavas indicate a steep northerly dip and overturned flow-tops that face southwards.

Immediately to the south of King Bay a chain of quartz porphyry intrusions intrudes the basalts and is generally conformable with the formation trend. This chain of intrusions extends for at least six miles (10 kms.) To the north of the quartz - porphyrys ten significant small but rich gold occurrences are known over the same length of six miles. This spatial relationship between the gold occurrences and the quartz porphyry is significant.

All ten known gold occurrences whether they occur in Basalts or Quartz- Porphyry as the host rock have the common characteristic of a distinctive dark-grey-blue to blackish quartz silicification.

This silicification carries the rich gold mineralization. The relatively unique and distinct blue-grey quartz leads to the conclusion that in these cases the known gold occurrences all shared a common genetic source and a common age of mineralization.

NOTE

- (A) It is significant the gold occurrences 1 to 7 on the accompanying map, all have the common characteristic of a uniquely similar silicification and mineralization even though they extend as a chain over a length of six miles. The gold associated mineralization is visible gold with pyrite and pyrrhotite in the dark blue-grey quartz silicification. The tenor of grade in the veins is rich and ranges from 0.30 to 3.00 oz's Au. per ton.
- (B) It is significant that gold occurrence No. 10 found in drill hole 1983 - KB-26, drilled by Steep Rock (ODM files) intersected some acicular arsenopyrite in dark blue-grey quartz in quartz-porphyry that carried low gold values.
- (C) It is significant that gold occurrence No. 3 in quartz-porphyry occurs in the distinctive dark blue-grey quartz vein that carries gold values in the order of 0.20 oz. Au. per ton. The mineral associated with the gold is abundant coarse, stubby crystals of arsenopyrite with minor pyrite, chalcopyrite and sphalerite.

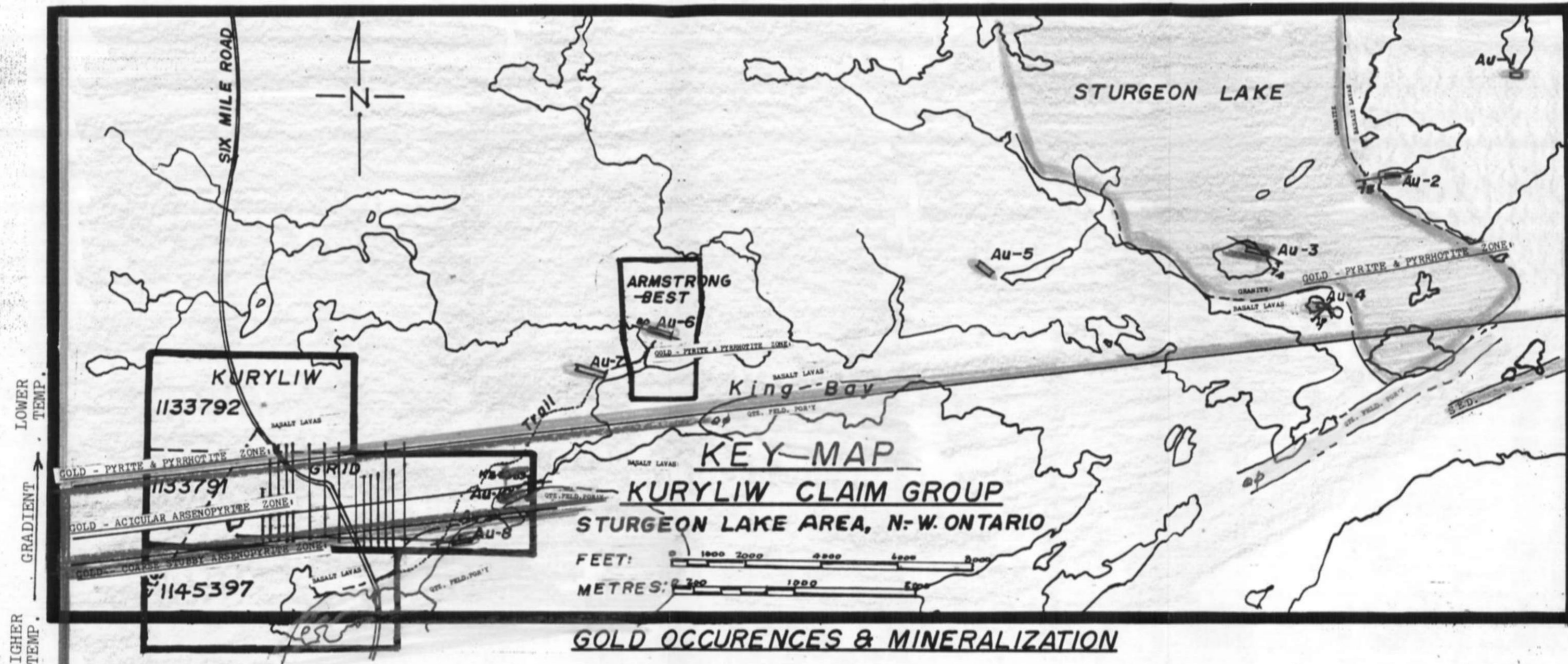
It is concluded from the common distinctive silicification that all the gold occurrences were derived from the same genetic source. There is a uniformity of gold associated mineralization in the E-N-E to easterly direction and also a progressive gold associated change in mineralization in the N-S direction. This N-S variation fits perfectly with the gold zoning system described and published by this writer. ("Some Observations on Gold Zoning" by Chester J. Kuryliw, published in the Northern Miner Magazine, September, 1968.) A copy of this published article is included in the addendum of this report for reference.

There is a thermal gradient recognizable to this period of gold mineralization that consists of a relatively hotter environment at the south of the grid (indicated by the stubby arsenopyrite - gold mineralization) to a cooler environment of mineralization one-half mile northwards (indicated by the gold-pyrite and pyrrhotite mineralization).

The length of claim block 1133791 is bracketed between the gold-pyrite and pyrrhotite zone to the north and the gold-coarse, stubby arsenopyrite zone to the South. This places the potentially richer gold- acicular arsenopyrite mineralization within the one-half mile wide claim block. A determined search for a significant structure within this claim block is warranted because of the potentially rich gold mineralization that should occur. The large quartz-porphry stock intrusion in the S-E part and to the South of claim block 1133791, that intrudes the Basalts, may be the required engine for producing host structures in the Basalts. There appears to be two step-like changes in the trend of the Northerly contact of the quartz-porphry intrusion. These "steps" can be expected to produce similar warps in the intruded Basalts. There is an indication that such warps exist from the traces of the V.L.F. conductors and the curved trend of the more distant flow-top-breccia mapped at 20-N on lines 4-W to 18-W.

The gold-mineral associated zoning indicates a thermal gradient in a N-S direction across the claim block with the relatively hotter zone at the South and the cooler zone at the North. This directional thermal gradient would be expected to influence depositions from hydrothermal activity within active structures. This appears to be the case with the V.L.F. conductors A and C where the more conductive portions occur over weak magnetic lows and are bordered to the North by a magnetic-high shoulder. (In the order of 200 gammas). This magnetic pattern is consistent with the possible migration of ferromagnesian and their deposition northwards. The uniformly low magnetic relief over the Basalts allows the weak anomalous magnetic pattern associated with the V.L.F. conductor to be recognized with some certainty.

Six drill holes have been recommended to test the V.L.F. conductors for favourable structures that could host rich gold deposits.



GOLD - PYRITE & PYRRHOTITE ZONE:

- Au-1 JOHNSON OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-2 RICKABY OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-3 RAINBOW IS. OCCURRENCE: Dark Grey Qtz. V.G., Py., Po.
- Au-4 Oz. IS. OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-5 COPPER L. OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-6 ARMSTRONG-BEST OCCUR': DARK GREY QUARTZ, V.G., Py., Po.
- Au-7 BEST OCCURRENCE: Dark Grey Quartz, V.G., PY., Po.

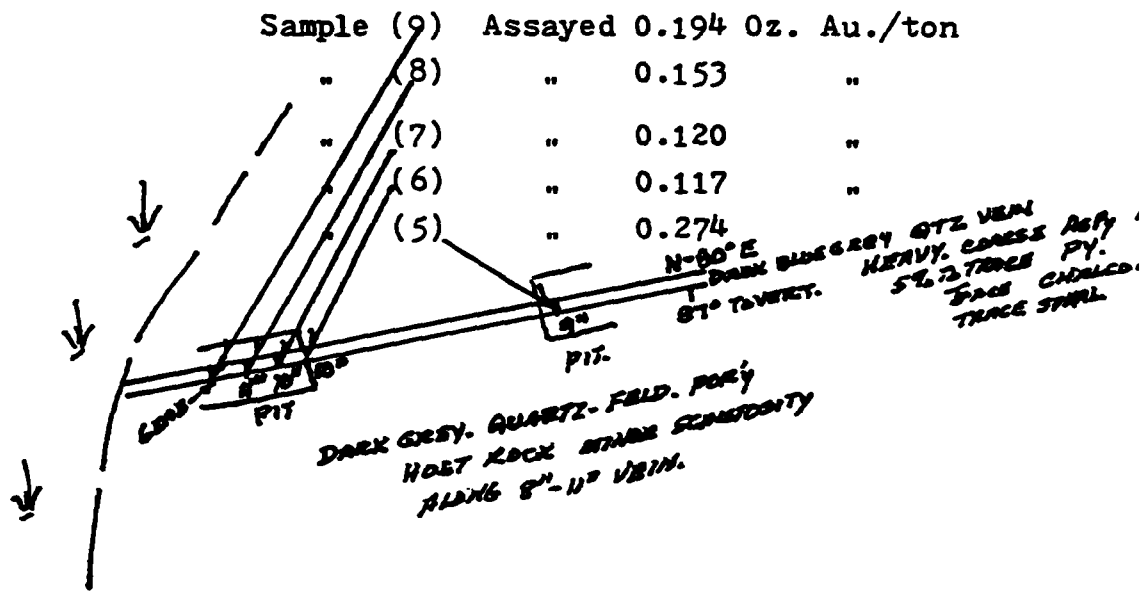
GOLD - ACICULAR ARSENOPYRITE ZONE:

- Au-10 D.D. HOLE KB-28-83 Acicular arsenopyrite in Qtz.-Feld.-Por'y. Dark Grey Quartz
- Au-9 BROAD, ELBOW LAKE FRACTURE ZONE: D. Drilling, Q.-P.-Por'y. Low V.G. Minor Py. AsPy. Dark Grey Quartz Veins

GOLD-- COARSE STUBBY ARSENOPYRITE ZONE:

- Au-8 SOUTH PIT: Dark Grey Quartz, Heavy Stubby Coarse Arsenopyrite with pyrite and traces of Sphalerite & Chalcopyrite in Qtz.-Feld.-Por'y.





SKETCH
OF SAMPLING OF ARSENOPIRITE PITS' DARK BLUE-GREY
QUARTZ VEIN

SCALE: 1"=10ft.

S-E PART OF CLAIM BLOCK 1133791, COORD'S 29+50E
 3+30S

Nov. 21, 1992.

Chester J. Kuryliw

1992
SAMPLING

KURYLIW CLAIM BLOCKS, 1133791, 1133792.

| SAMPLE NO. | COORD'S | -----VEIN----- | | | MINERALIZATION | ASSAY Oz. Au./Ton |
|------------|-----------------------------|----------------|-------|-------|------------------------------------|----------------------|
| | | STRIKE | DIP | WIDTH | | |
| (1) | 16+60E 0+40S | N-70-E | -90° | 8" | 2" Q.V.&strs. Py. in Basalt | 0.022 |
| (2) | 7+20W 13+80N | N-50-W | -90° | 1" | 1" Q.V. in Basalt | 0.003 |
| (3) | 9+00W 16+85S | E-W | -70°S | 1" | 2"Q.V. tr.Chalco. Basalt | 0.020 |
| (4) | 20+80W 13+80N | ? | ? | 2" | 2" Q.V. Pyrite | 0.003 |
| (5) | 29+50E 3+30S | N-80-E | -90° | 9" | 50% Bl-Gy Qtz. 15% Cr. AsPy | 0.274 |
| (6) | 29+34E 3+30S | N-80-E | -90° | 10" | 60% Bl-Gy Qtz. 10% Cr AsPy, Py. | 0.117 |
| (7) | 29+32E 3+30S | N-80-E | -90° | 10" | 60% Bl-Gy Qtz. 10% Cr AsPy, Py. | 0.120 |
| (8) | 29+30E 3+30S | N-80-E | -90° | 11" | 60% Bl-Gy Qtz. 10% Cr AsPy, Py. | 0.153 |
| (9) | 29+33E 3+30S | N-80-E | -90° | Grab | 80% Bl-Gy Qtz. 10% Cr, AsPy, Py | 0.194 |
| (10) | 19+50W 22+00N | N-35-W | -55°W | 3" | Tension Fr. Q.V. wh.Qtz. 5% Py. | 0.005 |
| (11) | 18+20W 21+80N | N-35-W | -70°W | 5" | Tension Fr. Q.V. White Qtz. | 0.055 |

Note:

The above sample locations are all marked on the Plan of Geology. Scale 1"=200'

Samples (5) to (9) inclusive are also marked on a Sketch of Sampling, Scale 1"=10'

CONCLUSIONS

The widespread occurrences of gold, in rich, but limited sized structures in the King Bay area found to date, fall into a recognizable pattern. All ten listed occurrences have a single distinctive dark blue-grey quartz silicification that carries the gold. There is a variation of the minerals associated with the gold in the dark blue-grey quartz in the N-S direction, but there is a uniformity in the E-W direction. The suite of gold associated minerals falls perfectly into a zoned pattern of gold mineralization along a thermal gradient with the relatively hotter section at the south to the cooler section at the north. The extensive gold mineralization of the King Bay area which extends over six miles in length is related to a single common period of gold deposition with a common genetic source. The mineralization of the gold deposits immediately North of King Bay consists of pyrite and pyrrhotite with visible gold in a dark blue-grey quartz silicification. The vein material assays run in the order 0.30 - 3.00 ozs Au. per ton. The coarse arsenopyrite pit at the S-E part of the grid marks the higher temperatures associated with the same gold mineralization. Claim block 1133791 is bracketed between the gold pyritic zone to the North and the gold-coarse arsenopyrite zone to the South. This locates the potentially very rich blue-grey quartz-gold-acicular arsenopyrite zone within the claim. Acicular arsenopyrite was recognized in this bracketed zone within quartz-porphry from the drilling by Steep Rock in 1983-1984. The bracketed zone in the more favourable Basalts remain unexplored. The current V.L.F. ground surveys traced three conductors with associated weak magnetic anomalies. These conductors provide targets of high priority for the discovery of rich gold-arsenical mineralization.

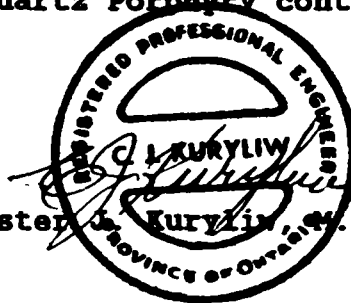
The line grid should be extended eastwards and southwards to further trace the conductors, magnetics and geology in the claim block

A preliminary program of diamond drilling that consists of six drill holes totalling 1,600 ft. was recommended in 1992. Two drill holes were completed in 1993, with somewhat disappointing results. The high magnetic shoulder to the conductor was discovered to be a gabbro dyke and much of the conductivity is likely due to swamp overburden effects. However a significant well developed 12 foot wide shear zone was intersected on the north side of the gabbro, it is weakly auriferous.

This shear zone should be tested by drilling on its extension eastward where it meets the Basalt-Quartz Porphyry contact.

August 07, 1993

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



RECOMMENDATIONS

(1) DIAMOND DRILLING

Preliminary of two drill holes totalling 600 ft., B.Q core
To test eastward extension of shear zone located in
drill hole 1993-C-1.

Estimated Costs

| | |
|--|--------------------|
| Mobilization, Demobilization, Moving between holes, All inclusive core drilling contract 600 ft at \$ 20./ft | \$12,000.00 |
| Engineering, Supervision, Core Logging Sampling Transportation Accommodation, Reports, Assaying 600 ft at \$ 4.00 per foot | <u>\$ 2,400.00</u> |
| Drilling Total | <u>\$14,400.00</u> |

Total Program \$ 14,400.00

August 07, 1993



Chester J. Kuryliw, M.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 46 Ingall Drive, Dryden, Ontario, do hereby certify that:

- (1) I am a Professional Engineer and recently I was 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 forty 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 I carried out 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.

August 07, 1993



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

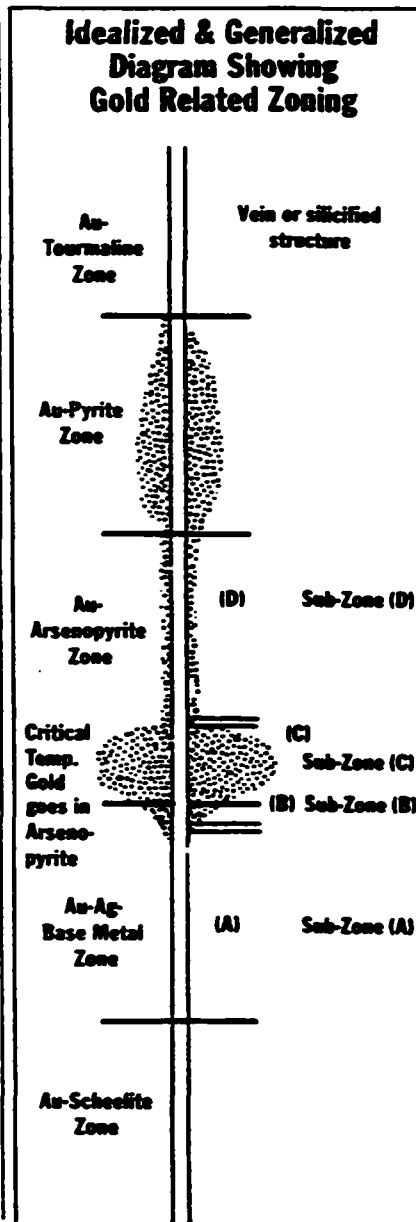
SOME OBSERVATIONS OF GOLD ZONING

By Chester J. Kuryliw, P.Eng.

A gold-related mineralization has been recognized by this writer to occur in a consistent pattern of zoning in some gold deposits and gold camps in widely scattered areas in Canada, the U.S. and Brazil. The consistent sequence of gold-associated mineralization is stated as an empirical rule. Five major gold-mineral zones are recognized in sequence. The key is the arsenical gold-bearing zone, which has recognizable sub-groups in the sequence. A recognition by prospectors and explorationists of the gold-zoning provides a valuable tool to direct the concentration of exploration towards richer gold mineralization within an extensive structure. Listed below are five major gold-related mineral zones:

- Gold-Tourmaline zone – (fair gold)
- Gold Pyrite (Sulphide zone) – (rich gold)
- Gold Arsenopyrite zone – (richest gold)
- (D) Acicular Arsenopyrite – (very richest gold)
- (C) Acicular, matted Arsenopyrite – (rich gold)
- (B) Amorphous "black" Arsenopyrite – (poor gold)
- (A) Coarse stubby Arsenopyrite – (trace gold)
- Gold-Silver-Base metal zone – (good gold)
- Gold-Scheelite zone – (poor gold)

A pattern of gold-related mineralization repeats itself in gold camps found in Archean Volcanics. The pattern indicates a geochemical mineral zoning that approaches a rule in prin-



ciple. Five major mineral gold-bearing zones have been recognized. (See Fig. 1). In the diagram, the relative quantity of metals present in each zone is indicated in the vertical dimension. The horizontal dimension indicates increasing depth, temperature and pressure combinations across the zone. The original concentrations of metals in the mobile gold-bearing source solutions within any given gold camp will govern the extent, and even the recognizable presence, of individual mineral zones.

The Mineral Zone Division Dimensions indicated in Fig. 2 are highly variable. At each given gold camp dimensions in scale and inter-related quantities vary for each mineral zone. The diagram dimensions indicated are essentially "rubber band" divisions which can be individually stretched or compressed according to the source geochemistry. The basic empirical rule of the zoning sequence must remain the same. The present erosional surface truncates the inclined geochemically zoned gold mineralization and will govern the number of mineral zones exposed at surface for examination and recognition.

In any given gold camp, the regional mineral zoning is generally related to the relative depths of the original paleo-depth profile that existed during the deposition of gold-bearing mineralization. The broad regional mineral zoning that occurs in a gold camp also incorporates the local mineral zoning that may occur in individual gold deposits, especially in the deeper regional mineral zones. The regional mineral zones, as a group,

reflect the average temperature of the more permeable, hotter core structures. Higher temperatures are also related in part to depth. The less permeable surrounding wallrocks are cooler than the core.

In some cases, partial mineral zoning of individual gold deposits with the same sequences as regional mineral zones may occur. These occurrences appear to be related to a local, highly permeable core structure that becomes heated with the passage of gold-bearing solutions (which places it in a deeper zone category). The cooler peripheral wallrock areas are equivalent to shallower zones.

This apparent anomalous occurrence of local mineral zoning within a regional mineral zone finds its parallel in botanical science. Broad geographic floral zoning occurs in climatic zones that are generally related to latitude — from equatorial through temperate to polar. The hotter climatic regions have a local floral zoning from the base to the peak of mountains that extend into the upper cooler reaches of the atmosphere. In both biology and in the gold-related mineral zoning, the zoning is governed, in general, by the dominant feature of

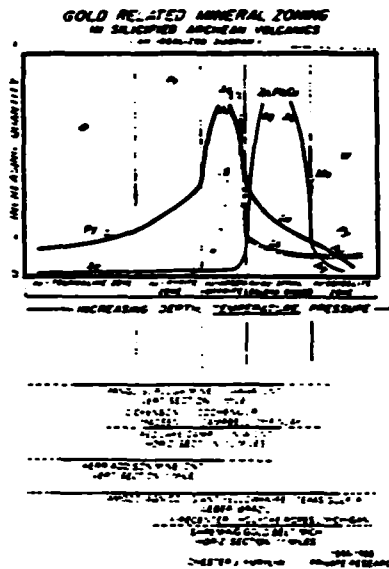


Figure 1

higher temperatures (which occur at lower elevations) and of cooler temperatures (which occur at higher elevations). It must be emphasized that local variations will occur in gold deposits because of other relevant factors of geology and geochemistry, in addition to temperature and depth.

Gold-Tourmaline Zone

During the period of deposition of gold-related mineralization, this zone was the nearest to surface, the coolest and the most extensive in lateral and vertical dimensions. The majority of known gold deposits in the Archean Volcanics occur within this zone. The gold-bearing structures in this zone are predominantly sharp-walled, vein-filling fracture systems that form stockworks, breccia zones and extensive patterns of vein systems. These deposits, in some instances, can lend themselves to large tonnage open-pit mining similar to porphyry copper primary sulphide ores. The gold mineralization most commonly occurs as coarser free gold that is visible and somewhat erratic in distribution. The grade of these deposits is frequently difficult to evaluate, and bulk-sampling or mill test runs become the most reliable tests available. Individual drill holes can give a great range of results. These gold ores are usually free milling and recoveries are high.

Tourmaline is the most common mineral associated with the gold in this zone, but it may be absent in some deposits. Mines working these deposits usually grade less than 0.20

oz gold per ton, except where selective mining of individual veins yield higher grades. Some spectacular "jewelry" or "bonanza" pockets of nugget gold may occur in this zone. Silver is usually a minor constituent in this zone, except where silver tellurides are present. The silver-to-gold ratio is usually less than 1:10. Gold-related base metals mineralization is minor and rarely observed. Pyrite is ubiquitous and is usually pre-gold in age, but some pyrite may also be associated with the gold mineralization.

Gold-Pyrite Zone

During the period of gold-related mineralization, this zone occurs as a broad zone above the hotter arsenopyrite zone and just below the cooler tourmaline zone. The gold-bearing mineral zones usually occur as pyritic veins or as a permeating silicification that carries disseminated pyrite. Along major fault-like fractures, the pyritic mineralization may become massive along cores. Disseminated pyrite may occur in wallrocks.

There is usually a good, direct correlation between gold content and pyrite content, so that diamond drill-

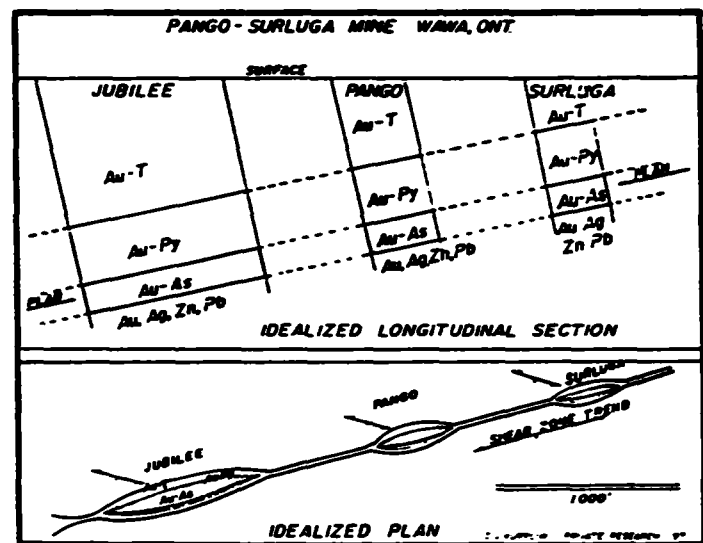


Figure 2

ing often provides relatively good and consistent values, except where a large percentage of the gold content occurs as coarse free gold. In the upper reaches of the pyritic zone, more coarse free gold usually occurs. In the lower reaches of the zone, more of the gold is intimately associated with the pyrite crystals. The gold recovery is usually high but somewhat lower

than if it is in the tourmaline zone. In a few cases, the intimate gold-pyrite association requires roasting to improve gold recovery.

In some cases, these pyritic gold deposits have a sufficiently high pyrite content to produce electromagnetic conductors or detectable Induced Polarity (IP) anomalies. The average gold content in these deposits in the

pyrite zone usually ranges from 0.20 to 0.40 oz gold per ton, or double the grade within the tourmaline zone. The silver content is low, the ratio of silver-to-gold content usually being less than 1:10.

Gold-Arsenopyrite Zone

Arsenopyrite is the key marker mineral in the gold zoning column. The recognizable crystal form of arsenopyrite is different for each sub-zone, but it is consistent for similar sub-zones in different gold deposits. It requires only keen observation with the assistance of a hand lens to recognize the distinctive crystal form of the arsenopyrite in each sub-zone. The distinctive crystal form of arsenopyrite in each sub-zone provides a recognizable paleo-thermometer which can be applied in prospecting and exploration as a compass that points out the orientation of the gold zoning column. This compass could, in effect, point out the directions to be explored for improved grades along a given structure system.

• Sub-zone A

Arsenopyrite Sub-zone A coincides with the gold-silver base metal zone. In this sub-zone, arsenopyrite occurs as stubby striated crystals usually several millimeters in diameter. At these higher temperatures, the arsenopyrite carries a very low gold content, usually less than 0.04 oz gold per ton.

• Sub-zone B

Arsenopyrite in Sub-zone B (a narrow transition zone) occurs as an extremely fine to amorphous black mass. It carries some significant gold values, but it is highly refractory and recoveries are difficult.

• Sub-zone C

Arsenopyrite in Sub-zone C occurs as a heavy matte of very fine acicular (needle-like) arsenopyrite that requires careful examination to recognize the discrete crystals. In this sub-zone, the arsenopyrite forms a solid solution with the gold and commonly occurs as an incipient mineralization associated with general silicification that extends into the wallrocks beyond the recognizable core structure. The gold deposits in this zone form relatively large, pipe-like or pod-shaped structures that are rich in arsenopyrite and gold. Grades are commonly quite high, in the order of 0.50 to 1.0 oz gold per ton. The gold occurs largely in solid solution with the arsenopyrite; visible gold is relatively rare.

Examples are the Campbell Red Lake mine's G zone and Cochenour's 3-41,537 and 412 stopes.

• Sub-zone D

Arsenopyrite in Sub-zone D occurs as discrete acicular crystals within a clear, blue-grey vitreous quartz. This crystal form is rich in gold content and is readily recognizable with the aid of a hand lens. Abundant visible gold commonly occurs in these same structures with the arsenopyrite. This is the uppermost sub-zone in the column that contains arsenopyrite and its total content in the gold deposit is usually less than 3%. Examples include the Campbell Red Lake F zones and the many upper level stopes at Cochenour; the grade of the gold deposits is well above 0.50 oz per ton.

In the cooler temperatures immediately above arsenopyrite Sub-zone D, the gold-bearing silicification is totally depleted in arsenopyrite. Pyrite/pyrrhotite-associated gold mineralization is dominant and grades are good. These deposits average 0.25 to 0.50 oz per ton. Examples are the Campbell Red Lake S zones, the Dickenson "Sulphide" zones and the Madsen "Tuff" zone.

Gold-Silver-Base Metal Zone

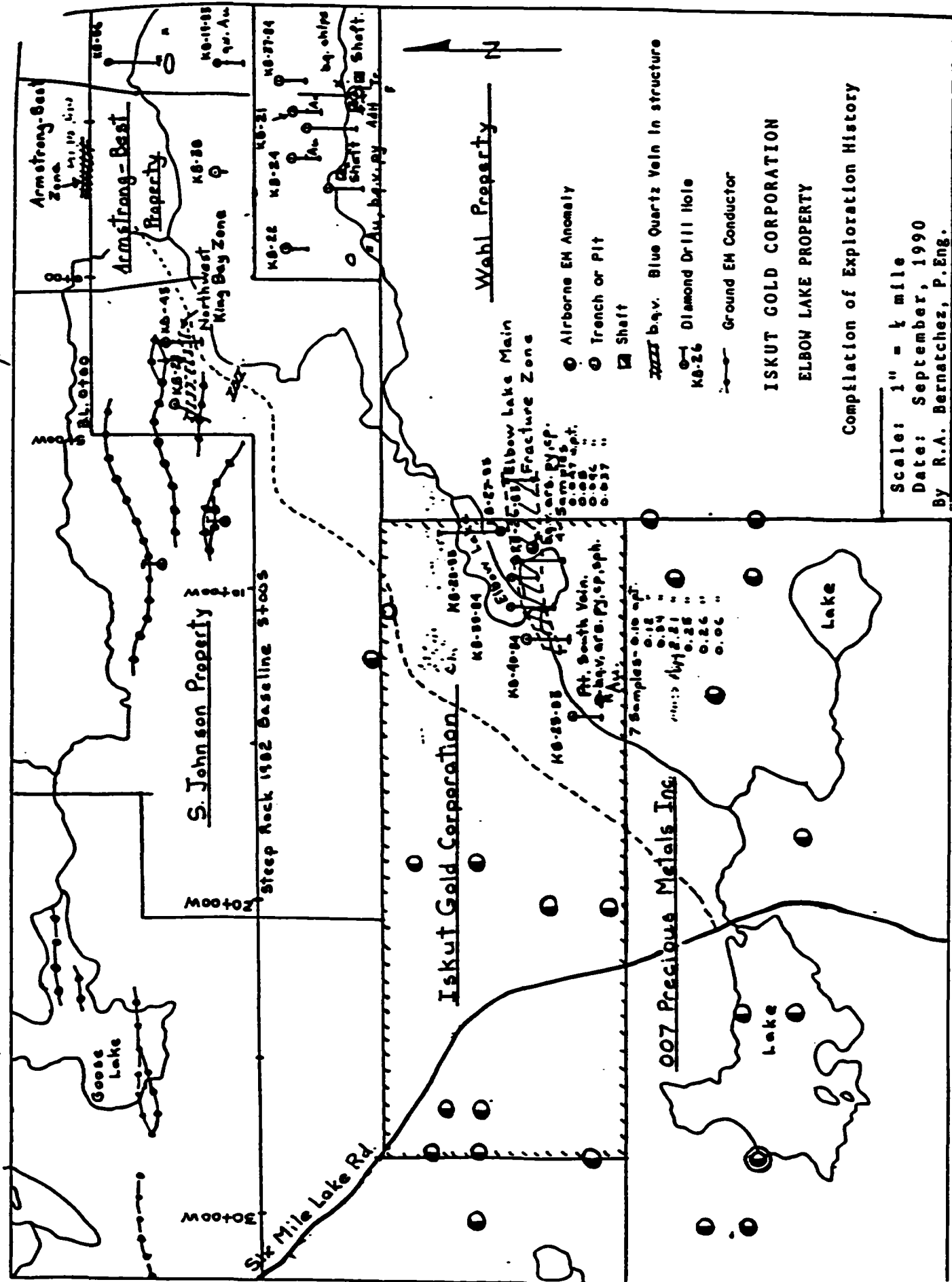
During the period of deposition of gold-related mineralization, this zone occurs below the arsenopyrite-gold zone. The pyrite-sphalerite-galena and lesser chalcopyrite occur with a permeating silicification of rocks and also in poorly defined veins. The silver content rises dramatically in this zone in proportion to the minerals sphalerite and galena, with which it shows a marked affinity. The gold content in this zone decreases to less than the 0.30-grade range. Silver content is high and may be anywhere from one to 100 times the gold content. In the deeper reaches of this zone, a powdery, dark molybdenite mineralization may occur in fractures within the veins.

Metallurgically, these deposits usually require flotation of the sulphides and smelting, or some similar treatment of the concentrates to recover the precious metals. Geochemical sampling for base metals, especially lead and zinc, can be helpful in locating gold deposits once the area of the gold-bearing, silver-base metal zone is delineated. Geophysical methods, such as E-M, IP, and SP, can be helpful, provided heavier concentrations of base metal sulphides are present.

Gold-Scheelite Zone

This gold-bearing zone comprises what are essentially the roots of gold-bearing deposits. The silicification is usually confined to veins of the fissure type. The gold and silver contents drop dramatically in this zone. The gold becomes largely coarse and erratically distributed free gold, as found in the uppermost or tourmaline-gold zone. The depth extensions of these zones are limited. Scheelite and powdery, dark molybdenite mineralization are common to these veins. □

Chester Kuryliw, P. Eng., is a consulting engineer. He has worked as a geologist at several gold mines in the Red Lake area of northwestern Ontario. At the Cochenour Willans mine, he was chief geologist and later general superintendent and, finally, consulting geologist resident at the mine. Application of his selective mining techniques there raised the average mine grade to 0.85 oz from the previous 0.50 oz gold per ton. Mr. Kuryliw is a consultant to major mining companies and government agencies.



Scale: 1" = 1/4 mile
 Date: September, 1990
 By R.A. Bernatchez, P.Eng.

Compilation of Exploration History

ISKUT GOLD CORPORATION
 ELBOW LAKE PROPERTY

007 Precious Metals Inc.

Iskut Gold Corporation

S. Johnson Property

Armstrong-Best Property

Wahl Property

- Airborne EM Anomaly
- ⊙ Trench or Pit
- ⊠ Shaft
- ||||| b.q.v. Blue Quartz Vein in structure
- ⊕ Diamond Drill Hole
- Ground EM Conductor

7 Samples - 0.16 gpt.
 0.12 "
 0.04 "
 0.21 "
 0.25 "
 0.26 "
 0.06 "

K8-28-83 Fracture Zone
 K8-29-83 Fracture Zone
 K8-30-84 Fracture Zone
 K8-31-84 Fracture Zone
 K8-32-84 Fracture Zone
 K8-33-84 Fracture Zone
 K8-34-84 Fracture Zone
 K8-35-84 Fracture Zone
 K8-36-84 Fracture Zone
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 K8-98-84 Fracture Zone
 K8-99-84 Fracture Zone
 K8-100-84 Fracture Zone



WAWA ASSAYING INC.

P.O. Box 1998 - Wawa, Ontario POS 1K0 - 705-856-4443
127 Mission Road Fax - 705-856-2902

CERTIFICATE OF ANALYSIS

NO. 10317

CLIENT: Mr. C. J. Kuryliw


DATE: November 5, 1992

PROJECT:

Ref: 921105-1071

TYPE OF ANALYSIS: fire assay, gravimetric finish

| SAMPLE NO. | | Au oz/Ton |
|------------|---------------|-----------|
| 0001 | | 0.022 |
| 0002 | | 0.005 |
| 0002 | check no chrg | 0.003 |
| 0003 | | 0.020 |
| 0004 | | 0.003 |
| 0005 | | 0.274 |
| 0005 | check no chrg | 0.201 |
| 0006 | | 0.117 |
| 0007 | | 0.120 |
| 0007 | check no chrg | 0.125 |
| 0008 | | 0.153 |
| 0009 | | 0.194 |
| 0010 | | 0.005 |
| 0010 | check no chrg | 0.008 |
| 0011 | | 0.055 |

Certified By: 



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| 0005 | check no chrg | 0.201 |
| 0006 | | 0.117 |
| 0007 | | 0.120 |
| 0007 | check no chrg | 0.125 |
| 0008 | | 0.153 |
| 0009 | | 0.194 |
| 0010 | | 0.005 |
| 0010 | check no chrg | 0.008 |
| 0011 | | 0.055 |

Certified By: *Ray Thomas*



52J02SW0020 OP93-016 FOUR BAY LAKE

030

REPORT

ON

A V.L.F. - EM - 16 SURVEY

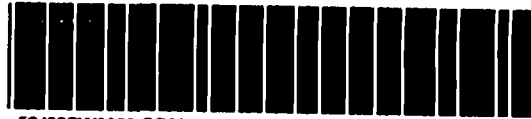
KURYLIW CLAIM GROUP

SIX MILE ROAD - STURGEON LAKE AREA

DISTRICT OF PATRICIA, N.W. ONTARIO

August 07, 1993

**Chester J. Kuryliw M.Sc., P.Eng.
Consulting Geologist**



52J02SW0020 OP93-016 FOUR BAY LAKE

030C

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| Local and Economic Geology and Gold Mineralization |
| Instrument, Unit and Method |
| Results of the Survey |
| Conclusions |
| Recommendations |
| Certificate |
| <u>Plans and Maps Accompanying, Report</u> |
| Plan of Claim Group |
| Plan of VLF, EM - 16 Survey 1" = 200' |
| Key Map Showing Claim Blocks. 1" = 1/2 mile |
| Location Map 1" = 200 miles |

PROPERTY, LOCATION AND ACCESS

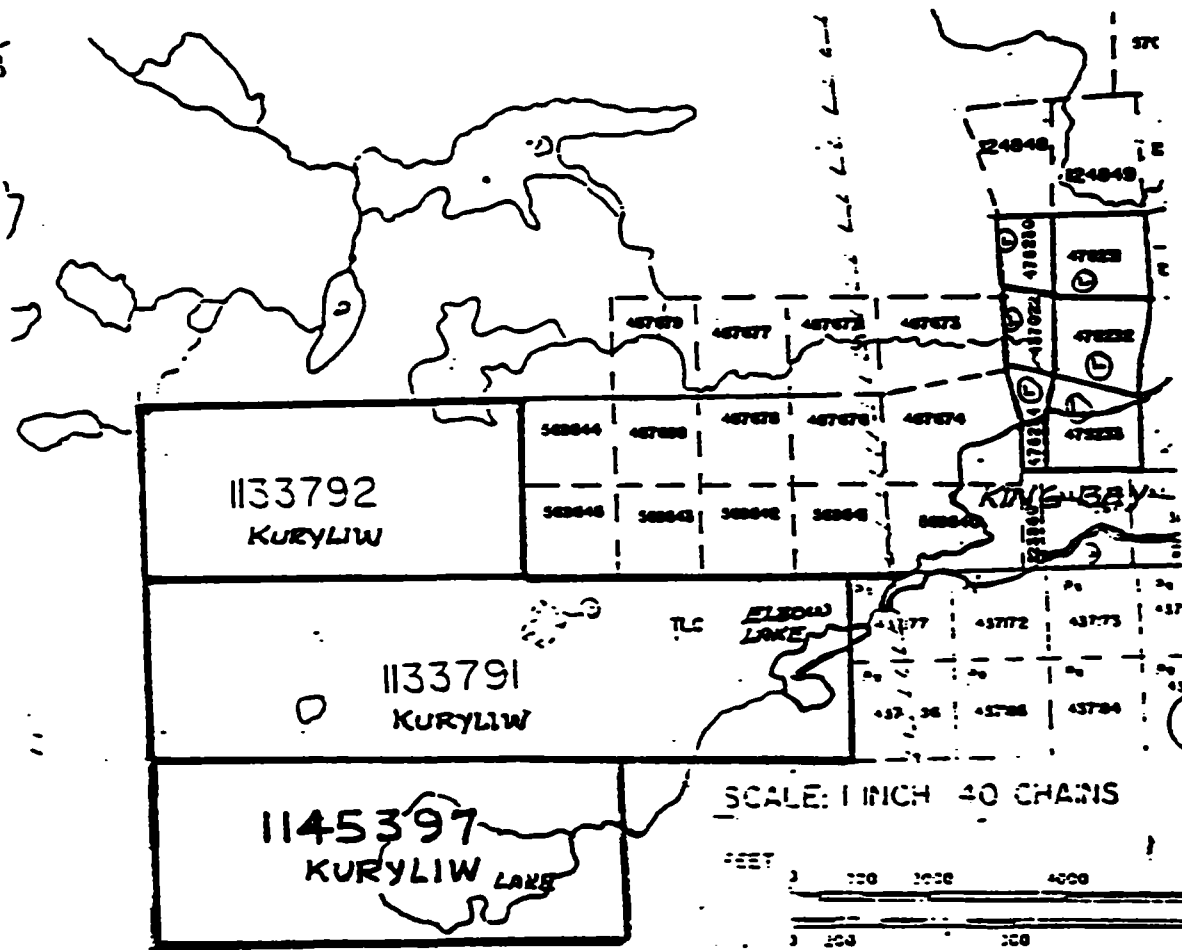
The Kuryliw claim group in the six mile road area of Sturgeon Lake consists of three claim blocks that encompass a total of thirty four of sixteen hectare claims (roughly 1360 acres).

Claim block PA 1133791 (16 claims)
Claim block PA 1133792 (8 claims)
Claim block PA 1145397 (10 claims)

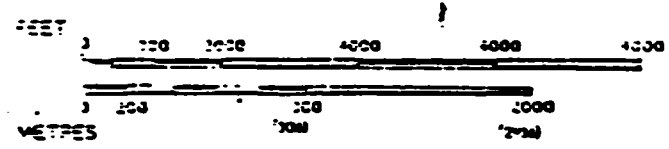
The claim blocks are located on map G-2543, Patricia Mining Division, Northwestern Ontario.

These claim blocks are accessible from the Trans-Canada highway 17 East at Ignace, then northwards about 110 km. along highway 599, then 11 km. southwards along the six-mile road which crosses the central portion of the claim group.

The topography of the area is one of relatively low relief. Much of the grid is underlain by cedar swamps. In the late 1970's heavy timbering was carried out in the six-mile road area followed by a regional fire in 1980. These cleared areas are now covered with dense second growth. Some immature timber that bordered the swamps were left uncut and these have all been flattened by wind storms that resulted in near to 100 % blowdowns. These blowdowns make all bush work difficult and hazardous. The cedar swamp areas are commonly bordered by immature black spruce. There is no significant timber left in the area.



SCALE: 1 INCH = 40 CHAINS



AREA

FOURBAY LAKE

MIN. ADMINISTRATIVE DISTRICT

IGNACE

MINING DIVISION

PATRICIA

LAND TITLES REGISTRY DIVISION

KENORA / THUNDER BAY



Ministry of Natural Resources
Land Management Branch

Ontario

Date: JANUARY, 1984

Number

G-2543

51' 50'

-2561

CLAIM MAP 1993
KURYLIV CLAIM BLOCKS



Aug 7 1993

INTRODUCTION

In 1992 the line grid was located in the central part of the claim block 1133791. The grid was oriented with the base line running - E-W near the southern boundary of the claim block. The picket lines were turned N-S at 200 foot intervals between lines and in one portion 400 foot intervals between lines. All picket lines and the base line were chained and marked with pickets at 100 foot intervals along lines.

In June 1993 this grid was extended to the east with lines at 300 foot intervals and to the south into claim block 1145397 with lines at 200 foot intervals.

In July 1989 Aerodat Limited carried out an airborne survey over the area that included these claim blocks for 007 Precious Metals Inc. The air VLF, EM survey located some short conductors.

The line-cutting was carried out under contract by G. Cratton of Wawa, Ontario under the supervision of C. Kuryliw during September-October 1992. During this same period the grid was covered by a ground magnetic survey, a V.L.F. - EM- 16 survey, Geologic mapping and sampling all by C.J. Kuryliw.

In June 1993 the extensions of the line grid was carried out under contract by J. Cureatz and G. Cratton of WaWa, Ontario. Kuryliw with a Field Assistant carried out a VLF Survey, Magnetic Survey and Geologic Mapping over the new grid extensions. Kuryliw also supervised and logged two drill holes on claim block 113791 that totalled 622 feet of BQ Core.

The magnetic survey used a Scintrex Precession Magnetometer MP2. The instrument has a sensitivity of + 1 gamma. The readings were taken at 50 foot stations along lines. The readings were corrected and plotted on plans 1" = 200 ft/

The line grid was also covered using a Geonics VLF EM - 16 unit. The readings were taken at 100 ft. intervals with some readings at 50 ft. intervals in conductive areas. These readings were then plotted on a plan scale 1" = 200 ft. and the EM profiles were drawn on the plan. The conductor axes were then interpreted and traced on those plans.

Geologic mapping was carried out over the grid by C.J. Kuryliw who also plotted, correlated and interpreted the data written in this report. All significant looking Quartz veins were grab-sampled during the mapping for later assaying at Wawa Assaying Inc., Wawa, Ontario.

Two holes 1993 C-1 and C-2 were drilled to test combined VLF conductors and magnetic anomaly shoulders to the conductors.

PROPERTY, LOCATION AND ACCESS

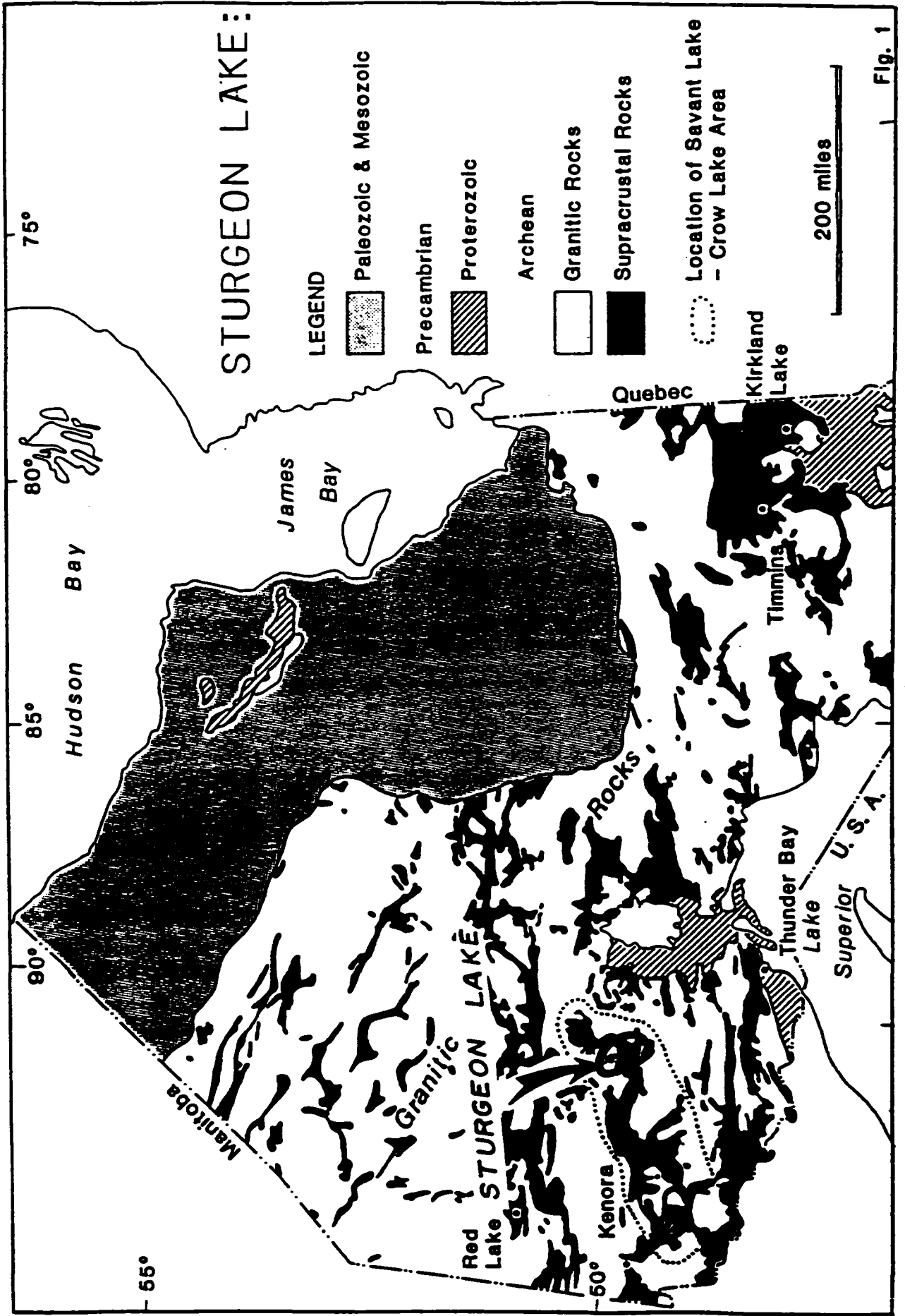
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The topography of the area is one of relatively low relief. Much of the grid is underlain by cedar swamps. In the late 1970's heavy timbering was carried out in the six-mile road area followed by a regional fire in 1980. These cleared areas are now covered with dense second growth. Some immature timber that bordered the swamps were left uncut and these have all been flattened by wind storms that resulted in near to 100 % blowdowns. These blowdowns make all bush work difficult and hazardous. The cedar swamp areas are commonly bordered by immature black spruce. There is no significant timber left in the area.



LOCATION MAP

Fig. 1

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. (Arstrong-Best Property)

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 five miles and a depth of three miles in 1983 (ODM Files) 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 - 2000 feet thick)
- (4) Basalt Pillow Lava formation (15,000 feet thick) (This included the Six Mile Kuryliw Claim Blocks, 1992)
- (5) INTRUSIVES

The "Kuryliw" sequence of volcanic formations was extensively intruded by basic rocks, largely gabbro and some amphibolite. Ten to twenty-five percent 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 four miles west of King Bay the "Kuryliw" sequence of formations has been intruded by granodiorite 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 and feldspar which is in part porphyritic. It also contains five to ten percent quartz and up to seven percent ferromagnesian. The batholith extends as a nose to the southeast into Surgeon 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 south east.

It becomes depleted in Quartz and ferromagnesian so that they become white syenitic rock composed almost completely of feldspar.

(7) Quartz - Porphyry Rock

Immediately South of King Bay a chain of Quartz-porphyry intrusions trends eastwards towards East Bay westwards across the Six Mile Road.

The Quartz-Porphyry intrusions have a spatial relationship with known gold occurrences in the area. The chain of intrusives forms the southern boundary of gold mineralization.

TABLE OF FORMATIONS

CENOZOIC

PLEISTOCENE & RECENT

ORGANICS - BOGS, MUSKEG

OVERBURDEN - SAND, CLAY, DETRITALS

PRECAMBRIAN

ACID INTRUSIVES



QUARTZ - VEINS



QUARTZ - FELDSPAR PORPHYRY

INTERMEDIATE INTRUSIVE



DIORITIC DYKE

VOLCANICS



BASALT LAVAS - PILLOWED, MASSIVE



BASALT FLOW BRECCIA

REGIONAL ECONOMIC GEOLOGY

Please refer to the key map of gold occurrences and mineralization of the King Bay area, scale 1" = 1/2 mile accompanying this report.

The King Bay area of Sturgeon Lake occurs within an extensive Basalt Lava formation that is over three miles thick. In general the rocks trend E-W to E-N-E. Ellipsoidal flow structures in the lavas indicate a steep northerly dip and overturned flow-tops that face southwards.

Immediately to the south of King Bay a chain of quartz porphyry intrusions intrudes the basalts and is generally conformable with the formation trend. This chain of intrusions extends for at least six miles (10 kms.) To the north of the quartz - porphyrys ten significant small but rich gold occurrences are known over the same length of six miles. This spatial relationship between the gold occurrences and the quartz porphyry is significant.

All ten known gold occurrences whether they occur in Basalts or Quartz-Porphyry as the host rock have the common characteristic of a distinctive dark-grey-blue to blackish quartz silicification.

This silicification carries the rich gold mineralization. The relatively unique and distinct blue-grey quartz leads to the conclusion that in these cases the known gold occurrences all shared a common genetic source and a common age of mineralization.

NOTE

- (A) It is significant the gold occurrences 1 to 7 on the accompanying map, all have the common characteristic of a uniquely similar silicification and mineralization even though they extend as a chain over a length of six miles. The gold associated mineralization is visible gold with pyrite and pyrrhotite in the dark blue-grey quartz silicification. The tenor of grade in the veins is rich and ranges from 0.30 to 3.00 oz's Au. per ton.
- (B) It is significant that gold occurrence No. 10 found in drill hole 1983 - KB-23, drilled by Steep Rock (ODM files) intersected some acicular arsenopyrite in dark blue-grey quartz in quartz-porphyry that carried low gold values.
- (C) It is significant that gold occurrence No. 8 in quartz-porphyry occurs in the distinctive dark blue-grey quartz vein that carries gold values in the order of 0.20 oz. Au. per ton. The mineral associated with the gold is abundant coarse, stubby crystals of arsenopyrite with minor pyrite, chalcopyrite and sphalerite.

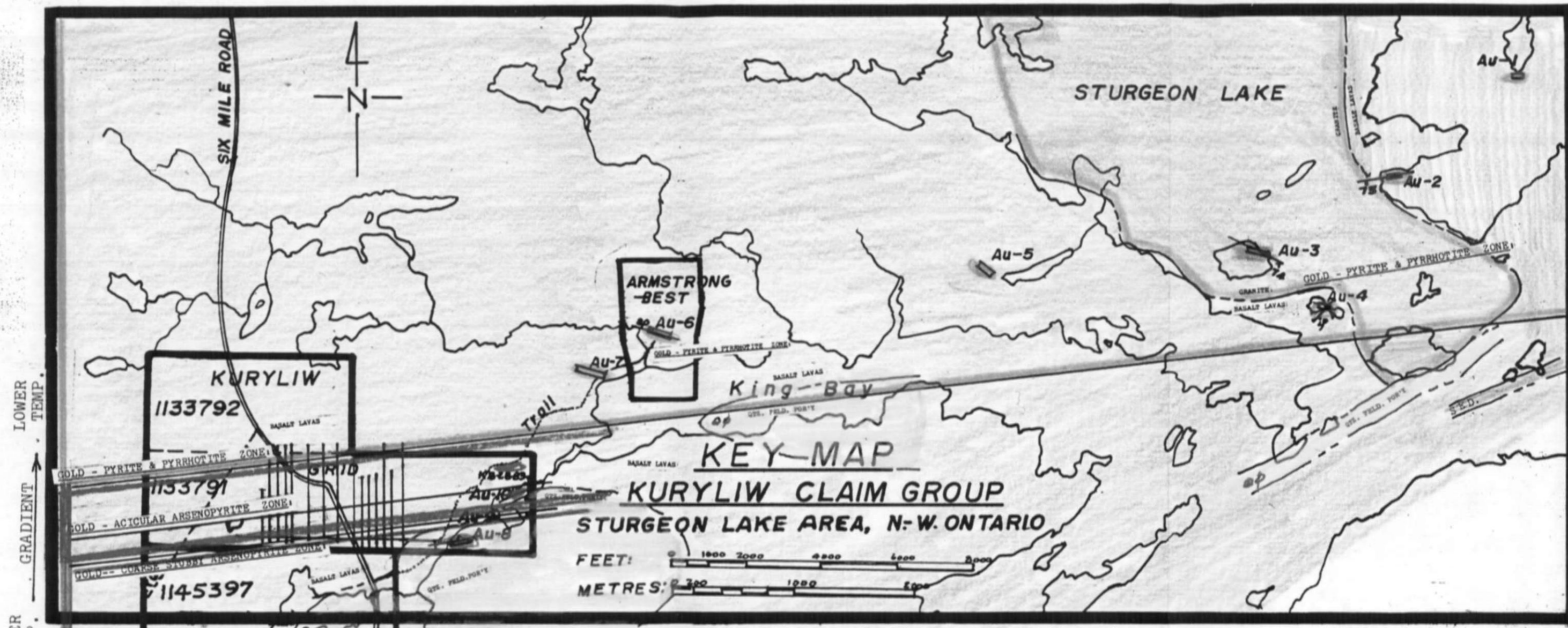
It is concluded from the common distinctive silicification that all the gold occurrences were derived from the same genetic source. There is a uniformity of gold associated mineralization in the E-N-E to easterly direction and also a progressive gold associated change in mineralization in the N-S direction. This N-S variation fits perfectly with the gold zoning system described and published by this writer. ("Some Observations on Gold Zoning" by Chester J. Kuryliw, published in the Northern Miner Magazine, September, 1968.) A copy of this published article is included in the addendum of this report for reference.

There is a thermal gradient recognizable to this period of gold mineralization that consists of a relatively hotter environment at the south of the grid (indicated by the stubby arsenopyrite - gold mineralization) to a cooler environment of mineralization one-half mile northwards (indicated by the gold-pyrite and pyrrhotite mineralization).

The length of claim block 1133791 is bracketed between the gold-pyrite and pyrrhotite zone to the north and the gold-coarse, stubby arsenopyrite zone to the South. This places the potentially richer gold- acicular arsenopyrite mineralization within the one-half mile wide claim block. A determined search for a significant structure within this claim block is warranted because of the potentially rich gold mineralization that should occur. The large quartz-porphry stock intrusion in the S-E part and to the South of claim block 1133791, that intrudes the Basalts, may be the required engine for producing host structures in the Basalts. There appears to be two step-like changes in the trend of the Northerly contact of the quartz-porphry intrusion. These "steps" can be expected to produce similar warps in the intruded Basalts. There is an indication that such warps exist from the traces of the V.L.F. conductors and the curved trend of the more distant flow-top-breccia mapped at 20-N on lines 4-W to 18-W.

The gold-mineral associated zoning indicates a thermal gradient in a N-S direction across the claim block with the relatively hotter zone at the South and the cooler zone at the North. This directional thermal gradient would be expected to influence depositions from hydrothermal activity within active structures. This appears to be the case with the V.L.F. conductors A and C where the more conductive portions occur over weak magnetic lows and are bordered to the North by a magnetic-high shoulder. (In the order of 200 gammas). This magnetic pattern is consistent with the possible migration of ferromagnesian and their deposition northwards. The uniformly low magnetic relief over the Basalts allows the weak anomalous magnetic pattern associated with the V.L.F. conductor to be recognized with some certainty.

Six drill holes have been recommended to test the V.L.F. conductors for favourable structures that could host rich gold deposits.



KEY-MAP
KURYLIW CLAIM GROUP
STURGEON LAKE AREA, N.-W. ONTARIO

FEET: 0 1000 2000 4000 6000 8000
 METRES: 0 300 600 900

GOLD OCCURENCES & MINERALIZATION

GOLD - PYRITE & PYRRHOTITE ZONE:

- Au-1 JOHNSON OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-2 RICKABY OCCURPENCE Dark Grey Quartz, V.G., Py., Po.
- Au-3 RAINBOW IS. OCCURRENCE: Dark Grey Qtz. V.G., Py., Po.
- Au-4 Oz. IS. OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-5 COPPER L. OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-6 ARMSTRONG-BEST OCCUR': DARK GREY QUARTZ, V.G., Py., Po.
- Au-7 BEST OCCURRENCE: Dark Grey Quartz, V.G., PY., Po.

GOLD - ACICULAR ARSENOPYRITE ZONE:

- Au-10 D.D. HOLE KB-28-83 Acicular arsenopyrite in Qtz.-Feld.-Por'y. Dark Grey Quartz
- Au-9 BROAD, ELBOW LAKE FRACTURE ZONE: D. Drilling, Q.-F.-Por'y Low V.G. Minor Py. AsPy. Dark Grey Quartz Veins

GOLD-- COARSE STUBBY ARSENOPYRITE ZONE:

- Au-8 SOUTH PIT: Dark Grey Quartz, Heavy Stubby Coarse Arsenopyrite with pyrite and traces of Sphalerite & Chalcopyrite in Qtz.-Feld.-Por'y.



INSTRUMENT, UNIT AND METHOD

EM - 16 Specifications

MEASURED QUANTITY:

In-phase and quad-phase components of vertical magnetic field as a percentage of horizontal primary field.

SENSITIVITY:

In-phase: + 150%

Quad-Phase: + 40 %

OUTPUT:

Nulling by audio tone with a possible resolution of + 1%. In-phase indication is read from a mechanical inclinometer. The quad-phase is measured from a graduated dial.

OPERATING FREQUENCY:

17.8 kHz VLF radio band Cutler, Maine, N.A.A.

INSTRUMENT METHOD:

The VLF transmitting station created a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground there will be secondary fields radiating from these bodies. This equipment measures the vertical components of these secondary fields.

The EM-16 is a sensitive receiver that measures the vertical field components. The receiver has two inputs, with two receiving coils built into the instrument. One coils has a vertical axis the other coil is horizontal.

The direction of the survey lines were oriented cross the geologic formation and the lines are at right angles to the direction of VLF station. Readings of both In-phase and Quad-phase components were read at 100 foot stations along the lines with some 50 foot station intervals read at strongly anomalous locations. All readings were taken facing west.

The readings were plotted on the plans at the station locations and curves were drawn for the In-phase and Quad-phase components along the lines. Interpreted conductors were also indicated on the plans.

RESULT OF THE VLF, EM-16 SURVEY

Please refer to the accompanying plan of the VLF survey, scale 1" = 200 foot with in-phase and quad-phase profiles drawn along the lines. The interpreted trace of the conductors is marked and labelled on the plan.

CONDUCTOR A

This is a relatively weak conductor that extends from line 4-W to 12-E. It is bowed along strike to conform with the geologic formations. The conductor is re-evaluated to intermediate strength where it crosses line 4-W and 4-E and at those locations the conductors are flanked by a weak magnetic - high shoulder immediately to the North of the conductor trend.

It is postulated that this conductor lies near the northern boundary of gold-arsenopyrite zoning.

Diamond drilling to test this conductor at line 4W and 4E is recommended.

CONDUCTOR B, B-1 AND B-2

Conductor B is a barely traceable weak VLF conductor that occurs along the central portion of the grid. At the west end of the grid the conductor appears to split into two branches (B1 and B-2) to the North and South of a magnetic dyke (diabase?)

These intermediate strength conductors are located on the central axis of the postulated rich gold-arsenopyrite mineral zoning.

Diamond drilling to test conductors B-1 and B-2 on line 16 W have been recommended.

CONDUCTOR C

Conductor C is a strong to intermediate strength VLF conductor, that was traced continuously along the southern portion of the grid. This conductor along cedar swamps, appears to be conformable with the easterly trending steeply North-dipping Basalts. This conductor projects eastwards to coincide with a broad quartz filled fracture zone with significant gold values and acicular arsenopyrite mineralization in a quartz porphyry intrusion. This broad fracture zone over 200 foot wide was drilled by seven drill holes in 1983 and 1984 by Steep Rock Mines Ltd. Assay values ranged from trace to 0.096 oz Au. per ton.

If this VLF conductor is the extension of the broad gold-bearing fracture zone drilled by Steep Rock, it is now in the more favourable Basalt host rock which favours a rich gold-arsenopyrite mineralization. This strong conductor follows a weak magnetic-low and is flanked to the North by a magnetic-high that adjoins the conductor.

Diamond drilling in June 1993 tested this conductor near the six mile road. It was drilled at - 40 degrees to the S-40 degrees - E bearing. A 12 foot wide shear zone was intersected in Basalts just North of a 125 foot wide gabbro dyke. The sheared zone is slightly auriferous, samples ran 0.003 oz AW per ton. The magnetic high "Shoulder" anomaly next to the trace of the VLF conductor occurs directly over the gabbro. It is now interpreted that the VLF conductor traced an overburden conductor along the swamp.

CONCLUSIONS

The widespread occurrences of gold, in rich, but limited sized structures in the King Bay area found to date, fall into a recognizable pattern. All ten listed occurrences have a single distinctive dark blue-grey quartz silicification that carries the gold. There is a variation of the minerals associated with the gold in the dark blue-grey quartz in the N-S direction, but there is a uniformity in the E-W direction. The suite of gold associated minerals falls perfectly into a zoned pattern of gold mineralization along a thermal gradient with the relatively hotter section at the south to the cooler section at the north. The extensive gold mineralization of the King Bay area which extends over six miles in length is related to a single common period of gold deposition with a common genetic source. The mineralization of the gold deposits immediately North of King Bay consists of pyrite and pyrrhotite with visible gold in a dark blue-grey quartz silicification. The vein material assays run in the order 0.30 - 3.00 ozs Au. per ton. The coarse arsenopyrite pit at the S-E part of the grid marks the higher temperatures associated with the same gold mineralization. Claim block 1133791 is bracketed between the gold pyritic zone to the North and the gold-coarse arsenopyrite zone to the South. This locates the potentially very rich blue-grey quartz-gold-acicular arsenopyrite zone within the claim. Acicular arsenopyrite was recognized in this bracketed zone within quartz-porphry from the drilling by Steep Rock in 1983-1984. The bracketed zone in the more favourable Basalts remain unexplored. The current V.L.F. ground surveys traced three conductors with associated weak magnetic anomalies. These conductors provide targets of high priority for the discovery of rich gold-arsenical mineralization.

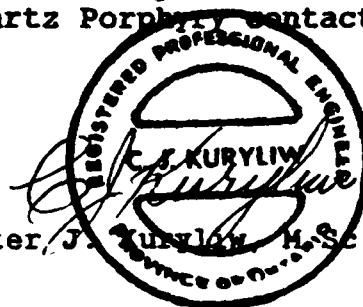
The line grid should be extended eastwards and southwards to further trace the conductors, magnetics and geology in the claim block

A preliminary program of diamond drilling that consists of six drill holes totalling 1,600 ft. was recommended in 1992. Two drill holes were completed in 1993, with somewhat disappointing results. The high magnetic shoulder to the conductor was discovered to be a gabbro dyke and much of the conductivity is likely due to swamp overburden effects. However a significant well developed 12 foot wide shear zone was intersected on the north side of the gabbro, it is weakly auriferous.

This shear zone should be tested by drilling on its extension eastward where it meets the Basalt-Quartz Porphyry contact.

August 07, 1993

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



RECOMMENDATIONS

(1) DIAMOND DRILLING

Preliminary of two drill holes totalling 600 ft., B.Q core
To test eastward extension of shear zone located in
drill hole 1993-C-1.

Estimated Costs

| | |
|--|--------------------|
| Mobilization, Demobilization, Moving between holes, All inclusive core drilling contract 600 ft at \$ 20./ft | \$12,000.00 |
| Engineering, Supervision, Core Logging Sampling Transportation Accommodation, Reports, Assaying 600 ft at \$ 4.00 per foot | <u>\$ 2,400.00</u> |
| Drilling Total | <u>\$14,400.00</u> |

Total Program \$ 14,400.00

August 07, 1993


C. J. Kurylow

Chester J. Kurylow, M.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 46 Ingall Drive, Dryden, Ontario,
do hereby certify that:

- (1) I am a Professional Engineer and recently I was 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 forty 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 I carried out 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.

August 07, 1993



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



52J02SW0020 OP93-016 FOUR BAY LAKE

040

REPORT

ON

A MAGNETIC SURVEY

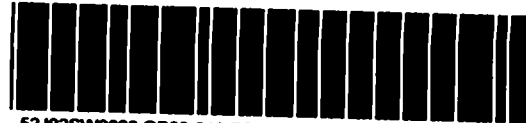
KURYLIW-CLAIM GROUP

SIX MILE ROAD - STURGEON LAKE AREA

DISTRICT OF PATRICIA, NORTHWESTERN, ONTARIO

August 07, 1993

**Chester J. Kuryliw, M.Sc., P.Eng.
Consulting Geologist**



52J02SW0020 OP93-016 FOUR BAY LAKE

040C

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General Geology

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Local and Economic Geology and Mineralization

Instrument, Unit and Method

Results of Magnetic Survey

Conclusions

Recommendations

Certificate

PLANS AND MAPS ACCOMPANYING THIS REPORT

Plan of Magnetic Survey

Scale 1" = 200 ft

PROPERTY, LOCATION AND ACCESS

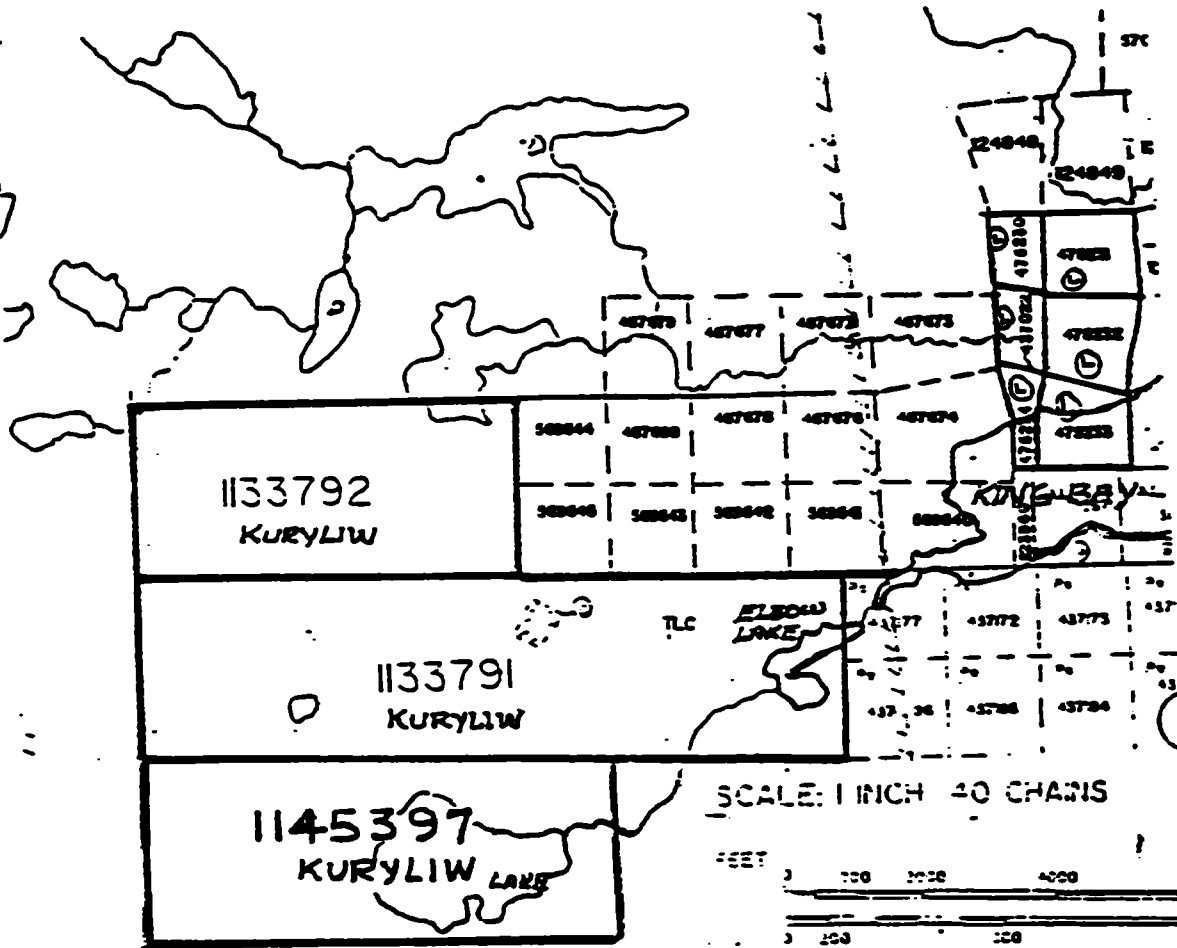
The Kuryliw claim group in the six mile road area of Sturgeon Lake consists of three claim blocks that encompass a total of thirty four of sixteen hectare claims (roughly 1360 acres).

Claim block PA 1133791 (16 claims)
Claim block PA 1133792 (8 claims)
Claim block PA 1145397 (10 claims)

The claim blocks are located on map G-2543, Patricia Mining Division, Northwestern Ontario.

These claim blocks are accessible from the Trans-Canada highway 17 East at Ignace, then northwards about 110 km. along highway 599, then 11 km. southwards along the six-mile road which crosses the central portion of the claim group.

The topography of the area is one of relatively low relief. Much of the grid is underlain by cedar swamps. In the late 1970's heavy timbering was carried out in the six-mile road area followed by a regional fire in 1980. These cleared areas are now covered with dense second growth. Some immature timber that bordered the swamps were left uncut and these have all been flattened by wind storms that resulted in near to 100 % blowdowns. These blowdowns make all bush work difficult and hazardous. The cedar swamp areas are commonly bordered by immature black spruce. There is no significant timber left in the area.



50'

2561

CLAIM MAP 1993
KURYLIW CLAIM BLOCKS

REGISTERED PROFESSIONAL ENGINEER
C. J. KURYLIW
C. J. Kuryliw
 PROVINCE OF ONTARIO
Aug 7 1993

AREA

FOURBAY LAKE

M.N.R. ADMINISTRATIVE DISTRICT

IGNACE
 MINING DIVISION

PATRICIA
 LAND TITLES REGISTRY DIVISION

KENORA / THUNDER BAY



Ministry of Land
 Natural Management
 Resources Branch

Date: JANUARY, 1984

Number

G-254

INTRODUCTION

In 1992 the line grid was located in the central part of the claim block 1133791. The grid was oriented with the base line running - E-W near the southern boundary of the claim block. The picket lines were turned N-S at 200 foot intervals between lines and in one portion 400 foot intervals between lines. All picket lines and the base line were chained and marked with pickets at 100 foot intervals along lines.

In June 1993 this grid was extended to the east with lines at 300 foot intervals and to the south into claim block 1145397 with lines at 200 foot intervals.

In July 1989 Aerodat Limited carried out an airborne survey over the area that included these claim blocks for 007 Precious Metals Inc. The air VLF, EM survey located some short conductors.

The line-cutting was carried out under contract by G. Cratton of Wawa, Ontario under the supervision of C. Kuryliw during September-October 1992. During this same period the grid was covered by a ground magnetic survey, a V.L.F. - EM- 16 survey, Geologic mapping and sampling all by C.J. Kuryliw.

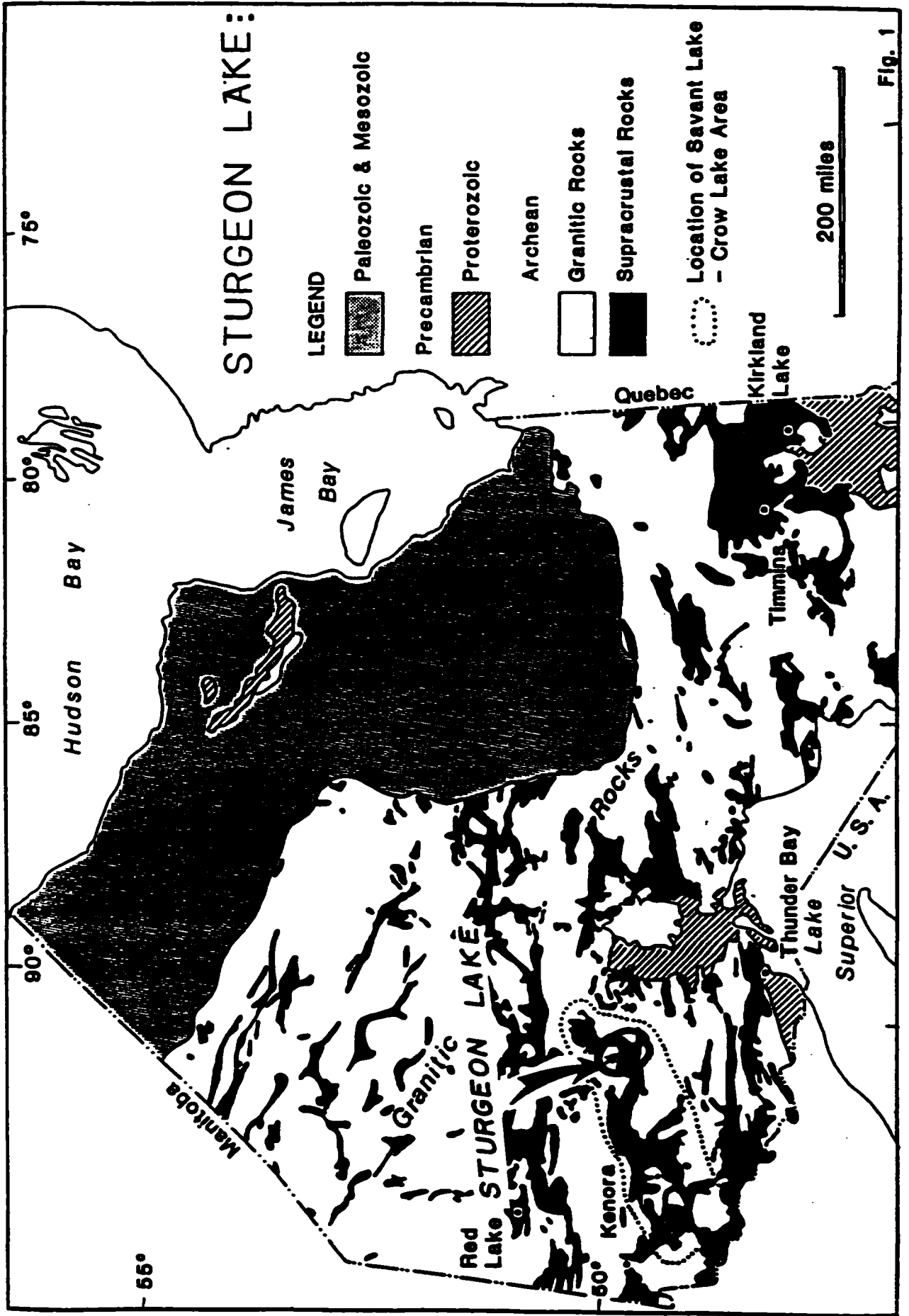
In June 1993 the extensions of the line grid was carried out under contract by J. Cureatz and G. Cratton of WaWa, Ontario. Kuryliw with a Field Assistant carried out a VLF Survey, Magnetic Survey and Geologic Mapping over the new grid extensions. Kuryliw also supervised and logged two drill holes on claim block 113791 that totalled 622 feet of BQ Core.

The magnetic survey used a Scintrex Precession Magnetometer MP2. The instrument has a sensitivity of + 1 gamma. The readings were taken at 50 foot stations along lines. The readings were corrected and plotted on plans 1" = 200 ft/

The line grid was also covered using a Geonics VLF EM - 16 unit. The readings were taken at 100 ft. intervals with some readings at 50 ft. intervals in conductive areas. These readings were then plotted on a plan scale 1" = 200 ft. and the EM profiles were drawn on the plan. The conductor axes were then interpreted and traced on those plans.

Geologic mapping was carried out over the grid by C.J. Kuryliw who also plotted, correlated and interpreted the data written in this report. All significant looking Quartz veins were grab-sampled during the mapping for later assaying at Wawa Assaying Inc., Wawa, Ontario.

Two holes 1993 C-1 and C-2 were drilled to test combined VLF conductors and magnetic anomaly shoulders to the conductors.



LOCATION MAP

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. (Arstrong-Best Property)

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 five miles and a depth of three miles in 1983 (ODM Files) with some periferai 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 - 2000 feet thick)
- (4) Basalt Pillow Lava formation (15,000 feet thick)
(This included the Six Mile Kuryliw Claim Blocks, 1992)
- (5) INTRUSIVES

The "Kuryliw" sequence of volcanic formations was extensively intruded by basic rocks, largely gabbro and some amphibolite. Ten to twenty-five percent 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 four miles west of King Bay the "Kuryliw" sequence of formations has been intruded by granodiorite 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 and feldspar which is in part porphyritic. It also contains five to ten percent quartz and up to seven percent ferromagnesian. The batholith extends as a nose to the southeast into Surgeon 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 south east.

It becomes depleted in Quartz and ferromagnesian so that they become white syenitic rock composed almost completely of feldspar.

(7) Quartz - Porphyry Rock

Immediately South of King Bay a chain of Quartz-porphyry intrusions trends eastwards towards East Bay westwards across the Six Mile Road.

The Quartz-Porphyry intrusions have a spatial relationship with known gold occurrences in the area. The chain of intrusives forms the southern boundary of gold mineralization.

TABLE OF FORMATIONS

CENOZOIC

PLEISTOCENE & RECENT

ORGANICS - BOGS, MUSKEG

OVERBURDEN - SAND, CLAY, DETRITALS

PRECAMBRIAN

ACID INTRUSIVES



QUARTZ-VEINS



QUARTZ-FELDSPAR PORPHYRY

INTERMEDIATE INTRUSIVE



DIORITIC DYKE

VOLCANICS



BASALT LAVAS - PILLOWED, MASSIVE



BASALT FLOW BRECCIA

REGIONAL ECONOMIC GEOLOGY

Please refer to the key map of gold occurrences and mineralization of the King Bay area, scale 1" = 1/2 mile accompanying this report.

The King Bay area of Sturgeon Lake occurs within an extensive Basalt Lava formation that is over three miles thick. In general the rocks trend E-W to E-N-E. Ellipsoidal flow structures in the Lavas indicate a steep northerly dip and overturned flow-tops that face southwards.

Immediately to the south of King Bay a chain of quartz porphyry intrusions intrudes the basalts and is generally conformable with the formation trend. This chain of intrusions extends for at least six miles (10 kms.) To the north of the quartz - porphyrys ten significant small but rich gold occurrences are known over the same length of six miles. This spatial relationship between the gold occurrences and the quartz porphyry is significant.

All ten known gold occurrences whether they occur in Basalts or Quartz- Porphyry as the host rock have the common characteristic of a distinctive dark-grey-blue to blackish quartz silicification.

This silicification carries the rich gold mineralization. The relatively unique and distinct blue-grey quartz leads to the conclusion that in these cases the known gold occurrences all shared a common genetic source and a common age of mineralization.

NOTE

- (A) It is significant the gold occurrences 1 to 7 on the accompanying map, all have the common characteristic of a uniquely similar silicification and mineralization even though they extend as a chain over a length of six miles. The gold associated mineralization is visible gold with pyrite and pyrrhotite in the dark blue-grey quartz silicification. The tenor of grade in the veins is rich and ranges from 0.30 to 3.00 oz's Au. per ton.
- (B) It is significant that gold occurrence No. 10 found in drill hole 1983 - KB-28, drilled by Steep Rock (ODM files) intersected some acicular arsenopyrite in dark blue-grey quartz in quartz-porphyry that carried low gold values.
- (C) It is significant that gold occurrence No. 3 in quartz-porphyry occurs in the distinctive dark blue-grey quartz vein that carries gold values in the order of 0.20 oz. Au. per ton. The mineral associated with the gold is abundant coarse, stubby crystals of arsenopyrite with minor pyrite, chalcopyrite and sphalerite.

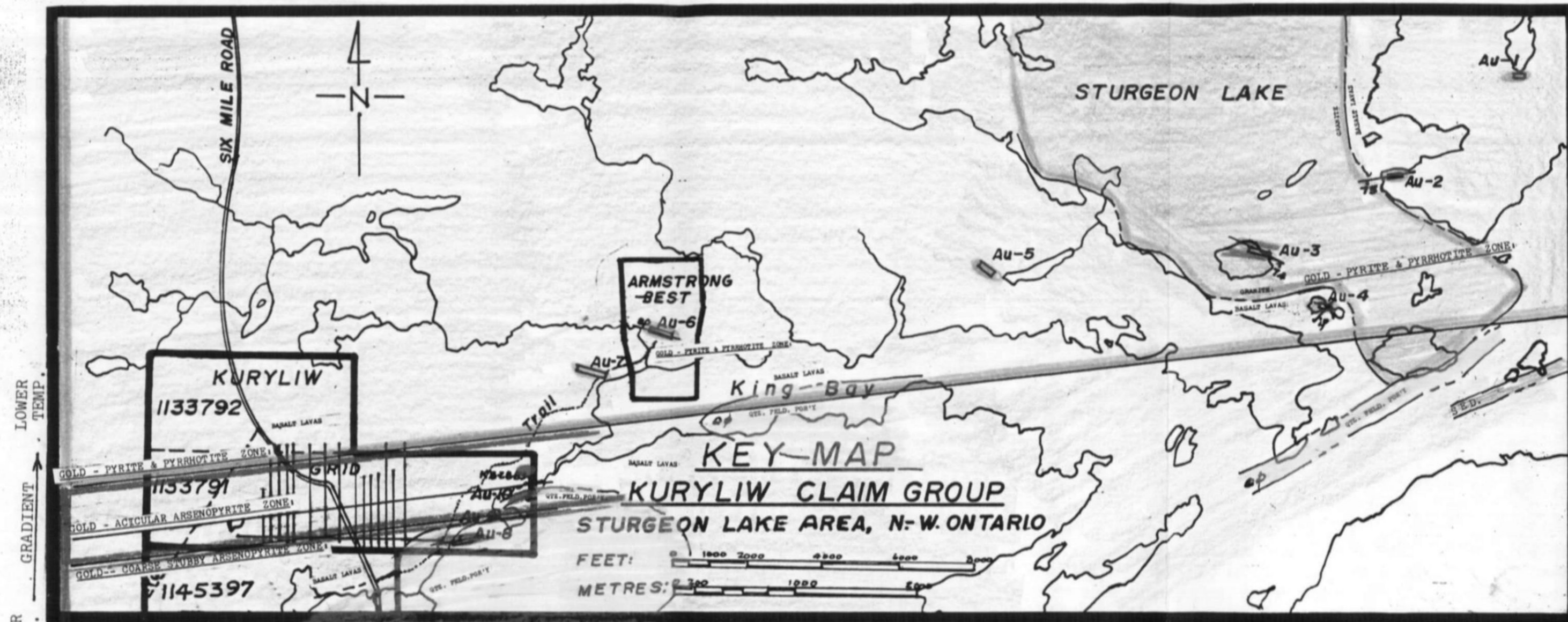
It is concluded from the common distinctive silicification that all the gold occurrences were derived from the same genetic source. There is a uniformity of gold associated mineralization in the E-N-E to easterly direction and also a progressive gold associated change in mineralization in the N-S direction. This N-S variation fits perfectly with the gold zoning system described and published by this writer. ("Some Observations on Gold Zoning" by Chester J. Kuryliw, published in the Northern Miner Magazine, September, 1988.) A copy of this published article is included in the addendum of this report for reference.

There is a thermal gradient recognizable to this period of gold mineralization that consists of a relatively hotter environment at the south of the grid (indicated by the stubby arsenopyrite - gold mineralization) to a cooler environment of mineralization one-half mile northwards (indicated by the gold-pyrite and pyrrhotite mineralization).

The length of claim block 1133791 is bracketed between the gold-pyrite and pyrrhotite zone to the north and the gold-coarse, stubby arsenopyrite zone to the South. This places the potentially richer gold-acicular arsenopyrite mineralization within the one-half mile wide claim block. A determined search for a significant structure within this claim block is warranted because of the potentially rich gold mineralization that should occur. The large quartz-porphry stock intrusion in the S-E part and to the South of claim block 1133791, that intrudes the Basalts, may be the required engine for producing host structures in the Basalts. There appears to be two step-like changes in the trend of the Northerly contact of the quartz-porphry intrusion. These "steps" can be expected to produce similar warps in the intruded Basalts. There is an indication that such warps exist from the traces of the V.L.F. conductors and the curved trend of the more distant flow-top-breccia mapped at 20-N on lines 4-W to 18-W.

The gold-mineral associated zoning indicates a thermal gradient in a N-S direction across the claim block with the relatively hotter zone at the South and the cooler zone at the North. This directional thermal gradient would be expected to influence depositions from hydrothermal activity within active structures. This appears to be the case with the V.L.F. conductors A and C where the more conductive portions occur over weak magnetic lows and are bordered to the North by a magnetic-high shoulder. (In the order of 200 gammas). This magnetic pattern is consistent with the possible migration of ferromagnesian and their deposition northwards. The uniformly low magnetic relief over the Basalts allows the weak anomalous magnetic pattern associated with the V.L.F. conductor to be recognized with some certainty.

Six drill holes have been recommended to test the V.L.F. conductors for favourable structures that could host rich gold deposits.



KEY-MAP
KURYLIW CLAIM GROUP
STURGEON LAKE AREA, N-W. ONTARIO

FEET: 0 1000 2000 3000 4000 5000
 METRES: 0 300 600 900

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GOLD - PYRITE & PYRRHOTITE ZONE:

- Au-1 JOHNSON OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-2 RICKABY OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-3 RAINBOW IS. OCCURRENCE: Dark Grey Qtz. V.G., Py., Po.
- Au-4 Oz. IS. OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-5 COPPER L. OCCURRENCE: Dark Grey Quartz, V.G., Py., Po.
- Au-6 ARMSTRONG-BEST OCCUR': DARK GREY QUARTZ, V.G., Py., Po.
- Au-7 BEST OCCURRENCE: Dark Grey Quartz, V.G., PY., Po.

GOLD - ACICULAR ARSENOPIRYTE ZONE:

- Au-10 D.D. HOLE KB-28-83 Acicular arsenopyrite in Qtz.-Feld.-Por'y. Dark Grey Quartz
- Au-9 BROAD, ELBOW LAKE FRACTURE ZONE: D. Drilling, Q.-F.-Por'y Low V.G. Minor Py. AsPy. Dark Grey Quartz Veins

GOLD-- COARSE STUBBY ARSENOPIRYTE ZONE:

- Au-8 SOUTH PIT: Dark Grey Quartz, Heavy Stubby Coarse Arsenopyrite with pyrite and traces of Sphalerite & Chalcopyrite in Qtz.-Feld.-Por'y.



INSTRUMENT, UNIT AND METHOD

The Kuryliw Claim Block grid was surveyed using a portable Scintrex model MP-2 precession magnetometer.

The sensitivity of the instrument is (+) 1 gamma. The principle of operation is based upon the fact that a proton rich fluid such as kerosene when placed in a magnetic field will have its protons aligne along the magnetic field vector. The magnetic field is induced in the sensor upon depressing the instrument pushbutton, then this field is suddenly removed. Protons which behave as elementary gyroscopes will start to aligne with a precession frequency that is directly proportional to the magnetic field of the earth. The magnetometer counts the frequency, divides it by the appropriate constant to obtain a reading in gammas and displays the reading in the for of a five digit number.

A base station was established on base line 00-N at 2+00-W. The base station reading was 59088 gammas. The main base station was read at the start and finish of each survey day to check for diurnal variations and the instrument operations.

To correct for diurnal changes all baseline stations on 00-N at the picket line crossings were established as secondary base stations.

This was accomplished by checking in at the main base station then reading the baseline stations and checking back into the main base station within an hour.

These secondary baseline stations were corrected and plotted and then these served as alternate base stations for check-ins during the surveys of picket lines. In this manner all picket line readings were corrected. The corrected readings were then plotted on a plan scale 1" = 200', with 59000 gammas subtracted, the readings were then contoured on the plan at 100 gamma intervals.

RESULTS OF THE MAGNETIC SURVEY

Accompanying this report is a contoured plan of the magnetic readings taken over the grid on the claim blocks. The grid is underlain largely by Basalt lavas. The magnetic relief over the Basalts is relatively low and flat. In the south-east corner of the grid, a quartz Feldspar Porphyry intrusion has a similar level of magnetic intensity so that the magnetic survey does not provide a differentiation between the rock masses.

There is a recognizable and consistently anomalous magnetic pattern associated with the stronger V.L.F.-EM conductors A and C. This pattern consists of a slightly lower magnetic trace beneath the conductors and a magnetic - high shoulder immediately to the north of and alongside the conductor.

This anomalous magnetic pattern may be a very significant indicator, because it is consistent with thermal and gold-mineral zoning in this area. The thermal gradient during gold mineralization involves a pattern of higher temperatures from the south of the grid grading to lower temperatures to the north of the grid during gold mineralization. It is postulated that the V.L.F. conductors follow the trace of the axis of hydrothermal activity which flooded the trace of the conductor with silicification and mobilized ferromagnesian to migrate northwards along the thermal gradient. This migration of ferrous minerals immediately to the north of the hydrothermal axis resulted in a slight magnetic - high.

Between conductor B-1 and B-2, at the S-W portion of the grid, there is a northwesterly trending strong magnetic-high. It is traced in the contours as a curved structure that ends up with an easterly to E.N.E. trend and it correlates with the slight magnetic high anomaly that occurs over the 125 foot wide gabbro intersected in drill hole 1993-C-1. It is uncertain if the curved gabbro trend traces a corresponding fold in the Basalts.

CONCLUSIONS

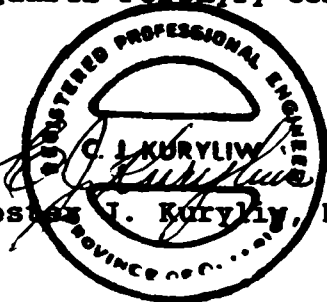
The widespread occurrences of gold, in rich, but limited sized structures in the King Bay area found to date, fall into a recognizable pattern. All ten listed occurrences have a single distinctive dark blue-grey quartz silicification that carries the gold. There is a variation of the minerals associated with the gold in the dark blue-grey quartz in the N-S direction, but there is a uniformity in the E-W direction. The suite of gold associated minerals falls perfectly into a zoned pattern of gold mineralization along a thermal gradient with the relatively hotter section at the south to the cooler section at the north. The extensive gold mineralization of the King Bay area which extends over six miles in length is related to a single common period of gold deposition with a common genetic source. The mineralization of the gold deposits immediately North of King Bay consists of pyrite and pyrrhotite with visible gold in a dark blue-grey quartz silicification. The vein material assays run in the order 0.30 - 3.00 ozs Au. per ton. The coarse arsenopyrite pit at the S-E part of the grid marks the higher temperatures associated with the same gold mineralization. Claim block 1133791 is bracketed between the gold pyritic zone to the North and the gold-coarse arsenopyrite zone to the South. This locates the potentially very rich blue-grey quartz-gold-acicular arsenopyrite zone within the claim. Acicular arsenopyrite was recognized in this bracketed zone within quartz-porphry from the drilling by Steep Rock in 1983-1984. The bracketed zone in the more favourable Basalts remain unexplored. The current V.L.F. ground surveys traced three conductors with associated weak magnetic anomalies. These conductors provide targets of high priority for the discovery of rich gold-arsenical mineralization.

The line grid should be extended eastwards and southwards to further trace the conductors, magnetics and geology in the claim block

A preliminary program of diamond drilling that consists of six drill holes totalling 1,600 ft. was recommended in 1992. Two drill holes were completed in 1993, with somewhat disappointing results. The high magnetic shoulder to the conductor was discovered to be a gabbro dyke and much of the conductivity is likely due to swamp overburden effects. However a significant well developed 12 foot wide shear zone was intersected on the north side of the gabbro, it is weakly auriferous.

This shear zone should be tested by drilling on its extension eastward where it meets the Basalt-Quartz Porphyry contact.

August 07, 1993

A circular professional seal for a Registered Professional Engineer. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "PROVINCE OF ONTARIO" at the bottom. Inside the ring, the name "C. J. KURYLIW" is printed, with a handwritten signature over it. Below the seal, the text "Chester J. Kuryliw, M.Sc., P. Eng." is printed.

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

RECOMMENDATIONS

(1) DIAMOND DRILLING

Preliminary of two drill holes totalling 600 ft., B.Q core
To test eastward extension of shear zone located in
drill hole 1993-C-1.

Estimated Costs

| | |
|--|--------------------|
| Mobilization, Demobilization, Moving between holes, All inclusive core drilling contract 600 ft at \$ 20./ft | \$12,000.00 |
| Engineering, Supervision, Core Logging Sampling Transportation Accommodation, Reports, Assaying 600 ft at \$ 4.00 per foot | <u>\$ 2,400.00</u> |
| Drilling Total | <u>\$14,400.00</u> |

Total Program \$ 14,400.00

August 07, 1993



Chester J. Kuryliw, M.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 46 Ingall Drive, Dryden, Ontario, do hereby certify that:

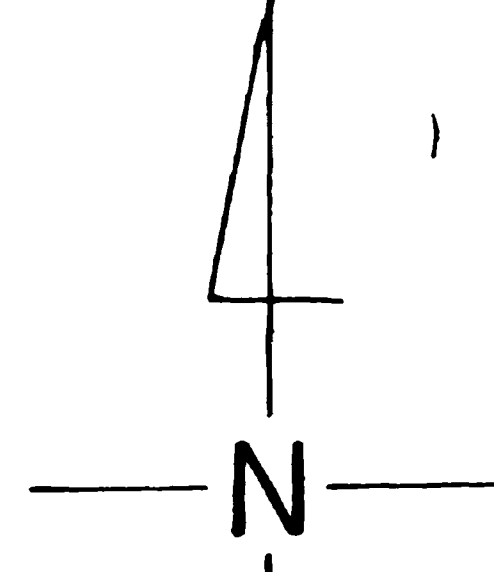
- (1) I am a Professional Engineer and recently I was employed as a Consulting Geologist for several mining companies.
- (2) I am a graduate of:
The University of Manitoba B.Sc. Degree, 1949
The University of Manitoba M.Sc. Degree, 1966
- (3) I am a registered Engineer of the Association of Professional 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 forty 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 I carried out 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.

August 07, 1993



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

Pa.1133792



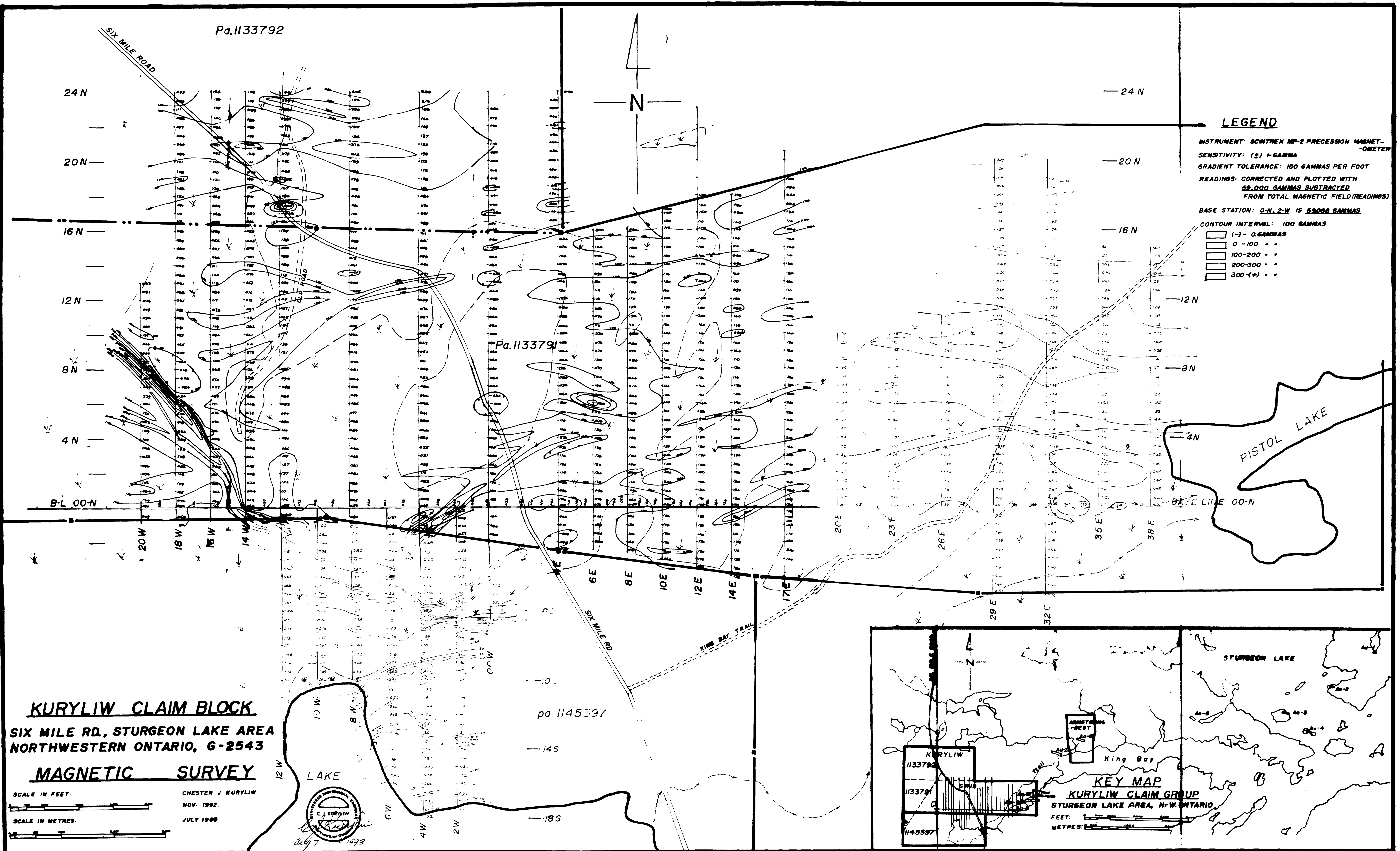
LEGEND

INSTRUMENT: SCINTREX MP-2 PRECESSION MAGNET-OMETER
SENSITIVITY: (±) 1-GAMMA
GRADIENT TOLERANCE: 150 GAMMAS PER FOOT
READINGS: CORRECTED AND PLOTTED WITH 59,000 GAMMAS SUBTRACTED FROM TOTAL MAGNETIC FIELD (READINGS)

BASE STATION: Q-N, 2-W IS 59000 GAMMAS

CONTOUR INTERVAL: 100 GAMMAS

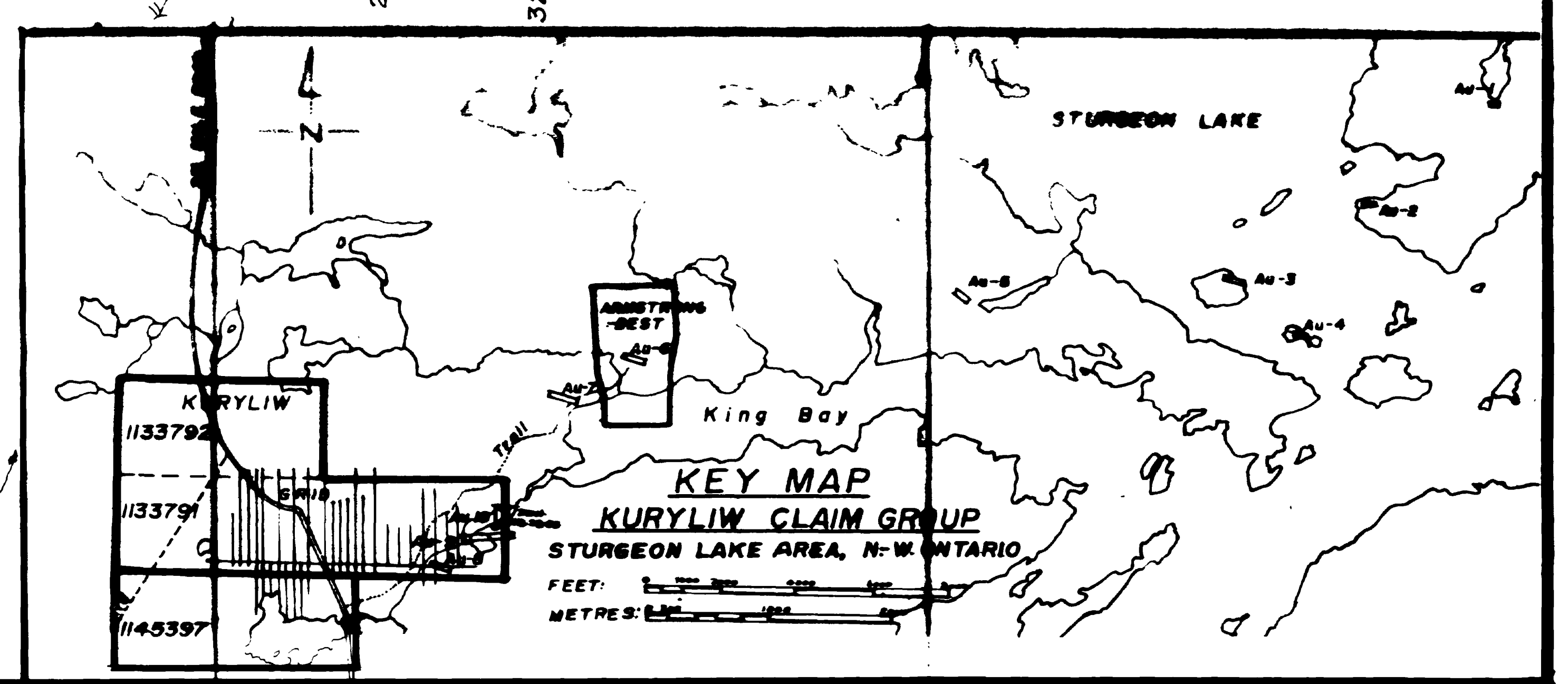
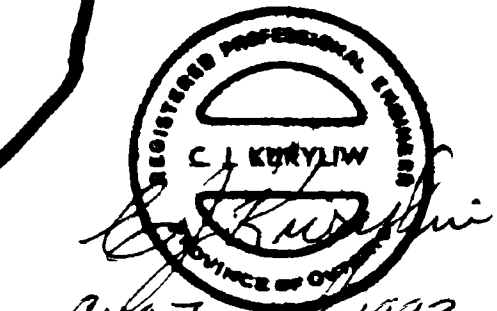
- (-) 0-GAMMAS
- 0-100 ..
- 100-200 ..
- 200-300 ..
- 300-(+) ..

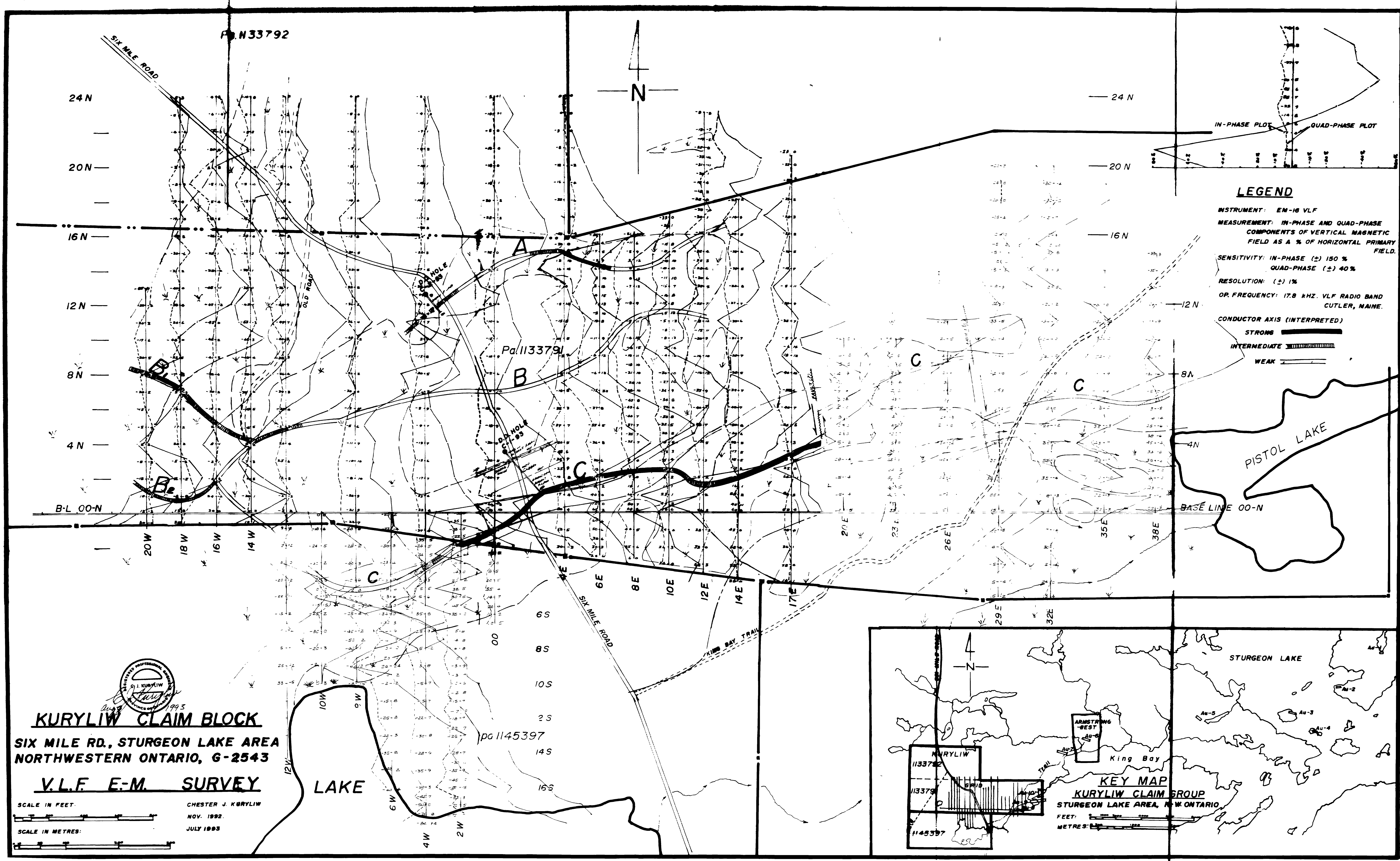


KURLIWI CLAIM BLOCK
 SIX MILE RD., STURGEON LAKE AREA
 NORTHWESTERN ONTARIO, G-2543

MAGNETIC SURVEY

SCALE IN FEET: [Scale bar from 0 to 1000 feet]
 SCALE IN METRES: [Scale bar from 0 to 1000 metres]
 CHESTER J. KURLIWI
 NOV. 1992
 JULY 1993





24 N
20 N
16 N
12 N
8 N
4 N
B-L 00-N

20 W 18 W 16 W 14 W

6 E 8 E 10 E 12 E 14 E 17 E

6 S 8 S 10 S 14 S 16 S

KURYLIW CLAIM BLOCK
 SIX MILE RD., STURGEON LAKE AREA
 NORTHWESTERN ONTARIO, G-2543
V.L.F. E-M. SURVEY

SCALE IN FEET: [Scale bar]
 SCALE IN METRES: [Scale bar]

CHESTER J. KURYLIW
 NOV. 1992
 JULY 1993

LEGEND

INSTRUMENT: EM-16 VLF
 MEASUREMENT: IN-PHASE AND QUAD-PHASE COMPONENTS OF VERTICAL MAGNETIC FIELD AS A % OF HORIZONTAL PRIMARY FIELD.

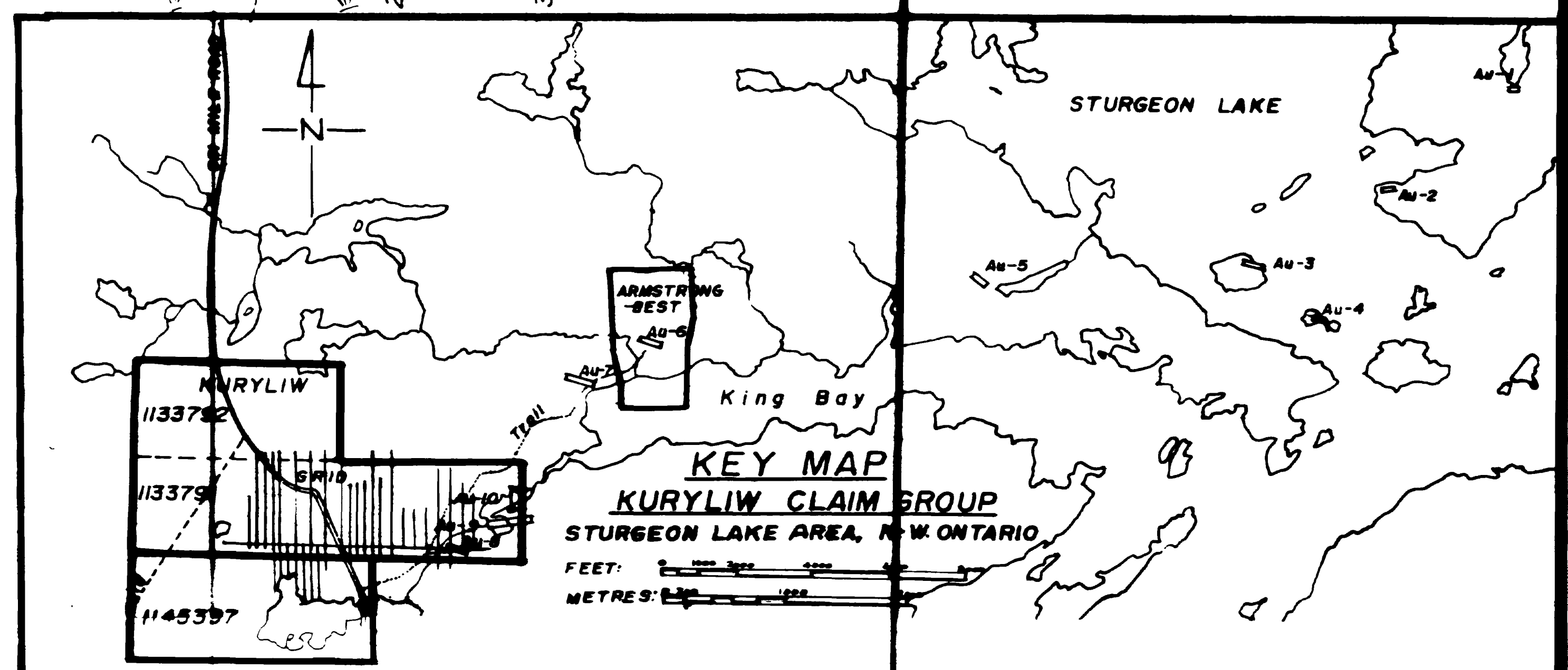
SENSITIVITY: IN-PHASE (±) 150 %
 QUAD-PHASE (±) 40 %

RESOLUTION: (±) 1%

OP. FREQUENCY: 17.8 KHZ. VLF RADIO BAND
 CUTLER, MAINE.

CONDUCTOR AXIS (INTERPRETED)

STRONG [Thick solid line]
 INTERMEDIATE [Dashed line]
 WEAK [Thin solid line]



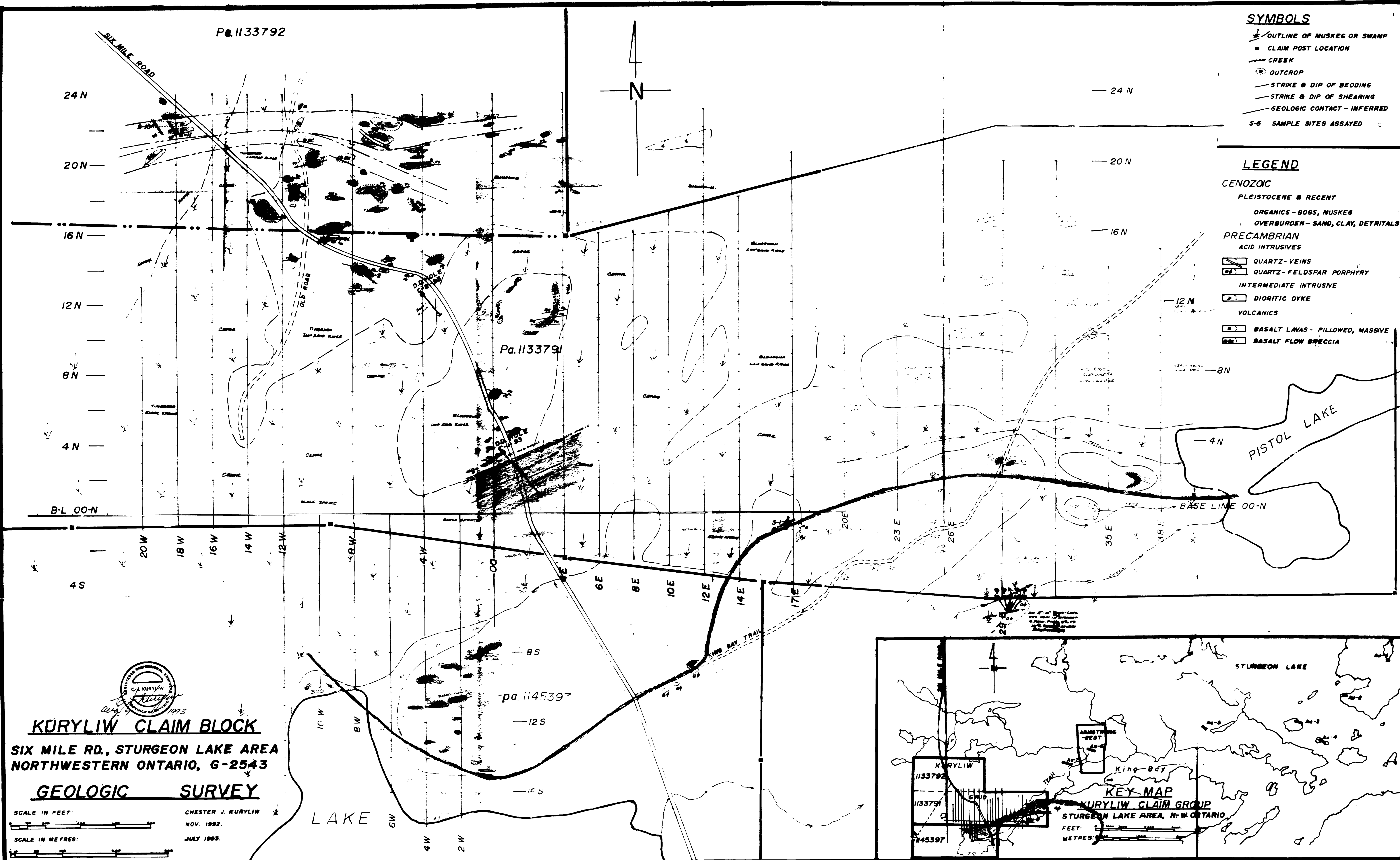
Pa. 1133792

SYMBOLS

- OUTLINE OF MUSKEG OR SWAMP
- CLAIM POST LOCATION
- CREEK
- OUTCROP
- STRIKE & DIP OF BEDDING
- STRIKE & DIP OF SHEARING
- GEOLGIC CONTACT - INFERRED
- S-S SAMPLE SITES ASSAYED

LEGEND

- CENOZOIC**
- PLEISTOCENE & RECENT
 - ORGANICS - BOGS, MUSKEG
 - OVERBURDEN - SAND, CLAY, DETRITALS
- PRECAMBRIAN**
- ACID INTRUSIVES
 - QUARTZ - VEINS
 - QUARTZ - FELDSPAR PORPHYRY
 - INTERMEDIATE INTRUSIVE
 - DIORITIC DYKE
 - VOLCANICS
 - BASALT LAVAS - PILLOWED, MASSIVE
 - BASALT FLOW BRECCIA

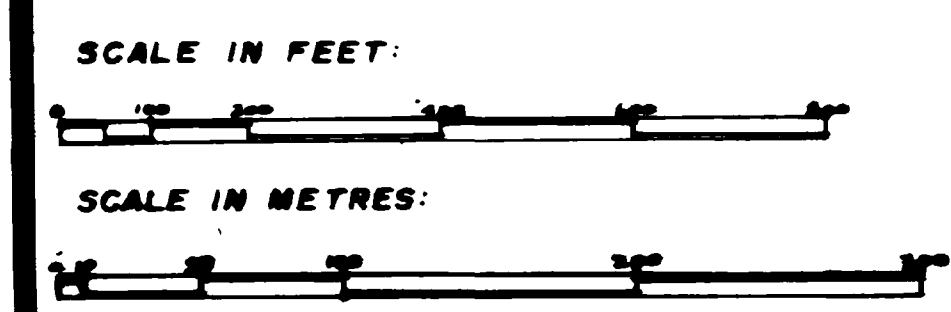


Pa. 1133791

pa. 1145397

KURYLIW CLAIM BLOCK
 SIX MILE RD., STURGEON LAKE AREA
 NORTHWESTERN ONTARIO, G-2543

GEOLOGIC SURVEY



CHESTER J. KURYLIW
 NOV. 1992
 JULY 1993

