

4184

GEOLOGICAL AND GEOCHEMICAL REPORT

ALE AND L & H GROUPS OF MINERAL CLAIMS

JOHNNY-DAVID LAKE

OMINECA MINING DIVISION

(LATITUDE 54°, LONGITUDE 127°)

Field work undertaken in June 1972

N.T.S. 93E / 14E

J. B. Cyr

10 January, 1973

Department of
Mines and Technical Resources
ASSESSMENT REPORT
NO. 4184 MAP

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INTRODUCTION

Geological mapping and soil geochemical survey were conducted over the Ale and L & H Groups of Mineral Claims at Johnny-David Lake on 29 June 1972. The work was undertaken as part of examination and preliminary evaluation of mineral occurrences near the east end of lake. Much of the field work was extended beyond the claim boundaries; for the purposes of assessment work commitments, only the cost for work within the claims is submitted.

Johnny-David Lake is about 55 miles due south of Smithers, B.C., and is accessible by float plane. The lake is also accessible on foot along a trail from east end of Tagetochlain Lake.

SUMMARY

Geological mapping in area surrounding Johnny-David Lake indicates that a small pluton of granodiorite and quartz diorite intrudes an assemblage of older Hazelton Group rocks. The soil geochemical samples were assayed for copper, molybdenum, nickel and silver; no significant anomalies were indicated.

MINERAL CLAIM GROUPS

The Ale and L & H Groups of Mineral Claims are located at the east end of Johnny-David Lake in the Omineca Mining Division. The property is geographically located in the northeast quadrant of quadrilateral Latitude 53° and Longitude 127°.

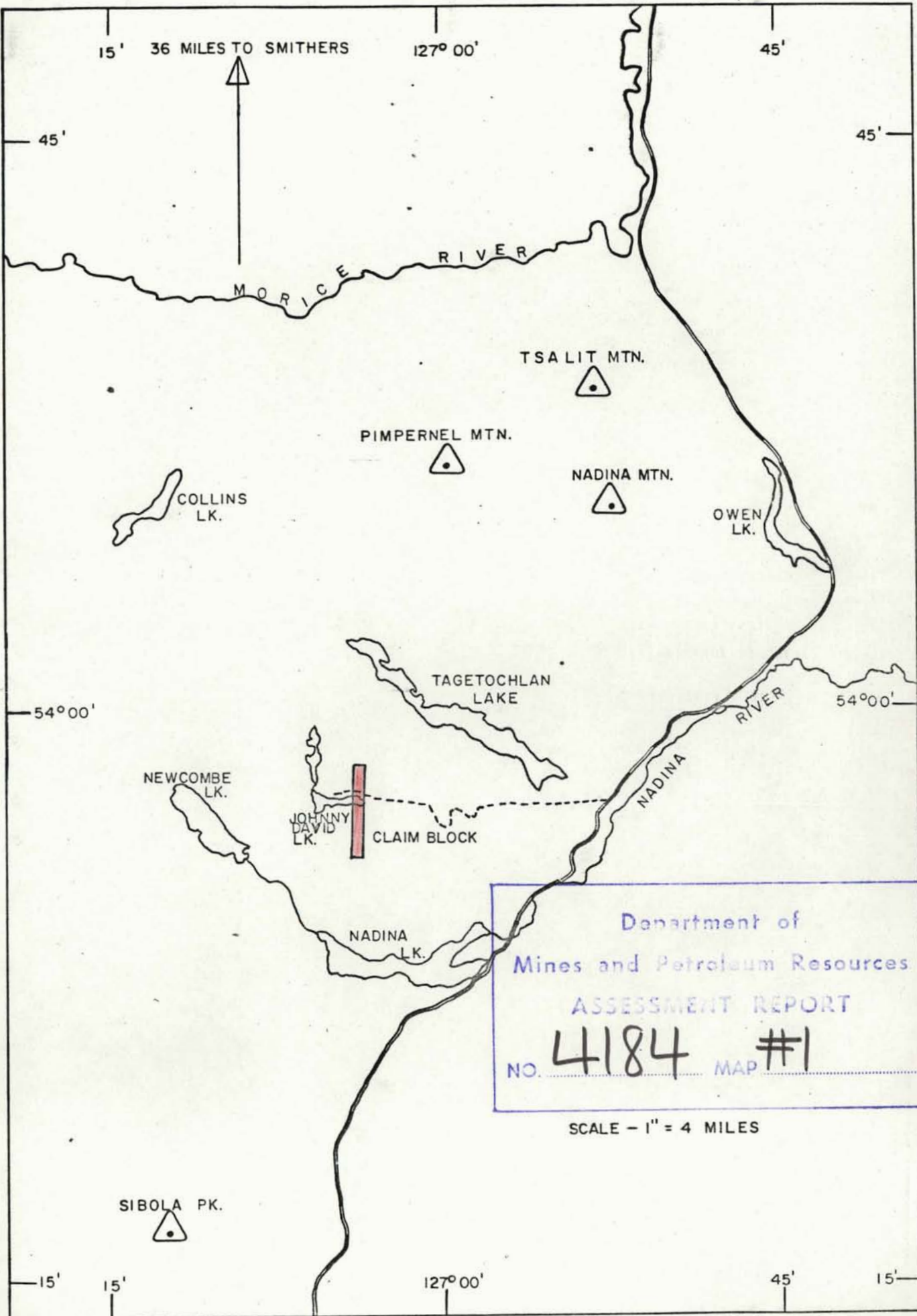
The mineral claims are registered under A.F. Lubbers, P. O. Box 93, Telkwa, B. C. and are grouped as Ale and L & H Groups.

<u>Mineral Claim</u>	<u>Record Number</u>	<u>Record Date</u>
Ale 1 - 6 incl.	87981 - 87986 incl.	June 8, 1970
L & H 1 - 6 incl.	92975 - 92980 incl.	Oct. 7, 1970
L & H 7 - 10 incl.	99720 - 99723 incl.	June 24, 1971

An appended map (Appendix III) shows spatial location of mineral claims on 1" = 1/4 mile scale.

TOPOGRAPHY

The general topography for region near Johnny-David Lake is characterized by gently rolling to steeper-sloped rounded hills. Relief varies from 500 to 1,200 feet. Swamps are common along low-lying drainage systems and also in local depressions at higher elevations.



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SCALE - 1" = 4 MILES

SURVEY CONTROL

Aerial photographs on 1" = ½ and ¼ mile scales were utilized for general ground control along pace and compass traverse lines. Traverses were primarily designed to provide fairly complete coverage over the mineral claims; other traverses were oriented towards exploring area surrounding Johnny-David Lake.

GENERAL GEOLOGY

Rock exposures are quite plentiful along steeper slopes near east end of Johnny-David Lake. Interpretation of mapping suggests that a small pluton of granodiorite and quartz diorite intrudes older Hazelton Group rock units which are mainly comprised of basalt, andesite and plagioclase porphyry. The basalt unit near east end of the lake is commonly hornfelsed and epidotized, possibly, in part, as a result of its proximity to intrusive plug.

Petrology

The following are brief descriptions of the various rock types which were encountered at Johnny-David Lake.

Hazelton Group

Volcanic rocks and pyroclastics with minor intercalations of chert are correlated with Hazelton Group. A dark greenish-grey crowded plagioclase porphyry which could be intrusive into volcanic rocks is also included with this Group.

Basalt

This unit is exposed to the north and south of east end of Johnny-David Lake. It is postulated that it is the lower unit of Hazelton Group for this area as it appears to be overlain by andesite unit and possibly intruded by plagioclase porphyry. The rock is characteristically very dark grey to black, aphanitic and usually massive. Isolated occurrences of poorly-porphyrific basalt within basalt unit were encountered where rocks contained up to 10% two - to four - millimeter - size subhedral white plagioclase phenocrysts in an aphanitic dark grey to black groundmass. One small occurrence of greenish-grey chert was noted. These two varieties are closely associated with basalt unit, probably as textural differences and interbedded intercalations.

Andesite

This unit is encountered on the higher hills, most likely as a cap rock over older units. Several texturally different rocks are included as andesite rock unit. Most common variety is massive reddish-brown rock with aphanitic texture. Less common are plagioclase porphyry with white to greenish-white plagioclase phenocrysts in reddish-brown aphanitic matrix, and pyroclastic rock in which tiny angular fragments are set in aphanitic dark purple matrix.

Plagioclase Porphyry

This unit is exposed at east end of Johnny-David Lake, and for this area is considered to be intrusive into basalt unit. Rock is of dacitic composition with approximately 20% euhedral to subhedral two - to eight - millimeter size white plagioclase phenocrysts in an aphanitic dark greenish-grey matrix. Rock is generally unaltered except locally where weak sericitization of phenocrysts and chloritization of groundmass has been noted.

Granodiorite-Quartz Diorite Pluton

An arcuate-shaped body of intrusive granodiorite and quartz diorite, approximately one-quarter to one-third mile in size is interpreted at southeast shore of Johnny-David Lake. The two rock types are texturally similar but K-feldspar/total feldspar ratio is different. It is suggested that the small pluton was emplaced during a single-stage intrusive period with slight compositional variations rather than intruded during two separate stages.

The granodiorite and quartz diorite are both reddish-grey with medium to coarse equigranular texture. Mode for granodiorite is 10% quartz, 35% K-feldspar, 40% plagioclase, 10% hornblende and 5% biotite. Quartz diorite is composed of 5% quartz, 10% K-feldspar, 60% plagioclase, 15% hornblende and 10% biotite. Pyrite is an accessory mineral in quartz diorite. Generally, quartz diorite is fresh whereas granodiorite is often weakly silicified and sericitized.

Wall Rock Alteration

Varying intensities of silicification and kaolinization have altered intrusive granodiorite and quartz diorite. Silicification is normally restricted to thin envelopes up to one-half inch thick bounding veins and fractures. Kaolinization of plagioclase grains is generally very weak to weak; there is an increase in intensity alongside veins.

Silicification and epidotization are noted for the hornfelsed basalt near the east end of Johnny-David Lake. The thermal effects from the granodiorite and plagioclase porphyry bodies are envisaged as causes for development of hornfelsic aureole within basalt. Epidotization is most prevalent hydrothermal alteration, and generally occurs as massive blebs, lenses and thin envelopes in association with vein mineralization.

Mineralization

Chalcopyrite and pyrite with minor molybdenite occur with quartz as thin to one-half-inch-thick veinlets in hornfelsed basalt and granodiorite. Exposures on which mineralization was seen indicate that fracture pattern is poorly developed. Vein widths and metallic mineralization commonly pinch and swell along somewhat discontinuous lengths; average vein width is one-half

to one inch with one six-inch-wide vein being noted. Barren quartz and quartz-epidote veinlets are also noted as part of stockwork. Veins in hornfelsed basalt generally trend easterly whereas no orientation was apparent for vein occurrences in granodiorite.

Limonite and malachite staining are commonly associated with mineralized zones.

GEOCHEMICAL SURVEY

INTRODUCTION

A widely-spaced soil geochemical survey was conducted over the Ale and L & H Groups of Mineral Claims. Samples were collected at approximately 800-foot intervals along north-south traverse lines which were spaced about 1,000 feet. The sampling program was continued beyond the claim boundaries mainly to obtain information in area surrounding Johnny-David Lake.

Soil development was considered poor over majority of area. The B-horizon is usually well-defined for flatter-lying regions. However, on steeper slopes, most of the soils are mainly derived from colluvial deposits consisting largely of glacial till and talus. This is most apparent for samples collected from claims which cover the area south of lake.

The region is quite heavily forested. Jackpine and spruce predominate with minor balsam fir being noted. Swamps are common in low-lying drainage areas and also in local depressions on upland regions. Aspen and cottonwood commonly border these swamps; additionally a variety of low bushes and swamp grass prevail over swampy ground.

SAMPLING

Soil samples were collected from small holes which were dug to depths of at least four to six inches below the humus. The B-horizon was sampled wherever possible. Where soil development was poor, samples were frequently collected from either C-horizon or composites of B and C-horizons. Teflon spoons were utilized to scoop about 150 grams of material into heavy kraft paper envelopes. Samples were generally dried under room temperature conditions prior to shipment to laboratory.

ASSAY METHOD

All soil samples were assayed for copper, molybdenum, nickel and silver content at Placer Development Geochemistry Laboratory, Vancouver, B. C.

The processing and analytical method of soil geochemical samples at Placer Development Geochemistry Laboratory are as follows. Samples are dried in a hot air-dryer, then sifted in -80 mesh nylon sieves. Portions of -80 mesh fractions are weighed with precision torsion balance. Samples are digested in a mixture of hot perchloric and nitric acid, and then prepared for analysis by atomic absorption spectrophotometry. A Perkin-Elmer 403 instrument is used for analysis of molybdenum, copper and nickel. Other portion of sample is digested in boiling nitric acid, then water and 20% T.O.T.P. dissolved in heptane are added. The solution is shaken and centrifuged prior to analysing for silver by atomic absorption.

RESULTS

The following interpretations are made for soil geochemical results over Ale and L & H Groups of Mineral Claims.

1. No significant nickel content is indicated.
2. A weak molybdenum anomaly is confined to area overlying intrusive pluton.
3. A weak southerly-trending copper anomaly extends from lake shore to almost the crest of hill. The high point of anomaly is centered on mineralization in intrusive pluton. The anomaly does not project across to north side of lake where copper mineralization occurs in hornfelsed basalt.
4. Silver values are somewhat erratic but generally follow the high trend of copper values. As a result a weak southerly-trending anomaly coincides with copper anomaly.

Results of geochemical survey over the mineral claims and surrounding area are illustrated on appended maps.

STATEMENT OF EXPENDITURES

The following expenses were incurred by Canex Placer Limited, Endako Mines Division for conducting soil geochemical survey and geological mapping over the Ale and L & H Groups of Mineral Claims. It should be noted that since approximately two-thirds of the field work was conducted over areas outside of the mineral claim boundaries, only one-third of personnel costs are being applied as costs for work on mineral claims.

<u>Personnel</u>	<u>Period Employed</u>	<u>Time and Rate</u>	<u>Cost</u>
P. Buckley	June 29, 1972	12 hrs. @ \$3.75	\$45.00
G. D. Bysouth	June 29, 1972	12 hrs. @ 7.00	84.00
J. B. Cyr	June 29, 1972	20 hrs. @ 6.00	120.00
E. T. Kimura	June 29, 1972	12 hrs. @ 8.50	102.00
G. J. Pastor	June 29, 1972	12 hrs. @ 3.60	43.20
A. J. Peters	June 29, 1972	12 hrs. @ 4.50	54.00
D. W. Sargent	June 29, 1972	12 hrs. @ 3.60	43.20
L. E. Thon	June 29, July 8-10, 1972	24 hrs. @ 4.50	108.00
S. W. Wilson	June 29, 1972	12 hrs. @ 3.75	45.00
			\$644.40
Add 15% office overhead			<u>96.66</u>
Subtotal personnel costs			<u>\$741.06</u>
Apply one-third of personnel costs as work done on mineral claims			247.02
Fixed-wing transportation: Transprovincial Airlines Flight No. 20045			475.00
Geochemical assaying: 60 samples @ \$3.20			
Cu, Mo, Ni and Ag determinations			<u>192.00</u>
<u>TOTAL COSTS APPLICABLE AS ASSESSMENT WORK</u>			<u>\$914.02</u>

CONCLUSION

Copper mineralization in the form of quartz-chalcopyrite veins occurs in intrusive granodiorite-quartz diorite pluton and hornfelsed basalt at east end of Johnny-David Lake. Soil geochemical survey with fairly widely-spaced sample pattern indicated a weak copper and coincident silver anomaly over part of mineral claim groups.

Submitted by:



J. Cyr
Geologist
CANEX PLACER LIMITED
ENDAKO MINES DIVISION

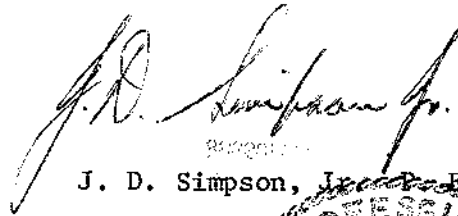
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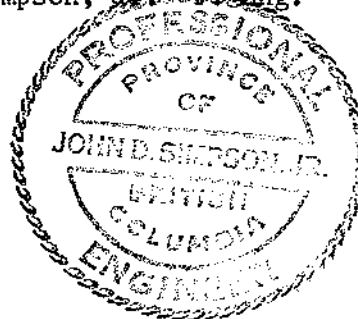
APPENDIX I

CERTIFICATION

I, J. D. Simpson Jr. of Canex Placer Limited, Endako Mines Division, Endako, B. C., do hereby certify that:

1. I am a registered Professional Engineer in the Province of British Columbia.
2. I have carefully reviewed the data and examined the report of J. B. Cyr on exploration work which was conducted during June 1972 on Ale and L & H Groups of Mineral Claims. The Mineral claims belong to A. F. Lubbers, Telkwa, B. C. and are located in the Omineca Mining Division at Johnny-David Lake. (Latitude 54° Longitude 127°). The exploration work was conducted by Canex Placer Limited, Endako Mines Division personnel under J. B. Cyr's supervision as part of examination and evaluation of A. F. Lubber's mineral claims.
3. To the best of my knowledge the interpretation of data, conclusions and expenditures which are claimed for the performance of work are valid.


J. D. Simpson, Jr., P. Eng.



APPENDIX II

STATEMENT OF QUALIFICATION

I, J. B. Cyr of Canex Placer Limited, Endako Mines Division, Endako, B. C. do hereby certify that:

1. I am a geologist.
2. I am a graduate of the University of Saskatchewan with a BSc. degree in geology in 1970.
3. From 1970 until the present I have been engaged in exploration geology in British Columbia. During summer months as an undergraduate I conducted field work in northern Saskatchewan and Northwest Territories.



J. B. Cyr

DOMINION OF CANADA: }

PROVINCE OF BRITISH COLUMBIA. }

To WIT:

In the Matter of

Expenditures for Geological and Geochemical Survey on Ale and L & H Groups of Mineral Claims on June 29, 1972.

I, J. B. Cyr

of Canex Placer Limited, Endako Mines Division

in the Province of British Columbia, do solemnly declare that the following expenditures have been incurred by Canex Placer Limited, Endako Mines Division in carrying out soil geochemical and geological surveys for assessment work purposes on Ale 1 - 6 inclusive and L & H 1 - 10 inclusive Mineral Claims. One-third of work done was within the mineral claim boundaries.

<u>Personnel</u>	<u>Dates Employed</u>	<u>Time and Rate</u>	<u>Cost</u>
P. Buckley	June 29, 1972	12 hrs. @ \$3.75	\$45.00
G. D. Bysouth	June 29, 1972	12 hrs. @ 7.00	84.00
J. B. Cyr	June 29, 1972	20 hrs. @ 6.00	120.00
E. T. Kimura	June 29, 1972	12 hrs. @ 8.50	102.00
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D. W. Sargent	June 29, 1972	12 hrs. @ 3.60	43.20
L. E. Thon	June 29, July 8-10, 1972	24 hrs. @ 4.50	108.00
S. W. Wilson	June 29, 1972	12 hrs. @ 3.75	<u>45.00</u>
			\$644.40
Office overhead @ 15% of \$644.40			<u>96.66</u>
Subtotal personnel costs			<u>\$741.06</u>
Apply one-third of personnel costs as work done on mineral claims			247.02
Fixed-wing transportation: Transprovincial Airlines Flight No. 20045			475.00
Geochemical Assaying: 60 samples @ \$3.20			<u>192.00</u>
<u>TOTAL COSTS APPLICABLE AS ASSESSMENT WORK</u>			<u>\$914.02</u>

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the
of _____, in the
Province of British Columbia, this
day of _____, A.D.

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

In the Matter of

Expenditures for Geological and

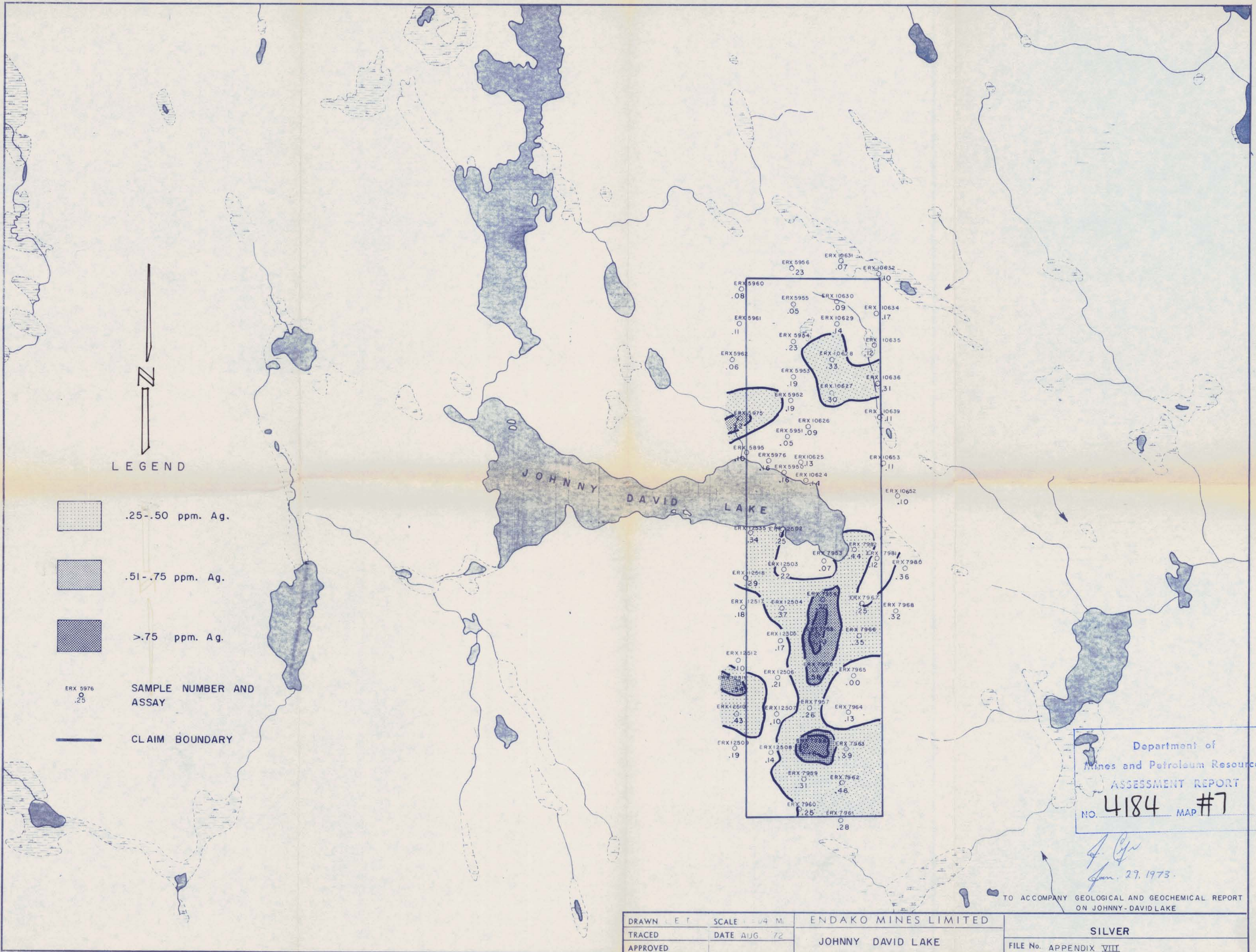
Geochemical Survey on Ale and

L & H Groups of Mineral Claims

on June 29, 1972.

Statutory Declaration

(CANADA EVIDENCE ACT)



N
↑
LEGEND

- .25-.50 ppm. Ag.
- .51-.75 ppm. Ag.
- >.75 ppm. Ag.

ERX 5976
○
.25

SAMPLE NUMBER AND ASSAY

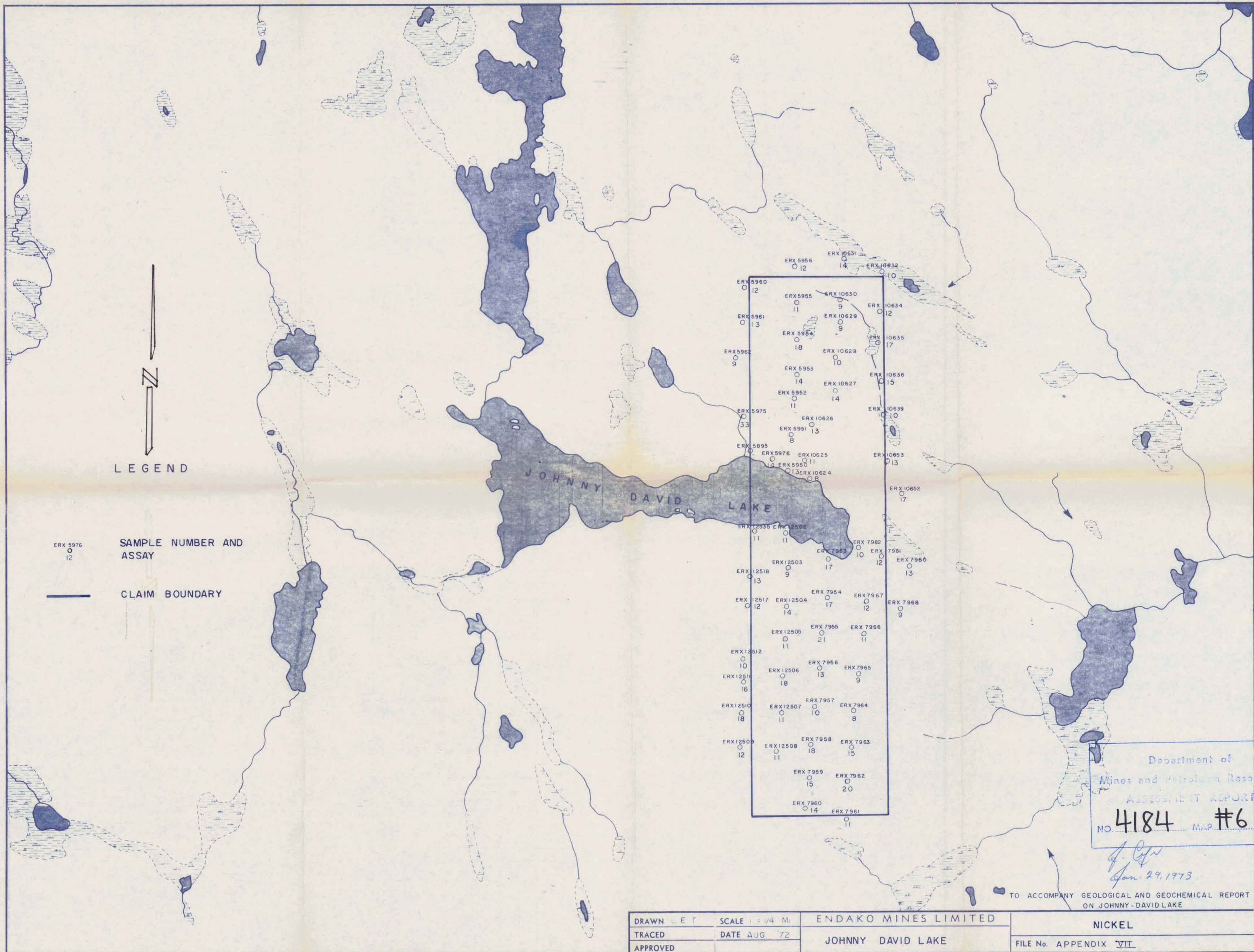
— CLAIM BOUNDARY

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A. C. J.
Jan. 29, 1973.

TO ACCOMPANY GEOLOGICAL AND GEOCHEMICAL REPORT
ON JOHNNY-DAVID LAKE

DRAWN L. E. T.	SCALE 1:24 M.	ENDAKO MINES LIMITED	
TRACED	DATE AUG '72	JOHNNY DAVID LAKE	SILVER
APPROVED			FILE No. APPENDIX VIII



LEGEND

ERX 5976
12

SAMPLE NUMBER AND ASSAY

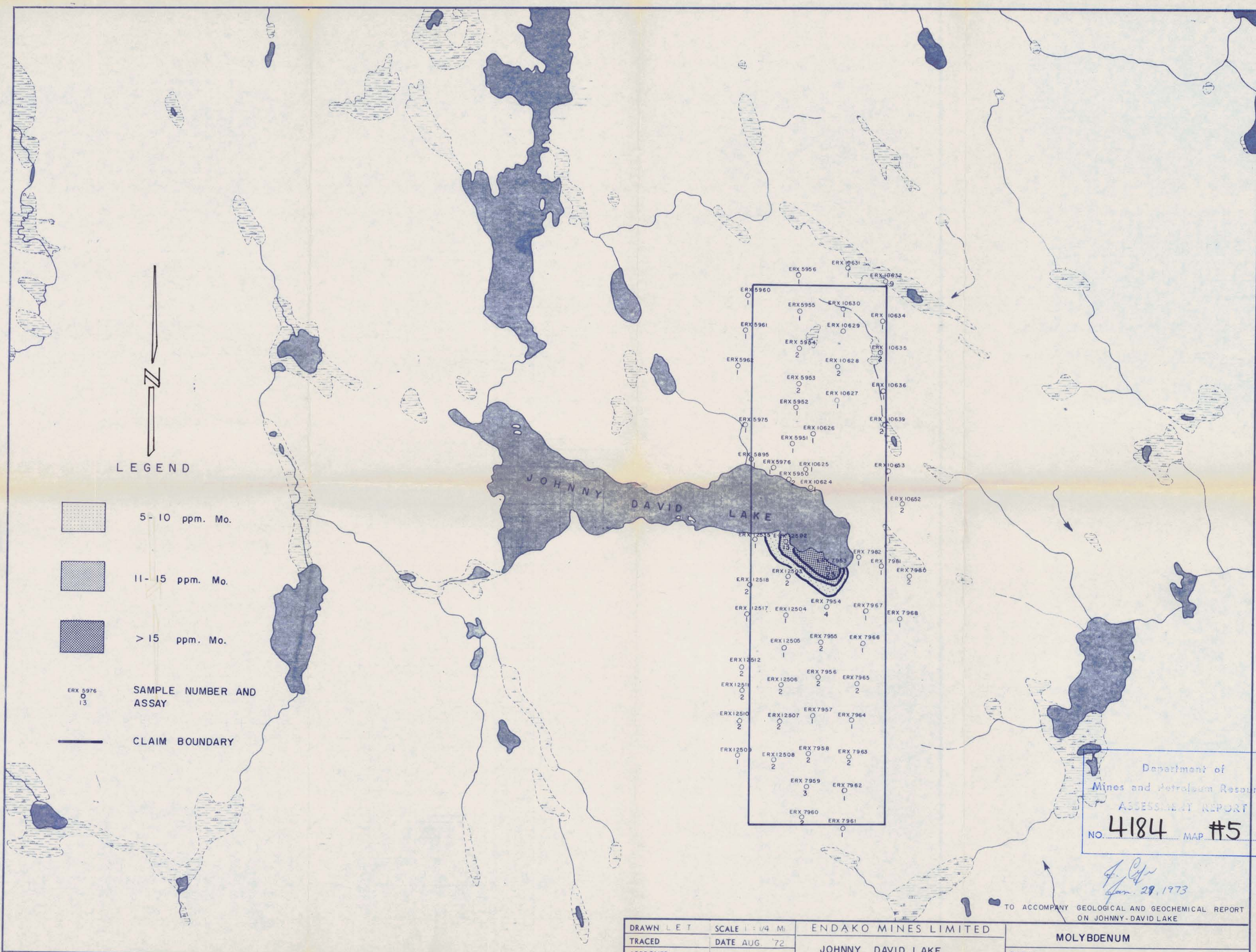
CLAIM BOUNDARY

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J. Coy
Jan 29, 1973

TO ACCOMPANY GEOLOGICAL AND GEOCHEMICAL REPORT
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DRAWN BY	SCALE 1" = 1/4 MI.	ENDAKO MINES LIMITED	NICKEL
TRACED	DATE AUG '72	JOHNNY DAVID LAKE	FILE No. APPENDIX VII
APPROVED			



LEGEND

-  5 - 10 ppm. Mo.
-  11 - 15 ppm. Mo.
-  > 15 ppm. Mo.

ERX 5976
0
13

SAMPLE NUMBER AND ASSAY

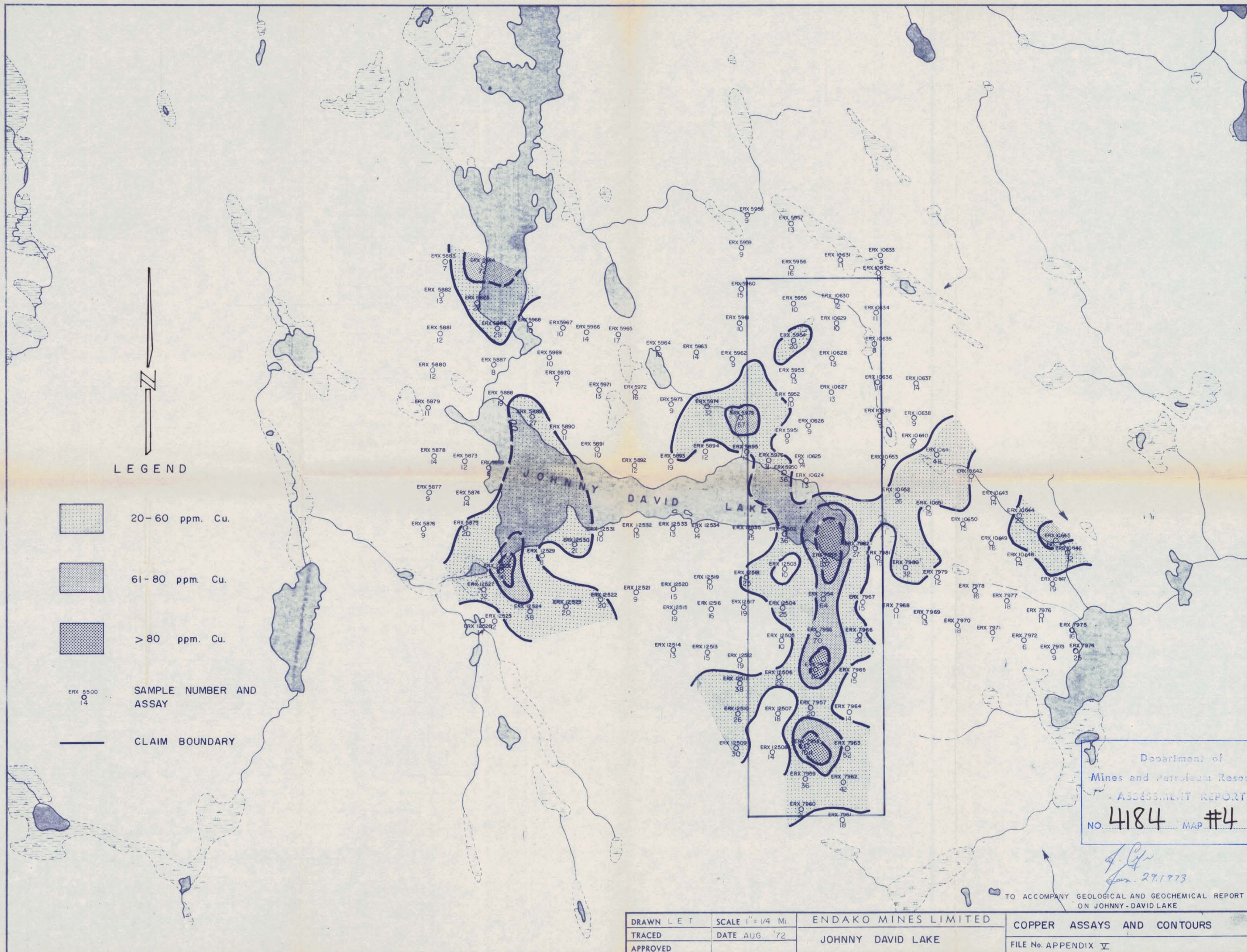
CLAIM BOUNDARY

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

A. C. J.
Jan. 29, 1973

TO ACCOMPANY GEOLOGICAL AND GEOCHEMICAL REPORT
ON JOHNNY-DAVID LAKE

DRAWN L.E.T.	SCALE 1" = 1/4 MI.	ENDAKO MINES LIMITED	MOLYBDENUM
TRACED	DATE AUG. '72	JOHNNY DAVID LAKE	FILE No. APPENDIX VI
APPROVED			



LEGEND

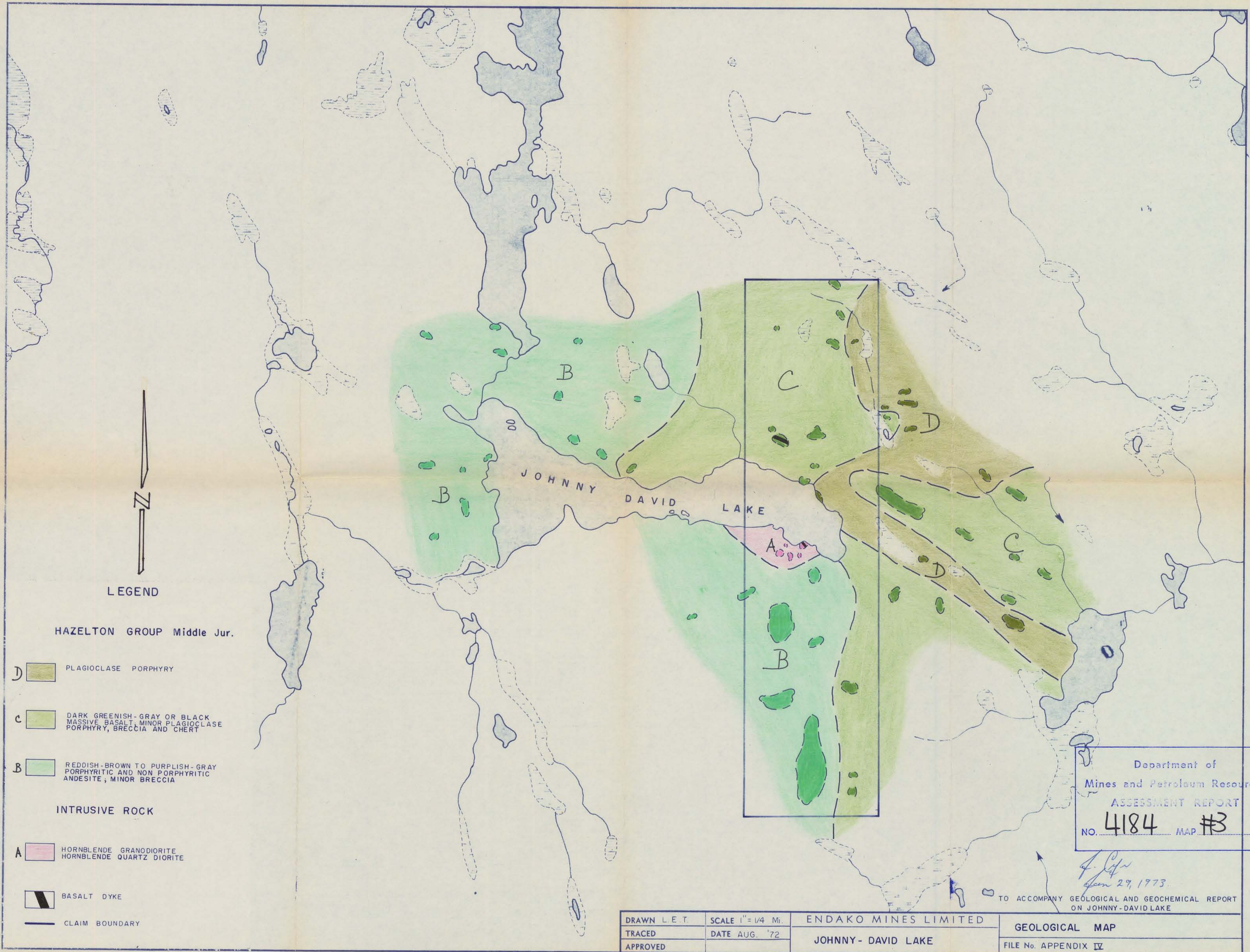
-  20-60 ppm. Cu.
-  61-80 ppm. Cu.
-  > 80 ppm. Cu.
-  SAMPLE NUMBER AND ASSAY
-  CLAIM BOUNDARY

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A. C. [unclear]
Apr. 29, 1973

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DRAWN L E T	SCALE 1" = 1/4 Mi	ENDAKO MINES LIMITED	COPPER ASSAYS AND CONTOURS
TRACED	DATE AUG '72	JOHNNY DAVID LAKE	FILE No. APPENDIX V
APPROVED			



LEGEND

HAZELTON GROUP Middle Jur.

- D PLAGIOCLASE PORPHYRY
- C DARK GREENISH-GRAY OR BLACK MASSIVE BASALT, MINOR PLAGIOCLASE PORPHYRY, BRECCIA AND CHERT
- B REDDISH-BROWN TO PURPLISH-GRAY PORPHYRITIC AND NON PORPHYRITIC ANDESITE, MINOR BRECCIA

INTRUSIVE ROCK

- A HORNBLende GRANODIORITE
HORNBLende QUARTZ DIORITE

- BASALT DYKE

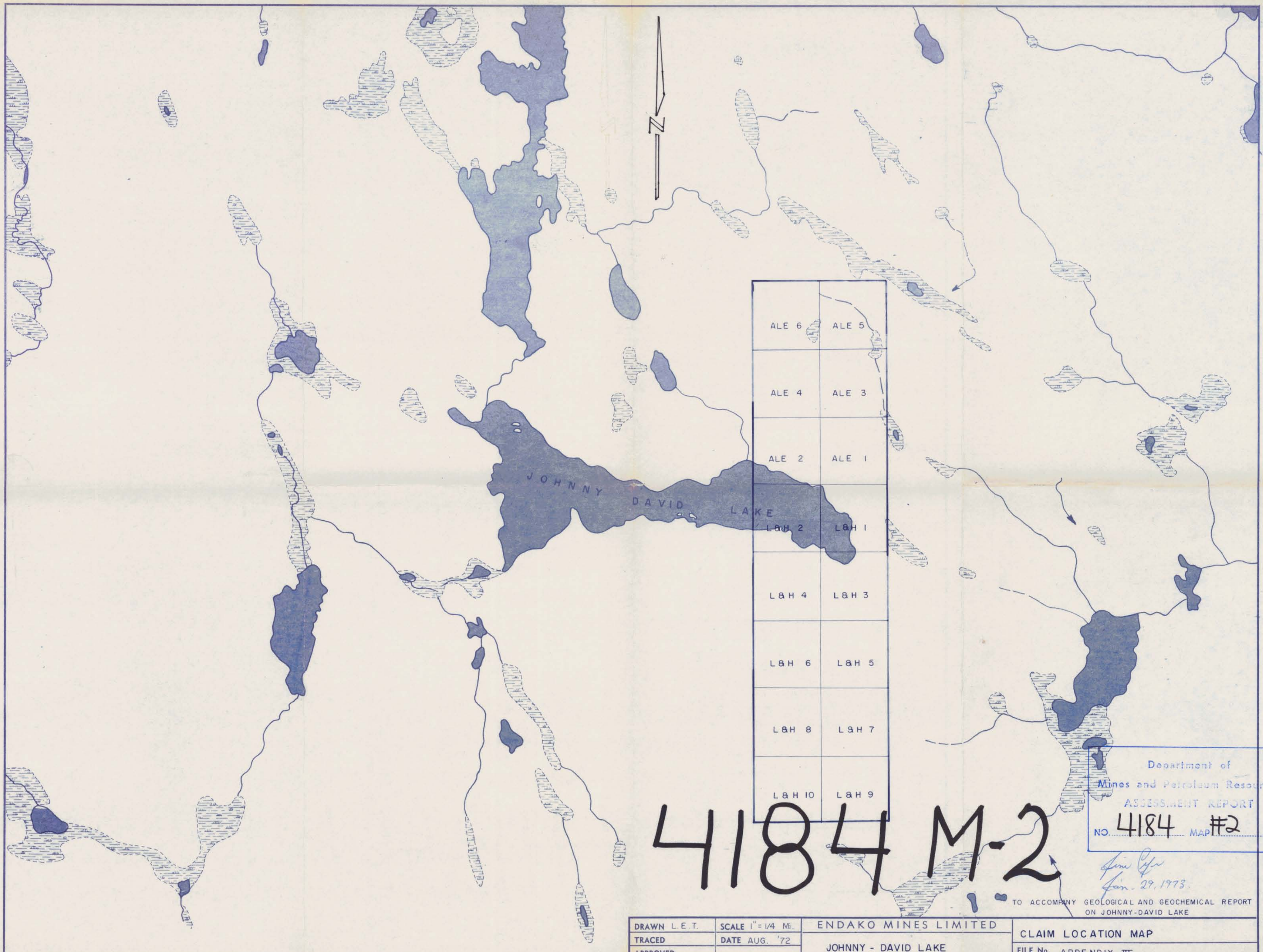
- CLAIM BOUNDARY

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F. J. P.
Jan 29, 1973.

TO ACCOMPANY GEOLOGICAL AND GEOCHEMICAL REPORT
ON JOHNNY-DAVID LAKE

DRAWN L. E. T.	SCALE 1" = 1/4 Mi.	ENDAKO MINES LIMITED	GEOLOGICAL MAP
TRACED	DATE AUG. '72	JOHNNY- DAVID LAKE	FILE No. APPENDIX IV
APPROVED			



4184 M-2

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Gene C. [Signature]
Jan. 29, 1973.

TO ACCOMPANY GEOLOGICAL AND GEOCHEMICAL REPORT
ON JOHNNY-DAVID LAKE

DRAWN L.E.T.	SCALE 1" = 1/4 Mi.	ENDAKO MINES LIMITED	CLAIM LOCATION MAP FILE No. APPENDIX III
TRACED	DATE AUG. '72	JOHNNY - DAVID LAKE	
APPROVED			