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GEOLOGICAL REPORT

on

THE LOT AND LOR CLAIM GROUPS
LOGAN CREEK - MERRITT AREA
NICOLA MINING DIVISION, BRITISH COLUMBIA

for
Lead Hill Prop.

~~SUNEX INTERNATIONAL RESOURCES LTD.~~

20 units

~~AUGUST 24TH, 1971~~

by

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821-602 West Hastings Street
Vancouver 2, B.C.

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I N T R O D U C T I O N

The writer examined the Sunex International Resources property on August 11th, 1971. Conclusions and recommendations in this report are based on the results of work carried out on the property by American Smelting and Refining Co. in 1966 and Lennart Bourgh, Prospector, of Merritt, B. C. in 1957, as well as the writer's personal observations.

O W N E R S H I P A N D L E G A L A S P E C T S

Sunex International Resources Ltd. furnished the writer with the attached claim map and represented the claims shown on the map as owned by Sunex International Minerals Corporation Ltd. of 616-850 West Hastings Street, Vancouver, B. C.

The writer examined two sets of posts selected at random in the claim group and found the claims were staked in accordance with the British Columbia Mining Act.

Evaluation of the legal aspects of the claims is beyond the scope of this report.

PROPERTY

The following 22 adjoining mining claims are held by Sunex International Resources Ltd.:

<u>Claim Name</u>	<u>Record Number</u>
Lor 12	49303D
Lor 13	49305D
Lor 14	49304D
Lor 15 to 22	Recently staked.
Lot 1 to 11	48790D to 48800D

LOCATION AND ACCESS

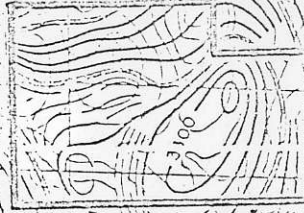
The mining property under discussion is located approximately 5 miles west of Merritt, B. C. and 4 miles south of the Craigmont mine. It may be reached by travelling 6 miles west of Merritt along B.C. Highway No.8 to the Sunshine Valley road, then south 6 miles crossing the Canadian Pacific Railway. The area of interest lies on the flank of the Coulee Plateau just south of the Nicola River. A branch of Logan Creek crosses the claim group. Elevations range from 2600 to 3600' ASL. Relief is not rugged or extensive but local hills sometimes have slopes of 25°. The central part of the group is plateau-like and covered by grazing land with an extensive

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LOCATION MAP

LOT 8: LOR CLAIMS

HIGHLAND VALLEY AREA, B.C.



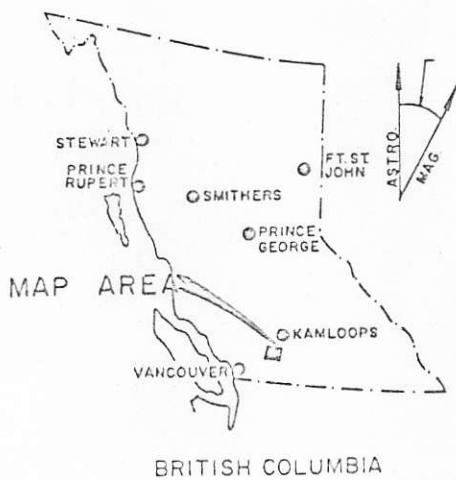
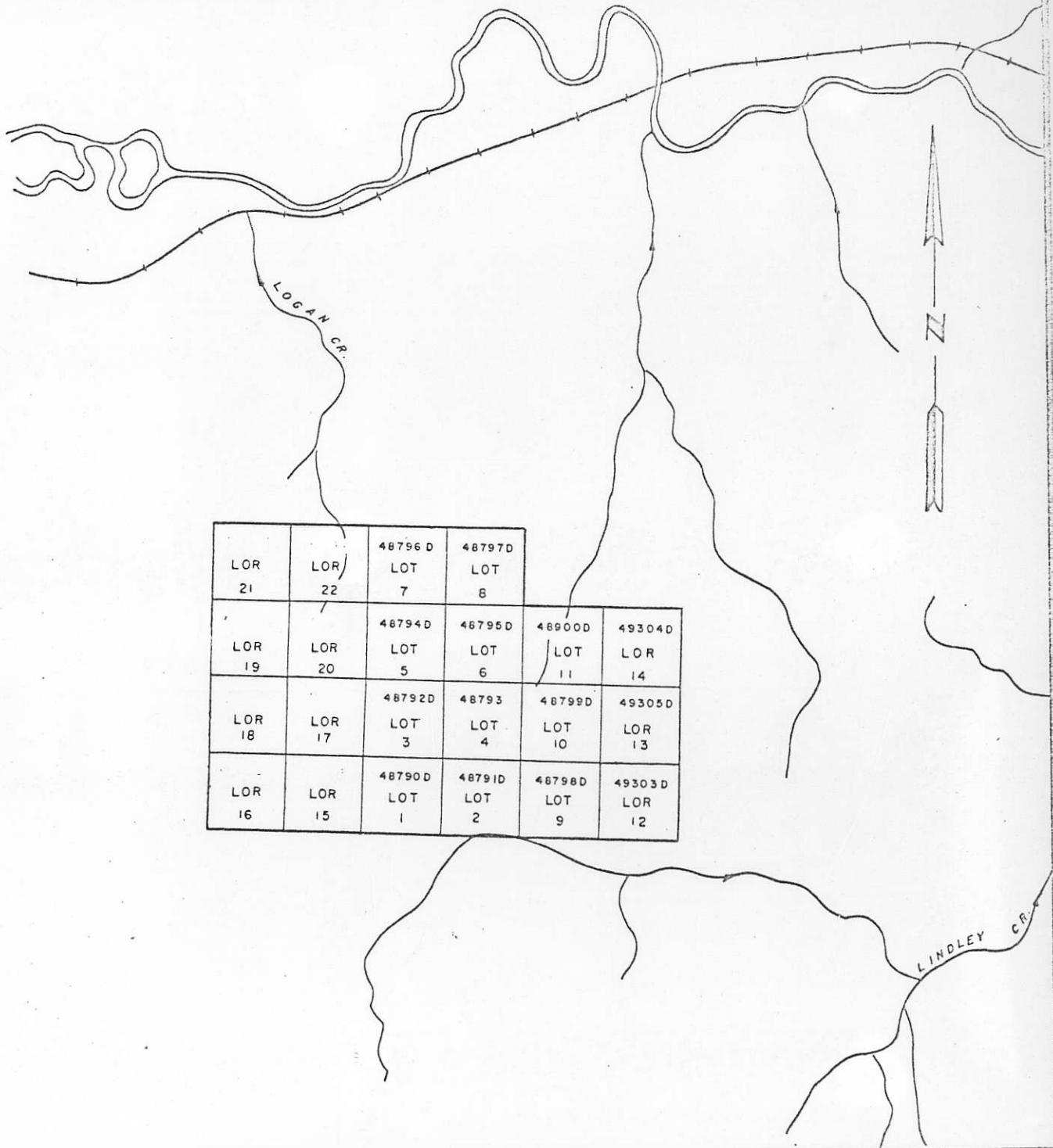
MAP 5209G

MERRITT

BRITISH COLUMBIA

Scale: One Inch to One Mile = $\frac{1}{63,360}$
Miles

1 1/2 0 1 2 3

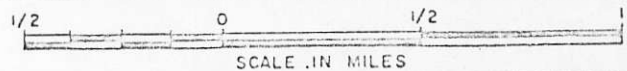


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LOCATION MAP

LOT & LOR CLAIMS

HIGHLAND VALLEY AREA, B.C.



network of logging roads. A thin mantle of glacial debris masks most of the property and rock outcroppings are limited in extent.

The main drainage in the area is the westward flowing Nicola River. Logan Creek drains northward into it from a small lake centrally located on the claim group.

The elevation and topography are such that year-round exploration and mining can be carried out. The region is in the dry belt of British Columbia and rainfall is exemplified by Kamloops, which is between 10 and 11 inches per year.

Access to the property is excellent via main paved highway and secondary all-weather gravel roads. The claims are covered with plentiful second growth mature timber with little undergrowth. All the facilities available to the large open pit Craigmont Mine are equally accessible to this area including power, timber, access roads and the facilities of the nearby distribution and farming centre of Merritt, B. C.

H I S T O R Y

The mining history of the general area dates back to 1882 and the mineral deposits include several diverse types and occur at widely scattered points. Deposits of gold and silver, lead and zinc, copper, mercury, tungsten and iron together with those of industrial minerals and coal have been found. However, the main attention in recent years has been directed to the large scale open pit porphyry copper deposits in production in the prolific Highland Valley copper area, 40 miles to the north and the similarly large scale open pit and underground skarn deposit of the Craigmont Mine located 4 miles to the north. Reserves at the nearby Craigmont Mine are estimated at 18 million tons of 1.74% copper and production is currently about 5,000 tons per day.

G E N E R A L G E O L O G Y

The Geological Survey of Canada published the following geological report covering the area under discussion:

W. E. Cockfield, Memoir 249, "Geology and Mineral Deposits of the Nicola Map Area, British Columbia, 1961."

G.S.C. Aeromagnetic Map 5209G covers the claim area. The following table of geological formations present in the area is adapted from W.E. Cockfield.

TABLE OF FORMATIONS

Era	Period	Epoch	Formation	Lithology	
Cenozoic	Quaternary	Pleistocene and Recent		Stream alluvium and delta deposits; glacial drift and glaciofluvial terrace deposits	
			Tertiary	Miocene or later	Valley basalt
	Tertiary	Miocene or earlier	Kamloops group	Volcanic rocks	Rhyolite, andesite, basalt, with associated tuffs, breccias, and agglomerates
				Tranquille beds	Conglomerate, sandstone, shale, and tuff; thin coal seams
Coldwater beds	Conglomerate, sandstone, shale, and coal				
Mesozoic and/or Cenozoic	Cretaceous or Tertiary	Post-Lower Cretaceous	Copper Creek intrusions	Granite, granodiorite, granite porphyry	
		Lower Cretaceous(?) or later		Andesite; basalt; pterite, agglomerate, breccia, and tuff; serpentine; minor conglomerate and sandstone	
					Conglomerate, sandstone, and shale
Mesozoic	Cretaceous	Lower Cretaceous	Kingsvale group	Rhyolite, andesite, basalt, agglomerate, breccia, tuff; arkose; conglomerate	
			Spence Bridge group	Hard, reddish lava	
	Jurassic and(?) later	Jurassic and(?) Lower Cretaceous	Coast intrusions	Granite, granodiorite, quartz diorite, diorite, gabbro, and pyroxenite	
	Triassic	Upper Triassic	Nicola group	Greenstone, andesite, basalt, agglomerate, breccia, tuff; minor argillite, limestone, and conglomerate	
Paleozoic	Carboniferous and Permian		Cache Creek group(?)	Greenstone, slightly sheared	
				Argillite, quartzite, hornstone; greenstone and serpentine; limestone, conglomerate, and breccia	
Undifferentiated Paleozoic and later				Chlorite schist, quartz-mica schist, amphibolite, and granitic intrusions	

Rock outcroppings are widely masked by shallow but dense clay overburden and are limited in extent. They are mainly classified as the Kingsvale Group of the Lower Cretaceous Mesozoic era on the G.S.C. Map 886A.

LOCAL GEOLOGY

Locally the claim group is underlain by Upper Triassic, Nicola Volcanics intruded by granodiorite stocks of the Coast Range intrusives of Jurassic or Cretaceous Age. The oldest formation is the Upper Triassic Nicola Group (see attached Geological Plan). The sequence is represented by green or grey lavas with intercalated breccias, agglomerates and tuffs. In places thin bands of argillite and lenses of crystalline limestone were observed. These rocks are highly altered and chloritized which masks individual boundaries.

The Nicola Group was later intruded by granodiorite and diorite stocks of the Coast Range intrusives classified as Jurassic or Cretaceous in age. The area was then overlain by a capping of post mineral rhyolite and andesite of the Kamloops Group thought to be of Tertiary Age. Later tectonic and erosional forces exposed the favourable Nicola rocks as a window in the Tertiary volcanics.

Copper and zinc mineralization in the form of small zinc veinlets and weak disseminations of chalcopyrite and bornite was observed at various

widely separated locations in the Nicola rocks and their skarnitized equivalents. These occur usually near the contact zones of the Coast Range granodiorite stocks. Feldspar, chlorite and specular hematite was noted in conjunction with the sulphides. In general the widespread alteration zones in the Nicola rocks near granitic contacts have attracted the most attention.

EXPLORATION WORK

In 1966 an exploration program was carried out over the property comprising geological studies, approximately 4000 feet of trenching with a D-8 tractor, 15.5 line miles of Induced Polarization and ground magnetometer surveying, and 1115 feet of rotary percussion drilling with a Becker unit. The I.P. survey was conducted by Canadian Aero Surveys utilizing a Seigel Mark V-A Time Domane Unit. A ground magnetometer survey was conducted by the ASARCO staff using a McPhar 500 fluxgate magnetometer. The relationship of these surveys is shown on the attached geological compilation map.

In 1969 L. Bourgh drilled three short diamond drill holes in I.P. anomalous areas. He later completed a soil survey over part of the group.

OBSERVATIONS

Most of the detailed work on the claim group was carried out over an 8000 foot diameter area centred around Lot 5 and 6 mining claims. A large aeromagnetic anomaly with a peak of 3300 gammas occurs in the vicinity of the main area of interest on the claims. Its centre lies 1/4 mile south of the small lake on Claim Lot No. 11 as shown on the accompanying plan taken from G.S.C. Aeromagnetic Sheet 5209G - Merritt Area. It coincides on the ground with an extensive magnetite skarn zone at the contact between an intrusive diorite stock and the Nicola greenstones. The attached geological compilation plan shows the relationship between the magnetic skarn areas in the host rocks. Several smaller intense magnetic anomalies occur locally within the skarn area and in two locations are accompanied by large pyritized zones several hundred feet in diameter. These account for the three major I.P. anomalies shown.

GEOCHEMISTRY

A reconnaissance geochemical soil survey was carried out over the SE quadrant of the area on lines spaced 800 feet apart. Some 200 samples were taken at intervals of 100 feet and assayed for copper and zinc. Background values for copper are 35 parts per million and for zinc, 65 parts per million. Copper anomalies were encountered and several scattered zinc

anomalies were found as shown on the attached plan. It is concluded that the sample lines were too far apart to outline definite trends in the survey and should be spaced at not less than 400 feet apart. The zinc anomalies were sufficiently encouraging to warrant an extension of the survey over the entire property.

The overburden consists of dense fluvio-glacial deposits that vary in thickness over short distances from a few feet to up to 100 feet. Geochemical work is hampered by the impervious clay and the varying soil profile.

DRILLING

The drilling carried out by American Smelting and Refining listed widely separated anomalous zones. The majority of the assays were reported to be low in copper, in the 0.02% to 0.04% range except in holes 1 & 2 where the following values were reported:

No. 1	50-60 ft.	0.16% Cu
No. 2	0-10 ft.	0.10% Cu

L. Bourgh reported the following assays were obtained in three holes drilled as shown on the accompanying geological compilation plan:

		<u>Gold</u> (oz/ton)	<u>Silver</u> (oz/ton)	<u>Lead</u> (%)	<u>Zinc</u> (%)
DH #1	0-90 ft.	0.005	0.60	1.05	0.86
DH #2	0-100 ft.	Lead Zinc combined 1% over 100 feet.			
DH #3	The only sampled section was a 25 foot core length that reported 0.3% copper in altered diorite. The hole was reported drilled to 200 feet.				

No systematic log of these holes is available. The core was not located. The remnants of the core from holes 1 and 3 were examined at location 100S, 800W. The holes are located 1000 feet apart on a strong I.P. anomaly. They penetrated the same sequence of rocks and encountered a highly pyritized core containing up to 50% coarse pyrite with low values in lead and zinc over a thickness of 70 to 80 feet drilled. After penetrating overburden from 20 to 100 feet in thickness, approximately 25 feet of overlying magnetic skarnitized Nicola greenstone was penetrated and the remainder of the hole to a drilled depth of around 80 feet consisted of heavily leached and altered granodiorite breccia containing up to 25 to 50% coarse disseminated pyrite carrying values in lead and zinc up to 2% combined. Some local sections of the core contained small zones of massive pyrite. A 1000 ft. diameter zone of heavily mineralized granodiorite is indicated by the I.P. anomaly and drilling. More detailed investigation of the zone is warranted.

Hole No. 3 located 400 feet east of the base line on line 100+00S was drilled on a low outcrop of granodiorite. Bourgh reports the hole encountered mineralized granodiorite to a depth of 200 feet drilled. A 25 ft.

section of this hole was reported to assay 0.3% copper. The remainder of the core was not sampled and has since been lost. A nearby bedrock trench has exposed granodiorite sparsely mineralized with fine chalcopyrite. The host rock contains a high percentage of pink feldspar and epidote alteration. A 2 to 4 foot capping of skarnitized Nicola greenstone overlies the granodiorite. The hole lies at the periphery of a large I.P. anomaly with minor magnetic anomalous zones.

The presence of a highly altered granitic host rock containing chalcopyrite mineralization provides an attractive target area for more detailed investigation.

C O N C L U S I O N S A N D R E C O M M E N D A T I O N S

The Lor and Lot Claims of Sunex International Resources Ltd. are underlain by a well mineralized suite of highly altered rocks that have been intruded by granodiorite of the Coast Range Series. The preliminary investigation has disclosed low values in zinc and copper that warrant further detailed investigation by geochemical survey work followed by additional trenching and diamond drilling.

A program of \$12,000.00 in exploration work is recommended as follows:

- | | | |
|-----|---|-------------|
| (1) | On a surveyed grid over the property at 400 foot and 100 foot spacing, conduct a Magnetometer Survey. | |
| | 18 Line Miles @ \$100/mile | \$ 1,800 |
| (2) | On grid established, conduct a Geochemical Survey testing the soils for copper, lead and zinc. | |
| | 18 Line Miles @ \$150/mile | 2,700 |
| (3) | Geologically map the grid area with as much detail as possible and locate all outcrops on the map. | |
| | | 2,000 |
| (4) | Bulldoze selected areas to expose bedrock and excavate trenches where necessary. | |
| | | 3,500 |
| (5) | Contingencies and Overhead @ 20% | 2,000 |
| | | <hr/> |
| | TOTAL | \$12,000 |
| | | <hr/> <hr/> |

Respectfully submitted,



Edward O. Chisholm, P.Eng.

C E R T I F I C A T E

I, Edward O. Chisholm of the City of Vancouver
in the Province of British Columbia, hereby certify that:

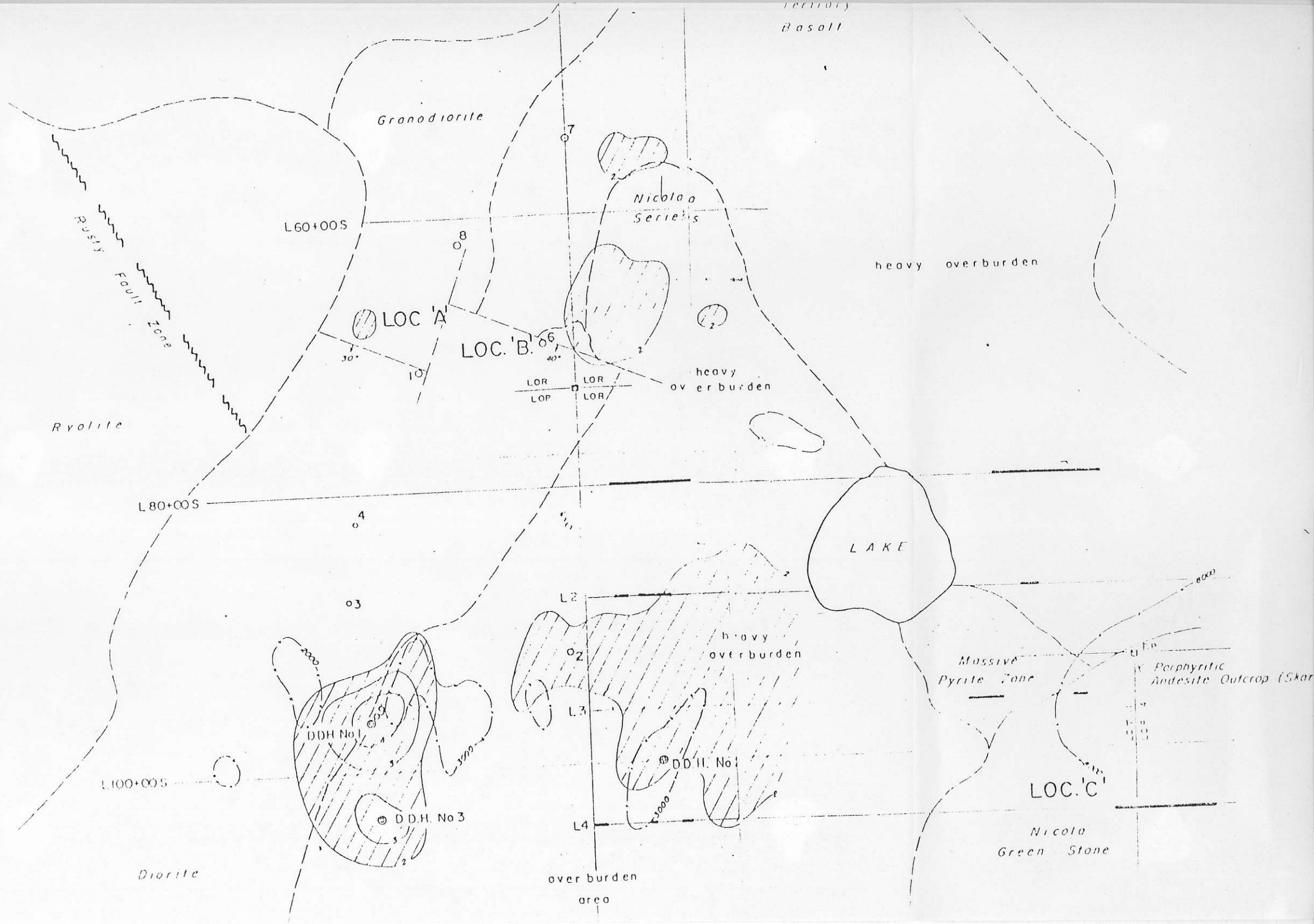
- (1) I am a geologist with offices at 821-602 West
Hastings Street, Vancouver 2, B.C.
- (2) I am a graduate of the University of Toronto,
Ontario, Master of Arts, 1945.
- (3) I am a member of the Professional Engineers of
Ontario and British Columbia.
- (4) I have no direct interest or indirect interest
in either the property or securities of Sunex
Internation Resources Ltd. or its affiliates,
nor do I expect to receive any such interest.
- (5) This report is based on an examination of the
property on August 11th, 1971, on Company
reports and records, and on government reports
published on the area.

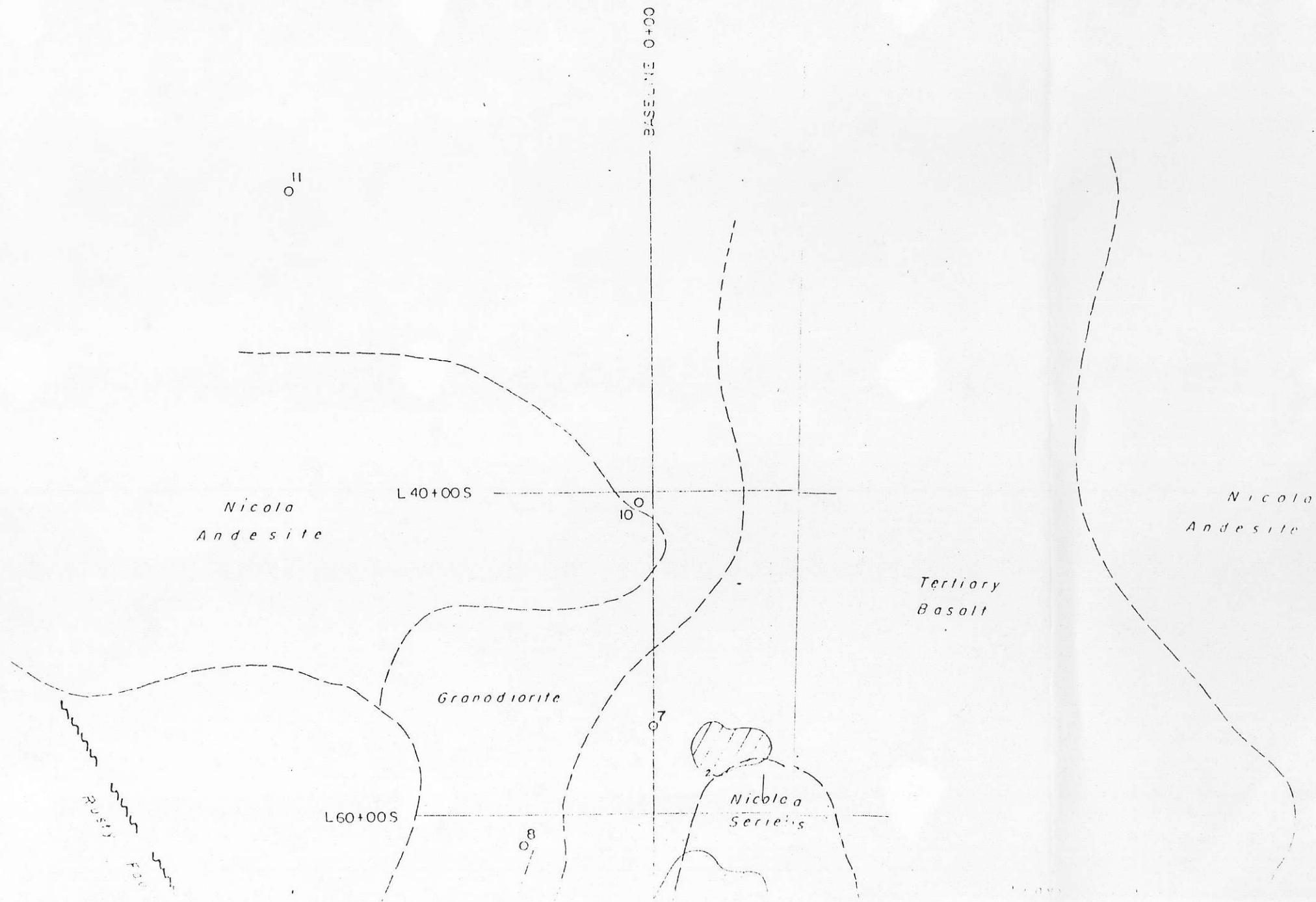
DATED AT VANCOUVER, BRITISH COLUMBIA

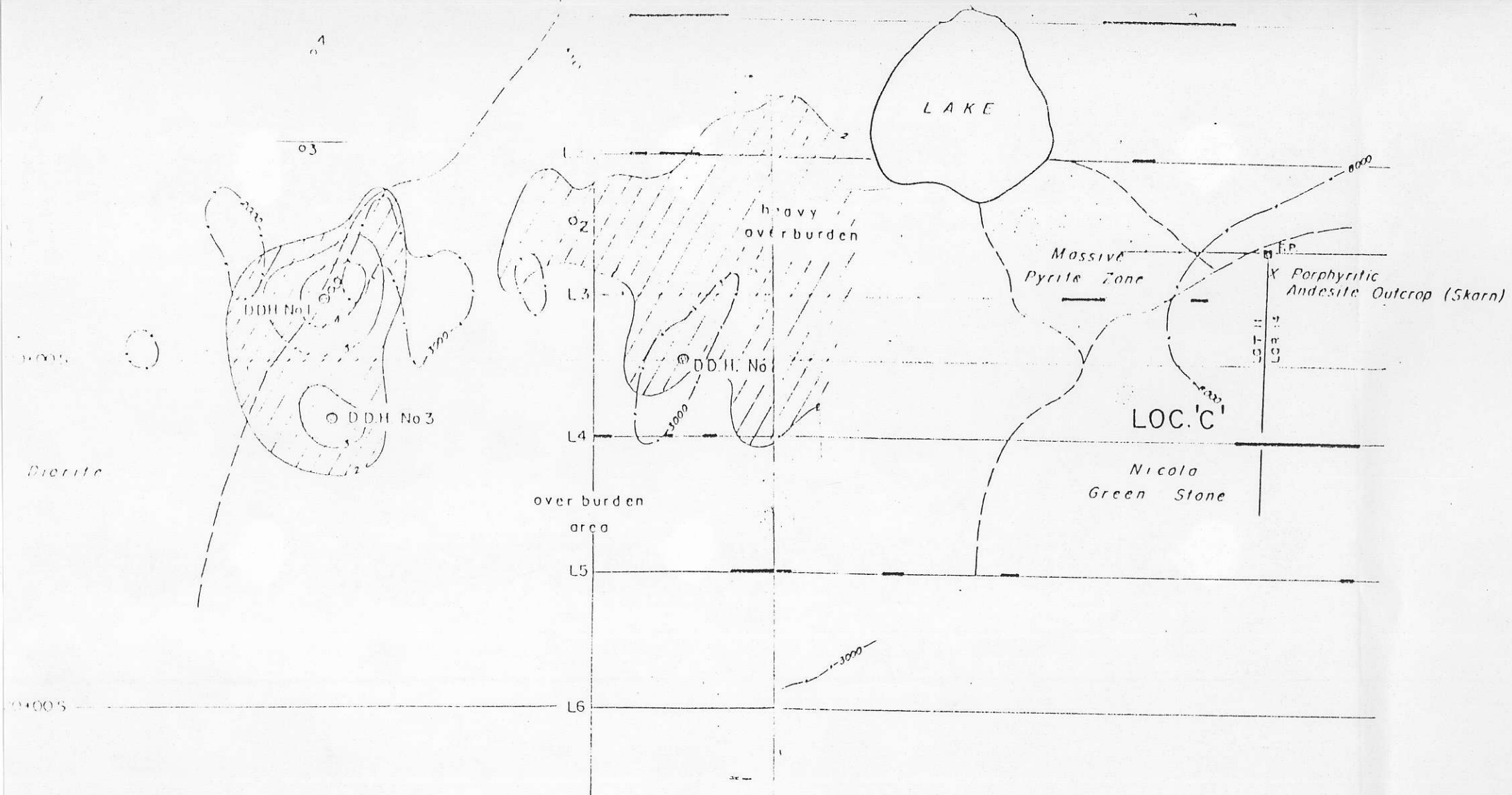
AUGUST 24th, 1971



Edward O. Chisholm, P.Eng.







- L.P. CONTOUR
- MAG CONTOUR
- ZINC SOIL ANOMALY

DIAMOND DRILL HOLE (L. BOURCH-1957)

SUNEX INTERNATIONAL RESOURCES LTD.
 616-850 WEST HASTINGS ST.
 VANCOUVER, B.C.

GEOLOGICAL COMPILATION PLAN

SCALE: 1" = 800 Feet

TO WEST SEE MAP 92 1/3 E

