Off Confidential: 89.05.30 )istrict Geologist, Kamloops MINING DIVISION: Kamloops ASSESSMENT REPORT 17555 Birch **U**ROPERTY: 51 31 45 LONG 119 53 17 LAT LOCATION: 11 5712408 299672 UTM NTS 082M12W CLAIM(S): Birch 1-3 New Global Res. OPERATOR(S): , UTHOR(S): Lennan, W.B. 1988, 30 Pages LAEPORT YEAR: COMMODITIES SEARCHED FOR: Gold,Silver,Lead,Zinc,Copper GEOLOGICAL The immediate claim area is underlain by Devonian-Mississippian SUMMARY: rocks of the Eagle Bay Formation. The formation consists of rusty weathering greenish-grey feldspathic chlorite schists, chlorite schists, sericite schists, quartz-sericite schists and sericitic quartzites. The units comprise a relatively flat lying plate occurring as a north plunging synform. The apparent bedding strikes northeast at 045 degrees and dips 10 to 35 degrees to the northwest. Massive sulphide lenses occur within various schist units. WORK Geological, Geochemical DONE: 400.0 ha GEOL 1... Map(s) - 1; Scale(s) - 1:50004.0 km LINE 24 sample(s) ;AU,PB,ZN,AG 33 sample(s) ;AU,PB,ZN,AG SILT L\_. SOIL 082M 048 MINFILE:

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#### GEOLOGICAL AND GEOCHEMICAL

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ASSESSMENT REPORT

ON THE

#### **BIRCH 1 TO 4 CLAIMS**

North Thompson River Area Kamloops Mining Division British Columbia FILMED

51° 32' North Latitude / 119° 53' West Longitude N.T.S. 82 M/12W

FOR

FOUNDATION RESOURCES LTD. 548 Beatty Street Vancouver, B.C. V6B 2L3

BY

W. BRIAN LENNAN, B.Sc., F.G.A.C. NEW GLOBAL RESOURCES LTD. 548 Beatty Street Vancouver, B.C. V6B 2L3

June 25, 1988

Field work from May 25 to May 29, 1988

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## TABLE OF CONTENTS

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Introduction	1
Location and Access	2
Physiography and Vegetation	2
Claim Status	2
Exploration History	3
Regional Geology	4
Mineralization and Previous Diamond Drilling	4
Field Procedures	7
Geochemistry	8
Linecutting	10
Conclusions and Recommendations	10
Cost Estimate for Future Work	13
References	14

Appendix I	Statement of Qualifications
Appendix II	Cost Statement for 1987-1988 Work
Appendix III	List of Personnel and Dates Worked
Appendix IV	Chemex Analytical Procedures and Assay Certificates

	LIST OF FIGURES	After Page
Figure 1 Figure 2 Figure 3 Figure 4	Property Location Map Claim Map; 1:50,000	2 2 4 in pocket

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The Birch 1 to 4 claims consisting of 38 contiguous units were staked in May 1987 by New Global Resources Ltd. These claims have since been acquired by Foundation Resources Ltd.

The ground was originally held by Barrier Reef Resources from 1979 to 1986 as the Foggy claims. A considerable amount of work, including diamond drilling, was completed by Barrier Reef and property optionee, Esso Resources Canada. The claims were allowed to lapse in 1986/87.

Research into the area by Foundation Resources indicated that outcropping volcanogenic massive sulphide exploration targets had not been developed as precious metal exploration targets. Work in the past has been mainly for pursuit of copper, lead and zinc.

The immediate area around the Birch claims is noteable for its abundance and variety of mineralization. The Rexspar uranium and fluorite - rare earth oxide deposits adjoin the Birch ground some 4 kilometres north-northwest. The Harper Creek bulk tonnage copper property is located 4 kilometres east. Approximately 50 kilometres to the south of the Birch claims, two significant ore bodies have been recently discovered in similar rocks. These orebodies are hosted by the Eagle Bay Formation schists. Rea Gold Corp. along with Minnova Corp. have discovered a silver / zinc orebody hosted by sericitic phyllites similar to rocks outcropping on the Birch claims. The Homestake deposit which lies near the Rea Gold deposit is also hosted by altered and sheared sericite schists of the Eagle Bay Formation.

The main massive sulphide zone exposed on the Birch claims appears to have considerable strike length and down dip continuity as shown by geochemical anomalies and geophysical work. Only very limited drill testing has been done and considerably more work needs to be done to evaluate the gold potential of this zone.

#### LOCATION AND ACCESS

The Birch claims are located some 350 kilometres northeast of Vancouver and 100 kilometres north-northeast of Kamloops in south-central B.C. The property lies 11 kilometres south of the village of Birch Island (Figure 1).

Access to the property is gained by driving 15 kilometres east from Birch Island along the south side of the North Thompson River and then 20 kilometres south and west along the Jones Creek logging road. The approximate geographic center of the property is at 51° 32' north latitude and 119° 53' west longitude.

#### PHYSIOGRAPHY AND VEGETATION

The claims cover part of a northerly trending ridge lying between Foghorn Creek and Lute Creek. Most of the topography is gently sloping to the north and northeast except for that part covering the steep east slope of Foghorn Creek Valley. Elevations vary between 1,463 metres and 1,828 metres.

Most of the property is covered by a dense growth of mature spruce, cedar and fir. There are widespread open areas due to recent clear-cut logging.

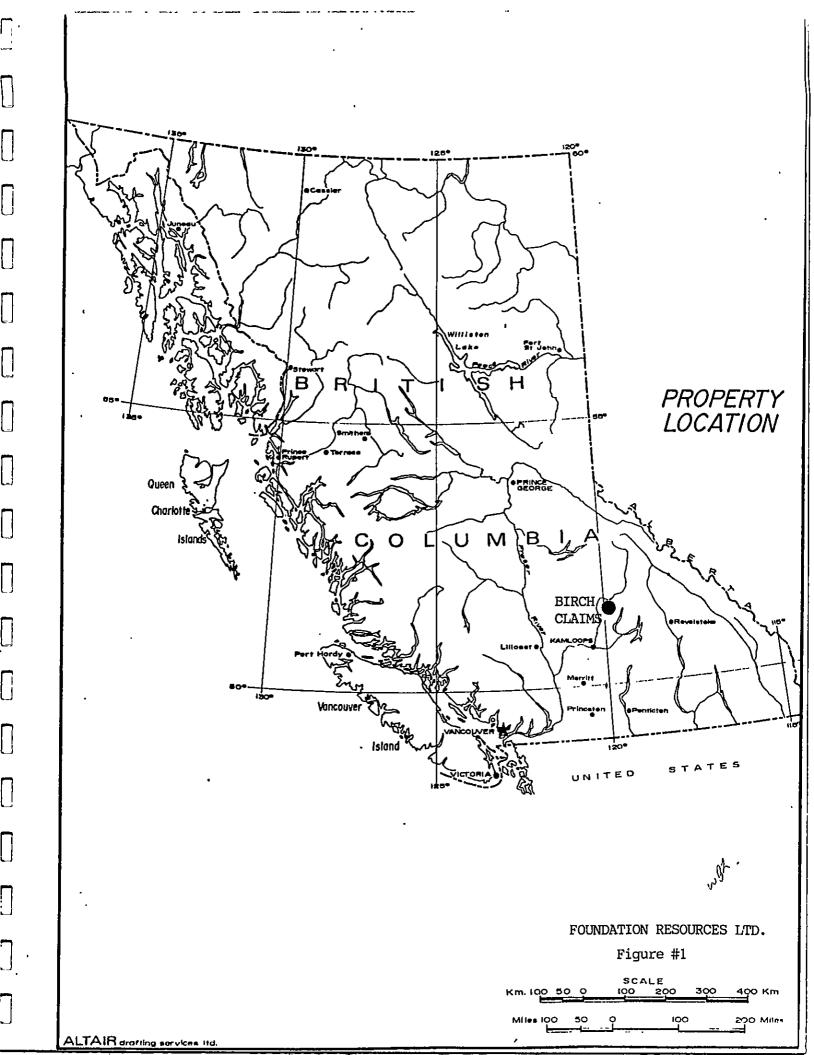
Outcrop is most abundant along road cuts and creek gulleys.

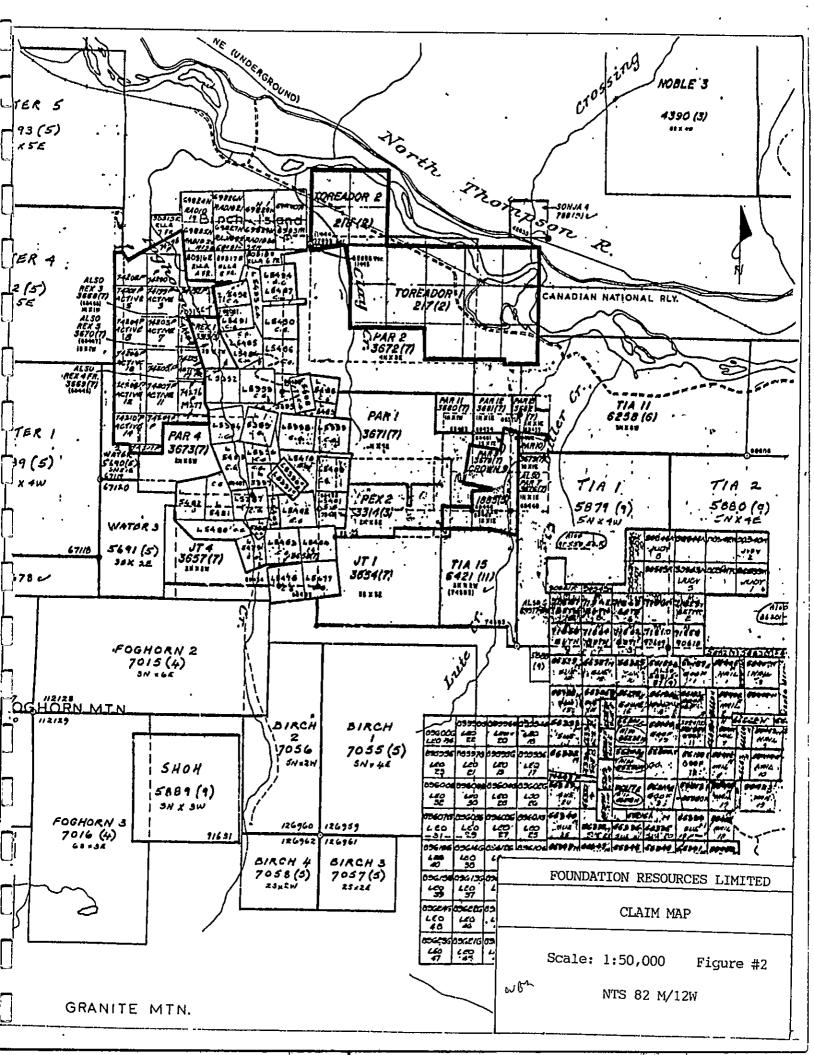
#### **CLAIM STATUS**

A total of four claims consisting of 38 units were staked by New Global Resources in May 1987. These were then sold to Foundation Resources Ltd. (see Figure 2).

Claim Name	Record No.	<u>No. of Units</u>	Expiry Date	
Birch #1	126959	20	May 29, 1989*	
Birch #2	126960	10	May 29, 1989	
Birch #3	126961	4	May 29, 1989	
Birch #4	126962	4	May 29, 1989	

\* with application of assessment work documented in this report





#### EXPLORATION HISTORY

Barrier Reef Resources in conjunction with Craigmont Mines carried out an airborne Dighem II EM survey over the Foggy 11 claim (now Birch claim) during the spring of 1979. This work outlined a low resistivity anomaly. Follow-up work located an outcrop of northeast striking massive sulphide mineralization within sericitic schists.

Soil geochemical sampling and a VLF-EM survey were carried out during 1979 to further expand and define the Dighem II anomaly. Anomalous geochemical values generally follow the northeasterly trending Dighem II anomaly for approximately 2,200 metres. The VLF-EM survey outlined several weak, linear conductive zones which lie in or adjacent to the Dighem II anomaly.

During 1980 and 1981 Barrier Reef expanded the geochemical soil sampling program as well as performing reconnaissance prospecting and geological mapping. A second outcrop of massive sulphides was located along with mineralized float boulders expanding the strike length of known mineralization to 900 metres.

In 1982 Barrier Reef optioned the ground to Esso Resources. Esso carried out additional ground EM and magnetometer surveys in 1983 as well more soil geochemistry. A major multi-element anomaly emerged from the survey. This anomaly was found to overlie the mineralized outcrop and to parallel its strike for approximately 700 meters. This area is also anomalous in gold.

In late 1983 Esso Resources drilled two holes about 200 metres apart along the strike of the massive sulphide outcrop and its suspected extension. Two mineralized zones were intersected in the holes. These two massive sulphide zones were separated by 35 metres of poorly mineralized rock. In 1984, Esso drilled a third hole some 200 metres down dip (to the northwest) from the first two holes. The lateral equivalents of the intersections in the first two holes were located but were poorly mineralized. Some trenching was conducted over about 100 metres of the best soil anomaly. These trenches are still in good condition.

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#### **REGIONAL GEOLOGY**

The claims are located in the northwest part of the Seymour Arm / Seymour Plateau, an area of Lower to Upper Paleozoic sediments and volcanics with common intrusives. The immediate claim area is underlain by Upper Paleozoic (Devonian to Mississippian) rocks of the Eagle Bay Formation. The formation consists of rusty weathering, greenish grey feldspathic chlorite schists, chlorite schist, sericite schists, quartz sericite schists and sericitic quartzites. These units comprise a relatively flat lying plate, occurring as a slightly north-plunging synform. The apparent bedding strikes northeast at azimuth  $045^{\circ}$  and dips northwesterly from  $10^{\circ}$  to  $35^{\circ}$  (see Figure 3).

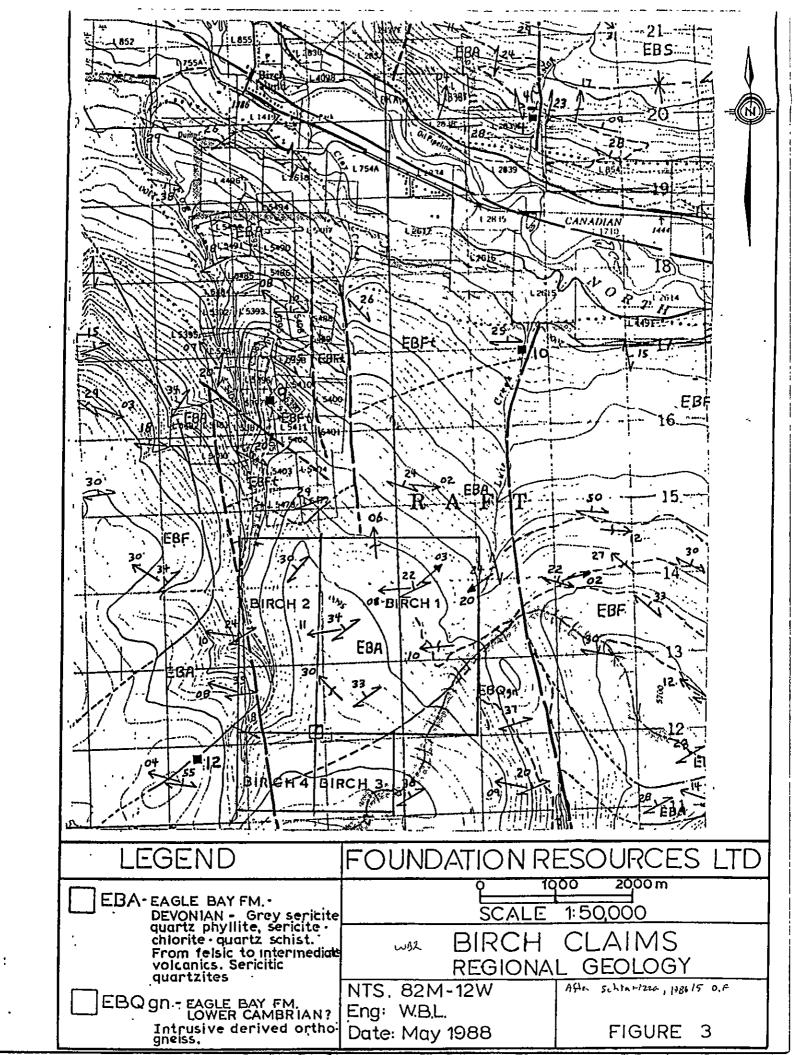
The Eagle Bay Formation rocks appear to be in thrust contact with early Pennsylvanian - Permo Triassic Fennel Formation basalts, basic fragmentals, cherts, limestones and argillites approximately 5 kilometres to the west.

Folding of the mineralized zone on the property may occur to a greater extent than previously thought. Small scale structures appear to indicate that the bedding has been deformed into tight isoclinal folds. Attention to these details in any future mapping project will help define the structural geology of the property.

## MINERALIZATION AND PREVIOUS DIAMOND DRILLING

The massive sulphide outcrop exposed during Barrier Reef 1979 to 1981 work and the subsequent extension of soil geochemical anomalies and geophysical anomalies projected along the strike of this massive sulphide zone led to a small diamond drilling program by Esso Resources in 1983 and 1984.

Two holes drilled in 1983 (BBC 83.2 and 83.3) were drilled about 200 metres apart along strike of the mineralized massive sulphide outcrops. Both of these holes intersected two massive sulphide zones. The two zones are separated by about 35 metres of relatively barren rock. The third hole was drilled in 1984 (BBC 84-1)



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approximately 200 metres down dip from the first two holes. The lateral equivalent of the mineralized zones found in the first two holes were intersected but they were poorly mineralized. A review of the drill holes and results are listed below:

Hole	Core	Length (m)	Inclination	Azimuth
BBC-83 2	BQ	139.1	-45	180
BBC-83 3	BQ	128.0	-45	180
BBC-84 1	BQ	134.4	-90	-

	Best		(oz	/t)		(%)	
Hole	Intersection	Width (m)	Au	Ag	Cu	Pb	Zn
83 2 "	9.3 - 11.1 73.7 - 74.6	1.8 0.9	.001 .01	.12 .21	.018 .056	.086 .007	.5 .012
83 3	31 - 37.1	Banded semi-	massive s	ulphide zo	one		
11	34.5 - 35.6	1.1	.017	.8	1.2	.662	.065
68	35.6 - 37.1	1.5	.011	.1	.12	.011	.016
84 1	40.2 - 41.2	1.0	.001	.06	.037	.01	.01

Lithogeochemical results are given below for samples taken from the massive sulphide outcrop and sulphide rich float boulders.

Rock Type	Au <u>(oz/t)</u>	Ag <u>(oz/t)</u>	Cu _(%)_	РЬ <u>(%)</u>	Zn (%)
Semi-massive pyrite in siliceous rock.	Tr.	Tr.	0.11	Tr.	0.018
Siliceous, chlor-ser. schist, 10-20% dissem. pyrite.	Tr.	Tr.	0.04	0.02	0.05
Massive pyrite with 10-15% quartz.	Tr.	Tr.	0.19	0.035	0.05
Siliceous, qtz-ser. schist with layers of semi-mass. pyrite and minor fine galena and sphalerite.	Tr.	1.48	0.19	0.26	0.33

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The horizons intersected in the drill hole are composed predominantly of granular pyrite in a matrix of chlorite and quartz. The unit above the upper semi-massive sulphide zone is a relatively homogenous chlorite sericite schist which appears to be an intermediate or felsic altered flow rock.

The 35 metre sequence of rock between the two sulphide zones intersected in the drill holes is a more variable series of sericite-chlorite or chlorite schists with minor chert and argillite. They appear to have originated from fine tuffs or volcaniclastics with thick sections of more arenaceous material. Faulting is very common. The lower part of the sequence comprises a more homogeneous succession of sericite-chlorite schists which appear to represent a series of intermediate flows.

Eight grab samples taken from the property by Foundation Resources personnel returned values with slightly higher silver content. Results of the analysis of these samples are listed below. A sample of typical massive sulfide mineralization from the trenches assayed in 1988: 485 ppb gold, 2530 ppm lead, 210 ppm Sb and 1965 ppm copper.

Sample No.	<u>Cu ppm</u>	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ag oz/T	Au oz/T
71001	600	107	372	1.9	200		
71002	660	20	960	2.0	245		
71154	600	2	23	0.9	10		
71155	153	870	380	15.0	70		
M-30-1A			-			0.17	0.002
M-30-1B						0.09	0.002
M-30-2						0.07	0.002
M-30-2 M-30-3						0.14	0.004
M-30-4						0.11	0.004
						0.23	0.006
M-30-5A						0.07	0.002
M-30-5B						0.18	0.002
M-30-6			00/0	200	485	00	
31015	1965	2530	2360	290	407		

#### FIELD PROCEDURES

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Grid lines that had been established on the property by other companies mentioned in the "History" section of the report in the 1979 to 1983 years required refurbishing so as to facilitate soil sampling and geophysical surveys. The grid lines trend north and south from an east-west trending baseline. Stations were established at 25 meter intervals along the lines. The distances between stations were tight chained to ensure a controlled and accurate measuring for the location of station pickets. The 25 meter intervals were established to facilitate a proposed I.P. survey. Stations were established on some selected lines at 10 meter intervals to mark out soil sample sites. Brush and deadfall that had grown in or fallen across the grid lines since 1983 were removed using a power saw. A series of large logged off areas had been slash burned for fire control since 1983. The northern extension of the grid lines had been virtually destroyed. These line extensions were reestablished using a Silva compass and 50 meter long nylon tight chain. Pickets were placed at 25 meter intervals and flagged. Soil sample stations were flagged at 10 meter intervals in selected areas.

Prospecting and geological mapping traverses were plotted on a 1:2500 base map showing the grid lines and geologic information. Rock samples were collected and specimens saved. These samples were labelled BP 88-1 to BP 88-29. Soil and silt samples were also plotted on the 1:5000 (Figure 4) base map with results for lead, zinc, silver and gold noted.

Sites for detailed soil sampling were selected as a result of studies of previous geologic and geochemical surveys. These were areas that showed potential for locating new mineralized zones. Very little follow-up detailed sampling work was done around highly anomalous sample sites found by previous operators. Some "character" samples were taken over the main massive sulphide showing.

Soil samples were collected by grub hoe at 10 meter intervals along selected lines. Samples of the "B" horizon was collected at depths ranging between 8 and 22 cm. Each sample was placed in a waterproof kraft bag and then shipped via Greyhound

bus from Clearwater, B.C. to Chemex Labs Ltd., 212 Brooksbank Avenue, North Vancouver, B.C. The samples were geochemically analyzed for gold, silver, lead and zinc. Sample numbers correspond to the line and station numbers. Soil development along the lines usually consists of the following: (1) humus, (2) 2 - 6 cm thick white silty textured leached horizon; (3) bright red-brown "B" horizon; (4) yellowish-brown sub "B" horizon. These soils would be expected to be transported to some degree although mainly overburden is relatively shallow (less than 5 meters) and may be formed as a residual soil. Analytical procedures and results are outlined in Appendix II.

Silt samples were collected at irregular intervals along Lute Creek and its many tributaries. The sample sites were selected to re-test anomalous samples collected by others and to test areas upstream and downstream from the anomalous sample sites.

A total of 24 silt samples and 33 soil samples were collected.

#### GEOCHEMISTRY

A total of 24 silt samples were taken from Lute Creek and its many small tributaries. Lute Creek apparently cuts through the main massive sulphide zone and may also reflect a major structural break. Samples were taken as close as possible to anomalous sample sites when silt was collected by prior interests. This was designed to confirm the validity of the anomaly. Samples were also taken upstream and downstream from these anomalous samples to determine the potential extent and boundaries of the anomalies.

Of the 24 silt samples taken, 4 samples were highly anomalous in gold with all results being greater than 100 parts per billion gold and 4 were moderately anomalous with results greater than 30 parts per billion gold. Sample 8BL06L carried 130 ppb gold which is considerably higher than a 23 ppb Au sample taken approximately 50 meters downstream. The area is underlain by phyllites and further investigation is required to locate the source of the anomaly. A sample

taken by previous operators along Lute Creek just upstream from a small logging road carried 198 ppb gold (Figure 4). Sample 8BL09L was taken at the same sample site and was not able to duplicate the previous strong anomaly. Only 25 ppb gold was obtained (Figure 4). On an eastern tributary of Lute Creek a previous operator obtained a silt sample that contained 169 ppb Au. Although sample 8BL011L taken by Foundation Resources personnel did not duplicate this strong anomaly, it, however, did show a moderate strength anomaly. Sample 8BL010L to 8BL013L on this tributary showed a continuous increase upstream in gold content from 35 ppb gold to 120 ppb gold. The values drop off abruptly further upstream at sample 9BL014L which carries 25 ppb gold. Further work is required in this area to determine the cause and source of this anomalous trend.

Another small eastern tributary to the main Lute Creek drainage is anomalous in gold. Sample 8BL018L carried the highest gold value of all the silt samples taken in the 1988 program (Figure 4). This sample carries 190 ppb gold. This sample is located approximately 100 meters downstream from a sample 3E5503 which carried 83 ppb gold. Further evaluation of this area is required to locate the source of the anomaly.

Soil samples taken along lines 4+00W, 4+50W, 5+00W and 5+50W between stations, 19+50N and 20+50N (Figure 4) did not reveal any areas anomalous in gold. Float rock material found in the area sample consisted of chlorite schist with ankerite and silica alteration. This material usually contains 5-20% pyrite and less than 1% galena and sphalerite. Several samples contain elevated and anomalous zinc values with corresponding elevated lead values. Galena and sphalerite bearing float rock was found in the sample site excavations where elevated lead and zinc values were indicated in the soils. The soil sampling appears to be very effective for detecting even small amounts of mineralization. Trenching to bedrock in the vicinity of the anomalous soil samples may reveal the bedrock source for the mineralized float rock. Overburden cover appears to be less than 3 meters thick.

#### LINECUTTING

North-south trending grid lines were established on the property from an east-west trending baseline designated 20+00N. The lines were spaced at 100 meter intervals along the baseline and stations were established at 25 meter intervals along the lines. Station intervals of 10 meters were established on lines that were to be soil sampled. Several of lines followed and old grid established by previous owners however new dead fall and intensive logging and slash burning obliterated most of the lines and then they had to be recompassed, chained and cut out. The lines were compassed and blazed north or south from the baseline. The 25 meter interval stations were established by tight chaining with a non-stretchable nylon chain from the baseline control points. A total of 4 km of lines were established and cut out. Pickets at 25 meter intervals mark stations along the lines. Line 3+00W, 2+00W, 0+00, 1+00E, 2+00E, 3+00E, and 4+00E were established and cut out between stations 16+00N to 22+00N.

#### CONCLUSIONS AND RECOMMENDATIONS

The Birch claim area is of significant interest as a precious metal enriched massive sulphide target because of the presence of massive sulphide showings on the property; its proximity to Rexspar's uranium and fluorite property; the Harper Creek copper property; the recent Rea Gold and Samatosum discovery located 50 kilometres south in similar rock types and the Homestake deposit located near the Rea Gold property.

The Rea Gold and Minnova Samatosum deposit has proven reserves of 600,000 tonnes grading 1.80 grams/ton Au, 1,100 grams/ton Ag, 3.5% Zn, 1.7% Pb and 1.2% Cu. A second zone with higher gold grades has outlined reserves of 0.25 million tonnes grading 6.5 grams/ton Au, 73.3 grams/ton Ag, 2.25% Zn, 2.14% Pb and 0.53% Cu.

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The Homestake Deposit located near the Rea Gold deposits saw minor production between 1935 and 1941. A total of 7,670 tons of ore was milled. This production yielded 361 oz of gold and 281,369 oz of silver along with economic grades of Cu, Pb and Zn. The deposit is hosted in barite lenses enclosed by altered sericite schist such as those found on the Birch claims. Proven reserves are 877,000 tonnes grading 6 oz/ton Ag and 0.028 oz/ton Au.

Exploration interest in the Birch claims area has increased with these recent discoveries and the potential for locating significant gold mineralization in these massive sulphide volcanogenic deposits has been enhanced.

The following two-phase exploration program is recommended to further evaluate the Birch claims.

#### Phase 1

- I. Reconnaissance geological mapping and prospecting at a scale of 1:5,000 should be conducted over the entire property. This will ensure a comprehensive geological orientation for the personnel conducting the work. More detailed mapping would be done on specific zones that would develop as a result of the 1:5,000 mapping.
- 2. The drill core from the 1983-1984 Esso Resources drilling program should be relogged so that common nomenclature can be developed for surface outcrop identification and future drill core logging. This will greatly assist in correlating surface / subsurface lithologic units.
- 3. Continue detailed soil sampling over anomalous areas indicated and from the present soil and silt sampling program. Extend sampling to cover lead and zinc anomalies located by previous operators. This may entail the re-establishing of the grid and placing stations every 10 metres.

- 4. Evaluate geochemical anomalies by hand trenching. Channel sampling of near surface outcrop exposure should be completed. Mapping and rock chip channel sampling of the rock exposed in this deeper trenching should be completed.
- 5. An induced polarization geophysical survey will be useful in defining future drill targets. The IP, trenching and geochemical results should be correlated to select the best drill targets.

#### Phase II

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- 1. Complete 1:2,500 and 1:5000 scale geologic mapping with particular attention to the northern half of the property.
- 2. Continue prospecting entire property.
- 3. Use backhoe and/or cobra drill and powder to expose bedrock covered with deep overburden. Trench along showings to expose as much of mineralized zone as possible.
- 4. Channel sample all mineralized zones located in trenches.
- 5. Extend IP survey where required.
- 6. Correlate geochemical, geological and geophysical results and select diamond drill target.
- 7. Diamond drill selected targets.

## COST ESTIMATE OF FUTURE WORK

## Phase I

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1)	Geological mapping and prospecting and trenching	\$30,000.00
2)	Induced polarization survey	13,000.00
3)	Soil sampling at 10 meter intervals 450 samples	7,000.00
4)	Line cutting and grid establishment	5,000.00
5)	Contingency	5,000.00
	Total Phase I	<u>\$60,000.00</u>

### Phase II

1)	Geological mapping and prospecting Orthophoto base map, core logging	\$30,000.00
2)	Line cutting - grid extensions	8,000.00
3)	Geochemical soil sampling and drill core assays	10,000.00
4)	Induced polarization survey	14,000.00
5)	Diamond drilling, 800 meter BQ at 110/meter	88,000.00
	Total Phase II	<u>\$ 150,000</u>

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APPENDIX I

STATEMENT OF QUALIFICATIONS

W.B. LENNAN, B.Sc.

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#### STATEMENT OF QUALIFICATIONS

I, William Brian Lennan, of the City of Port Coquitlam, in the Province of British Columbia, do hereby certify that:

- 1) I am a graduate from the University of British Columbia (1973) with a Bachelor of Science degree in Geology (B.Sc.).
- 2) I have practised my profession as an Exploration Geologist continuously since graduation and have been employed by such mining companies as Cities Service Minerals Corporation Ltd., Texas Gulf Inc. and Canada Tungsten Mining Corporation Ltd. I am presently employed by New Global Resources Ltd.

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- 3) I am a fellow of the Geological Association of Canada. I am also a member of the Canadian Institute of Mining and Metallurgy and the Prospectors and Developers Association of Canada.
- 4) I have personally examined all pertinent geologic, geochemical and geophysical data available on and around the Birch claims. I also supervised the geochemical silt and soil sampling, line cutting and prospecting program on the Birch claims.

W.B. LENNAN, B.Sc., F.G.A.C.

### APPENDIX II

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STATEMENT OF COSTS FOR

1987 - 1988 ON THE BIRCH 1 - 4 CLAIMS

## STATEMENT OF COSTS BIRCH 1 – 4 CLAIMS May 25 – May 29, 1988

Wages

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J.T. Shearer (Senior Geologist), 5 days @ \$300/day (2 days travel, 1 day supervision orientation, 2 days mapping)	\$ 1,500.00
W.B. Lennan (Geologist), 5 days @ \$250/day (1 day travel, 3 days supervision and prospecting, 1 day report)	1,250.00
D. Perret (Prospector), 5 days @ \$150/day (3 days grid and line cutting, 1 day silt sampling, 1 day travel)	750.00
T. Delimanozo (Sampler), 5 days @ 103.50/day (I day travel, 3 days grid and line cutting, 1 day soil sampling)	517.50
Accommodation (4 men - 5 days) Flag Inn, Clearwater, B.C. \$84.24/day x 5 days	421.20
Board \$20/man day x 4 men x 5 days	400.00
Vehicle Rental (4x4), \$50/day	250.00
Supplies (Power saw, other field supplies)	750.00
Geochemical Analysis (57 samples analyzed for Au, Pb, Zn, Ag) at \$15.44 each	880.05
(INVOICES 18816321 & 18816546)	<u>\$ 6,718.75</u>

## APPENDIX III

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### LIST OF PERSONNEL AND DATES WORKED

Name	Posi tion	Address	Dates Worked Birch 1-4
J.T. Shearer	Senior Geologist	3832 St. Thomas St. Port Coquitlam, B.C.	May 25-29 (5 days)
W.B. Lennan	Geologist	876 Lynwood Avenue Port Coquitlam, B.C.	May 25-29 (5 days)
D. Perret	Prospector/ Line cutter	548 Beatty Street Vancouver, B.C.	May 25-29 (5 days)
T. Deliamanozo	Soil Sampler Line cutter	548 Beatty Street Vancouver, B.C.	May 25-29 (5 days)

### LIST OF PERSONNEL AND DATES WORKED

### APPENDIX IV

## ANALYTICAL PROCEDURES AND ASSAY CERTIFICATES - BIRCH CLAIMS

Chemex Labs Ltd.

Field Work Completed Between May 25 and May 29, 1988

Chemex code	Procedure
208 (205)	Multiple stage crushing of up to 10 pounds of sample; riffle split and pulverize to approximately -150 mesh.
207 (212)	For samples with suspected nugget or free gold effects. Procedure as per 208, then sieve pulp through a -150 mesh screen. Examine + 150 mesh fraction for metallics. If present, save + 150 mesh fraction; if not, + 150 mesh fraction is hand pulverized and homogenized with original sample.
219	Drying charge Applied to samples too wet to be crushed.
251	Overweight charge Charged on samples over 10 pounds.

## SOIL, HUMUS OR SEDIMENT SAMPLES

201 202	Dry, sieve through a -80 mesh screen, Dry, sieve through a -80 mesh screen and save the + 80 mesh fraction,
203	Dry, sieve through a -35 mesh screen and pulverize to approximately -150 mesh.
217	Dry and pulverize entire sample (up to 200 grams) to approximately -150 mesh.
243	Same as code 203, but using a ceramic (ZrO,) pulverizer which eliminales Fe, AI, Si and Cr contamination

## **PRECIOUS METAL ANALYSIS**

#### **TRACE LEVEL ANALYSIS**

Maximum value reported for all elements is 10,000 ppb

Chemex code	Element(s)	Sample weight	Method	 Detection limit
100	Gold	10 orams	Fire assay, A.A. linish	ն ննն
983	Gold	30 grams	Fire assay, A.A. finish	5 ppb
101	Gold		Fire assay, N A.A. finish	1 ppb
G-15	Platinum Palladium Gold	-	Fire assay, ICP-AFS	5 ppb 2 ppb 2 ppb
472	Rhodium	10 grams	Fire assay, A.A. finish	5 ppb

## TRACE LEVEL GEOCHEMISTRY

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The methods specified below were designed to give you the best possible detection limits for individual elements MULTIELEMENT PACKAGES are available using a variety of analytical techniques. See page o

	Digestion charge description			
N/C (AO) : HF	Digestion or fusion included in price Nitric-aqua regia digestion Perchloric nitric-hydrolluoric digestion			
EXT	Special digestion with an organic extra	chon		
NAA	Neutron activation encapsulation and i	rradiation charge		
XRF	X-ray analysis pellet preparation charge	ч Ч		
Chemex code	Element	Detection limit	Upper limit	Digestion* charge code
22	Antimony	0 2 ppm	0.1%	EXT
13	Arsenic	1 ppm	1%	N/C
25	Banum	10 ppm	1%	HF
34	Beryllium	0 1 ppm	0.1%	HF
23 40	Bismuth	0 1 ppm	0.1%	EXT
154	Boron Bromine	10 ppm	1%	N/C
7	Cadmum	1 ppm 0 1 ppm	1% 0 02%	
158	Cesium	2 ppm	1%	NAA
155	Chlorine	100 ppm	1%	N/C
12	Chromium	5 ppm	1%	HF
9	Cobali	1 ppm	1%	AQ
2	Copper	1 opm	1%	٨Q
21	Fluorine	20 ppm	1%	N/C
31	Gallium	1 ppm	0 1%	N/C
41 107	Germanaan Hahaan	ំ ស្រុងព	0 1%	N/C
543	Indium	2 ppm 1 ppm	۱% 0.1%	NAA AQ
188	lodine	20 ppm	1%	N/C
10	Iron	0.05 %	20%	٨Q
4	Lead	1 ppm	1%	AQ
27	Լյլիյսու	1 ppm	1%	HF
35	LOI@550°C	01%	100%	N/C
11	Manganese	ភ្នំព្រៃព	1%	AQ.
20 3	Mercury Molybdenum	5 ppb	0.01%	N/C
8	Nickel	1 ppm 1 ppm	0.1% 1%	AQ AQ
191	Niobium	1 Phan	1%	XIII
15	Phosphone .	5 ppm	1%	N/C
376	Rhenium	1 ppm	1%	NAA
30	Rubidium	1 ppm	1%	HF
103	Scandium	1 ppm	1%	NAA
16 (6)	Selenium Silver	0 2 ppm	0 1%	N/C
y,	Silver	0.2 ppm	0 02%	
380	Sulfur	l ppm 0 001 %	1% 100%	HF N/C
151	Tanlalum	2 ppm	100%	NAA
24	Tellurium	0 05 ppm	0.1%	N/C
39	Thallium	0 1 ppm	0 1%	N/C
150	Thosum	1 ppm	1%	NAA
19	Tin	2 ppm	0 1%	N/C
42	Tilanium	10 ppm	1%	N/C
18	Tungsten	2 ppm	0 1%	N/C
152 33	Uranium Vanarkum	0 2 ppm	1%	N/C
801	Yiltaum	5 ppm 5 ppm	1%) 1%)	E XI (I
G	Zinc	1 ppm	1%	Â
914	Zircopium	5 ppm	1%	XRF

## TRACE LEVEL GEOCHEMISTRY

 $\left[ \right]$ 

The methods specified below were designed to give you the best possible detection limits for individual elements MULTIELEMENT PACKAGES are available using a variety of analytical techniques. See  $g_{\rm eff} = g_{\rm eff}$ 

	Digestion charge description			
N/C AQ	Digestion or lusion included in price Nitric aqua regia digestion			
HF	Perchloric nitric hydrolluoric digestion			
EXT	Special digestion with an organic extra	chon		
ΝΑΛ	Neutron a tration encapsulation and it	anan Italahara hara		
XRF	X ray an ity is pollet preparation charge			
·····				
hemex code	Element	Ostection limit	Upper limit	Digestion* charge code
22	Antimony	0 2 ppm	0 1%	EXT
13	Arsonic	1 ppm	1%	N/C
25	Barron	10 ppm	1%	HF
34	Beryllum	0 I ppm	0 1%	HF
23	Bismuth	0 1 ppm	0.1%	EXT
40	Boron	10 ppm	1%	N/C
154	Bromine	Loom	1%	ΝΑΛ
7	Cadmum	0 Eppm	0 02%	AQ
158	Cesium	2 ppm	1%	NAA
155	Chlorine	100 ppm	1%	N/C
12	Chromium	5 ppm	1%	НF
9	Coball	1 ppm	1%	AQ
2	Copper	1 ppm	1%	٨Q
21	Fluonne	20 ppm	1%	N/C
31	Gallum	1 ppm	O 1º6	N/C
-11	Gennanan	Տլթու	0 194	N/C.
107	1 Lafragas	' ppm	1%	ΝΛΛ
543	Indum	1 ppm	0 1%	AQ
188	lodine	20 ppm	1%	N/C
10 4	iron Leari	0.05 %	20%	AQ
27	Lithium	1 ppm	1%	AQ
35	L O I @ 550°C	1 ppm 3	1%	HF
11	Minganitae	01% 'יוויקין י	100% 1%	N/C AQ
20	Mercury	o ppb	0.01%	N/C
3	Molybdenum	t ppm	0 1%	AQ
8	Nickel	Libbu	1%	Ã
191	Nichman	ն բրու	19/0	XHI
15	Phorphoro	10 pp # 10	1%	N/C
376	Shenium	1 ppm	1%	NAA
30	Rubidium	1 (2)200	1%	HF
103	Scandium	1 ppm	1%	NAA
16	Selenium	0.2 ppm	0 1%	N/C
6	Silver	0.2 ppm	0.02%	٨Q
32 '	Stronturn	Eppm	10%	HF
380	Sullar	0.001 %	100%	N/C
151	Tantalum	2 ppm	t9⁄n	ΝΛΛ
24	lellurium	0.05 ppm	01%	N/C
39	Thallom	0 1 ppm	0.1%	N/C
150	I honum	Eppin	1%	ΝΑΛ
19	1m T	2 ppm	0.1%	N/C
42	htanum	10 ppm	1%	N/C
18	hereister	2 լդոո	0.1%	N/C
152	Uranum	0.2 ppm	1%	N/C
33	Vanarliuu Milaasa	չերու	105	111
801	Yilnom An	51340	100	XHI
914 914	Zinc Zirconuso	իրդո	1%	AQ.
914	A DECOUNTRY	երթու	100	XRI



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayere 212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2CI PHONE (604) 984-0221 To : NEW GLOBAL RESOURCES

548 BEATTY ST. VANCOUVER, BC V6B 2L3 Project : BIRCH Comments: CV: BRIAN LENNAN Page No. :1 Tot. Pages:1 Date 7-JUN-88 Invoice #:I-\$\$16321 P.O. # :NONE

### CERTIFICATE OF ANALYSIS A8816321

SAMPLE DESCRIPTION	PRE COD		Ац ррЪ FA <del>1</del> AA	Рь ppm	Zn ppm	Ag ppm Aqua R					
8BL001L 8BL002L 8BL003L 8BL004L 8BL005L	201 203 201 201 203		1 0 5 10 20 10	50 28 46 49 46	201 192 271 233 200	1.9 0.4 0.6 0.5 0.4					
8BL006L 8BL007L 8BL008L 8BL009L 8BL010L	201 203 203 201 201		1 3 0 2 5 2 5 2 5 3 5	74	401 420 342 450 321	0.5					
8BL011L 8BL012L 8BL013L 8BL014L 8BL015L	201 201 201 201 201 203		30 55 120 25 10	99 68	316 443 570 417 192	0.6				-	
8BL016L 8BL017L 8BL018L 8BL019L 8BL020L	203 203 201 203 201		10 10 190 20 10	32 22 16	218	0.4					
8BL021L 8BL022L 8BL023L 8BL024L	203 201 201 201		10 50 115 20	62 50	276	0.3 0.4 0.4 0.4					
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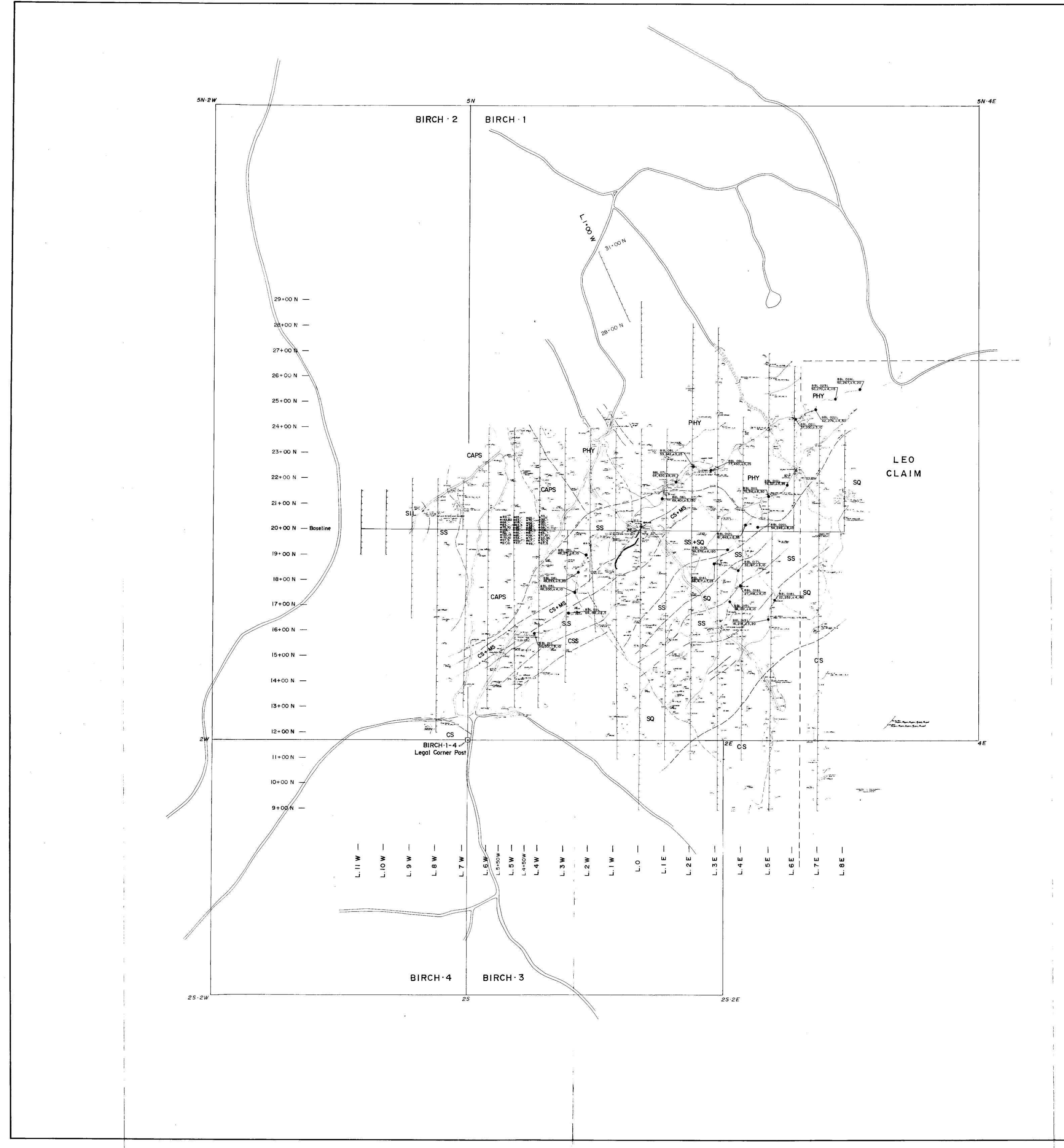
# Chemex Labs Ltd

Analylical Chemists \* Geochemists \* Registered Assayers 212 BROOKSBANK AVE , NORTH VANCOUVER, BRITISH COLUMBIA, CANADA, V7J-2CI PHONE (604) 984-0221 To . NEW GLOBAL RESOURCES

548 BEATTY ST. VANCOUVER, BC V6B 2L3 Project : BIRCH Comments: QZ: BRIAN LENNAN Page No. .1 Tot. Pages 1 Date 10-JUN-88 Invoice #:I-8816546 P.O. # :NONE

## CERTIFICATE OF ANALYSIS A8816546

SAMPLE DESCRIPTION	PRE COD	-	Ац ррЪ RUSH	Ag ppm Aqua R	РЪ ррт	Zn ppm				
L4+0 OW 19+50N L4+0 OW 19+60N L4+0 OW 19+70N L4+0 OW 19+80N L4+0 OW 19+80N	201 201 201 201 201 201		\$ 35 10 < 5	0.6 0.5 0.9 0.4 0.7	67 70 33 71 43	198 200 33 175 108				
L4+00W 20+30N L4+00W 20+40N L4+00W 20+40N L4+00W 20+50N L4+50W 19+50N L4+50W 19+60N	201 201 201 201 201 201		<pre></pre>	0.3 0.7 0.4 0.9 0.7	58 75 65 49 67	250 172 166 132 255	 			
L4+50W 19+70N L4+50W 19+80N L4+50W 19+80N L4+50W 19+90N L4+50W 20+00N L4+50W 20+10N	201 201 201 201 201 201		<pre></pre>	0.9 0.3 0.4 1.2 0.5	75 29 61 69 88	195 180 290 270 410	 	 	+	
L4+50W 20+20N L5+00W 19+50N L5+00W 19+60N L5+00W 19+70N L5+00W 19+80N	201 201 201 201 201 201		*****************	0.6 0.5 1.0 0.7 0.7	38 47 95 54 85	116 173 140 205 360	 			
L5+00W 19+90N L5+00W 20+00N L5+00W 20+10N L5+00W 20+20N L5+00W 20+20N L5+00W 20+30N	201 201 201 201 201 201		~~~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0.7 0.7 0.4 1.0 0.2	45 36 65 43 118	78 100 218 150 470		 _		
L5+00W 20+40N L5+00W 20+50N L5+50W 20+00N L5+50W 20+10N L5+50W 20+20N	201 201 201 201 201 201		<pre></pre>	0.9 1.1 1.4 1.5 0.7	83 65 128 75 83	205 122 500 100 265	 			
L5+502 20+30N L5+502 20+40N L5+502 20+50N	201 201 201		< 5 10 < 5	0.8 0.6 1.2	68 143 83	203 340 275				
	[]						 c	tart	Bichl	e



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CHLORITE S	contains 1-5% CHIST: metavol basic composit	canic rocks	of prob
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