

GEOCHEMICAL H.M. ASSMT. REPORT

LONG MINERAL CLAIMS GROUP

Kamloops M.D.

Owner, J.P.Sorbara

Feb., 1989

S.Zastavnikovich

Vanc., B.C.

Geochem. Consult

18750

ARIS SUMMARY SHEET

District Geologist, Kamloops

Off Confidential: 90.05.17

ASSESSMENT REPORT 18750

MINING DIVISION: Kamloops

PROPERTY: Long Island
LOCATION: LAT 51 30 00 LONG 120 27 00
UTM 10 5708294 676995
NTS 092P08W

CAMP: 036 Cariboo - Quesnel Belt

CLAIM(S): Long 1, Long 3
OPERATOR(S): Sorbara, J.P. Bell, M.
AUTHOR(S): Zastavnikovich, S.
REPORT YEAR: 1989, 30 Pages

COMMODITIES

SEARCHED FOR: Gold

KEYWORDS: Jurassic, Nicola Group, Thuya Batholith, Andesites, Granodiorites

WORK

DONE: Geochemical
ROCK 7 sample(s)
SILT 12 sample(s) ;ME
SOIL 35 sample(s) ;ME

SUB-RECORDER
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VANCOUVER, B.C.

LOG NO: 0524 RD.
ACTION:
FILE NO:

GEOCHEMICAL HEAVY MINERALS ASSESSMENT REPORT

on the

LONG ISLAND MINERAL CLAIMS GROUP

Kamloops M.D.

Lat. 51 30'N

Long. 120 27'W

92P/8W

For Owner

FILMED

J.P. Sorbara

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

18,750

February, 1989
Vancouver, B.C.

S. Zastavnikovich
Geochemical Consultant

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GEOCHEMICAL HEAVY MINERALS REPORT ON THE LONG GROUP
Kamloops M.D., Central B.C.

INTRODUCTION & DESCRIPTION

The LONG GROUP of mineral claims contains 56 units and consists of the LONG 1 (20 units), LONG 2 (20 units), and LONG 3 (16 units) mineral claims. The claim group is located on Long Island Lake in South-central B.C., some 20km east of the town of Bridge Lake in the Kamloops Mining Division, on maps 92P/8&9W, Figs. 1&2.

The Long 1&2 mineral claims were staked in May, 1988, while the Long 3 claim was staked in October, 1988. The present status of the claims is as indicated below:

<u>Claim Names</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date *</u>
Long 1	20	7677	May , 1990
Long 2	20	7678	May , 1990
Long 3	16	8091	Oct. 08, 1990

* Upon approval of this report.

From Oct. 6th to Oct. 11th, 1988, the writer visited the Long claims to collect stream sediment and soil samples for heavy minerals processing in order to help identify geochemical parameters best suited for geochemical evaluation of the mineral potential of the claims. As outcrops are scarce on the property due to extensive glacial cover, a handful of rock samples, mostly float, were collected along the sampling traverses, as described in Appendix I and shown on the geochemical map, Fig. 4, in pocket.

Access to the claim group is 20km east from Bridge Lake via the newly paved Hwy 24 between 100 Mile House and Little Fort, which bisects the property.

PHYSIOGRAPHY

The Long group mineral claims area, located to the south, west and northwest of Long Island Lake, is one of rolling upland in which small lakes and swamps abound and, except for a few sparse hilltops and creek gullies, rock exposures are scattered and poor. The whole claims area is covered by a considerable mantle of glacial drift. As shown on Fig. 4, the elevations on the property range from 5,100' (1,650m) in the north to 3,900' (1,250m) in the south in the Eagle Creek valley, for a total relief of some 400 meters.

Except for Eagle Creek and its main tributary from Cecilia Lake, the drainage network on the claims is poorly developed, and was for the most part dry. Several old and new logging roads traverse the property, as shown on Fig. 4.



INDEX MAP

LONG MINERAL CLAIMS GROUP

NTS 92P/8W

Fig. 1

General Geology

The general geology of the claims area, shown overleaf as Fig. 3, is copied from the 1:63,000 scale geological map, accompanying geological notes by V. Preto on the "Geology of the Area Between Eakin Creek and Windy Mountain", GEM 1970, p.307-312. According to Preto:

The area between Eakin Creek and Windy Mountain that is covered by Figure 44 is one of rolling upland in which swamps and small lakes abound and, except for a few sparse hilltops, rock exposures are scattered and poor. With a few exceptions, creek valleys are broad and covered by a considerable mantle of drift. The highest point in the area is Windy Mountain to the north, which reaches an elevation of 6,449 feet. To the south, the area is traversed from west to east by the deeply incised valley of Eakin Creek, which offers excellent and nearly continuous exposures of granitic rocks of Thuya Batholith and to the east, of volcanic and sedimentary rocks of the Nicola and Cache Creek Groups.

The geology of the area is characterized by a mosaic of fault blocks of sedimentary and volcanic rocks that range in age from Permian to Lower Jurassic. To the south, these rocks are truncated by the northern part of Thuya Batholith ...(p.307).

Map Unit 2 - Nicola Group

Rocks of the Nicola Group are the most common and widespread in the map area, as well as the hosts to virtually all the known mineral occurrences. On the basis of their lithology, Nicola rocks have been divided into four subunits, a brief description of which is given below. ...

In the vicinity of intrusions, Nicola volcanic rocks have been altered in varying degree. On upper Phinetta Creek, within a few hundred feet of granitic rocks of Thuya Batholith, massive andesite, volcanic breccia and tuff have been changed to biotite and pyroxene hornfels that are locally laced with quartz-epidote-carbonate-garnet veinlets.

Subunit 2b- Thin-bedded, light-green tuff with some interbeds of coarser lapilli tuff and tuff breccia is found approximately halfway between Friendly Lake and Windy Mountain. Similar rocks are also found locally as interbeds with rocks of unit 2a. Rocks of unit 2b are of limited areal extent and probably grade laterally into rocks of unit 2a.

Subunit 2c- Interbedded, calcareous siltstone, argillite, shale, and sandstone have been observed at three localities between Long Island Lake and Monticola Lake. They appear to make up a poorly exposed northwest-trending fault block and, in vicinity of Monticola Lake, have yielded a Halobiid fauna of probable Upper Triassic age. ...(p.308).

Map Unit 3 - Thuya Batholith

Biotite-hornblende granodiorite and quartz diorite of Thuya Batholith occupy the whole southern part of the map-area where they are in contact with sedimentary and volcanic rocks of the Nicola Group. The best and most continuous exposures are found along the deeply incised valley of Eakin Creek. The contact relationships of rocks of Thuya Batholith with the surrounding Nicola rocks vary. West of Long Island Lake and on upper Phinetta Creek the contacts appear to be sharp and the surrounding volcanic rocks have been altered to hornfels. In the vicinity of Dum Lake to the southeast, Nicola rocks have been locally intensely deformed and changed to amphibolite schist. The intrusive contact in this area is not clearly defined and appears to occupy a relatively wide transition zone.

From field relationships and from a very limited amount of potassium-argon age determinations, the age of Thuya Batholith is considered to be very Late Triassic or very Early Jurassic (Campbell, R.B., and Tipper, H.W., unpublished manuscript). ...(p.309).

Figure 44

GENERALIZED GEOLOGY OF THE AREA BETWEEN EAKIN CREEK AND WINDY MOUNTAIN

LEGEND

SINEMURIAN TO (?) MIDDLE JURASSIC

- 7a. AUGITE PORPHYRY, BRECCIA AND AGGLOMERATE ▲▲▲
- 7b. BEDDED ARGILLITE
- 6a. INTERBEDDED VOLCANIC SILTSTONE, SANDSTONE AND GRIT, MINOR ARGILLITE
- 6b. AUGITE PORPHYRY AGGLOMERATE GRADING UPWARDS INTO POLYMICCTIC COBBLE AND BOULDER CONGLOMERATE

UPPER TRIASSIC OR LOWER JURASSIC

- 5. LEUCOGRANITE TO LEUCOSYENITE PORPHYRY
- 4. GREY MICRODIORITE
- 3. THUYA BATHOLITH - HORNBLende - BIOTITE QUARTZ DIORITE AND GRANODIORITE, HORNBLende DIORITE

UPPER TRIASSIC (Nicola Gp.)

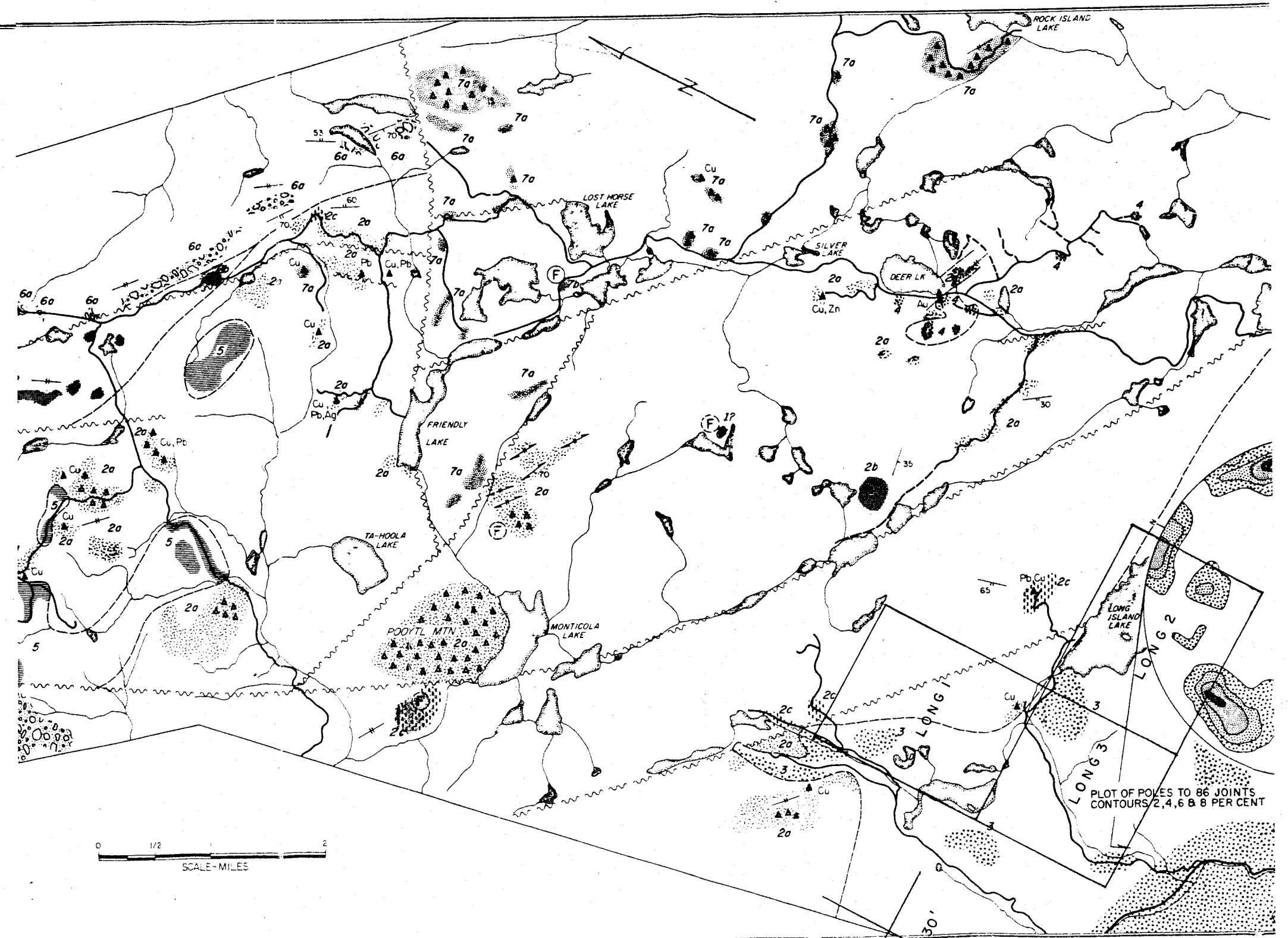
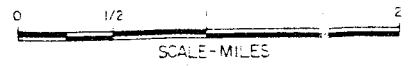
- 2a. MASSIVE ANDESITIC FLOWS AND VOLCANIC BRECCIA ▲▲▲
- 2b. THIN BEDDED ANDESITIC TUFF
- 2c. INTERBEDDED CALCAREOUS ARGILLITE AND SILTSTONE
- 2d. GRAY, THIN BEDDED LIMESTONE

PENNSYLVANIAN AND PERMIAN (Cache Ck. Gp.)

- CACHE CREEK GROUP VOLCANIC ARENITE, GREENSTONE, CHERTY ARGILLITE, LIMESTONE, LIMESTONE BRECCIA, MINOR BEDDED TUFF AND CHERT

SYMBOLS

- BEDDING, TOPS NOT KNOWN
- BEDDING, TOPS KNOWN
- SCHISTOSITY
- INFERRED FAULT
- MINERAL OCCURRENCE
- FOSSIL LOCALITY
- FOSSIL LOCALITY TAKEN FROM G.S.C. MAP 3-1966
- ROAD



Geology Map from GEM 1970, p307, by V. Preto

GEOLOGY MAP

LONG LAKE CLAIMS GROUP AREA

Scale 1:63,000

Fig. 3

Mineral Occurrences

Numerous base-metal showings and prospects are found in the map-area and be subdivided in three groups. Copper and, to a lesser extent, gold, lead, and silver are found in skarns in the vicinity of stocks of map unit 5, near diorite of map unit 4, and at certain localities near the edge of Thuya Batholith. Occurrences of lead and silver with smaller copper values are found along shear zones in intensely altered volcanic rocks. Copper in quartz stockwork occurrences is found in granitic rocks of Thuya Batholith. ... (p.310).

4. Copper occurrences on Phinetta Creek and northwest of Long Island Lake- Massive and fragmental andesite and tuff are commonly altered to biotite or pyroxene hornfels close to the contact of Thuya Batholith between Long Island Lake and Upper Phinetta Creek. Locally light-grey veinlets of epidote, quartz, carbonate, and garnet lace the hornfels. A considerable amount of trenching as well as some diamond drilling has been done in this area, but nothing of interest other than some sparsely disseminated pyrrhotite, pyrite, and traces of chalcopyrite has been found in the hornfels.

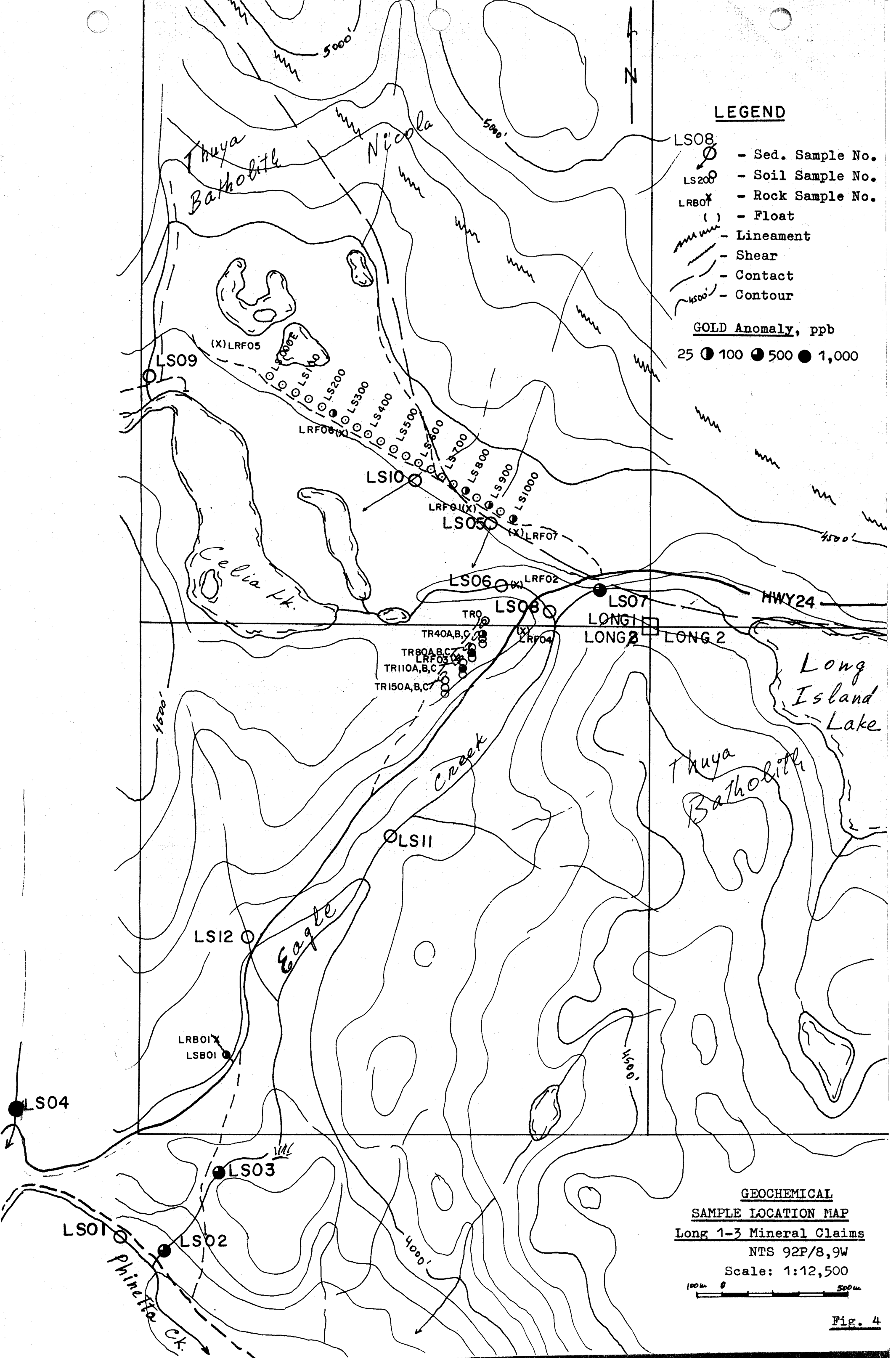
5. Lead and copper occurrences north of Long Island Lake- Mineralization consisting of much pyrrhotite, pyrite, galena, and some chalcopyrite is found on a hilltop approximately 3,000 feet north of the north shore of Long Island Lake. The sulphides occur as small lenses in a 50 to 60-foot wide zone of skarny alteration that parallels the bedding in the dark-grey calcareous shale and siltstone of map unit 2c, and is paralleled to the east by a 30 to 35-foot-wide sill of rusty weathering quartz feldspar porphyry that is thoroughly sericitized and weakly mineralized. ... (p.311-312).

GEOCHEMICAL SURVEY

A limited geochemical survey, based on heavy minerals in stream sediments and soils, was conducted on a reconnaissance basis by the writer between October 6th and 11th last fall in the central portion of the Long mineral claims, as shown on the 1:12,500 scale sample location map, Fig. 4, in pocket. A handful of rock samples, mostly float, was collected along the sampling traverses, Appendix I, as outcrops are very scarce on the property.

The purpose of the sampling surveys was to establish the presence of geochemically anomalous concentrations of gold and attendant trace elements values in the H.M. fraction in stream sediments, soils, and rock samples on the property, which in turn could indicate effective followup exploration methods for precious metals in the claims area.

In order to help standardize the uniformity of sampled material, and enhance the reproducibility of analytical values, a perforated pan and sieve device was used to collect a total of twelve high-quality field-sieved stream sediment samples from the active stream channels of the Eagle Creek and its tributaries. In addition, four 2m-deep pits along an old exploration road were sampled in profile and a 1km soil line paralleling a northwesterly lineament on the property was sampled at 50m intervals, Fig. 4, in pocket.



LEGEND

- LS08 ○ - Sed. Sample No.
- LS200 ○ - Soil Sample No.
- LRB01 × - Rock Sample No.
- () - Float
- ~~~~~ - Lineament
- ~~~~~ - Shear
- ~~~~~ - Contact
- ~~~~~ - Contour

GOLD Anomaly, ppb

- 25 ●
- 100 ●
- 500 ●
- 1,000 ●

**GEOCHEMICAL
SAMPLE LOCATION MAP**
 Long 1-3 Mineral Claims
 NTS 92P/8,9W
 Scale: 1:12,500

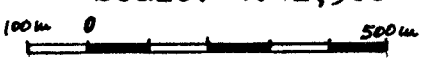


Fig. 4

The soil samples collected were of minimum 2kg size in order to ensure adequate material for heavy minerals processing. Rock samples were selected for their sulfide content, siliciousness, and/or the presence of rusty fractures.

All the sediments, soil and rocks samples were processed for their heavy minerals content and analyzed for 30 trace elements by ICP and for gold by geochemical fire assay at Min-En Laboratories in N. Vancouver using standard geochemical methods described in Appendix II. For comparison the regular -80 mesh fraction for all samples was also likewise analyzed. The heavy minerals analytical results are inscribed directly on the geochemical 1:12,500 scale sample location map, which in addition shows topographic contours and the mineral claims outlines, Fig. 4, in pocket. Complete analytical results are also enclosed as Appendix III at the back of the report.

Stream Sediment Geochemistry

A specially constructed perforated pan and sieve was used for field-sieving of the stream sediment samples in order to enhance the uniformity of the sampled material, which in turn makes it possible to identify subtle trace element anomalies. The stream sediment sampling survey is however very incomplete, as only at the sites sampled was there sufficient water present for wet field-sieving of the sediments. The survey should be completed earlier in the season at a time of greater rainfall to ensure proper sampling of the smaller tributaries.

A total of twelve sediment samples was collected in the main drainage valley on the property, at 1/2km to 1km intervals along Eagle Creek and on several of its western tributaries, as shown on the geochemical map, Fig. 4, in pocket.

As shown on the sample location map, Fig. 4, the presence of geochemically strongly anomalous gold values in the H.M. fraction in four of the twelve samples taken, ranging from 122 ppb Au in #LS07, 221 ppb Au in #LS03, and 346 ppb Au in #LS02, to 692 ppb Au in sample #LS04, clearly indicates the adequacy of field-sieved sampling for gold detectability in the claims area. Lack of corresponding trace elements associations with the anomalous gold values suggests that the gold at the sites sampled is somewhat removed from its source. Based on the southerly to southeasterly glacial ice movement over the property area (Surficial Geology Map 1293A, GSC Bull.196, H.W. Tipper), the bedrock source of the gold anomalies found should lie to the north of sample sites #LS02 and 03 in the claims area, and west of the claims, upstream from site #LS04.

Trace element analytical values indicate the sediment sites #LS05 and LS10 over Nicola Group rocks to be anomalous in arsenic, copper, and zinc, with 42, 80 ppm As, 85, 116 ppm Cu, and 127, 107 ppm Zn respectively in the -80 mesh fraction,

while both Celia Creek samples #LS06 and LS08 are anomalous in potassium and phosphorous in both the -80 mesh and the H.M. fractions (Appendix III), suggesting a possible alteration zone upstream.

Soil Geochemistry

Of the 35 soil samples taken, 13 are profile samples from four 2m-deep trenches located along an old exploration road 1/2km southeast of Celia Lake, as shown on the geochemical sample location map, Fig. 4. In each trench, soil samples 'A' are from the B Horizon, samples 'B' are the glacial drift C Horizon at 1m depths, and samples 'C' are from similar C Horizon material at the bottom of each trench, at 2m depth. No bedrock was observed in any of the trenches.

As the analytical results indicate, although anomalous gold values of 121 ppb Au in sample #TR110B and 158 ppb Au in #TR80B were obtained, no systematic correlation exists between sample depth and analytical gold values. In general, trace elements barium, and particularly zinc, are enriched in the B Horizon samples in both fractions, ranging up to 361 ppm Zn in sample #TR80A in the regular -80 mesh, and 179 ppm Zn in #TR150A in the H.M. fraction, while copper shows the reverse, being mildly enriched at depth in both fractions.

The B Horizon sample #TR0, however, is anomalous in arsenic, barium, and copper with 81 ppm As, 244 ppm Ba, and 256 ppm Cu in the -80 mesh fraction which, together with 3,850 ppm K, may indicate proximity to an alteration zone.

A reconnaissance B Horizon soil line, located to intersect cross-structures off the main regional lineament, and the intrusive/sedimentary contact, Fig. 4, was sampled at 50m intervals over a length of 1km. The highest gold value of 68 ppm Au was obtained in sample #LS1000E, at the end of the line indicating that the soil line should be extended easterly. Various combinations of trace element enrichments in arsenic, calcium, copper, potassium, manganese, sodium, and phosphorous may indicate cross-cutting structures at sites LS350E, LS400E, and LS600E, while a shift in barium values at LS650E, Appendix III, Fig. 4, may indicate the intrusive contact.

Soil sample LSB01 from a 10cm shear in intrusive rocks, Fig. 4, is anomalous in trace elements 4.5 ppm Ag, 108 ppm Ba, 14.7 ppm Cd, 38 ppm Li, 1,348 ppm Mn, 57 ppm Ni, 203 ppm Cr, as well as in minor elements potassium, calcium, and phosphorous, in both fractions, indicating mineralizing potential along structural features.

Rock Geochemistry

Due to scarcity of outcrops on the property, sliceous, rusty, and/or sulfide-bearing float samples were collected along the sampling traverses, as the notes in Appendix I describe, three samples are Nicola Group sediments, two are quartz vein float, and one each of silicified carbonaceous float and sheared intrusive outcrop were collected. The last sample, LRB-01, Fig. 4, had the highest gold value in rocks of 150 ppb Au, and strongly anomalous trace elements with 282 ppm As, 216 ppm Cu, 154 ppm Ni, 18,940 ppm P, 188 ppm W, and 3,653 ppm Cr in the H.M. fraction.

Of the float samples, the quartz vein sample LRF-06 has similar but even stronger trace element content in the H.M. fraction, with 2,048 ppm As, 761 ppm Co, 1,090 ppm Cu, 3,000 ppm Mn, 66 ppm Mo, 942 ppm Ni, 671 ppm Zn, 1,147 ppm W, and 21,146 ppm Cr. Such strongly anomalous multi-trace element values in both of these rock samples suggest relative proximity to base metals and/or precious metals mineralization in the claims area.

CONCLUSIONS

1. The combination of wet field-sieved stream sediment sampling followed by heavy minerals processing has identified geochemically strong gold anomalies in the Long mineral claims area.
2. Multi trace elements geochemistry has been useful in defining the nature of the gold anomalies on the property, and suggesting proximity to mineralization.
3. Anomalous multi-trace elements levels in silicified and sulfide-bearing rocks are likely guides to gold mineralization on the property, particularly along structural features such as faults and shear zones.

BIBLIOGRAPHY

Preto, V., GEM B.C., 1970: Geology of the Area Between Eakin Ck. and Windy Mtn., p.307-312.

Tipper, H.W., GSC Bull. 196, Surficial Geology Map 1293A, Bonaparte Lake, B.C.

STATEMENT OF EXPENDITURES
Long Group Mineral claims

Fieldwork -

Salaries, S. Zastavnikovich, Geochemist 6 days @ 250/day	1,500.00
Lodging, 5 nights	135.00
Food, 6 days @ 30/day	180.00
Travel, 4x4 truck, 6 days @ 40/day	240.00
Gasoline	111.23
Tolls & Mileage, 1,180km @ 10c	138.00
Field Expenses, supplies, maps,	65.00
Sample Delivery	40.00
	2,409.23

Analysis -

47 Samples for 30 element ICP, fire Au, -80 mesh + prep. @ 15.25	716.75
47 Samples for 30 element ICP, fire Au, H.M. fract. + H.M. prep. @40.25	1,891.75
	2,608.50

Report Preparation -

Writing, drafting, filing 4 days @ 250.00	1,000.00
Typing, Maps & Report Reproduction	160.00
Mileage and Parking	35.00
	1,195.00
Total Expenditures	\$ <u>6,212.73</u>

STATEMENT OF QUALIFICATIONS

I.- Sam Zastavnikovich, do hereby certify that:

1. I am a graduate of the University of Alberta with the Degree of B. Ed. in Physical Sciences, 1969.

2. I have been a practicing exploration geochemist with Falconbridge Ltd. of Toronto and Vancouver for thirteen continuous years as:

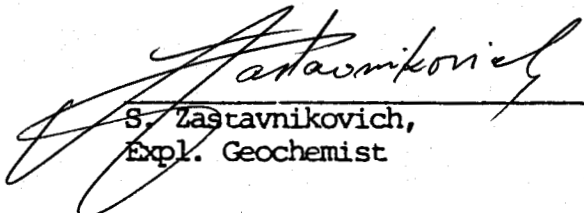
1969-1975: Field geochemist, international.

1975-1979: Project geologist-geochemist, B. C.

1979-1982: Exploration geochemist, worldwide, where I was engaged in all aspects of geochemical exploration, including research and development of improved sampling techniques, and advanced geochemical interpretation, as well as the writing of final, budget, and assessment reports.

3. I am a voting member of the Association of Exploration Geochemists.

4. I am a consulting geochemist with offices at 5063 - 56th. St., Delta, B. C.


S. Zastavnikovich,
Expl. Geochemist

Appendix I.

Rock Sample Notes - Long Claims.

- LRF-01 - float, calcareous shale, with rusty fractures.
- LRF-02 - float, silicified carbonaceous skarn ?.
- LRF-03 - float, calcareous siltstone, rusty fractures
- LRF-04 - float, silicified sedimentary rock, 2% pyrite along bedding planes.
- LRF-05 - float, rusty, vuggy 3cm wide quartz vein in intrusives, with Mn staining.
- LRF-06 - float, quartz, with rusty fractures, and to 1% pyrite crystals.
- LRF-07 - float, rusty, calcareous shale, with 5% disseminated pyrite.
- LRB-01 - outcrop, rusty, sheared intrusive.

*MIN-EN Laboratories Ltd.**Specialists in Mineral Environments*Corner 15th Street and Bewicke
705 WEST 15TH STREET
NORTH VANCOUVER, B.C.
CANADA V7M 1T2ASSESSMENT REPORT FOR:HEAVY MINERAL SAMPLING AND CONCENTRATIONS

A large sample is collected from stream sediments or soils big enough to yield a minimum of 0.5 kg of the desired minus fraction. After sieving through any of the sieve mesh sizes they are adapted for the survey. After sieving the samples, the minus fraction is grinded to -80 mesh.

Then 0.4 kg of sample is weighed into a suitable centrifuge containers. The prepared concentrations of liquids are added to obtain a 3.1 specific gravity flotation.

The heavy fractions are then washed cleaned and dried. After drying the samples they are separated. The sink float Heavy Minerals are separated into Magnetic and Non Magnetic fractions and both fractions are weighed. The percent of the Magnetic and non Magnetic fractions are calculated and reported with the analytical data.

The analysis are than carried out in the usual analytical manner by I.C.P. or A.A. method.

APPENDIX II

Analytical Procedure - The samples were analyzed by Min-En Laboratories Ltd. of 705 West 15th St., N.Vanc, as follows:

The stream sediments were oven-dried in their original water-resistant kraft paper bags at 95°C and screened to obtain the minus 80 mesh fraction for analysis. The rock samples were crushed and pulverized in a ceramic-plated pulverizer.

A suitable weight of 5.0 or 10.0 grams is pretreated with HNO_3 and HClO_4 mixture.

After pretreatment the samples are digested with Aqua Regia solution, then taken up with 25% HCl to suitable volume and aliquot used for the 26 element ICP trace element analysis.

From the major remaining portion of the sample, Gold is preconcentrated by standard fire assay methods, then extracted with Methyl Iso-Butyl Ketone and analyzed by Atomic Absorption.

For Mercury analysis, 1 gram of sieved material is sintered at 90°C for 4 hours, then digested in HNO_3 and HCl acids mixture, and analyzed by the Hatch and Ott flameless AA method.

APPENDIX III.

COMPLETE ANALYTICAL RESULTS

COMPANY: J.P. SORBARA

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 1 OF 3

PROJECT NO: LONG ISLAND LAKE

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7W 1T2

FILE NO: 8-18477P1+2

ATTENTION: J. SORBARA/S. ZASTAVNIKOVICH

(604) 980-5814 OR (604) 988-4524

* TYPE HEAVY MINERAL *

DATE: NOVEMBER 3, 1988

(VALUES IN PPM)	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE
LS01	.9	9620	1	5	20	.9	10	15600	6.0	16	10	22140
LS02	.1	9370	11	6	24	1.4	11	15990	.1	25	7	103660
LS03	1.2	10580	22	6	19	1.6	13	20240	4.2	22	8	55820
LS04	.2	8590	1	3	22	1.3	9	12150	7.0	17	8	42820
LS05	.4	15320	12	9	48	1.8	9	16380	4.3	25	36	50260
LS06	.9	6710	1	1	20	1.2	12	16820	4.9	16	21	30120
LS07	.6	9570	1	5	17	1.4	13	14780	3.6	19	8	37510
LS08	1.1	8440	23	2	31	1.3	17	20490	1.4	20	24	46370
LS09	.7	9490	8	3	44	1.2	12	9970	2.3	22	20	46900
LS10	1.4	5920	22	1	27	.7	11	8470	5.4	15	13	22400
LS11	.4	9370	24	3	17	1.3	16	16580	1.7	20	8	41790
LS12	.3	12130	3	9	25	1.2	11	18600	1.9	19	14	41160
TR0	1.0	15920	45	7	60	1.6	14	14820	1.7	29	71	51670
TR40A	.2	14010	7	7	27	1.5	12	21160	4.4	24	53	51910
TR40B	.8	15430	1	5	43	1.3	13	11450	2.2	30	33	61620
TR40C	.4	14880	5	9	51	1.1	11	35310	6.5	24	72	42070
TR80A	.6	17850	5	9	63	1.6	15	13640	.3	38	25	81770
TR80B	.8	15740	21	8	38	1.8	14	18980	.3	24	57	48380
TR80C	.6	15210	1	9	34	1.6	13	31140	.8	24	55	49420
TR110A	.7	16890	20	6	69	1.8	15	10440	.8	40	27	78750
TR110B	.6	15610	16	10	44	1.5	15	19960	2.1	24	68	50750
TR110C	.4	17320	8	13	32	1.6	15	22880	1.5	29	70	64210
TR150A	1.6	15970	11	1	63	2.8	24	12610	13.8	47	23	92340
TR150B	.1	16110	13	8	45	1.8	9	19710	5.0	26	57	56320
TR150C	2.2	14040	51	5	38	2.6	16	22410	5.6	36	67	59780
LS0000E	.9	14410	10	4	46	1.5	15	11430	.4	29	54	55940
LS0050E	1.2	12890	18	4	61	1.9	12	15510	3.0	37	76	61360
LS0100E	.4	13190	8	5	51	1.3	16	9030	.4	33	7	78220
LS0150E	.8	14930	18	3	66	1.5	9	9890	3.0	25	18	49570
LS0200E	2.1	13610	35	2	58	2.8	25	6570	10.4	48	17	90080
LS0250E	1.0	8150	18	1	36	.7	10	8470	4.1	16	34	22950
LS0300E	.6	15090	24	1	44	.9	14	13920	1.9	30	19	55720
LS0350E	.9	13010	19	1	53	.8	17	7720	1.3	34	16	69580
LS0400E	.6	14010	13	1	72	.8	12	14520	3.2	36	42	60360
LS0450E	.5	18320	58	1	68	.8	16	11060	.6	44	9	92170
LS0500E	1.9	15040	29	1	54	2.0	20	17170	6.0	52	94	84660
LS0550E	.7	12690	15	1	41	.6	22	6890	1.2	37	10	86470
LS0600E	.9	14490	23	1	64	1.1	13	17660	3.8	44	110	73650
LS0650E	.7	14730	39	1	52	1.3	15	11400	1.3	39	35	79940
LS0700N	.8	13560	20	1	37	1.0	13	15650	3.7	22	44	42110
LS0750E	.7	13240	29	1	42	1.1	15	14570	1.6	31	30	53810
LS0800E	.6	14870	1	1	41	1.1	13	19040	3.4	24	41	44290
LS0850E	1.0	13430	31	1	43	1.0	15	16550	2.2	20	20	39680
LS0900E	.6	16120	1	1	46	1.1	14	20270	2.8	26	66	51560
LS0950E	.7	15540	37	1	41	1.0	15	19460	4.0	25	42	49240
LS1000E	.6	17240	38	1	41	1.1	15	20650	2.4	26	43	45880
LSB01	4.5	12240	38	1	108	3.1	21	25300	14.7	61	79	67970

COMPANY: J.P. SORBARA

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 2 OF 3

PROJECT NO: LONG ISLAND LAKE

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 8-1047/P1+2

ATTENTION: J. SORBARA/S. ZASTAVNIKOVICH

(604) 980-5814 OR (604) 989-4524

* TYPE HEAVY MINERAL *

DATE: NOVEMBER 3, 1989

(VALUES IN PPM.)	K	LI	MG	MN	MO	NA	NI	P	PB	SD	SR	TH
LS01	710	11	5760	402	3	250	14	3140	10	1	24	5
LS02	840	9	6980	518	3	170	4	3000	17	5	29	1
LS03	790	8	5440	490	2	250	4	3670	10	3	34	5
LS04	690	8	5580	412	3	210	11	1850	18	1	22	1
LS05	690	12	7360	515	4	210	31	1290	17	1	42	1
LS06	1080	11	5310	458	4	400	10	5340	13	1	8	1
LS07	530	8	5880	449	3	180	16	2030	12	1	27	1
LS08	1510	11	6180	537	3	470	11	5970	18	1	6	7
LS09	980	12	6000	522	3	250	18	2030	62	2	19	1
LS10	670	9	4360	257	4	260	12	1830	13	1	14	1
LS11	800	8	5580	432	3	280	9	3070	17	1	23	1
LS12	930	9	6580	406	3	240	11	3550	16	1	37	1
TR0	1070	13	7250	397	3	270	23	2950	18	1	26	1
TR40A	930	7	6460	485	4	220	24	4140	20	3	37	1
TR40B	810	13	4210	419	1	190	32	1700	19	4	21	1
TR40C	1790	11	7660	532	3	300	24	10990	15	3	36	1
TR80A	950	13	6200	481	2	210	24	1710	28	1	30	1
TR80B	1250	11	8420	479	3	260	22	3220	22	1	39	1
TR80C	1250	8	7180	583	3	360	20	8400	23	2	42	1
TR110A	760	13	5450	376	2	190	37	1140	18	1	25	1
TR110B	970	11	7870	548	3	230	30	2740	13	1	46	1
TR110C	820	11	8650	655	2	220	31	2670	20	1	57	1
TR150A	1270	20	5840	649	5	270	40	3040	27	1	24	1
TR150B	970	13	7330	520	1	220	29	2910	19	4	42	1
TR150C	1250	14	9360	653	9	260	35	2520	22	3	52	1
LS0000E	720	13	6290	391	6	200	40	1280	22	1	25	1
LS0050E	1450	11	7650	445	7	320	28	4210	19	4	23	1
LS0100E	810	12	5430	452	6	200	26	1310	24	1	24	1
LS0150E	830	11	5490	323	5	210	25	1340	18	2	24	1
LS0200E	940	16	4990	507	7	230	32	1240	29	3	22	1
LS0250E	790	16	5110	217	3	230	17	1880	6	1	18	1
LS0300E	740	18	6060	415	3	200	21	990	20	1	39	1
LS0350E	830	16	4920	376	7	290	24	1290	19	1	23	1
LS0400E	1370	19	7100	482	9	310	28	2550	13	1	30	1
LS0450E	880	18	5420	431	5	200	42	600	21	2	29	1
LS0500E	1340	29	7980	575	6	280	43	3080	15	4	42	1
LS0550E	720	16	3950	503	3	180	24	720	15	1	22	1
LS0600E	1590	17	8110	623	7	280	37	3590	29	1	36	1
LS0650E	1020	16	5790	491	5	250	30	1950	13	1	30	1
LS0700N	740	16	6950	443	4	230	30	1480	15	2	39	1
LS0750E	890	16	6050	445	3	250	27	2500	10	1	36	1
LS0800E	760	16	7310	513	2	230	29	2430	12	1	49	1
LS0850E	730	16	6390	449	4	290	19	920	11	3	45	2
LS0900E	730	16	7320	567	3	210	34	2160	14	1	54	1
LS0950E	660	15	7180	516	3	200	28	1830	14	1	54	1
LS1000E	730	14	7300	535	4	220	32	1740	13	1	60	1
LSB01	1880	38	10030	586	15	370	57	6150	23	3	60	3

COMPANY: J.P. SORBARA

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE

PROJECT NO: LONG ISLAND LAKE

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: B-184

ATTENTION: J. SORBARA/S. ZASTAVNIKOVICH

(604)980-5814 OR (604)988-4524

TYPE HEAVY MINERAL #

DATE: NOVEMBER 3

(VALUES IN PPM)	U	V	ZN	GA	SN	N	CR	AU-PPB	HPL
LS01	1	91.7	43	3	2	1	47	2	22.35
LS02	1	323.7	37	1	2	2	131	346	24.36
LS03	1	192.0	44	1	3	1	70	221	21.27
LS04	1	163.8	41	1	1	5	125	692	26.21
LS05	1	155.4	75	2	1	6	163	2	9.16
LS06	1	136.1	40	3	2	1	54	1	22.11
LS07	1	147.5	44	1	2	3	97	122	23.46
LS08	1	196.9	60	1	3	2	73	1	28.49
LS09	1	128.7	61	1	1	2	94	2	13.76
LS10	1	89.5	39	5	2	2	47	3	9.14
LS11	1	175.3	53	1	3	3	82	1	23.37
LS12	1	146.3	34	1	1	2	69	2	8.37
TR0	1	127.9	70	1	1	2	99	1	5.57
TR40A	1	159.2	55	2	3	4	132	31	12.46
TR40B	1	164.2	112	2	1	3	113	3	4.39
TR40C	3	142.5	53	1	1	1	98	1	13.18
TR80A	1	203.4	146	2	3	5	162	2	3.23
TR80B	1	150.4	64	1	1	2	106	158	7.7
TR80C	1	162.3	61	1	2	3	109	4	7.56
TR110A	1	176.0	131	1	1	3	136	2	5.74
TR110B	1	154.1	70	2	2	3	129	121	11.20
TR110C	1	191.3	69	2	1	4	182	3	5.34
TR150A	1	322.4	179	3	4	3	140	2	1.06
TR150B	1	168.7	78	3	1	4	142	1	8.79
TR150C	1	171.4	80	5	3	6	182	1	4.02
LS0000E	1	150.6	86	1	1	4	146	3	3.98
LS0050E	1	117.5	57	1	1	1	84	4	2.24
LS0100E	1	189.2	118	3	1	3	117	2	2.94
LS0150E	1	112.3	60	1	2	4	131	1	7.96
LS0200E	1	241.2	123	4	4	4	156	2	1.43
LS0250E	1	77.0	26	2	1	2	75	2	9.77
LS0300E	1	145.9	59	2	4	4	158	2	5.4
LS0350E	1	155.9	94	2	2	2	81	3	2.39
LS0400E	1	123.1	68	1	1	3	103	2	3.32
LS0450E	1	154.4	83	1	1	4	159	5	3.13
LS0500E	1	168.6	85	1	2	8	207	3	1.72
LS0550E	1	247.2	108	1	3	3	114	2	7.08
LS0600E	1	129.3	73	1	1	1	116	3	3.98
LS0650E	1	182.9	89	1	1	4	130	2	4.84
LS0700N	1	124.0	53	1	2	4	122	10	11.30
LS0750E	1	146.3	72	1	2	1	94	2	4.91
LS0800E	1	133.9	69	1	2	3	108	26	9.47
LS0850E	1	133.9	42	1	3	4	115	1	8.14
LS0900E	1	154.6	82	1	2	4	145	30	12.67
LS0950E	1	147.7	70	2	1	4	139	2	12.93
LS1000E	1	142.2	79	1	1	3	121	68	11.64
LSB01	5	124.3	62	14	1	1	132	3	.64

COMPANY: J.P. SORBARA

MIN-EN LABS ICP REPORT

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PROJECT NO: LOND ISLAND LAKE

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 1

ATTENTION: J. SORBARA/S. ZASTAVNIKOVICH

(604)980-5814 OR (604)988-4524

* TYPE HEAVY MINERALS *

DATE: NOVEMBER

(PPM)	LRF-01	LRF-02	LRF-03	LRF-04	LRF-05	LRF-06	LRF-07	LRB-01
AG	.6	.3	2.0	1.5	.3	1.0	2.4	.3
AL	6860	11020	15890	2860	2940	22820	7510	13470
AS	18	2	52	396	2048	42	105	282
B	11	5	9	14	7	6	2	8
BA	13	1	12	1	36	239	16	38
BE	1.4	1.1	1.1	1.1	1.7	1.7	1.6	1.8
BI	4	9	13	6	3	16	7	4
CA	19440	103860	33050	5980	5230	16030	12860	44100
CD	5.4	.2	3.7	3.2	2.8	2.3	2.8	1.0
CO	19	9	37	753	761	61	51	216
CU	106	12	71	1233	1090	100	151	59
FE	74490	36530	25930	246930	194380	63810	60910	180020
K	550	430	460	440	630	590	610	1240
LI	6	7	8	7	5	28	6	15
MG	2430	1610	2680	410	2260	16060	2010	8650
MN	1019	675	760	69	3000	831	353	788
MO	4	6	7	4	66	3	6	22
NA	210	60	100	70	90	210	120	140
NI	34	6	76	3	942	24	113	154
P	1410	840	1380	450	390	4110	930	18940
PB	27	16	17	21	51	27	39	33
SB	2	5	3	1	8	6	4	7
SR	30	1	45	8	33	14	52	12
TH	1	1	1	1	4	1	1	15
U	1	2	1	2	1	1	1	3
V	37.8	65.7	58.4	37.6	654.1	197.1	49.9	318.6
ZN	579	8	102	1974	671	72	161	103
GA	2	1	1	1	5	1	1	7
SN	1	1	1	1	2	1	2	5
W	1	1	33	11	1147	4	22	188
CR	126	58	694	546	21146	180	529	3653
AU-PPB	26	2	5	18	5	4	19	150
HMZ	37.84	37.99	33.85	16.96	.56	4.87	19.00	1.09



**MINERAL
ENVIRONMENTS
LABORATORIES LTD.**

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T7
TELEPHONE (604) 980-5814 OR (604) 988-
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9998

Certificate of GEOCHEM

Company: J. P. SORBARA
Project: LONG ISLAND LAKE
Attention: J. P. SORBARA/S. ZASTVNIKOVICH

File: 8-1947/P1
Date: NOV 8/88
Type: SOIL GECC

We hereby certify the following results for samples submitted:

Sample Number	AU-WET PPB
LS 01	5
LS 02	15
LS 03	20
LS 04	20
LS 05	5
LS 06	5
LS 07	5
LS 08	10
LS 09	10
LS 10	5
LS 11	5
LS 12	20
TR 0	15
TR 40A	25
TR 41B	5
TR 40C	10
TR 80A	5
TR 80B	5
TR 80C	10
TR 110A	20
TR 110B	100
TR 110C	5
TR 150A	10
TR 150B	35
TR 150C	10
LS000E	5
LS050E	25
LS100E	5
LS150E	5
LS200E	20

Sample Number	AU-WET PPB
LS 0250E	5
LS 0300E	5
LS 0350E	5
LS 0400E	5
LS 0450E	5
LS 0500E	10
LS 0550E	5
LS 0600E	10
LS 0650E	5
LS 0700E	40
LS 0750E	5
LS 0800E	10
LS 0850E	5
LS 0900E	5
LS 0950E	5
LS10000E	10
LSB 01	5

Sample Number	PPB
LRF-01	10
LRF-02	5
LRF-02	5
LRF-04	5
LRF-05	5
LRF-06	5
LRF-07	10
LRB-01	5

Certified by *[Signature]*

MIN-EN LABORATORIES LTD.

COMPANY: J.P.SORBARA

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 1 OF 3

PROJECT NO: LONG ISLAND LAKE

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: B-1847/P1+2

ATTENTION: P.SORBARA/S.ZASTAVNIKOVICH

(604)980-5814 OR (604)988-4524

TYPE SOIL GEOCHEM

DATE: OCTOBER 26, 1988

(VALUES IN PPM)	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE
LS01	.5	13170	8	1	47	.7	11	7890	3.5	16	6	23840
LS02	.6	12170	11	1	49	.8	11	8810	3.3	19	10	40560
LS03	.8	13260	13	1	45	.8	12	9610	2.9	17	8	31470
LS04	.7	11940	13	1	49	.9	12	8640	3.1	16	7	31100
LS05	1.3	20810	42	1	99	1.2	12	8260	3.4	25	85	35330
LS06	.8	14930	22	1	70	.9	12	11120	4.2	18	33	35310
LS07	.8	13020	15	11	45	.8	11	8710	3.3	16	9	24540
LS08	1.1	13640	18	1	55	1.2	15	11470	2.8	18	36	35920
LS09	.6	20970	25	1	142	.9	11	9970	3.8	21	32	31860
LS10	.9	16730	80	1	137	1.0	10	14630	3.7	16	116	33630
LS11	1.0	14560	22	1	46	.8	13	9550	3.6	18	10	28080
LS12	.8	18330	30	1	73	1.0	13	10300	2.8	22	49	32740
TR0	1.6	39390	81	1	244	1.5	19	6990	2.7	34	256	57510
TR40A	1.5	22130	49	2	91	1.2	15	10550	3.4	27	117	42920
TR40B	2.0	37330	39	1	115	1.2	14	4570	.3	27	59	36940
TR40C	1.2	21800	39	1	140	1.0	14	11350	3.1	27	133	41160
TR80A	1.5	38350	51	1	169	1.5	13	4810	.6	32	77	44130
TR80B	1.0	22340	49	14	95	1.1	15	9170	3.3	24	108	41340
TR80C	.9	21450	45	1	96	.8	15	10440	3.1	29	129	45390
TR110A	1.2	31800	52	1	167	1.3	15	5330	1.3	31	63	46010
TR110B	1.0	17130	45	1	63	1.2	13	9380	3.0	22	98	35150
TR110C	1.0	19610	58	1	83	1.1	13	10190	3.0	30	133	41310
TR150A	1.7	40940	56	2	178	1.3	13	5240	.6	28	95	43180
TR150B	1.1	21710	55	1	103	1.0	13	7850	3.1	26	111	38370
TR150C	1.0	16560	30	1	77	.9	12	18490	5.4	26	75	32930
LS0000E	1.1	23950	28	1	120	1.0	14	4260	2.7	23	113	36660
LS0050E	1.1	31720	43	1	216	1.1	14	9100	1.9	28	111	44360
LS0100E	.9	27570	17	1	133	1.0	12	2560	2.4	20	16	27050
LS0150E	.9	30570	35	1	196	1.3	12	5360	2.4	25	31	37120
LS0200E	.9	34520	34	1	164	1.0	11	2430	.1	21	8	31420
LS0250E	.9	22020	43	2	148	1.0	14	7070	2.3	22	66	32090
LS0300E	1.1	31770	46	4	210	1.2	15	6740	2.9	27	36	39580
LS0350E	1.0	38410	44	1	221	1.2	13	4870	.5	22	16	33720
LS0400E	1.2	31420	87	1	260	1.3	15	10630	2.9	25	67	43290
LS0450E	1.1	40480	64	3	253	1.2	14	6970	.5	30	37	44980
LS0500E	1.0	30660	39	1	156	1.0	14	3910	3.0	22	14	33770
LS0550E	1.1	34360	87	2	227	1.5	16	7570	2.0	32	129	46480
LS0600E	.9	29190	77	2	200	1.5	16	10180	3.5	31	127	47980
LS0650E	1.1	34190	62	1	212	1.4	15	6110	2.5	27	61	41690
LS0700E	1.0	20570	38	1	117	1.1	14	8710	4.0	24	68	34680
LS0750E	.9	26290	55	3	168	1.1	13	7370	2.8	22	51	32760
LS0800E	1.1	19430	53	3	111	1.2	14	9400	4.1	25	65	33910
LS0850E	1.0	18830	45	3	101	1.0	14	10690	4.0	22	41	35160
LS0900E	1.0	18510	58	5	88	1.0	13	9070	4.1	27	103	35870
LS0950E	1.2	18280	58	3	94	1.1	14	9690	3.7	25	61	33680
LS1000E	1.0	19460	55	5	92	1.0	14	9120	4.0	25	63	33660
LSB01	.1	36230	45	3	71	2.6	8	37820	1.9	27	8	56950

COMPANY: J.P. SORBARA

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 2 OF 3

PROJECT NO: LONG ISLAND LAKE

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 8-1847/P1+2

ATTENTION: P. SORBARA/S. ZASTAVNIKOVICH

(604) 980-5814 OR (604) 988-4524

* TYPE SOIL GEDCHEN *

DATE: OCTOBER 26, 1988

(VALUES IN PPM)	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH
LS01	930	16	8830	449	4	230	17	1180	15	1	28	1
LS02	1280	13	8830	704	3	220	19	1280	20	1	31	1
LS03	1120	16	9620	528	4	230	17	1510	17	1	29	1
LS04	1000	15	8220	460	5	240	22	1150	20	1	27	1
LS05	1170	25	10790	656	6	300	49	800	32	1	34	1
LS06	2090	20	9530	811	6	360	20	2510	22	1	26	1
LS07	810	15	9510	528	5	260	21	890	21	1	30	1
LS08	2080	18	8890	638	4	380	16	2330	19	1	24	5
LS09	2180	20	10220	1051	6	480	28	1140	32	1	59	1
LS10	1100	21	7500	479	5	400	32	1260	21	1	46	1
LS11	1380	17	9440	429	4	330	21	1070	23	1	32	1
LS12	2050	17	9260	547	4	330	24	1120	25	1	41	1
TR0	3850	33	16790	616	6	320	44	1390	36	6	41	1
TR40A	2450	19	11910	640	7	270	35	1450	34	1	41	1
TR40B	1590	25	6650	383	5	290	40	2210	30	7	26	1
TR40C	4330	19	12870	722	4	300	31	2120	29	1	38	1
TR80A	1800	30	9230	459	7	270	52	1920	31	8	29	1
TR80B	2150	19	12230	639	5	310	34	1290	34	1	38	1
TR80C	2390	19	12860	875	4	310	34	1580	31	1	37	1
TR110A	1560	28	10660	347	6	240	57	1310	30	2	35	1
TR110B	1460	16	10190	564	5	250	34	1070	23	1	39	1
TR110C	1570	17	12240	891	5	280	45	1160	33	1	43	1
TR150A	1770	40	7250	508	5	300	60	2340	28	7	25	1
TR150B	1620	22	10350	500	6	230	42	1320	30	1	36	1
TR150C	1810	19	13780	658	5	280	39	880	32	1	44	1
LS0000E	1380	30	10790	391	8	260	57	780	34	1	23	1
LS0050E	3610	25	15510	772	6	550	34	990	33	2	103	1
LS0100E	1320	19	6090	466	8	280	28	1680	29	3	32	1
LS0150E	1910	23	10620	356	5	240	39	1270	31	2	36	1
LS0200E	1100	25	6070	344	6	230	25	1950	30	6	28	1
LS0250E	1720	21	11640	395	5	300	26	1280	30	1	38	1
LS0300E	1700	26	11650	557	7	290	39	1410	31	5	54	1
LS0350E	1520	24	7580	389	8	300	32	1650	37	10	56	1
LS0400E	3440	31	14600	682	9	450	40	760	35	5	88	1
LS0450E	2080	26	11830	377	10	290	43	520	40	9	65	1
LS0500E	1520	23	7440	471	7	270	31	1120	27	3	39	1
LS0550E	2890	27	15570	894	6	350	48	1300	31	6	72	1
LS0600E	3760	25	16320	1082	6	470	44	1210	40	2	72	1
LS0650E	2290	25	11400	475	7	320	38	1210	33	5	67	1
LS0700E	1430	19	11040	523	6	320	35	750	29	1	51	1
LS0750E	2020	21	10690	557	6	340	31	1330	26	2	64	1
LS0800E	1540	19	11640	660	6	300	36	1090	35	1	46	1
LS0850E	1370	24	10980	493	7	390	37	460	29	1	44	1
LS0900E	1270	19	10820	597	6	250	46	1150	31	1	38	1
LS0950E	1230	18	10870	604	6	250	38	1000	36	1	43	1
LS1000E	1360	19	10890	556	6	250	41	1060	35	1	40	1
LSB01	2710	20	18790	1348	9	180	46	1240	32	5	45	1

COMPANY: J.P.SORBARA

MIN-EN LABS TCP REPORT

(ACT:F31) PAGE

PROJECT NO: LONG ISLAND LAKE

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 8-1

ATTENTION: P.SORBARA/S.ZASTAVNIKOVICH

(604)980-5814 OR (604)988-4524

TYPE SOIL GEOCHEM

DATE: OCTOBER

(VALUES IN PPM)	U	V	ZN	GA	SN	W	CR
LS01	1	71.8	75	2	1	1	43
LS02	1	121.6	48	1	1	1	59
LS03	1	97.3	72	4	1	1	50
LS04	2	107.4	49	3	1	4	88
LS05	1	98.6	127	3	2	3	78
LS06	1	109.3	71	3	2	1	47
LS07	1	85.4	57	3	2	2	56
LS08	1	111.5	89	3	2	1	46
LS09	1	99.4	86	2	2	2	59
LS10	1	72.0	107	1	1	1	51
LS11	1	91.9	74	4	2	1	46
LS12	1	98.1	61	3	2	1	51
TR0	1	142.4	166	3	4	3	65
TR40A	1	129.7	105	2	3	3	76
TR40B	1	88.3	234	2	4	2	54
TR40C	1	130.0	91	4	2	2	65
TR80A	1	102.8	361	3	4	2	70
TR80B	1	115.2	121	5	2	3	77
TR80C	1	123.0	129	4	2	3	76
TR110A	1	118.7	262	2	3	2	68
TR110B	1	103.7	91	3	2	2	72
TR110C	1	117.4	112	2	2	3	84
TR150A	1	97.3	324	1	4	2	69
TR150B	1	104.9	153	3	2	2	70
TR150C	1	91.3	90	3	2	3	74
LS0000E	1	111.5	149	3	2	3	68
LS0050E	1	134.0	108	5	3	3	69
LS0100E	1	73.0	202	3	3	1	48
LS0150E	1	105.0	124	3	3	2	71
LS0200E	1	81.3	182	3	3	2	49
LS0250E	2	100.3	66	3	2	4	76
LS0300E	1	110.7	147	3	2	4	83
LS0350E	1	93.5	225	3	5	2	56
LS0400E	1	147.3	119	4	3	4	84
LS0450E	1	125.6	166	2	5	3	75
LS0500E	1	99.3	164	3	3	2	55
LS0550E	1	127.1	152	3	4	3	79
LS0600E	1	133.5	112	4	4	3	78
LS0650E	1	118.9	172	3	3	3	68
LS0700E	1	103.8	87	2	2	3	76
LS0750E	1	97.0	135	3	3	2	62
LS0800E	1	102.3	113	3	2	3	72
LS0850E	1	100.3	74	3	2	3	74
LS0900E	1	102.7	134	1	2	3	78
LS0950E	3	104.2	109	4	3	3	78
LS1000E	1	102.4	128	2	2	3	76
LSB01	1	96.3	88	3	2	8	203

COMPANY: J.P.SORBARA

MIN-EN LABS ICP REPORT

(ACT:F31)

PROJECT NO: LONG ISLAND LAKE

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE N

ATTENTION: S.ZASTAVNIKOVICH/J.SORBARA

(604)980-5814 OR (604)988-4524

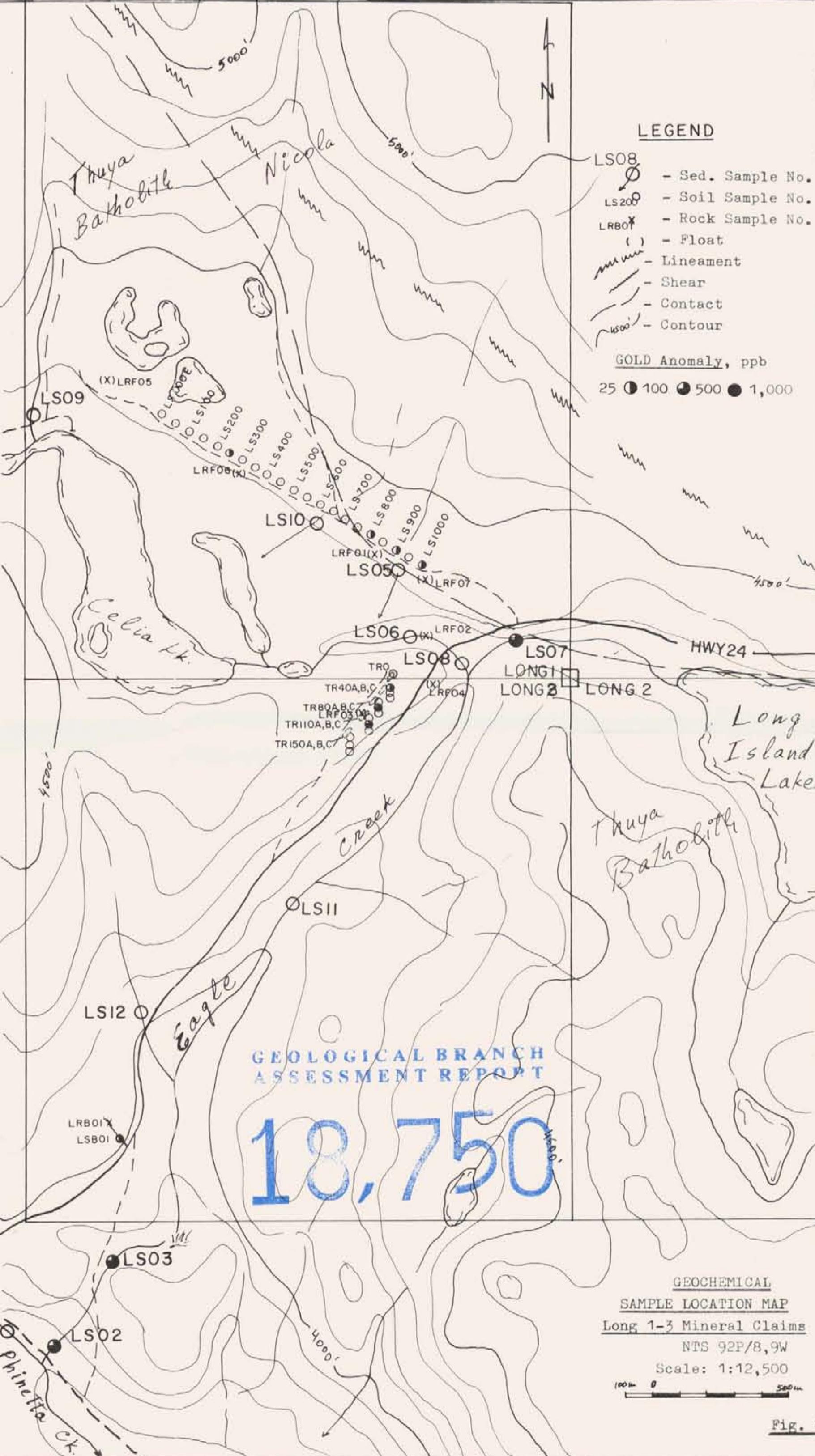
* TYPE ROCK GEOCHEM *

DATE: OCTO

(PPM)	LRF-01	LRF-02	LRF-03	LRF-04	LRF-05	LRF-06	LRF-07	LRB-01
AG	.9	.1	1.4	1.1	.9	.9	1.3	.3
AL	15490	10330	17570	3380	1800	10610	13620	18710
AS	7	1	1	100	40	22	6	1
B	27	4	13	11	1	3	6	8
BA	43	1	43	16	19	71	71	204
BE	.9	.7	.9	.5	.5	.6	.8	1.2
BI	14	10	16	3	7	11	14	7
CA	24160	189210	29220	10100	7000	6530	24250	24400
CD	6.4	2.3	2.2	4.2	3.8	3.3	2.8	1.9
CO	24	8	24	202	8	17	23	12
CU	180	11	81	584	78	28	80	23
FE	21340	13580	23110	74050	6790	19330	33970	25530
K	1430	400	820	620	510	980	1810	6300
LI	16	5	7	5	6	12	8	10
MG	5410	2450	3390	1270	1550	5900	3620	5420
MN	1010	797	611	173	251	341	287	719
MO	4	5	7	6	5	5	5	6
NA	640	60	380	110	120	470	370	420
NI	36	9	68	5	15	19	62	7
P	1810	620	1260	500	110	470	860	1030
PB	24	11	21	22	13	20	27	20
SB	1	1	1	1	3	1	1	3
SR	57	3	46	15	36	17	90	60
TH	1	1	1	1	1	1	1	1
U	1	1	1	1	2	1	1	1
V	67.2	48.7	52.1	22.6	11.8	69.1	52.7	41.7
ZN	396	12	77	776	24	37	99	29
GA	1	2	2	1	7	6	1	3
SN	3	1	4	1	1	1	4	1
W	2	1	3	3	6	5	3	1
CR	177	83	216	263	392	343	222	122

SAMPLE NO.	I TYPE HEAVY MINERAL											
	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE
LS01	9	9620	1	5	20	1.9	10	15600	6.0	16	10	22140
LS02	1	9370	11	6	24	1.4	11	15990	1	25	7	103660
LS03	1.2	10520	22	4	19	1.1	13	20740	4.2	22	8	35820
LS04	2	8590	1	3	22	1.3	9	12150	7.0	17	8	42820
LS05	4	15320	12	9	48	1.8	9	16780	4.3	25	36	50260
LS06	9	6710	1	1	20	1.2	12	16820	4.9	16	21	30120
LS07	6	9570	1	5	17	1.4	13	14730	3.6	19	8	37510
LS08	1.1	8440	23	2	31	1.0	17	20490	1.4	20	24	43370
LS09	7	9490	9	3	44	1.2	12	9970	2.3	22	20	45900
LS10	1.4	5920	22	1	27	1.7	11	8470	5.4	15	13	22400
LS11	4	9370	24	3	17	1.3	18	16580	1.7	20	8	41790
LS12	3	12130	3	9	25	1.2	11	18600	1.9	19	14	41160
TR0	1.0	15920	45	7	60	1.6	14	14820	1.7	29	71	51670
TR40A	2	14010	7	7	27	1.5	12	21160	4.4	24	53	51910
TR40B	8	15430	1	5	43	1.3	13	11450	2.2	30	33	61620
TR40C	4	14880	5	9	51	1.1	11	35310	6.5	24	72	42070
TR80A	6	17850	5	9	63	1.6	15	13440	1.3	38	25	81770
TR80B	8	15740	21	8	38	1.8	14	18980	1.3	24	57	48380
TR80C	6	15210	1	9	34	1.6	13	31140	1.8	24	55	49420
TR110A	7	16890	20	6	69	1.8	15	10440	1.8	40	27	78750
TR110B	4	15610	16	10	44	1.5	15	19960	2.1	24	68	50750
TR110C	6	17320	8	13	32	1.6	15	22880	1.5	29	70	64210
TR150A	1.6	15970	11	1	63	2.8	24	12610	13.8	47	23	92340
TR150B	1	16110	13	8	45	1.8	9	19710	5.0	26	57	56320
TR150C	2.2	14040	51	5	38	2.6	16	22410	5.6	36	67	59780
LS0000E	9	14410	10	4	46	1.5	15	11430	1.4	29	54	55940
LS0050E	1.2	12890	18	4	61	1.9	12	15510	3.0	37	76	61360
LS0100E	4	13190	8	5	51	1.3	16	9030	1.4	33	7	78220
LS0150E	8	14930	18	3	66	1.5	9	9890	3.0	25	18	49570
LS0200E	2.1	13610	35	2	58	2.8	25	6570	10.4	48	17	90080
LS0250E	1.0	8150	18	1	36	1.7	10	8470	4.1	16	31	22950
LS0300E	6	15090	24	1	44	1.9	14	13920	1.9	30	19	55720
LS0350E	9	13010	19	1	53	1.8	17	7720	1.3	34	10	69580
LS0400E	6	14010	13	1	72	1.8	12	14520	3.2	36	42	60360
LS0450E	5	18320	58	1	68	1.8	16	11060	1.6	44	9	92170
LS0500E	1.9	15040	29	1	54	2.0	20	17170	6.0	52	94	84660
LS0550E	7	12690	15	1	41	1.6	22	6890	1.2	37	10	36470
LS0600E	9	14490	23	1	64	1.1	13	17660	3.0	44	110	73650
LS0650E	7	14730	39	1	52	1.3	15	11400	1.3	39	35	79940
LS0700E	8	13560	20	1	37	1.0	13	15650	3.7	22	44	42110
LS0750E	7	13240	29	1	42	1.1	15	14570	1.6	31	30	53810
LS0800E	6	14870	1	1	41	1.1	13	19040	3.4	24	41	44290
LS0850E	1.0	13430	31	1	43	1.0	15	16550	2.2	20	20	39680
LS0900E	6	16120	1	1	46	1.1	14	20270	2.8	26	66	51560
LS0950E	7	15540	37	1	41	1.0	15	19460	4.0	25	42	49240
LS1000E	8	17240	38	1	41	1.1	15	20650	2.4	26	43	45880
LSB01	4.5	12240	38	1	108	3.1	21	25300	14.7	61	79	67970

SAMPLE NO.	I TYPE HEAVY MINERAL										
	U	V	ZN	GA	SN	W	R	AU-PPB	HR		
LS01	91.7	43	3	2	2	1	7	2	22.35		
LS02	323.7	37	1	2	2	1	1	346	24.36		
LS03	197.0	46	1	3	1	1	2	221	21.27		
LS04	163.8	41	1	1	5	5	692	26.21			
LS05	155.4	75	2	1	6	2	2	9.16			
LS06	136.1	40	3	2	1	4	1	22.11			
LS07	147.5	44	1	2	3	7	122	15.46			
LS08	196.9	60	1	3	2	3	1	28.49			
LS09	128.7	61	1	1	2	4	2	15.76			
LS10	89.5	39	5	2	2	7	3	9.14			
LS11	175.3	53	1	3	3	2	1	23.37			
LS12	146.3	34	1	1	2	9	2	8.37			
TR0	127.9	70	1	1	2	9	1	5.57			
TR40A	159.2	55	2	3	4	12	31	12.46			
TR40B	164.2	112	2	1	3	3	3	4.39			
TR40C	142.5	53	1	1	1	8	1	13.18			
TR80A	203.4	146	2	3	5	12	2	3.23			
TR80B	150.4	64	1	1	2	6	158	7.7			
TR80C	162.3	61	1	2	3	19	4	7.56			
TR110A	176.0	131	1	1	3	6	2	5.74			
TR110B	154.1	70	2	2	3	9	121	11.20			
TR110C	191.3	69	2	1	6	12	3	5.34			
TR150A	322.4	179	3	4	3	10	2	1.06			
TR150B	168.7	78	3	1	4	12	1	8.79			
TR150C	171.4	80	5	3	6	12	3	4.02			
LS0000E	150.6	86	1	1	6	16	3	3.95			
LS0050E	117.5	57	1	1	1	14	4	2.24			
LS0100E	189.2	118	3	1	3	7	2	2.94			
LS0150E	112.3	60	1	2	4	11	1	7.96			
LS0200E	241.2	123	4	4	4	16	2	1.43			
LS0250E	77.0	26	2	1	2	5	32	9.77			
LS0300E	145.9	59	2	1	6	38	2	5.4			
LS0350E	155.9	94	2	2	2	31	3	2.39			
LS0400E	123.1	68	1	1	3	13	2	3.32			
LS0450E	154.4	83	1	1	4	39	5	3.13			
LS0500E	168.6	85	1	2	8	17	3	1.72			
LS0550E	247.2	108	1	3	3	14	2	7.08			
LS0600E	129.3	73	1	1	1	16	3	3.98			
LS0650E	182.9	89	1	1	4	10	2	4.84			
LS0700E	124.0	53	1	2	4	22	10	11.30			
LS0750E	146.3	72	1	2	1	74	2	4.91			
LS0800E	133.9	69	1	2	3	38	26	9.47			
LS0850E	133.9	42	1	3	4	15	1	8.14			
LS0900E	154.6	82	1	2	4	45	30	12.67			
LS0950E	147.7	70	2	1	4	39	2	12.93			
LS1000E	142.2	79	1	1	3	21	68	11.64			
LSB01	124.3	62	14	1	1	32	3	.84			



COMPANY: J.P. BERBER
 PROJECT: NEW LONG ISLAND LAKE
 ATTENTION: J. SODARAVAS, JASTASHKOVICH
 16041900-5013 OR 16041900-4524

SAMPLE NO.	I TYPE HEAVY MINERAL											
	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE
LS01	9	9620	1	5	20	1.9	10	15600	6.0	16	10	22140
LS02	1	9370	11	6	24	1.4	11	15990	1	25	7	103660
LS03	1.2	10520	22	4	19	1.1	13	20740	4.2	22	8	35820
LS04	2	8590	1	3	22	1.3	9	12150	7.0	17	8	42820
LS05	4	15320	12	9	48	1.8	9	16780	4.3	25	36	50260
LS06	9	6710	1	1	20	1.2	12	16820	4.9	16	21	30120
LS07	6	9570	1	5	17	1.4	13	14730	3.6	19	8	37510
LS08	1.1	8440	23	2	31	1.0	17	20490	1.4	20	24	43370
LS09	7	9490	9	3	44	1.2	12	9970	2.3	22	20	45900
LS10	1.4	5920	22	1	27	1.7	11	8470	5.4	15	13	22400
LS11	4	9370	24	3	17	1.3	18	16580	1.7	20	8	41790
LS12	3	12130	3	9	25	1.2	11	18600	1.9	19	14	41160
TR0	1.0	15920	45	7	60	1.6	14	14820	1.7	29	71	51670
TR40A	2	14010	7	7	27	1.5	12	21160	4.4	24	53	51910
TR40B	8	15430	1	5	43	1.3	13	11450	2.2	30	33	61620
TR40C	4	14880	5	9	51	1.1	11	35310	6.5	24	72	42070
TR80A	6	17850	5	9	63	1.6	15	13440	1.3	38	25	81770
TR80B	8	15740	21	8	38	1.8	14	18980	1.3	24	57	48380
TR80C	6	15210	1	9	34	1.6	13	31140	1.8	24	55	49420
TR110A	7	16890	20	6	69	1.8	15	10440	1.8	40	27	78750
TR110B	4	15610	16	10	44	1.5	15	19960	2.1	24	68	50750
TR110C	6	17320	8	13	32	1.6	15	22880	1.5	29	70	64210
TR150A	1.6	15970	11	1	63	2.8	24	12610	13.8	47	23	92340
TR150B	1	16110	13	8	45	1.8	9	19710	5.0	26	57	56320
TR150C	2.2	14040	51	5	38	2.6	16	22410	5.6	36	67	59780
LS0000E	9	14410	10	4	46	1.5	15	11430	1.4	29	54	55940
LS0050E	1.2	12890	18	4	61	1.9	12	15510	3.0	37	76	61360
LS0100E	4	13190	8	5	51	1.3	16	9030	1.4	33	7	78220
LS0150E	8	14930	18	3	66	1.5	9	9890	3.0	25	18	49570
LS0200E	2.1	13610	35	2	58	2.8	25	6570	10.4	48	17	90080
LS0250												