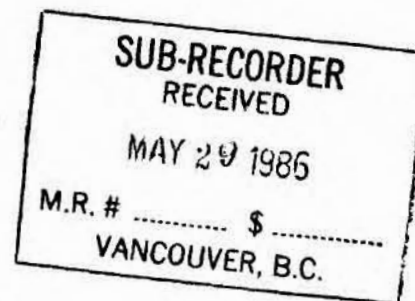


86-262-14922



PRELIMINARY GEOLOGY REPORT
DUNLAP MINERAL CLAIM GROUP
BIG SILVER CREEK, HARRISON LAKE AREA
NEW WESTMINSTER MINING DIVISION
NTS 92 H/12 W
LATITUDE ~~49°48'N~~ 49°48'N, LONGITUDE 121°48'W
33.5'

By: Owner/Operator: JAMES M. LOGAN
GEOLOGIST

FILMED

MAY 1986

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,922

TABLE OF CONTENTS

SUMMARY	1
INTRODUCTION	2
GEOLOGY	2
LOCATION MAP	3
CLAIM MAP	4
SOIL GEOCHEMISTRY	7
CONCLUSIONS	7
RECOMMENDATIONS	8
STATEMENT OF QUALIFICATIONS	9
REFERENCES	10
COST STATEMENT, 1986 PROGRAMME	11
APPENDIX	
Figure 1: Stereonet Plot of Structural Data	
Sample Descriptions	
Geochemical Analysis Certificates	
GEOLOGY AND SAMPLE LOCATION MAP	(Pocket in back of report)

**PRELIMINARY GEOLOGY REPORT
DUNLAP MINERAL CLAIM GROUP
BIG SILVER CREEK, HARRISON LAKE AREA
NEW WESTMINSTER MINING DIVISION
NTS 92 H/12 W**

SUMMARY

The Dunlap mineral claim group is located 32 km north of Harrison Hot Springs, B.C., on the east shore of Harrison Lake. Late Paleozoic to Mesozoic metasedimentary rocks of either the Chilliwack or Cogburn Creek Group underlie the claim group. These rocks have been affected by: two stages of deformation; regional metamorphism to upper greenschist facies; and, major northwest trending regional faulting. Post second phase deformation, fracturing and joint development controlled intrusions of Cretaceous (?) Mid-Tertiary (?) dykes and quartz veins.

No precious or base metal sulphide mineralization have been located within the claims. No anomalous metal values were encountered from the soil geochemistry. Low gold and copper values located adjacent to the claims suggest the likelihood of similar mineralization within the Dunlap claim group.

Geological mapping should be extended to complete coverage of the claims. A magnetometer survey is proposed to outline massive sulphide skarn (?) horizons.

INTRODUCTION

On March 28th and 29th, 1986, geological mapping and soil geochemical sampling were carried out over the Dunlap claim group, the purpose being continuation of mapping and structural analysis of the claim group begun in 1984.

The Dunlap claim group consists of five reverted crown-granted mineral claims, acquired by the author April 5, 1982. From southeast to northwest the claims are:

James McKenzie	771	1424(4)
John Loughheed	772	1425(4)
Cecil Dunlap	773	1426(4)
Alex Crawford	774	1427(4)
Wm. Alexander	775	1428(4)

The claims are located about 32 km north of Harrison Hot Springs, B.C., and strung out in a northwesterly direction along the east shore of Harrison Lake midway between Big Silver and Cogburn creeks. The claims extend from the shore of the lake at an elevation of less than 100 ft a.s.l. up a steep, wooded, southwest-facing slope to 1,000 ft a.s.l.

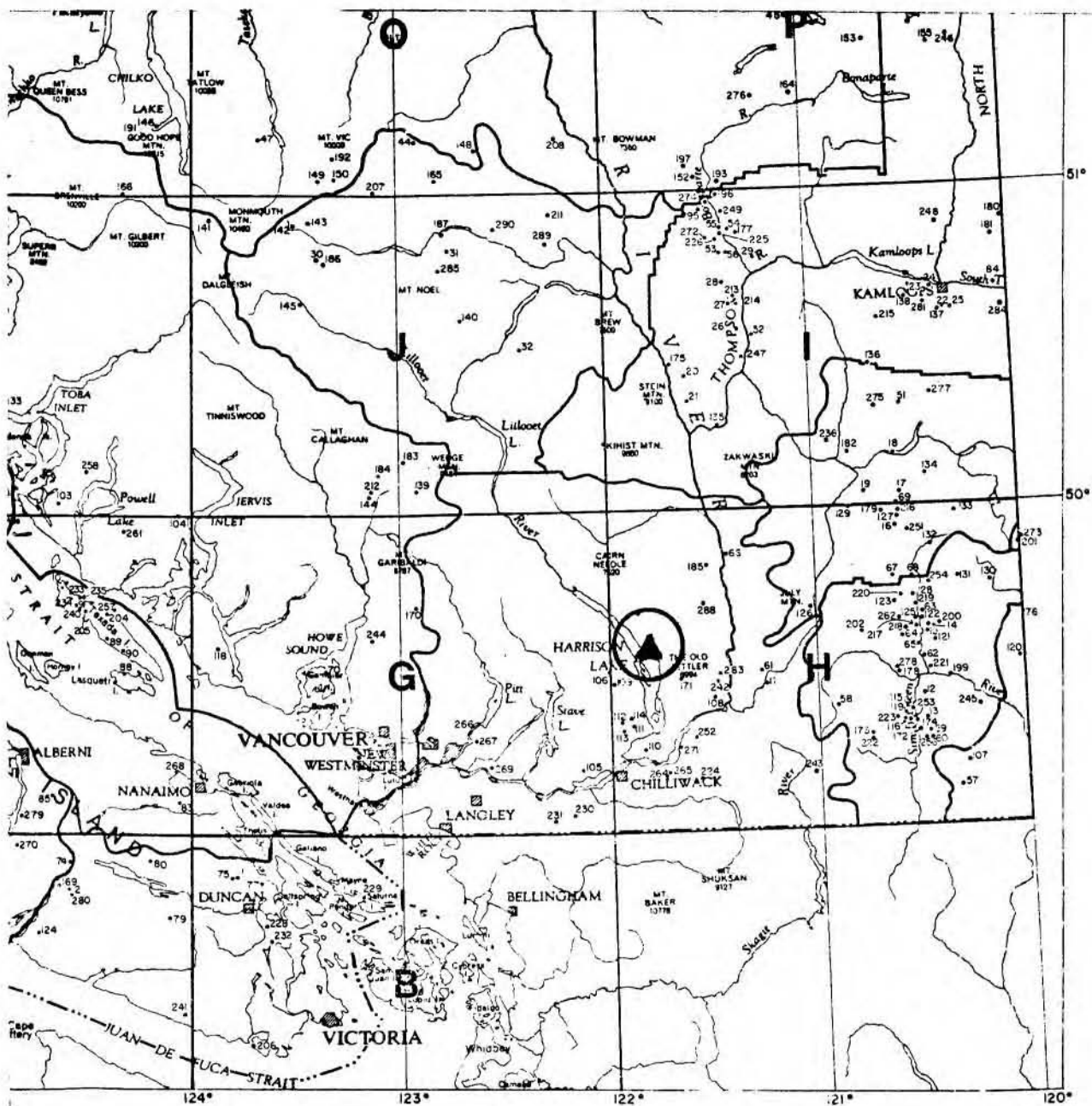
Situated 49°33'N latitude, 121°48'W longitude, the claim group lies in the New Westminster Mining Division, NTS 92 H/12 W.

Access

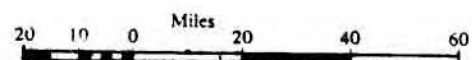
Access to the claims is via logging roads which follow the east side of Harrison Lake north, crossing the claim group 32 km from Harrison Hot Springs. Two secondary, 4-wheel drive (passable) roads provide access to the northeastern and northwestern portions of the claim group. These depart the main access road on the Alex Crawford and Wm. Alexander claims.

GEOLOGY

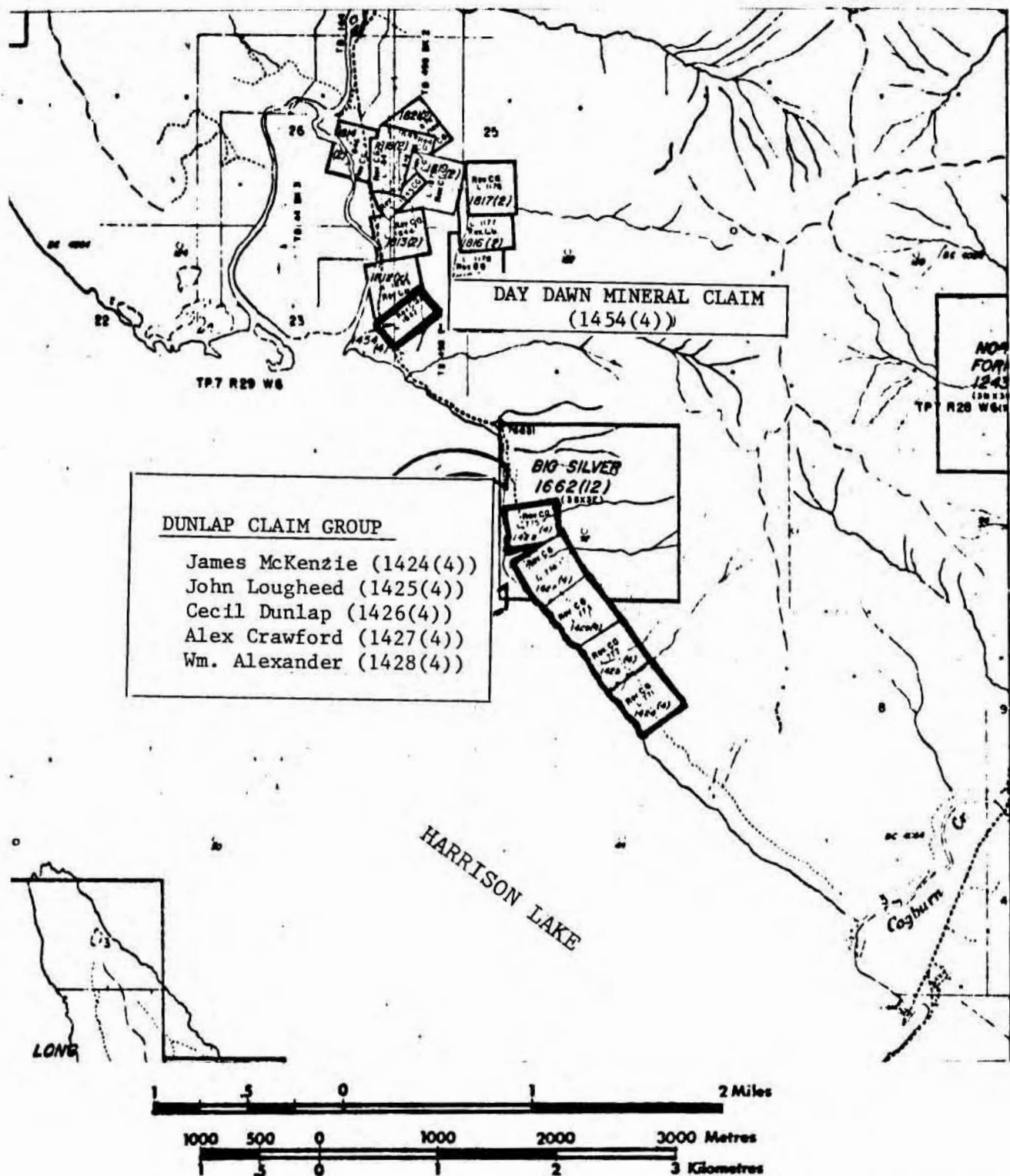
Map 12-1969 (Monger, 1969) indicates the claims to be underlain by rocks of Late Paleozoic Chilliwack Group. Gabites (1985) has correlated the rocks within the claim



DUNLAP MINERAL CLAIM GROUP
 BIG SILVER CREEK, HARRISON LAKE AREA
 NEW WESTMINSTER MINING DIVISION
 N.T.S. 92H/12W
 Latitude 49°33'N Longitude 121°48'W



LOCATION MAP



DUNLAP MINERAL CLAIM GROUP
BIG SILVER CREEK, HARRISON LAKE AREA
NEW WESTMINISTER MINING DIVISION
N.T.S. 92H/12W
Latitude 49°33'N Longitude 121°48'W

CLAIM MAP

group to Triassic or the older Cogburn Creek Group located directly southeast. Fossil data from the claims area are lacking and the similar lithologic assemblages of both the Chilliwack and Cogburn Creek groups make designation of one over the other uncertain. Pelites, greenschist and carbonates with minor conglomerates characterize both groups. The geology of the claim group is shown in the Geology and Sample Location Map (pocket in back of report).

Stratigraphy

The property is underlain by a fining upwards sequence of predominantly pelitic sediments. Stratigraphically lowest are pin-striped pyritic argillites and slates, with lesser amounts of intercalated lenses of grit (unit 1). A thin colour-banded tuffaceous unit exposed along the lake at the southern corner of the Cecil Dunlap claim is tentatively correlated with schists located above the claims to the east. Along the lake these tuffs grade into thin bedded argillites and slates over a short distance. East of the claims at about 1200 ft a.s.l. elevation the rocks are metamorphosed to garnet and amphibole schists, however they closely resemble those rocks exposed structurally lower. Unit 2 is composed of repetitive block slates and phyllites containing biotite and garnet porphyroblasts. This in turn is overlain by garnetiferous phyllites and schists. Interbedded throughout the package, but more ubiquitous in the uppermost unit, are garnet amphibole rich layers which are correlated with those along the lake shore.

Dykes and plugs of dioritic composition intrude the sediments immediately south of the claim group. The diorite is a fine-grained light greenish-white colour and contains hornblende as the chief mafic constituent. The relationship of these bodies to the Late Cretaceous (Monger, 1979) stock located on Cogburn Creek is unknown. Associated Au-bearing skarns, similar to those of Doctors Point, suggest a possible Mid-Tertiary age for these bodies.

Metamorphism

The rocks within the claim area have been regionally metamorphosed to greenschist grade facies. The metamorphic grade increases up stratigraphic and structural level

from lower to upper greenschist. Low grade, represented along the lake shore by argillites and slates of unit 1, change gradationally upslope (in a northerly direction) to biotite-rich slates and phyllites of unit 2 and then to garnet phyllites and schists of unit 3. Bulk composition has controlled certain metamorphic reactions, i.e., amphibole-bearing calc-silicate bands and specific garnet-rich layers, but the coarsening of micas and development of schistosity indicate increasing metamorphic grade northward.

Contact metamorphism has produced hornfels and skarnified zones adjacent to intrusive bodies and extending up to 5 metres into the country rocks. Typically a hornblende and chlorite-bearing schist is developed adjacent to the intrusive. In places massive sulphide, skarn replacements of dominantly pyrrhotite, pyrite, magnetite and lesser chalcopyrite gold and quartz/carbonate have developed.

Structure

The early phase of deformation is characterized by large scale, asymmetric, southeast verging folds. Bedding is transposed and stratigraphy frequently overturned. Axial plane orientations are generally $130^{\circ}/70^{\circ}$ NE and a well developed regional slaty cleavage (S_1) is often the only planar feature visible in outcrop. Fold axes (F_1) plunge moderately to the northeast typically $40-60^{\circ}/60^{\circ}$ NE. This phase of folding is coeval with the regional metamorphism.

Post metamorphic folds (F_2) are typically upright with axial planes oriented $110^{\circ}/50^{\circ}$ NE. Kink bands are the latest feature and show kink-band boundaries typically dipping $50-60^{\circ}$ S.

Structural data have been plotted on an equal area stereonet and are appended.

Mineralization

Five (5) rock samples were collected and analysed geochemically for gold, silver, copper and arsenic. Sample descriptions and results are appended. Sample locations are shown on the Geology and Sample Location Map (pocket in back of report).

The claims contain three distinct types of mineralization: streaks and bedding parallel disseminations within the sediments and volcanics; bedding-parallel quartz veins;

and, massive skarn replacements adjacent to intrusive bodies. Geochemical results show no precious or base metal sulphide concentrations associated with either of the first two types of mineralization. Resampling skarnified metasediments located south of the claim group confirms anomalous gold and high copper values obtained during the 1984 programme.

The skarn zone varies from massive intergrowths of pyrrhotite and pyrite to less complete replacement where stratification is preserved within the host sediment and sulphides occupy specific horizons. Chalcopyrite is subordinate to the iron sulphides, and magnetite is abundant within the altered border of intrusive/sediments.

SOIL GEOCHEMISTRY

Soil geochemical sampling was carried out over the Dunlap Group coincident with geological mapping. As a result neither grid nor baseline were established. Soil was obtained from the "C" horizon where possible, and all samples were obtained from either this or the lower B horizon. The soil was generally clay-rich, sandy at lower elevations and either reddish brown or olive-grey in colour.

All ten (10) samples were delivered to Chemex Labs Ltd. in North Vancouver and analysed geochemically for gold, silver, arsenic, lead and zinc. Analysis was by standard atomic absorption on the -80 mesh fraction. Results are appended.

The small population size and low values for all elements preclude statistical analysis of the results. There are no anomalous values.

CONCLUSIONS

Intrusive dykes and their related contact aureoles present adjacent to the Dunlap mineral claim group contain anomalous values of gold and copper. The likelihood of similar intrusive-related mineralization to occur on the property, while none has been encountered to date, is thought to be good.

Quartz veins are ubiquitous on the claim group. Geochemical results indicate the bedding parallel veins are typically barren. Soil geochemistry has indicated no anomalous populations.

Massive sulphide skarn zones within the country rocks contain predominantly pyrrhotite. The marginal intrusive rocks contain abundant (up to 3.5%) magnetite. This magnetic signature might allow a magnetometer survey to delineate these zones in outcrop-poor areas.

RECOMMENDATIONS

1. The area containing the skarn and anomalous Au and Cu values should be staked.
2. Geological mapping to complete coverage of the claim area. Emphasis should be directed on locating and tracing intrusive bodies and their contact aureoles.
3. A geophysical survey utilizing both magnetics (magnetometer) and electromagnetics (VLF) is recommended subsequent to testing over known skarn occurrences.

Respectfully submitted,



James M. Logan, M.Sc.
Geologist

Vancouver, B.C.

May 20, 1986

STATEMENT OF QUALIFICATIONS
JAMES M. LOGAN

1. I, James M. Logan, of 4651 West 16th Avenue, Vancouver, B.C. V6R 3E9, am a graduate of Brock University, Ontario, with a B.Sc. (Honours) degree in Geology, and of the University of British Columbia, with a M.Sc. degree in Geology.
2. I have been engaged in mining exploration for 9 years.
3. I have authored the report entitled, "Preliminary Geology Report, Dunlap Mineral Claim Group, Big Silver Creek, Harrison Lake Area, New Westminster Mining Division", dated May, 1986. The report is based on fieldwork conducted by the author.
4. I control 100% interest in the property.
5. I consent to the use of this report in a prospectus or in a statement of material facts related to the raising of funds.

Respectfully submitted,



James M. Logan
Geologist

Vancouver, B.C.

May 20, 1986

COST STATEMENT, 1986 PROGRAMME**Personnel**

J.M. Logan, Geologist, March 28, 29 -	
2 days at \$300/day	\$ 600.00
J.A. Fillipone, Geologist, March 28, 29 -	
2 days at \$300/day	600.00

Camp Costs

2 days at \$25/day	50.00
--------------------	-------

Transportation

4-wheel drive vehicle, mileage, fuel	131.00
--------------------------------------	--------

Analyses

10 soil samples analysed for Au, Ag, As,	
Pb, Zn, at \$14.90/sample	149.00
5 rock samples analysed for Au, Ag, As,	
Cu, at \$15.90/sample	79.50

Report

Drafting, typing, materials	<u>400.00</u>
-----------------------------	---------------

Total:	\$2,009.50
--------	------------

A P P E N D I X

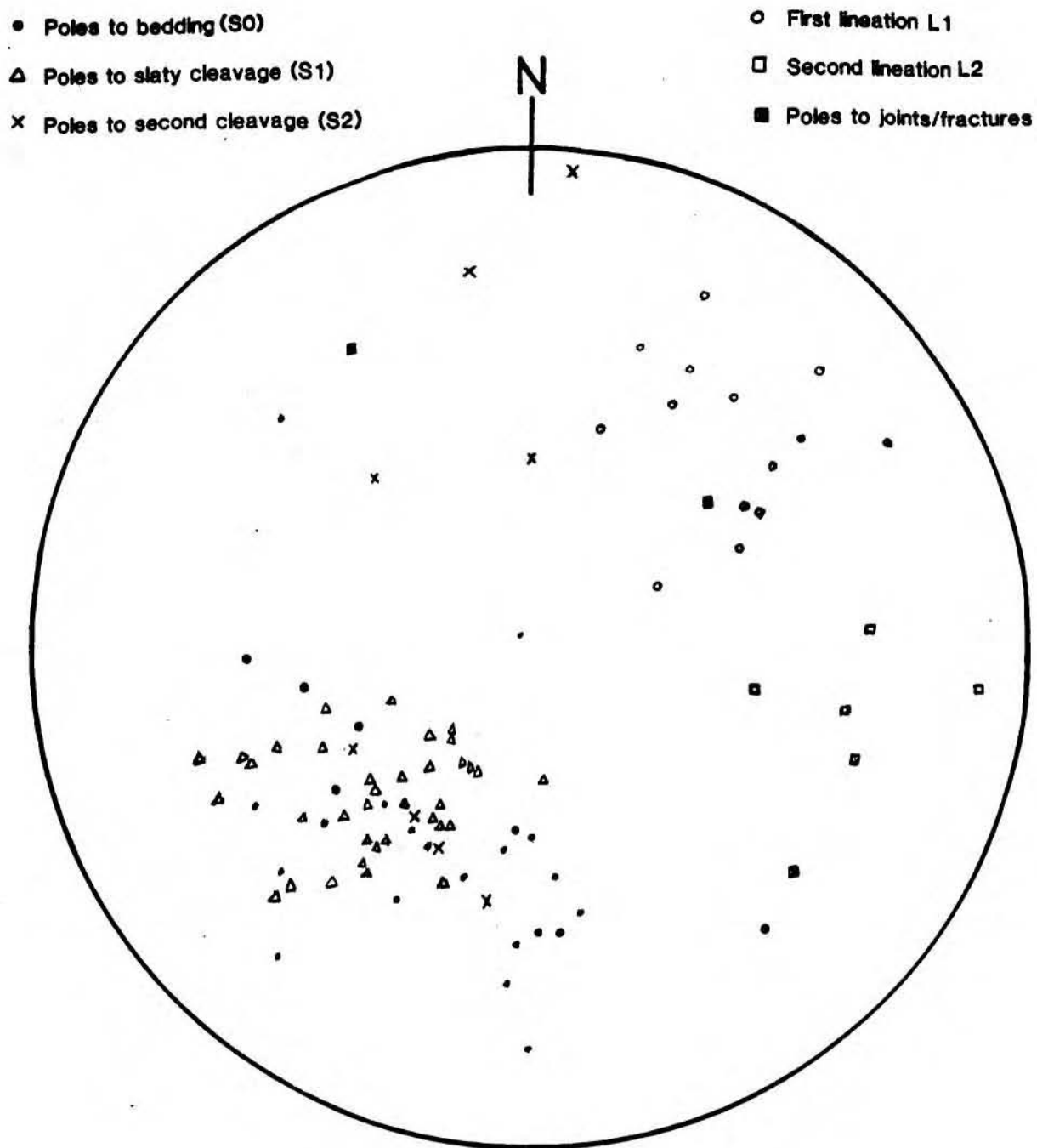


Figure 1: Stereonet plot of structural data

SAMPLE DESCRIPTIONS

Sample No.	Description
2801	Grab sample of completely oxidized, 0.25-metre-wide quartz vein. Sample composed of limonite and manganese stained vuggy quartz with relict pyrite cubes sparsely disseminated throughout.
2907	S ₁ parallel quartz vein (?) metamorphic segregation (?). Quartz contains tremolite and calcite, no visible sulphides, and is moderately oxidized.
2910	Grab sample of S ₁ parallel quartz vein. Quartz is hematite and manganese stained, moderately fractured, and void of visible sulphides.
3003	Fine-grained pyritic chlorite-actinolite-quartz volcanic green-schist. Pyrite is disseminated and foliation parallel up to 1.0%.
3004	Massive pyrrhotite-pyrite \pm chalcopyrite to skarn. Grab of banded sulphides occupied within the sediment which are amphibolitic. Granodiorite intrusive contains abundant magnetite.



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1

Phone: (604) 984-0221
Telex: 043-52597

CERTIFICATE OF ANALYSIS

TO : LOGAN, J.M.

4651 WEST 16TH
VANCOUVER, B.C.
V6R 3E9

CERT. # : A8612053-001-A
INVOICE # : I8612053
DATE : 23-APR-86
P.O. # : NONE

Sample description	Prep code	Pb ppm	Zn ppm	Aq ppm Aqua R	AS ppm	Au ppb FA+AA	
2901	201	1	175	0.2	2	<5	--
2902	201	1	103	0.2	1	<5	--
2903	201	1	140	0.1	3	<5	--
2904	201	1	132	0.1	1	<5	--
2905	201	1	114	0.1	1	<5	--
2906	201	2	172	0.3	2	<5	--
2908	201	1	100	0.1	1	<5	--
2909	201	2	99	0.1	1	<5	--
2911	201	2	128	0.1	2	<5	--
3002	201	9	109	0.2	1	<5	--

VOI rev. 4/85

Certified by Hart Bichler



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1

Phone: (604) 984-0221
Telex: 043-52597

CERTIFICATE OF ANALYSIS

TO : LOGAN, J.M.

4651 WEST 16TH
VANCOUVER, B.C.
V6R 3E9

CERT. # : A8612052-001-A
INVOICE # : I8612052
DATE : 23-APR-86
P.O. # : NONE

Sample description	Prep code	Cu ppm	Ag ppm Aqua R	AS ppm	Au ppb FA+AA		
2801	205	10	0.1	3	<5	--	--
2907	205	4	0.1	3	<5	--	--
2910	205	3	0.1	2	<5	--	--
3003	205	35	0.1	3	<5	--	--
3004	205	2700	0.6	5	50	--	--

Certified by

Hart Bickler

VOI rev. 4/85

GEOLOGY & SAMPLE LOCATION MAP

DUNLAP MINERAL CLAIM GROUP

BIG SILVER CREEK, HARRISON LAKE AREA

NEW WESTMINSTER MINING DIVISION

N.T.S. 92 H/12 W

26
17
HARRISON LAKE
DUNLAP MINERAL CLAIM GROUP
BIG SILVER CREEK, HARRISON LAKE AREA
NEW WESTMINSTER MINING DIVISION
N.T.S. 92 H/12 W

HARRISON LAKE

121 48'W
49 33'N

LEGEND

- 4 Hornblende-quartz diorite intrusive
- 3 Garnet phyllite & schist
- 2 Biotite/garnet slate & phyllite
- 1 Black pyritic argillite & slate
1a colour banded tuff

SYMBOLS

- bedding (S_0)
- slaty cleavage (S_1)
- second cleavage (S_2)
- joint
- lineation L_1
- lineation L_2
- fault zone
- sample site

