

802370

**SUMMARY REPORT**  
**AND**  
**1997 RECOMMENDED EXPLORATION PROGRAM**  
**ON THE**  
**LUCKY PROPERTY**

Alberni Mining Division  
Vancouver Island, British Columbia  
N.T.S. 92F/3

**FOR**  
**CONSOLIDATED LOGAN MINES LTD.**

R. R. WALKER, M.Sc.

APRIL 7, 1997

**SUMMARY REPORT**  
**AND**  
**1997 RECOMMENDED EXPLORATION PROGRAM**  
**ON THE**  
**LUCKY PROPERTY**

Alberni Mining Division  
Vancouver Island, British Columbia  
N.T.S. 92F/3

**FOR**  
**CONSOLIDATED LOGAN MINES LTD.**

R. R. WALKER, M.Sc.

APRIL 7, 1997

## TABLE OF CONTENTS

INTRODUCTION	2
GEOLOGY	2
MINERALIZATION	2
1997 PHASE 1 RECOMMENDED PROGRAM	4
1997 PHASE 2 RECOMMENDED PROGRAM	5
1997 PHASE 1 PROGRAM COST ESTIMATE	6
1997 PHASE 2 PROGRAM COST ESTIMATE	7
APPENDIX 1: PROPERTY MINERALIZATION AND ALTERATION	8
CERTIFICATE	15
REFERENCES	16
FIGURES:	
1) Location Map	2b
2) Geology / Property Boundary Map	2c
3) Mt. Redford - Draw Mtn. Zones Prospective Magnetic Lows	3b
4) Mt. Redford - Draw Mtn. Zones Proposed soil grids \$ Creeks to Prospect	3c

## INTRODUCTION

Consolidated Logan Mines Ltd. is exploring the Lucky Property located 12Km. northeast of Ucluelet on the west coast of Vancouver Island, British Columbia at 49° 06' N latitude, 125° 21' W longitude in NTS map sheet 92F/3 (Fig. 1). This large property encloses approximately 24,000 hectares in 982 claim units.

The Lucky Property is well located with respect to local infrastructure, labour markets, ocean access and is readily accessible from Provincial Highway 4 via an extensive network of all weather, logging roads. Topography varies from moderate relief to rugged, mountainous terrain. The old growth, temperate rainforest has been partially logged with recent clear-cuts prevalent in the western half where the principal exploration interest is focused.

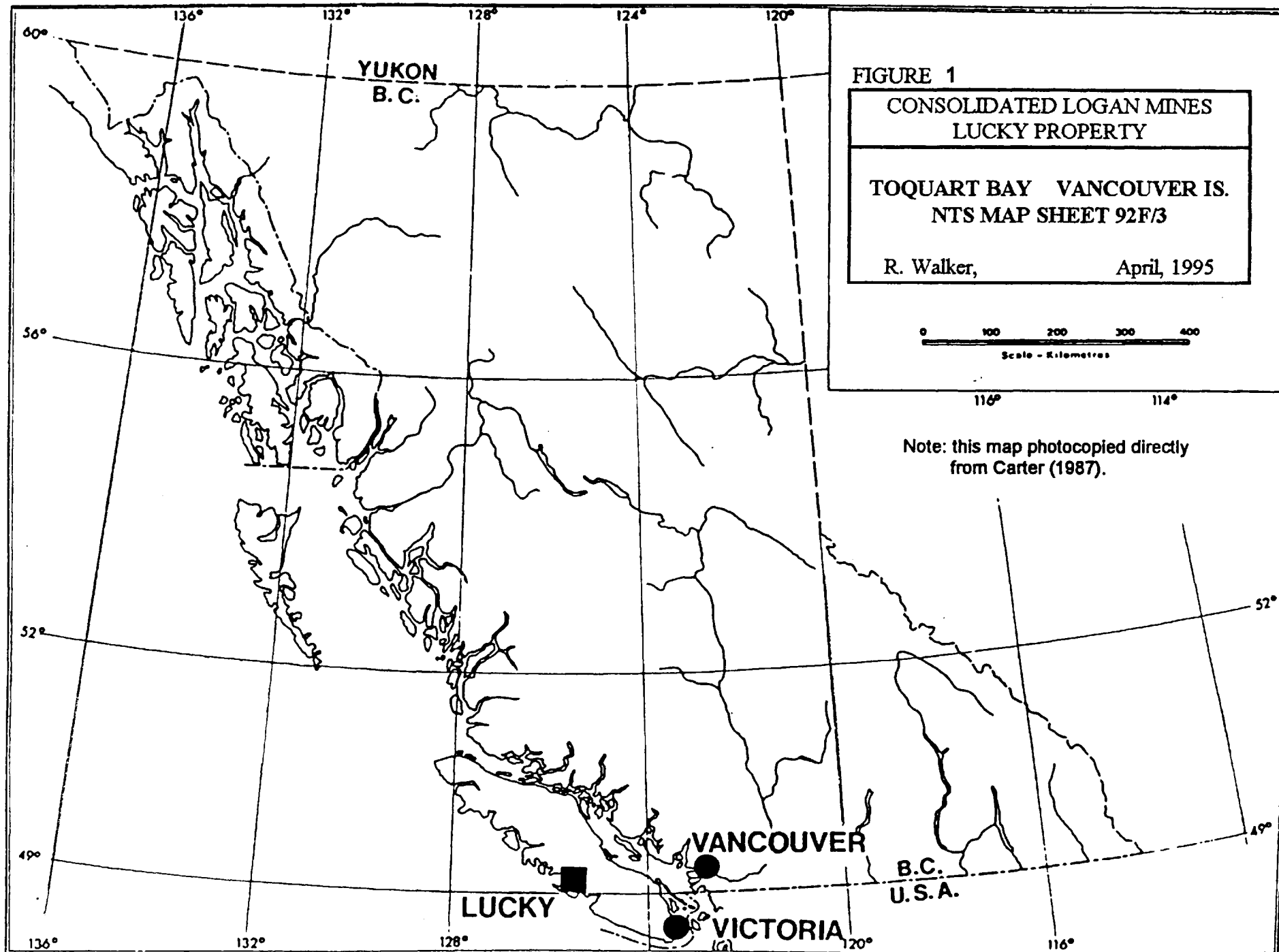
## GEOLOGY

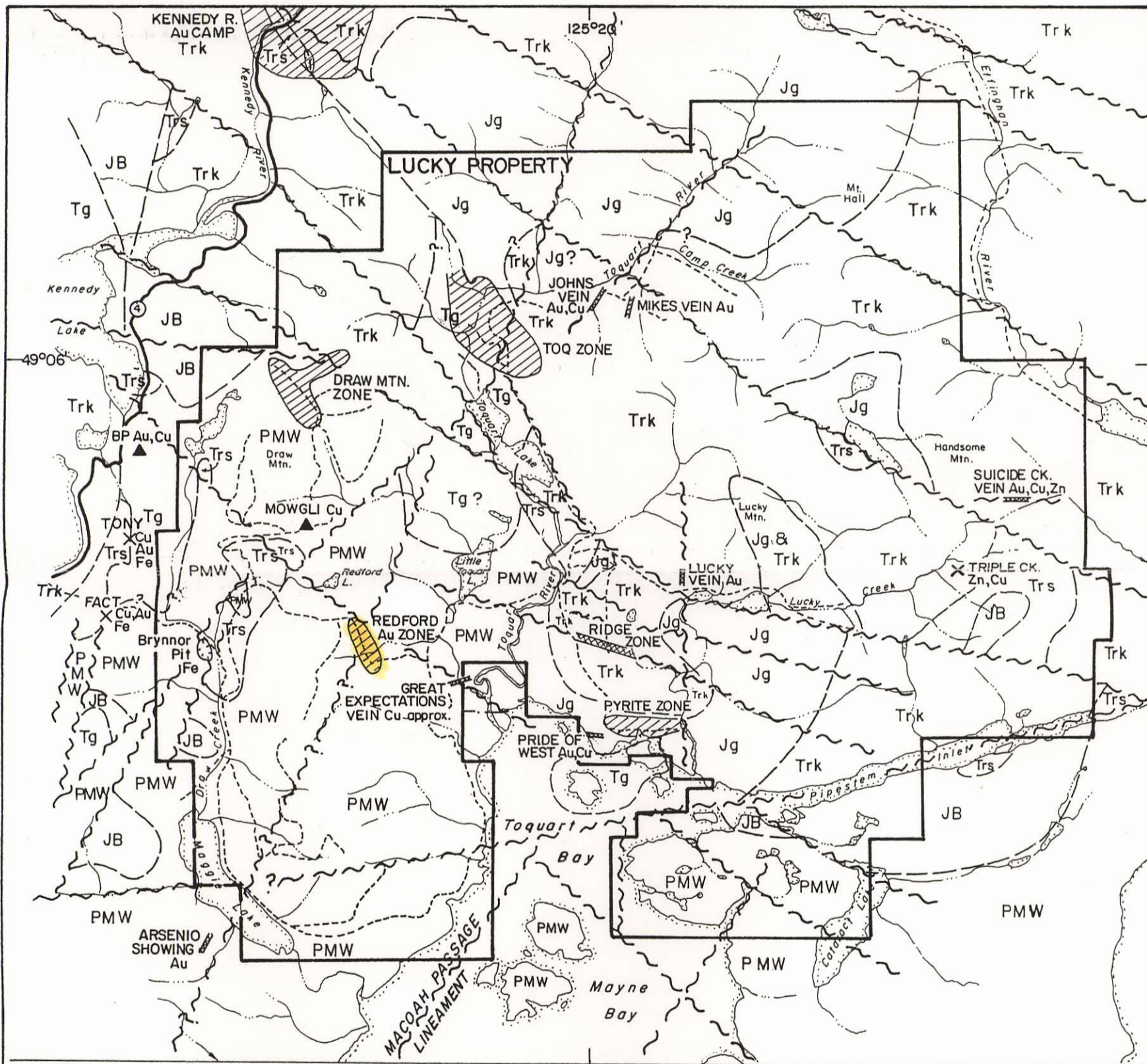
The Lucky Property stratigraphy is dominated by a very thick unit of Triassic, tholeiitic basalt with minor, overlying, Triassic limestone (marble) and argillaceous sediments. Limited, Jurassic, island arc volcanics complete the sequence (Fig. 2). These strata are extensively intruded by Jurassic, granitoid plutons and more localized, shallow level, subvolcanic, Tertiary intrusions. These Tertiary intrusions are representatives of a belt of Tertiary rocks scattered up the west coast of Vancouver Island which are genetically associated with porphyry copper deposits (Catface) and widespread, epithermal, gold bearing, quartz veins. These Tertiary stocks and limited, preserved volcanics are 40 to 55 million years old and represent continental arc magmatism above a paleo-subduction zone located west of the current coast of Vancouver Island.

The western half of the property is centred over a large, very strong, regional, magnetic high in the order of 10km in diameter. This magnetic anomaly is interpreted as the expression of a Tertiary magma chamber from which marginal, felsic stocks and volcanics were derived. The more mafic and magnetic, residual pluton appears to be mostly covered by older roof rocks, however, a dioritic, feldspar-hornblende porphyry intrusion exposed adjacent Toquart Lake is thought to represent a surface exposure of this underlying magma chamber (Fig. 2). A detailed aeromagnetic survey suggests this exposed portion of the intrusion is approximately 3km across although only its east edge has been mapped in the field.

## MINERALIZATION

The Toq Zone lies on the east margin of the Toquart Lake Tertiary intrusion (Fig. 2). It is characterized by extensive pyritization in network stringers, veins and disseminations associated with zones of intense alteration including silica, sericite, pyrophyllite and clay with weaker gypsum-anhydrite and disseminated rutile. The feldspar porphyry intrusive and basaltic wall rocks in the Toq Zone are extensively brecciated and cut by pyritic, rock flour-rich breccia dikes up to at least several meters thick which are viewed as parts of a large system of diatreme-like, hydrothermal breccias with marginal magnetite-hematite-jasper and potassium feldspar alteration in otherwise propylitic altered rock. Consolidated Logan diamond drilled 826m in 5 holes to test a strong, induced polarization and magnetic low anomaly within the Toq Zone. Most of the core intersected strongly pyritic (5-25%), intensely altered breccias and feldspar porphyry cut by pyritic breccia dikes. The longest hole penetrated 272m of mineralization beginning at the bedrock surface indicating a much broader distribution of sulfide than suggested by the geophysical surveys. These rocks are largely barren of base and precious metals but do contain anomalous Co, As and Hg. Several, large, overburden boulders recovered in core contain bornite, chalcocite and grey sulfide in silicified rock with grades, in ppm, up to 3855 Cu 1010 As, 174 Sb and 11 Hg. Their source was not intersected but probably lies in a 320m long interval of the anomaly which was not drilled due to restriction of holes to surface accessible sites. Surface mapping located minor copper showings in marginal, propylitic altered rocks associated with magnetite, hematite, jasper and potassium feldspar alteration. Basaltic wall rocks on the east





- Tg Tertiary granitoid intrusives (Cafface Intrusions)
- Jg Jurassic granitoid intrusives (Island Intrusions)
- JB Jurassic Bonanza Fm. volcanics
- Trs Triassic Quatsino Fm. limestone & Parsons Bay Fm. argillite
- Trk Triassic Karmutsen Fm. basalt
- PMW Paleozoic-Mesozoic Westcoast Crystalline Complex (Westcoast Diorites)

Contact, fault  
 Highway, road

- SHOWINGS:
- Vein
  - Sulfide/altered zone
  - X Skarn
  - ▲ Other

CONSOLIDATED LOGAN MINES LTD.

### LUCKY PROPERTY GEOLOGY

TOQUART BAY AREA, VANCOUVER ISLAND  
N.T.S. 92 F-3 ALBERNI M.D., B.C.



SCALE AS SHOWN  
DRAWN BY: R. WALKER

DATE: FEB. 1997

FIGURE: 2

side of the Toq Zone feldspar porphyry are hornfelsed, magnetic and brecciated with grey quartz to blueish chalcedonic cement and are cut by occasional pyritic breccia dikes. Weakly anomalous Au (up to 94 ppb), Ag, Cu, Pb, Zn and As occur in some samples of both brecciated basalt and pyritic breccia dikes.

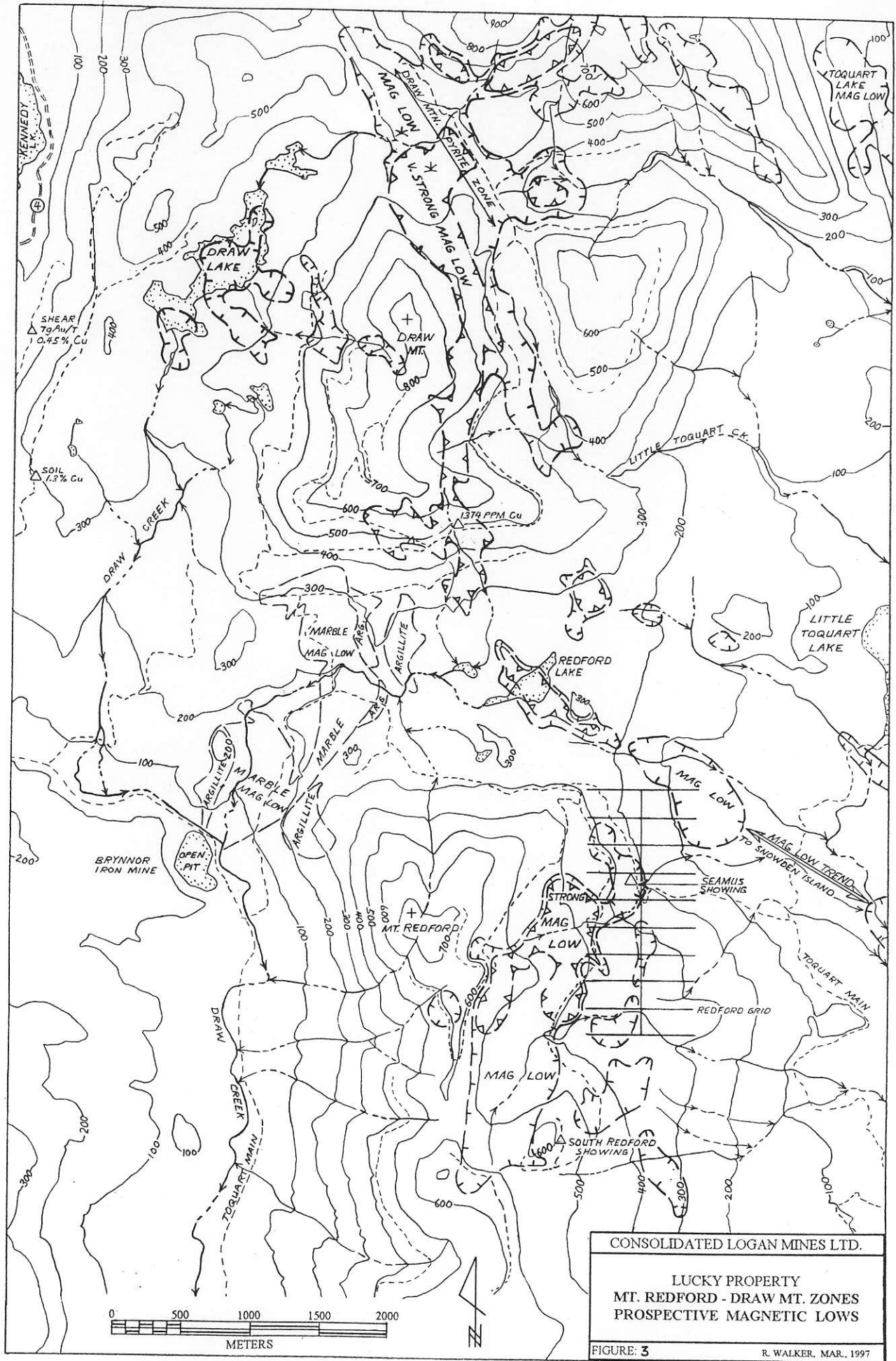
The Mt. Redford Gold Zone (Fig. 2) appears to lie in Jurassic, dioritic, roof rocks above the center of the inferred Tertiary magma chamber. Here, strongly anomalous gold in the range of hundreds of parts per billion occurs in diorite with stockwork and sheeted veinlets and disseminations of arsenopyrite and quartz of epithermal aspect over an area of at least 1Km x 0.5Km. Shear controlled quartz veining includes samples up to a few thousand parts per billion gold. Anomalous copper, antimony and tellurium are associated. Alteration includes tourmaline, potassium feldspar, actinolite and chlorite. A preliminary soil sample grid reveals the presence of a large, strong arsenic anomaly documented over 1 x 0.8km which extends off the grid in at least 3 directions. Associated gold values are weakly to moderately anomalous with one high value of 1021ppb Au at the north edge of the grid in the up-ice direction. This zone is viewed as part of a porphyry gold or epithermal gold system developed in roof rocks above a Tertiary magma chamber.

The Draw Mtn. Zone (Fig. 2) is a large zone of pervasive, disseminated and stringer pyrite with similarities to the Toq Zone. Host rocks appear to be strongly altered dioritic rocks of probable Jurassic age above and near the north margin of the inferred, Tertiary magma chamber. Only preliminary and incomplete prospecting has been conducted here and the area has not been geologically mapped. Unlike the Toq Zone the pyritic rocks in the Draw Mtn. Zone are weakly anomalous in gold over broad sample intervals peaking at 41ppb AU over 30 meters. Anomalous zinc to 955ppm and arsenic to 54ppm are also found in broad intervals in these pyritic rocks which are principally exposed in road cuts along a single, logging road profile over 1.6km along the zone (Fig. 2). Alteration includes strong silica, sericite and pyrophyllite in broad intervals and more localized clay (kaolinite?). Brecciation has been recognized locally and network magnetite veining in one place. On the southeast margin of the pyrite zone, potassium feldspar veinlets host coarse grains of sphalerite and one grab sample contained 2.6% Cu. The main exposure of the zone along a logging road lies within a moderate, aeromagnetic low anomaly which flanks the northeast side of a very intense magnetic low from which no samples are available (Fig. 3). This intense magnetic low, which correlates with a topographic low and swamp, presents the principal exploration target in the area and will require drilling to evaluate.

The Toquart Bay Pyrite Zone is exposed along new logging roads on the northeast side of Toquart Bay (Fig. 2). It shows similarities to the pyritic rocks of the Toq Zone and the Draw Mtn. Zone. The area has only been recognised during reconnaissance and has not yet been systematically prospected. It lies adjacent the north side of Tertiary granite exposed on Hillier Island and east of the Pride of the West adit which was driven near the turn of the century on a copper and gold bearing quartz vein (appendix 1).

The large zones of sulfidic and altered rocks described above are interpreted as parts of porphyry - type mineralized zones genetically related to a large Tertiary intrusive system. In addition, the property contains various examples of discrete, narrow, gold-bearing, quartz veins of epithermal character which appear shear controlled. The principle example is the Lucky Vein (Fig. 2) which averages approximately one ounce per ton gold over 32cm thickness along 50m of strike length. This and other veins are described in appendix 1. These veins are similar to those of the Kennedy River, Tertiary, gold vein camp located adjacent the northwest side of the property (Fig.2) which were developed in the early part of this century. Such narrow veins are not the current exploration target, however, they are viewed as a manifestation of the Tertiary magmatic system developed during the waning stage of the evolving, magmatic hydrothermal activity. Telescoping of mineral deposit types from porphyry copper to porphyry gold to epithermal gold within the same area proximal to the Tertiary magma chamber is expected due to a declining temperature regime in the waning system. A wider distribution of late veins is expected peripheral to the source intrusion.

A larger, shear zone controlled, epithermal gold deposit is a distinct exploration target of the current exploration program (see Ridge Zone in appendix 1) as is a Carlin type, epithermal deposit developed in calcareous argillite of the Parsons Bay Formation in the Redford Lake area (Fig. 3).



CONSOLIDATED LOGAN MINES LTD.  
 LUCKY PROPERTY  
 MT. REDFORD - DRAW MT. ZONES  
 PROSPECTIVE MAGNETIC LOWS  
 FIGURE: 3 R. WALKER, MAR., 1997



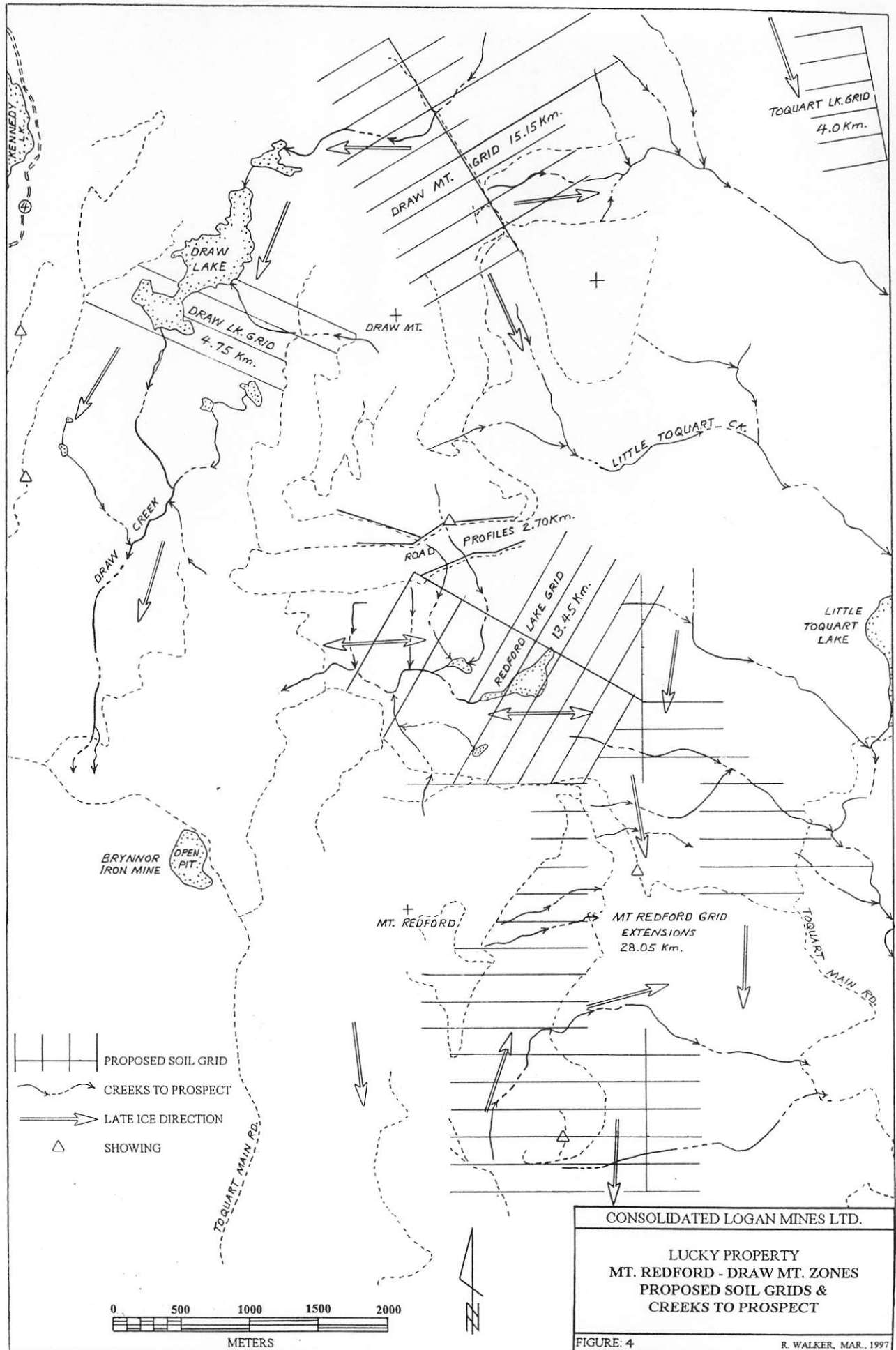


FIGURE: 4

R. WALKER, MAR., 1997

Jurassic, magnetite skams in the area are of little interest in the current program but the possibility of gold-rich, sulfidic skams of Tertiary age is worthy of secondary consideration (see Tony and Fact showings in appendix 1).

In conclusion, the recommended program is directed at finding a large, porphyry gold or epithermal gold deposit or a porphyry copper deposit with significant gold credits. Shear zone hosted epithermal gold, Carlin type epithermal gold and gold-copper skams are possible secondary targets.

#### **1997 PHASE 1 RECOMMENDED PROGRAM**

A) Soil sample grids as shown on Fig. 4:

B-horizon soil samples will be taken at 50m spacing on lines which are flagged, but not cut, using GPS control. Samples are to be analysed for Au by 30gm fire assay with atomic absorption finish, for 32 element I.C.P. analysis and for Sb and Bi by chemical analysis.

1) Mt Redford grid extensions:	28.05km = 561 samples
2) Redford Lake grid:	13.45km = 269 samples
3) Draw Mtn. grid:	15.15km = 303 samples
4) Toquart Lake grid:	4.00km = 80 samples
5) Draw Lake grid:	4.75km = 95 samples
6) Draw Mtn. road profiles:	<u>2.70km = 54 samples</u>
Totals: 68.10km = 1362 samples	

B) Ground magnetic and VLF - EM surveys:

These surveys will be done on flagged soil lines by a contractor.

1) Mt. Redford grid:	36 km
2) Redford Lake grid:	13.5km
3) Draw Mtn grid:	<u>15.2km</u>
Total:	64.7km

C) Induced polarization and self potential surveys:

These surveys will be done as profiles on selected lines following evaluation of soil geochemistry and magnetic / VLF surveys.

1) Mt Redford grid:	3 lines = 4.1km
2) Redford Lake grid:	1 line = 1.5km
3) Draw Mtn grid:	3 lines = 4.0km
4) Toquart Lake grid:	<u>1 line = 1.0km</u>
Totals	8 lines = 10.6km

D) Line cutting for induced polarization surveys:  
as above totals 8 lines = 10.6km

E) Prospect and sample creeks :

Prospecting of specific, main creeks (excluding those already prospected) in the highest potential areas is recommended. The total creek length proposed is 60km of which 50km are illustrated on Fig. 4. Seven km of creeks are recommended in the area on the west side of Toquart River, north of Toquart Lake, in order to locate the west side of the Toq Zone. Three km of creeks are proposed in the area of the Toquart Bay pyritic zone. A 2-man prospecting crew is expected to evaluate 1km of creek per day in this difficult terrain (a few of the steepest creek segments may be not traversable). Moss mat silt samples should be taken every 500m along the creek with an additional sample each km to allow for sampling of tributaries and seeps. Analysis should be the same as for soil samples. Rock samples are expected to average 10 per km. with geochemical analysis for gold and 32 element ICP.

F) Geological mapping and prospecting:

- 1) Map and sample soil grid lines.
- 2) Mapping and follow-up sampling of creeks in areas of interest indicated by prospecting.
- 3) Mapping and sampling of roads in the Draw Mtn. - Mt. Redford area not previously mapped. Particular emphasis should be placed on evaluating the magnetic low trend extending south from the Draw Mtn. Zone to the Mowgli 5 showing where pyrite and chalcopyrite in granodiorite contained 1374ppm Cu, 35ppb Au, and 12.8ppm Ag (Fig. 3).
- 4) Map creeks on west side of Toquart River, west of the Toq Zone, to identify and evaluate the western side of the zone of sulfide mineralization and alteration.
- 5) Map and sample the area of gold bearing, pyritic breccia dikes located 500m southeast of Toq Zone drill hole 95-5. Two prospecting samples contained 94 & 81ppb Au with anomalous Ag, Cu, As & Co.
- 6) Identify and map the source of locally derived, road fill found by prospecting 400m east of the NE corner of Kite Lake (2.0 Km east of the Lucky adit) where samples returned up to 3160ppb Au. in siliceous and "laminated (sheared)" rocks. This evaluation should encompass the area 1.1km ESE of the NE corner of Kite Lake where an outcrop sample of "rusty pyritic breccia" from a road cut contained 2180ppb Au.
- 7) Map and sample in the area of the Toquart Bay Pyritic Zone and the Pride of the West adit.
- 8) Evaluate previously identified copper and zinc mineralization in the area of the Triple Creek "skarn" showing.
- 9) Reconnaissance of the area on the west side of Handsome Lake underlain by Quatsino limestone and Bonanza volcanics where minor copper and zinc occurrences are reported. The highest grade grab sample contained 3.3% Zn and 500ppm Cu.

**1997 PHASE 2 RECOMMENDED PROGRAM**

The phase 2 program involves diamond drilling of specific targets as defined by evaluation of phase one results. Current data indicates the presence of several drill targets which currently lack sufficient data for optimal drill hole layout.

At the Mt. Redford Gold Zone, results to date suggest the presence of a porphyry gold system with similarities to the Red Mountain deposit near Stewart, B.C. The sub-ore grades sampled to date and the alteration style suggest that currently sampled mineralization is a little off target laterally or vertically. The very strong magnetic low lying on the west side of the existing soil grid may represent a zone of stronger sulfide mineralization and higher grades. Soil geochemistry strongly suggests a target north of the existing grid, possibly the Redford Lake magnetic low (Fig. 3). Comparison to Red Mountain suggest the currently identified mineralization may lie above a potential ore zone. One longer hole inclined 70° east is warranted to test vertical zoning over 500m below the surface mineralization. An east inclination will cross mineralized faults identified in the zone as well as efficiently cross vertical zoning above the underlying Tertiary intrusion. Paleomagnetic data and tilting of Tertiary volcanics indicate the crust in this area has been tilted down approximately 30° to the west since Tertiary magnetism (Irving and Brandon, 1990). One hole of 200m is warranted to test the strong magnetic low lying on the west side of the existing grid where surface exposures are apparently lacking.

One hole of 200m is warranted to test the Redford Lake magnetic low providing an I.P. profile suggests a sulfidic source.

At least two holes of 200m each are needed to test the very large, unexposed core of the intense magnetic low adjacent the west side of the exposed Draw Mountain Sulfide Zone.

This is considered a minimal program without sufficient allowance for positive results from evaluation of the Toquart Bay magnetic low on the west side of the Toq Zone (Fig. 2), the Draw Lake area (Fig. 3), the Toquart Bay Sulfide Zone (Fig. 2) or follow-up drilling to locate the source of copper bearing boulders intersected in previous drill holes in the Toq Zone.

### 1997 PHASE 1 PROGRAM COST ESTIMATE

A) Soil Sample Grids: 1362 samples @ \$30. each (cost/sample: \$8 wages, \$22 analysis)	\$ 41,000
B) Ground magnetic & VLF-EM surveys: 64.7 km @ \$200/km	\$ 13,000
C) Induced polarization & self potential surveys: 9.6 km @ \$1,500/km & 1 km @ \$2,000/km	\$ 16,400
D) Line cutting: 10.6 km @ \$600/km	\$ 6,400
E) Road repair & trenching: backhoe for 7 days at \$800/day	\$ 5,600
F) Prospect and sample creeks: 60 km @ \$646/km (cost/km: wages \$400, 3 silt and seep sample analyses \$66 10 rock sample analyses \$180)	\$ 39,000
G) Map & prospect grids, creeks, roads: 2 geologists for 90 days @ \$200/man day	\$ 36,000
H) Geological supervision / mapping: 1 geologist for 90 days @ \$400/day	\$ 36,000
I) Mapping / prospecting samples: 300 rock samples @ \$18	\$ 5,400
I) Subsistence in Ucluelet: 450 man days @ \$65/day	\$ 30,000
J) Truck costs: 2 trucks for 180 days @ \$75/day	\$ 13,500
K) Helicopter support 5 hrs @ \$900/hr	\$ 4,500
L) G.P.S. rental: 2 x 3 months @ \$400/mo	\$ 2,400
M) Communications, shipping, supplies	\$ 3,000
N) Warehouse rental	\$ 2,000
O) Report	\$ 8,000
P) Contingency 10%	<u>\$ 26,000</u>

Phase 1 Total \$ 288,000

**1997 PHASE 2 PROGRAM COST ESTIMATE**

A) Diamond Drilling:		
4 holes @ 200m each:	800 m	
1 hole @ 500m:	<u>500 m</u>	
	1300 m @ \$100/m	\$ 175,000
B) Sample analysis:		
400 @ \$25 and 100 @ \$35		\$ 13,500
C) Senior geologist:		
60 days @ \$400/day		\$ 24,000
D) Assistant geologist:		
30 days @ \$200/day		\$ 6,000
E) Subsistence		
90 days @ \$65/day		\$ 5,900
F) Truck costs		
60 days @ \$75/day		\$ 4,500
G) Site preparation		
backhoe 5 days @ \$800/day		\$ 4,000
H) Communications, shipping, supplies		\$ 3,000
I) Warehouse rental / core storage		\$ 2,000
J) Contingency 10%		<u>\$ 23,800</u>
	Phase 2 Total	\$ 262,000

## APPENDIX 1: PROPERTY MINERALIZATION AND ALTERATION

### 1.1 Introduction:

Mineralization on the Lucky Property includes examples of several different types as indexed on figure 2. Gold bearing quartz veins, with or without base metal enrichments, were the focus of exploration from the late 1800's until the 1980's. These veins, best exemplified by the Lucky Vein, are similar to and are considered to be part of the epithermal, Tertiary, Kennedy Lake gold vein district centered immediately northwest of the property (Fig. 2). A major brittle shear zone hosting alteration and quartz veinlets with anomalous gold and copper, known as the Ridge Zone, was drill tested by Freemont Gold in 1988. This zone shows similarities to the more discrete Kennedy Lake veins.

Copper and zinc bearing skarn mineralization in the Triple Creek area was recognized by Falconbridge Ltd. in 1985 and subsequent work by Electrum Resource Corp. Noranda's Brynnor Mine adjacent the west edge of the property produced 4.3 million tons of magnetite ore in the 1960's from a non-sulfidic, Jurassic skarn deposit. Two skarn occurrences west and northwest of Brynnor mine contain significant gold and copper associated with pyrrhotite, pyrite and magnetite and could possibly be Tertiary in age.

Potential for large, epithermal or porphyry-type copper and/or gold systems was recognized by Consolidated Logan Mines Ltd. in the course of drilling a strong geophysical anomaly in the Toq Zone in 1995. Here a large zone of strong pyritization in intensely altered rocks is associated with diatreme-like hydrothermal breccias and rhiner copper occurrences. Subsequent prospecting identified similar, large areas of pyritization in the Draw Mountain and Toquart Bay Zones. A large area containing strongly anomalous gold associated with veinlets and disseminations of arsenopyrite and quartz was discovered and named the Mt. Redford Gold Zone. This zone shows oarmarks of an epithermal or porphyry gold system. The porphyry style mineralized zones are summarized in the preceeding text. Other showing are described below.

Consolidated Logan's proposed program for 1997 is directed at locating a Tertiary epithermal gold or porphyry type gold and/or copper orebody.

### 1.2 Kennedy Lake Type Veins

#### 1.2.1 Lucky Vein:

The Lucky quartz vein, located at the center of the property (Fig. 2), was staked in 1905. It has been explored by surface stripping over a length of 64m and the driving of two adits along the vein for lengths of 81m and 13m at a vertical separation of 13.7m. Two diamond drill programs, totalling 2419m in 27 holes, intersected the vein over a strike length of 85m and to a depth of 60m. Review of available data and personal examination permit the following conclusions.

The vein strikes north and dips 90° to 70° East. Its thickness pinches and swells in the range of a few cm. to 1m and averages 20cm to 40cm in true thickness. The vein shows flexures in strike and dip and has a few splays which diverge obliquely NNE into the hanging wall. Grades on surface as indicated by extensive sampling by Hemsworth states a 50.0m long average of 1.04 oz Au/T over 32cm thickness although this average is apparently somewhat cut on an unknown basis. this length includes two shorter intervals of 1.77 oz Au/T over 46cm thick by 12.2m long and 1.27 oz. Au/T over 30cm thick by 22.0m long.

The upper adit, at 127m elevation, appears to follow the main vein north for the first 57m and a hanging wall splay vein at 019° for its northerly 24m. Most sampling of the vein in the adit appears too widely spaced or intermittent to provide an adequate average grade and thickness. The best grade interval along the vein, as indicated by previous work, was sampled by the author (Walker 1990). Three, 5m long panels were continuously chipped along the vein over its full width, including gougey contacts, and true thickness was measured every 30cm. Gold and silver were determined by metallics fire-assay. this sampling, over a 15m length and an average true thickness of 20.2cm, produced an average grade of: 1.180 oz Au/T, 0.23 oz Ag/T, 2.2% Fe, 340ppm Cu, 244ppm Pb, 19ppm Zn, 190ppb Hg, 22ppm As, <5ppm Sb, and <2ppm Bi. This interval is located 42m to 57m from the face of the adit and about 6m to 9m below surface.

The adit sampling confirms reasonable comparability with reported surface grades, the sulfide-poor nature of the quartz vein, and an association with only weakly anomalous copper and lead without enrichment in other path-finders. This vein presents a poor target for geochemical exploration. The low sulfide content and limited thickness do not present a useful geophysical target as confirmed by VLF-EM surveys.

Diamond drill holes, which tested the vein from 6m to 55m below the main adit, over a length of 85m, produced intersections generally ranging from nil to 1.616 oz Au/T over 1.46m core length, consistent with surface and adit sampling after allowance for their oblique intersection angles. One interval of 0.704 oz Au/T over 4.08m is a composite of two veins. Hanging wall splays carry some gold values in surface and adit samples. Correlation of drill hole values and vein inflections suggest a possible shoot orientation plunging 45 to 50° north.

The vein has not been exposed on surface north of a point 55m north of the upper adit collar. The adit apparently left the main vein structure at the same northing to follow a hanging wall splay. Two holes drilled north of this point apparently intersected this splay but stopped short of the main vein projection.

The Lucky vein and associated splays cut Karmutsen Formation basalt and quartz-feldspar porphyry dikes of possible Tertiary Age. The quartz vein contains a small amount of dolomitic carbonate and wall rock is bleached and carbonate altered with some sericite and minor pyrite in a narrow envelope. Altered wall rock does not contain significant gold except when veinlets of quartz are locally present.

The vein walls are gougey slips with slickensides plunging 15° south, indicating some post-vein shearing along the structure. The vein, in particular its southern projection, appears to coincide with a boundary between somewhat different magnetic patterns as defined by a ground magnetic survey (Rebic and Lehtinen, 1985) and the vein likely follows a fault which was reactivated following vein deposition. Late slickensides indicate the last movement was essentially transcurrent. Muller, 1980, has drawn attention to a prominent set of N to NNE striking faults extensively distributed on Vancouver Island which are apparently right lateral in displacement.

The Lucky Vein demonstrates the presence of high grade gold on the property. The narrow vein thickness limits its economic potential in the area explored. Any future exploration of the structure would most effectively begin with backhoe, overburden trenching. Although the vein is apparently open on strike both north and south of the explored area, further work is not recommended at this time.

#### 1.2.2 Mikes' Vein:

This quartz vein was located by Consolidated Logan in 1995 approximately 6km north and nearly on strike from the Lucky vein (Fig. 2). Mike's Vein cuts Karmutsen Fm. basalt over an exposed length of 1.1m, is 4 to 11cm thick, strikes 015° and dips 75°E in approximate conformity with the Lucky Vein. One sample was taken to represent this vein which contained 2629ppb Au, 0.5ppm Ag, 224ppm Pb, 216ppm Zn, 91ppm Cu and 9ppm As (Chow, 1996) indicating close chemical similarity to the Lucky Vein.

#### 1.2.3 John's Vein:

John's Vein is exposed in a road cut on Toquart Main, 650m due west of Mikes' Vein. This quartz vein contains up to 30% pyrite and significant chalcopyrite with an uneven distribution. The vein strikes 035°, dips 75°E and is exposed over a few meters both horizontally and vertically where it varies from several cm. to 0.3m thick. The vein lies along the sheared, east contact of a parallel, 7m wide, fine grained, altered dyke of andesitic aspect which contains a few to several % disseminated pyrite and which cuts Karmutsen Fm. basalt. This vein was located by J. Barakso of Electrum Resources in 1995. Four grab samples of sulfidic vein material taken by J. Barakso ranged from 10ppb Au to 0.306 oz/T Au, 75.8-183ppm Ag, 3125 to >10,000ppm Cu, 50-108ppm Pb, 45-521ppm Zn, 1-36ppm As, 1-19ppm Sb, 12-85ppm Co and 15-41ppm Ni. The pyritic nature of the samples is reflected by acid soluble iron analyses from 7% to >15% Fe. The pyritic dike does not contain significant metal enrichment.

#### 1.2.4 Toq Grid Vein:

This vein is exposed in a small creek on the Toq Grid at 5+75S, 0+40W within the area of the Toq Zone on Fig. 2. The quartz vein cuts altered diorite over an exposed length of 2.7m, is 2 to 22cm thick, strikes 358° and dips 65°E. A chipped panel sample over 2.7m length contained 802ppb Au, and 68ppm As without other anomalous metals. The chloritic and slightly pyritic diorite wall rock contained 121ppb Au and 130ppm As (Chow, 1996).

#### 1.2.5 Suicide Creek Vein:

The Suicide Creek Vein was located and described by Rebic and Lehtinen (1985) for Falconbridge Ltd. It is located near the east side of the property (Fig. 2) where it outcrops in cliff faces along "Suicide Creek". The quartz vein cuts Karmutsen basalt, strikes east-west with a steep dip, pinches and swells up to 0.5m thick and Suicide Creek in part follows the trend of a brittle shear enclosing the vein (Ronning, 1994). The quartz contains 3-5% pyrite with traces of chalcopyrite and sphalerite. Bed-rock samples assayed up to 0.82 g Au/T and 0.55% Cu. Float samples apparently derived from this vein contained up to 2.06 gms Au/T, 1.23% Cu and 1.99% Zn.

#### 1.2.6 Pride of the West Vein:

The Pride of the West Vein is located on the northeast shore of Toquart Bay (Fig. 2). This quartz vein cuts diorite, strikes 096°, dips 80-90° and varies from 0.3 to 0.9m thick. The quartz contains large amounts of pyrite and some heavy copper staining (malachite). A tunnel of the century adit was driven 76m east along the vein from the shoreline and a 12m deep internal shaft was sunk 35m from the portal - caution! It is not known if any lateral development was done from this now flooded winze. Grab sample grades up to 0.03 oz Au/T and 9.6 oz Ag/T are reported by Whittles, Kinneard and Loring (1976). Whittles (1992) reported that Victoria Resource Corp. obtained sample grades up to 0.26 oz Au/T in 1984 which were not publicly reported. This maximum value was confirmed by J. Barakso (personal communication 1996). This vein has not been drill tested.

Two samples of quartz-carbonate veinlets from outcrop adjacent the shore of Toquart Bay approximately 390m NW of the Pride of the West portal were reported by Zastavnikovich (1984b & 1988a). They contained 1380 & 470ppb Au, 10.8 & 2.8ppm Ag, 865 & 269ppm Pb, 20 & 11ppm Sb and 8 & 5ppm Bi without anomalous As. This showing is mislocated in the B. C. Department of Mineral Resources Mineral Inventory File where it is named "Hillier Island Showing" and is said to be on the southwest shore of Hillier Is. 1.7Km. SE of its actual location.

#### 1.2.7 Great Expectation Veins:

The Great Expectation Veins are located near the mouth of Toquart River apparently within about 1km of the northwest shore of Toquart Bay. Our only reference to this occurrence is the brief description and large scale location map of Carmichael, 1899. The location is approximated on Fig. 2 and Carmichael's description is quoted in full as follows:

"Upon this claim, a tunnel has been started on a well defined quartz vein sparsely mineralized with copper pyrites and bornite, both walls of which are a diabasic rock. At 42 feet within the tunnel, as it runs on the vein, the quartz shows up 18 inches wide with well defined walls. At this point the quartz takes a turn towards the hanging wall and the tunnel does not follow it but continues in the original direction and for a few feet is in country rock. Another quartz vein then comes in on the footwall widening out to 4 feet, and at the tunnel face, 114 feet from the mouth, showing a width of 3 to 6 inches with the right side of the tunnel still in quartz; the hanging wall is a diabasic rock. The strike (N75°E) of both veins seems to be a point or two more easterly than the general direction of the tunnel."

The vein dip is not stated, however, the description permits the conclusion that dip direction is to the north. We are not completely sure the quoted strike is with respect to true north rather than the magnetic north of the day. If magnetic north was used, it is possible that the Great Expectation Vein structure roughly lines up with the western projection of the Pride of the West Vein.



### 1.2.8 Ridge Zone:

The Ridge Zone is located 1.8 km southwest of the Lucky Vein (Fig. 2). It was not examined by the author and this description is mostly summarized from the primary data of Wilson et al, 1989.

The Ridge Zone is a broad interval, up to 150m wide, containing gouge shears and thin quartz veinlets in altered and, in part, brecciated and pyritic, Karmutsen basalt. The zone has been traced in road cut exposures over 900m in length and strikes 110°. Gouge seams within this zone strike parallel to it and dip near vertical. This appears to be a significant shear zone belonging to the dominant regional fault set prominent on Fig. 3, which suggests major faults of this set have suffered significant displacements. An airborne geophysical survey indicates a coincident magnetic low extending over several km. Associated, ground VLF-EM anomalies are probably caused by larger, gouge filled shears.

Alteration includes quartz, carbonate, pyrite, epidote, hematite and a little jasper. The carbonate-rich nature of the alteration is indicated by analyses of acid soluble calcium (typically 2-10%) and magnesium (typically 1-3%) with dolomite indicated. Pyrite as disseminations and thin veinlets is present, apparently in the range of minor to several % with localized enrichments to 15 or 20%. Thin quartz veins, in the range of millimetres to a few centimeters thick, strike parallel to the zone and dip 85° north and some network veining is also described. A few northeast, subvertical, quartz veins are mapped flanking the north side of the shear zone. Quartz-feldspar porphyry dikes up to 12m thick are conformable within the shear zone.

Analysis of surface, quartz vein samples produced three gold values ranging from 690 to 1,820ppb. Anomalous silver up to 18.7ppm and mercury up to 17,625ppb were reported.

The Ridge Zone was tested by 6 diamond drill holes totalling 976m spread over a strike length of 850m with collars ranging from 420m to 220m elevation. "Small lengths of drill core averaging 5cm" were sampled at 208 locations (Wilson et al 1989). These were evidently focused on narrow quartz veins. The highest gold contents were 200 and 95ppb while 17 samples ranged from 15 to 63ppb Au. Copper is weakly to moderately anomalous, 200 to 1000ppm, in 29 samples and strongly anomalous, 1000 to 5985ppm, in 4 samples confirming the minor chalcopyrite reported in some veins. The copper does not correlate with anomalous gold. Arsenic ranges from 40 to 62ppm in 15 samples without correlations. Mercury was analyzed in 99 samples of which 26 ranged from 200 to 1000ppb and 4 contained from 1000 to 4125ppb. There is no correlation between Hg and Au and little correlation between Hg and Cu. Barium was analyzed in 62 samples, 3 of which contained 1000 to 3400ppm.

The Ridge Zone has been adequately tested with negative results. It does however, provide an example of an ESE striking fault zone which has been hydrothermally altered and weakly mineralized including quartz veining with anomalous gold and weakly to strongly anomalous copper present with a sporadic distribution. Major faults of this orientation appear prospective for lode gold deposits in this area. A similar zone with evidence of stronger sulfide or quartz mineralization would present a more attractive exploration target.

### 1.2.9 B.P. Showing (Mowgli 4):

The B.P. showing, located about 750m west of the property or 1Km. west of Draw Lake, was located by B. P. Minerals Ltd. in 1980 (Hoffman & Humphreys, 1981). A sample taken from a rusty shear in Tertiary granodiorite contained 7000ppb Au (0.206 oz/T), 17.2ppm Ag, 4528ppm Cu, 37ppm Pb, 12ppm As, 233ppm Bi & 85ppb Hg with background Mo, Zn, Sb, Ni, Co & Fe. No attitude or thickness was provided. This was the highest gold concentration reported from B. P.'s extensive work which was focused on the belt of Tertiary rocks which lies west to southwest of the Lucky Property. It was inconsistent with their preferred exploration model which targeted Carlin type deposits in Parsons Bay Fm. calcareous argillite and the showing was apparently not followed up.

B. P. took a uniquely anomalous soil sample (B-horizon) 1060m south of this site which contained 12977ppm Cu (1.3% Cu) and in ppm: 29.6 Ag, 33 Mo, 97 Pb, 190 Zn, 1141 As, 15 Sb, 79 Bi, 6 W, and 75 ppb Hg. Adjacent soil samples 180m to the north and 120m to the south were not anomalous. This thin soil lies on Tertiary granodiorite and the late ice direction was apparently towards the SSW from the Draw Lake cirque.

### 1.3 Skarn Mineralization

#### 1.3.1 Triple Creek:

The Triple Creek mineralized area is located 5.2 km east of the Lucky Vein (Fig. 2). This location has not been examined by the author and this description is summarized from references as noted.

Mapping by Rebic and Lehtinen, 1985, indicates the rocks in the area include the upper part of the Karmutsen Formation basalt overlain by Quatsino Formation limestone. At higher elevations to the southeast, the limestone is overlain by minor argillite and siltstone of the Parsons Bay Formation or Basal Bonanza Group and a significant unit of Bonanza Fm. volcanics which include massive and amygdaloidal andesitic flows, siliceous intermediate to felsic flows and some tuffs. Dikes are common and include quartz-feldspar porphyry, feldspar porphyry, diorite and granodiorite. Variable bedding attitudes suggest folding in the Quatsino and Bonanza Formations, although overall the units appear to dip moderately shallow to the south.

Mineralization includes sulfidic skarn as well as areas of silicification and quartz veining. One showing is a gossanous zone, 4 meters wide, from which zinc assays in the range of several percent were obtained. This occurrence is in basalts immediately below Quatsino limestone and is interpreted as a skarn. Recent logging road cuts have exposed veins and pods of massive pyrite and/or chalcopyrite with dimensions of a few decimeters which appear to lack continuity (Ronning, 1994).

This area is of interest as an example of skarn mineralization as well as a clearly documented example of Bonanza volcanics on the property.

#### 1.3.2 Brynnor Iron Mine:

The Brynnor Mine is located in the western part of the Lucky Property in the floor of Draw Creek Valley (Fig. 2). Operated by Brynnor Mines Ltd., a subsidiary of Noranda Mines Ltd., this mine produced 4,308,959 tons of ore from which 3,273,278 tons of magnetite concentrate were shipped to Japan in the period 1962 to 1968 (James, 1968). All production was from an open pit which is now a picturesque lake used for recreational purposes. A second, deeper orebody, located immediately southeast of the pit, was developed for underground mining involving the sinking of a 376m shaft, 1725m of lateral development, 306m of raising and 514m of underground diamond drilling. Extensive stope development was done on levels 183m and 229m below surface. Surface diamond drilling totalled 13,944m in 121 holes. A mill and deep water shipping dock were located on Toquart Bay at the mouth of Draw Creek. The operation was closed as the result of a strike prior to any production from the underground mine. The following geological description is summarized from the references by Eastwood except where otherwise noted.

The Brynnor ore comprises fine grained, massive magnetite and magnetite bearing skarn hosted in Quatsino Fm. marble and overlying, calcareous, plagioclase rich, fine grained, banded rock which has been described as Bonanza Fm. tuff or Parsons Bay Fm. sediment. It contains some small patches of dark grey tuffaceous argillite which suggests Parsons Bay siltstone and argillite which has suffered carbon bleaching during alteration. The deposits are localized along the marble-sediment contact which takes the form of a NNE trending, flat plunging anticline with steep limbs. Alteration includes skarn composed principally of garnet and epidote with lesser pyroxene. Serpentine occurs as alteration, massive replacement and veins. Sericite, chlorite, epidote and prehnite alteration affected various intrusive rocks.

The strata are intruded by bodies and dykes of amygdaloidal to porphyritic "andesite". This pre-ore andesite is in part altered to magnetite, skarn, serpentine, epidote, prehnite and pyrrhotite. The mine strata and intrusive andesite are surrounded and intruded by multiphase granitoid intrusives described as diorite, quartz diorite and granodiorite. Quartz bearing phases in places appear gradational with diorite while in other cases they cut diorite. In the open pit, feldspar porphyry and leucodiorite dykes up to 30 feet wide cut the ore, show chilled contacts against skarn, and neither skarn nor magnetite is developed in them (Sangster, 1969). A subsidiary plutonic rock type found in places surrounding the mine belt is quartz monzonite which looks like diorite in hand sample. Modal analysis of a thin section indicated 27% potassium

feldspar and 29% quartz while a rock analysis indicated 18% normative orthoclase and 28% quartz (Sangster, 1969).

The Brynnor Mine mineralization includes only very minor pyrite and pyrrhotite. "Small pockets of chalcopyrite were encountered in a few drill holes, both in fresh andesite and with magnetite in skarn. A little arsenopyrite was found in magnetite in one drill hole" (Eastwood and Merrett, 1961).

The Brynnor deposit is Jurassic in age based on a K/Ar biotite date of 167ma from granodiorite 1.3 km NE of the open pit (Eastwood, 1968). This rock intrudes Quatsino Fm. marble and has six lenses of magnetite on its contacts. A K/Ar biotite date on an unaltered, basaltic, feldspar porphyry dike which cuts magnetite in the open pit produced an age of 121±40ma (Jurassic to Cretaceous).

Some quartz veining exposed in the NW pit wall contains gold in the tenths of an ounce range (J.J. McDougall, pers. comm. 1995; R. Godfrey, pers. comm. 1995). Sangster (1969) recorded two quartz monzonite dikes up to 27m wide striking west and NNW on this wall on his 1962 pit map. The gold bearing veins are likely related to the Tertiary, Kennedy Lake veins and the quartz monzonite dikes of unknown age could also be Tertiary.

Brittle faults of various attitudes, marked by gouge and fault breccia, were noted in the mine workings. The most significant fault offsets the underground deposit from the open pit orebody. It was exposed at the southeast edge of the pit where Sangster (1969) mapped a strike of 022°. Eastwood (1965) recorded a dip of 70° NW. The southeast block is apparently down-thrown 60m. Other notable faults strike approximately east and northwest.

The Brynnor orebodies lie near the SSW end of an anticlinal belt of Quatsino Fm. limestone and overlying altered argillite resembling a roof pendant 1km wide and 3.5km long engulfed in granitoid intrusives. Seven lenses and bands of magnetite and skarn are reported on marble contacts on the property between the logging road bridge over Redford Creek and the Brynnor pit.

#### 1.3.3 Fact:

The Fact skarn showing is located 2 Km. WNW of the Brynnor mine and 1Km. west of the Lucky Property (Fig. 2). As reported by Grove (1986), a 200m diameter, Tertiary(?), porphyry stock intrudes Quatsino limestone and granodiorite. A bed-rock trench exposes a north striking, vertical contact between the stock and limestone. Steep, N-S, irregular veins and veinlets of chalcopyrite, bornite, pyrrhotite and magnetite occur in the limestone adjacent the contact with no dimensions given. Two grab samples averaged 0.444 oz Au/T, 10.9 ppm Ag, 1.17% Cu & 30% Fe. A second showing lies 150m to the SSE, further from the contact, where massive chalcopyrite replaces limestone along Joints. A grab sample contained 0.024 oz Au/T, 33ppm Ag, 8.05% Cu & 14% Fe. This precious metal, copper and sulfide rich mineralization differs considerably from the essentially non-sulfidic Brynnor deposit and showings to the NE of Brynnor. It is possible that the Fact skarn is Tertiary in age (in contrast to the Jurassic Brynnor skarn) as indicated by Grove who states that the intruded granodiorite is Tertiary and the porphyry stock is younger; however, without an age date on either such a conclusion is speculation.

#### 1.3.4 Tony:

The Tony skarn showing is located approximately 1km west of the Lucky Property (Fig. 2). The showing lies close (50-100m) to a contact between Tertiary granodiorite to the east and Quatsino limestone and pyroxenite skarn to the west. The limestone and skarn is intruded by fine grained andesite dikes with massive pyrochlore, pyrite, magnetite and actinolite developed on the contact between andesite and locally developed, sulfidic, garnet-plagioclase skarn. The showing of massive sulfide and massive magnetite was exposed over a 2m width and a 6m length striking NNW. A 3.7m long chip sample along the length of the zone contained 0.112 oz. Au/T, 2.6ppm Ag, 4681ppm Cu and 18.5% Fe. A second sample along the length of the showing was pulverized and split into two sub-samples which returned 0.19 oz Au/Ton and 1.53 oz Au/T. "Overall results of a crush-pan test on a bulk sample ran 0.563 oz Au/T recovered." (Grove, 1986). The age of this occurrence is not known but a Tertiary age is apparently possible. This showing is coincident with the center of a very strong magnetic anomaly on Consolidated Logan's detailed areomagnetic map. This anomaly is similar in size and intensity to the magnetic anomaly over the Brynnor Iron Mine underground orebody.

## CERTIFICATE

I, Richard R. Walker of Campbell River, British Columbia, hereby certify:

- 1) I graduated from the University of Alberta, Edmonton, with a B.Sc. Degree in 1970. This degree was in the four year program of specialization in geology and was accompanied by the Lieutenant Governor's Gold Medal for highest standing in geology in Alberta.
- 2) I graduated from the University of Alberta, Edmonton, with an M.Sc. degree in geology in 1977.
- 3) I have been a practising geologist for 29 years in the Canadian mining industry. This experience included 5 years as Research Geologist at Kidd Creek Mine in Timmins, Ontario, 2 Years as Joint Venture Geologist with the Saskatchewan Mining Development Corp. responsible for representing their interest in the Key Lake Mine and 15 years with Westmin Resources Ltd. in British Columbia as Exploration Manager, Chief Geologist, and Technical Adviser to the General Manager - Myra Falls Operations. Since 1993, I have consulted to major and small mining companies.
- 4) My experience has been largely centered on major ore deposits and has included their study, exploration, discovery, evaluation and production.
- 5) I have authored published papers on the geology of the Kidd Creek Mine in Ontario and the Myra Falls Mine in British Columbia. I have also presented numerous geological papers at scientific forums including appointment as the Geological Association of Canada, H.S. Robinson Distinguished Lecturer for 1987.
- 6) This report is based on my personal work on the Lucky Property in 1990, 1995 and 1996 as well as review of all references and data on the property.
- 7) I have no interest, direct or indirect, in the Lucky Property or in the securities of Consolidated Logan Mines Ltd. nor do I expect to receive any.
- 8) Permission is hereby granted to Consolidated Logan Mines Ltd. to use this report for any lawful purpose.



Richard R. Walker  
April 7, 1997  
Campbell River, B. C.

## REFERENCES

- Andrew, A & Godwin, C.I. (1988): Lead and Strontium-isotope geochemistry of the Tertiary Catface intrusions and related mineralization, Department of Geological Sciences, University of B.C., Canadian Journal of Earth Science (1989), p. 920- 926.
- Bancroft, M.F. (1937): Gold-Bearing Deposits on the West Coast of Vancouver Island Between Esperanza Inlet and Alberni Canal. GSC Memoir 204.
- Bzdel, L.M. (1989): Report on Geophysical Surveys, Toq Group and Handsome Group Claims; report by Interpretex Resources Ltd. for Freemont Gold Corp. (also appended to Wilson, Zastavnikovich & Bzdel,1989).
- Bzdel, L.M. and Rockel, E.R. (1991): Report on Induced Polarization, Total Field Magnetic and VLF-EM Surveys on the TOQ and Lucky Claim Groups; report by Interpretex Resources Ltd. for Baril Developments Ltd. (also appended to Zstavnikovich & Bzdel,1991).
- Carmichael, H. (1899): Great Expectations; B.C. Minister of Mines Annual Report 1899, pp 783 & map.
- Carson, D.J.T. (1960): Geology of Mount Washington, Vancouver Island, British Columbia. Unpublished M.Sc. Thesis, Univ. of B.C., 118 p.
- Carson D.J.T. (1973): The Plutonic Rocks of Vancouver Island, B.C.: Their Petrography, Chemistry, Age and Emplacement; Geol. Surv. Can. Paper 72-44.
- Carter, N.C. (1987): Geological Report on the Lucky Property, Alberni Mining Division, Vancouver Island, British Columbia; private report for Freemont Gold Corp.
- Carter, N.C. (1988): Geological Report on the Lucky Property, Alberni Mining Division, Vancouver Island, British Columbia; private report for Alcove Gold Corp.
- Carter, M.C. (1989): Geological Report on the Lucky Property; private report for Freemont Gold Corp., Alcove Gold Corp. and Canora Mining Corp.
- Chow, R. (1996): Geological, Geochemical and Prospecting Report on the Lucky Property; BCMEMPR Assessment Report.
- Dynes, B. (1984): Preliminary Prospecting Report on the Robin Mineral Claims; BCMEMPR Assessment Report 13642.
- Eastwood, G.E.P. & Merrott, J.E. (1961): Kennedy Lake (Noranda Mines Ltd. Kennedy Lake Division); Minister of Mines and Petroleum Resources, Province of B.C. Annual Report 1961, pp 104-110.
- Eastwood, G.E.P. (1962): Geology of the Kennedy Lake Area; Minister of Mines & Petroleum Resources, Province of B.C. Annual Report 1962, pp 111-124.
- Eastwood, G.E.P. (1963): Brynnor Mines Ltd. Minister of Mines & Petroleum Resources, Province of B.C. Annual Report 1963, pp 117-121.
- Eastwood, G.E.P.(1968): Geology of the Kennedy Lake area, B.C. Dept. of Mines and Petroleum Resources, Bulletin No. 55.

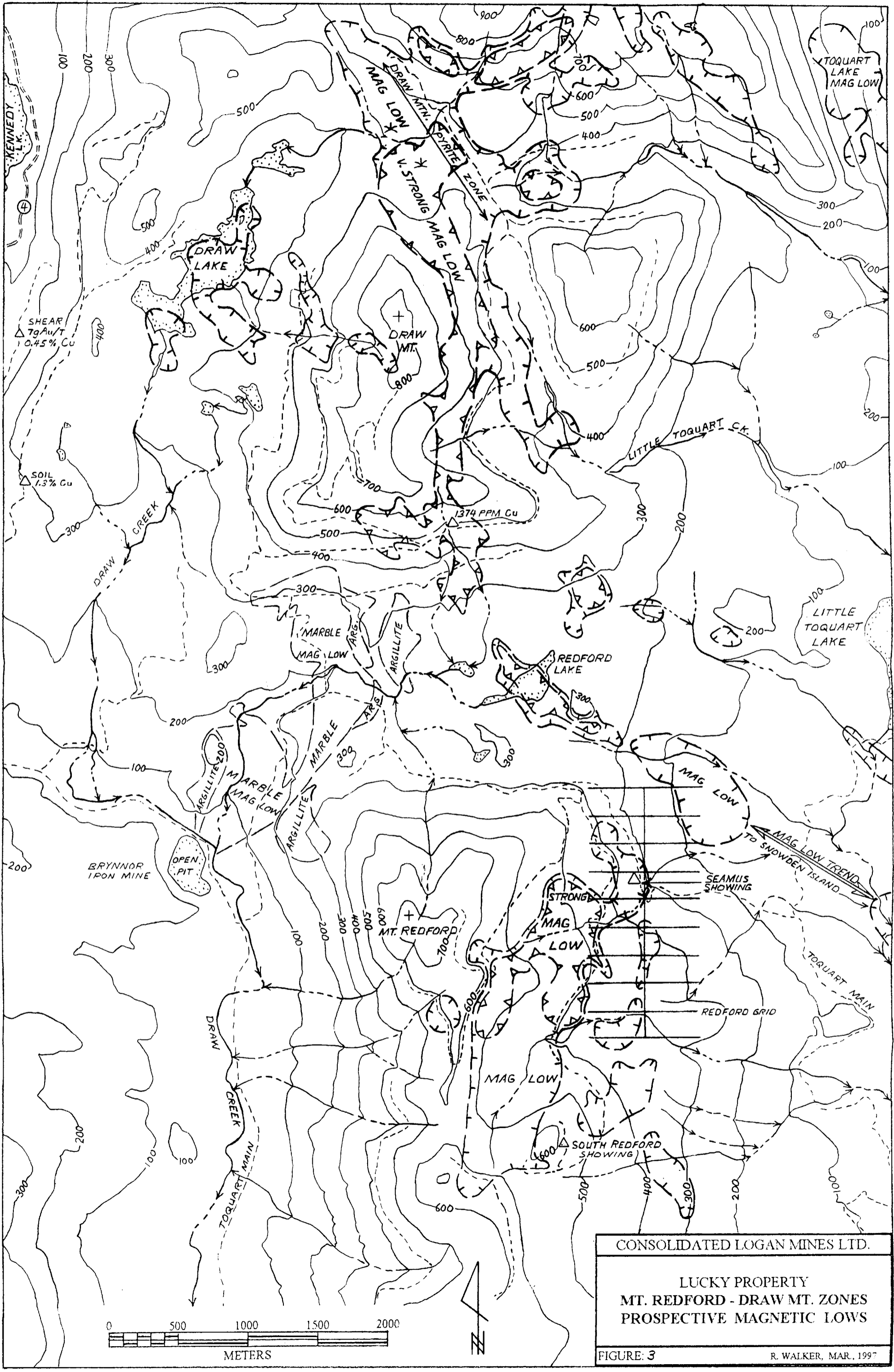
- Eccles, L.K. (1984): Report on Rock Chip Sampling on the WICK Claims for Victoria Resource Corporation, BCMEMPR Assessment Report 12318.
- Eccles, L.K. (1984): Summary Report on the Wick and Adjoining Claims of Victoria Resource Corp.; private report for Victoria Resource Corp.
- Enns, S.G. & McDougall, J.J. (1985): Catface Copper-Molybdenum Porphyry, West-Central Vancouver Island, B.C., CIM Special Volume No. 46, p. 322 - 326.
- Felder, F. (1984): Assessment Report on Geochemical Survey, Ozz Claim Group, for Umex Inc., BCMEMPR Assessment Report 12817
- Groves, W.D. (1986): Geological, Geochemical, Metallurgical and Prospecting Work, The Kennedy Sulphides Group, (Tony Group, Gil and Fact), Kennedy Lake Area, Alberni Mining Division, for First Coast Minerals Corp, BCMEMPR Assessment Report 14704.
- Henneberry, R.T. (1988): Dom Group 1987 Exploration Program, BCMEMPR Assessment Report 17400, 31p. (includes geology map by J. Muller and R.T. Hennebery).
- Hoffman, S.J. & Humphreys, N. (1981): Geological and Geochemical Assessment of the Mowgli 1-6 Claims, West Coast of Vancouver Island, B.C. BCMEMPR Assessment Report 9646, Part 1-123p. Part 2 - 73 maps.
- Irving, E. & Brandon, M.T.(1990): Paleomagnetism of the Flores volcanics, Vancouver Island, in place by Eocene time, Geological Survey of Canada. Canadian Journal of Earth Science, Vol. 27, 1990, p. 811 - 817.
- James, A.R.C. & Eastwood, G.E.P. (1965): Brynnor Mines Ltd. (Kennedy Lake Division); Minister of Mines & Petroleum Resources, Prov. of B.C. Annual Report 1965, pp 236-238.
- James, A.R.C. (1968): Brynnor Mine; Minister of Mines and Petroleum Resources, Prov. of B.C. Annual Report 1968, p 103.
- McDougall, J.J. (1976): Catface; CIM Special Vol. 15, pp 299 - 310.
- McDougall, J. and Zastavnikovich, S. (1983): Report on the Stacy claim; private report to J. Dupius, claim owner.
- McGuigan, P.J. (1975): Certain Breccias of Mount Washington Property, Vancouver Island. Unpublished B.Sc. Thesis, Univ. of B.C., 66 p.
- McKechnie, N.D. & Merrett, J.E. (1960): Kennedy Lake Iron (Noranda Exploration Co. Ltd. Minister of Mines & Petroleum Resources, Prov. of B.C. Annual Report 1960, pp 108-110.
- Matysek, P.F, Gravel, J.L., Jackaman, W. & Feulgen, S. (1990): British Columbia Regional Geochemical Survey, Stream Sediment and Water Geochemical Data, Alberni NTS92F; BC MEMPR RGS 25/GSC open file 2183.
- Matysek, P.F., Gravel, J.L., Jackaman, W. & Feulgen, S. (1990): British Columbia Regional Geochemical Survey, Stream Sediment and Water Geochemical Data, Victoria/Cape Flattery - NTS 92B/92C; BC MEMPR RGS 24/GSC open file 2182.
- Muller J.E. (1977a): Evolution of the Pacific Margin, Vancouver Island and Adjacent Regions; Can. Jour. Earth Sci., Vol. 14, No. 9, pp 2062-2085.

- Muller, J.E. (1977b): Geology of Van. Island, GAC-MAC Annual Meeting, Guidebook No. 7.
- Muller, J.E. (1980): The Paleozoic Sicker Group of Vancouver Island, British Columbia; Geol. Surv. Can. Paper 79-30.
- Muller, J.E. and Carson, D.J.T. (1969): Geology and Mineral Deposits of the Alberni Map-Area, B.C. (92F); Geol. Surv. Can. Paper 68-50.
- Northcote, K.E. (1972): Catface; BCMEMPR Geology, Exploration & Mining in B.C. 1971, pp236 - 245.
- Northcote, K.E. (1983a): Report on the WICK Claim, Lucky Creek, Toquart Bay Area; private report for Victoria Resource Corp.
- Northcote, K.E. (1983b): Report in the KV, KX, KY and KZ Claims, Lucky Creek Toquart Bay Area; private report for Victoria Resource Corp.
- Northcote, K. E. (1992): Untitled, unsigned, petrographic descriptions and micrographs regarding two samples; private report to Electrum Resource Corp.
- Northcote, K.E. and Muller, J.E. (1972): Volcanism, Plutonism and Mineralization - Vancouver Island; Can. Inst. Min. Met. Bull., Vol. 65, pp. 49-57.
- O'Donnell, A.J. (1992): Geological, Geophysical and Geochemical Report of the Ozz Claim Group, Granges Inc. BCMEMPR Assessment Report 22340.
- Phendler, R.W. (1973): Interim Report on the Lucky Gold Prospect; private report by Cannon Hicks Assoc. for Kalco Valley Mines Ltd.
- Phendler, R.W. (1978): Report on the Lucky Gold Property; private company report.
- Podolsky, G. (1985): Report on Combined Helicopter-Borne Magnetometer and Electromagnetic Survey, Toquart Bay, B.C.; private report for Falconbridge Ltd.
- Price, B.J. (1992): Geological report - Lucky Property; private report by Rapitan Resources Inc. for Canora Mining Corp.
- Rand-Edgar Capital Corp. (1995): The Lucky Property Summary Report and Exploration Program, Alberni Mining Division, Vancouver Island, Consolidated Logan Mines Ltd.
- Rebic, Z. and Lehtinen, J. (1985): Summary Report PN108 - Toquart Bay; private report for Falconbridge Ltd.
- Rebic, Z., and Lehtinen, J. (1985): Summary Report No. 182-108-85. Geology, Prospecting, Geochemistry, Magnetic Survey, VLF Survey and Diamond Drilling of the Wick, Lucky Group, KL to KZ and Oyster Mineral Claims; BCMEMPR Assessment Rept.15685.
- Rhys, M., Sieb, M., Frostad, S.R., Swanson, C.L., Prefontaine, M.A., Mortensen, J.K., Smit, H.Q., (1995): Geology and setting of the Red Mountain gold-silver deposits, northwestern British Columbia, CIM Special Volume, Porphyry Deposits of the Northwestern Cordillera of North America, p. 811 - 828.
- Ronning, P.A. (1993): Geological Reconnaissance and Rock Chip Sampling on the Lucky Property; BCMEMPR Assessment Rept.



- Ronning, P.A. (1994a): Compilation of Stream Sediment Geochemistry on the Lucky Property; BCMEMPR Assessment Rept..
- Ronning, P.A. (1994b): Exploration Program on the Lucky Property; BCMEMPR Assessment Rept.
- Ronning, P.A. and Zastavnikovich, S. (1992): Exploration Program on the Lucky Property; BCMEMPR Assessment Rept. 22592.
- Ronning, P.A. and Zastavnikovich, S. (1993): Geological Reconnaissance and Rock Chip Sampling Program on the Lucky Property; BCMEMPR Assessment Rept.
- Ryback-Hardy, V. (1982): Geochemical Silt Sampling Report and Physical Work - Lucky 81, 82, Wick, Lucky Fr.; BCMEMPR Assessment Rept. 10626.
- Sangster, D.F. (1969): The contact Metasomatic Magnetite Deposits of Southwestern British Columbia: Geol. Surv. Can. Bull. 172, p. 68 - 70.
- Sheldrake, R.F. and Associates, (1988): Preliminary Internal Report for Freemont Gold Corporation on Geophysical Surveys on the Wick, KW, and KX claims, Lucky Vein and Ridge Grids; private report for Freemont Gold Corp.
- Syberg, F.J.R. (1995): Consolidated Logan Mines Ltd. Summary Report: VLF-EM Survey, Toq Claims, Toquart Bay, Ucluelet Area, B.C.; private report to Cons. Logan Mines Ltd.
- Syberg, F.J.R. (1995): plots of geophysical data from Wilson, Zastavnikovich & Bzdel, 1989, and Bzdel & Rockel, 1991; private company documents for Cons. Logan Mines Ltd.
- Walker, R.R. (1990): Freemont Gold Corporation - Potential For Custom Au Ore, Lucky Property, Ucluelet, B.C.; Westmin Resources Ltd., internal report with copy to Freemont Gold Corp.; released to Cons. Logan Mines Ltd.
- Walker, R.R. & Lyons, E. (1995): Geological Report on the Lucky Property: Company report for Consolidated Logan Mines Ltd. 25p.
- Walker, R.R. (1995): Report on Diamond Drilling, 1995 Toq Grid Drill Program on Toq 3 Claim Lucky Property; BCMEMPR Assessment Report, 110p.
- Whittles, A.B.L., Kinneard, G. & Loring, F. (1976): Aerial Interpretation & Prospectors Report, Pride of the West Lot 538 and Hampton, Lot 539 Crown Grants. BCMEMPR Assessment Report 6146, 14 p.
- Whittles, A.B.L. (1992): Prospectors Report on the Golden Group; BCMEMPR Assessment Report 22300, 39p.
- Wilson, J.R. and Zastavnikovich, S. (1989): Diamond Drilling Assessment Report on the Lucky Group Mineral Claims; BCMEMPR Assessment Rept. 18491.
- Wilson, J.R., Zastavnikovich, S. and Bzdel, L.M. (1989): Diamond Drilling and Geophysical Assessment Report on the Oyster, Toq and Handsome Groups Claims; BCMEMPR Assessment Rept. 18567.
- Wilton, H.P. (1990): Geology and Mineral Deposits of Vancouver Island; British Columbia; Geological Association of Canada conference abstract. B.C. Geol. Surv.

- Zastavnikovich, S. (1983): Geochemical Report on the KXYZ Claims Group; BCMEMPR Assessment Rept. 11545.
- Zastavnikovich, S. (1984a): Geochemical Report on the Pipestem Inlet Group Claims (KL, KM, KV, Oyster); BCMEMPR Assessment Rept. 12466.
- Zastavnikovich, S. (1984b): Geochemical Report on the KST Group (KS and KT Claims); BCMEMPR Assessment Rept. 12545.
- Zastavnikovich, S. (1984c): Geochemical Report on the KUW Group (KU and KW Claims); BCMEMPR Assessment Rept.12580.
- Zastavnikovich, S. (1984d): Geochemical Report on the Handsome Group (KO, KP, KQ, KR Claims); BCMEMPR Assessment Rept.12813.
- Zastavnikovich, S. (1988a): Geochemical Summary Report on the Lucky Property Mineral Claims, Lucky, Oyster, TOQ, Hansome and Pipestem Groups; private report for Electrum Resource Corp. and Freemont Gold Corp.
- Zastavnikovich, S. (1988b): Geochemical Heavy Minerals Report of the Toq Group, Oyster 2, and Turret Claims, Toquart Bay, B.C.; BCMEMPR Assessment Rept. 17224.
- Zastavnikovich, S. and Ballantyne, T.A. (1995): Magnetometer and VLF Surveys on the Lucky Property; BCMEMPR Assessment Rept.
- Zastavnikovich, S and Bzdel, L.M. (1990): Geochemical and Geophysical Assessment Report on the Toq Group Claims; BCMEMPR Assessment Rept.19826.
- Zastavnikovich, S., Bzdel, L.M. and Rockel, E.R. (1992): Lucky and TOQ Groups Claims. Geochemical and Geophysical Report; BCMEMPR Assessment Rept. 22163.
- Zastavnikovich, S. and Chandler, T. (1985): Geochemical Report on the Pipestem, Handsome, KST and WICK Groups; BCMEMPR Assessment Rept.14188.



CONSOLIDATED LOGAN MINES LTD.  
 LUCKY PROPERTY  
 MT. REDFORD - DRAW MT. ZONES  
 PROSPECTIVE MAGNETIC LOWS  
 FIGURE 3  
 R. WALKER, MAR., 1997

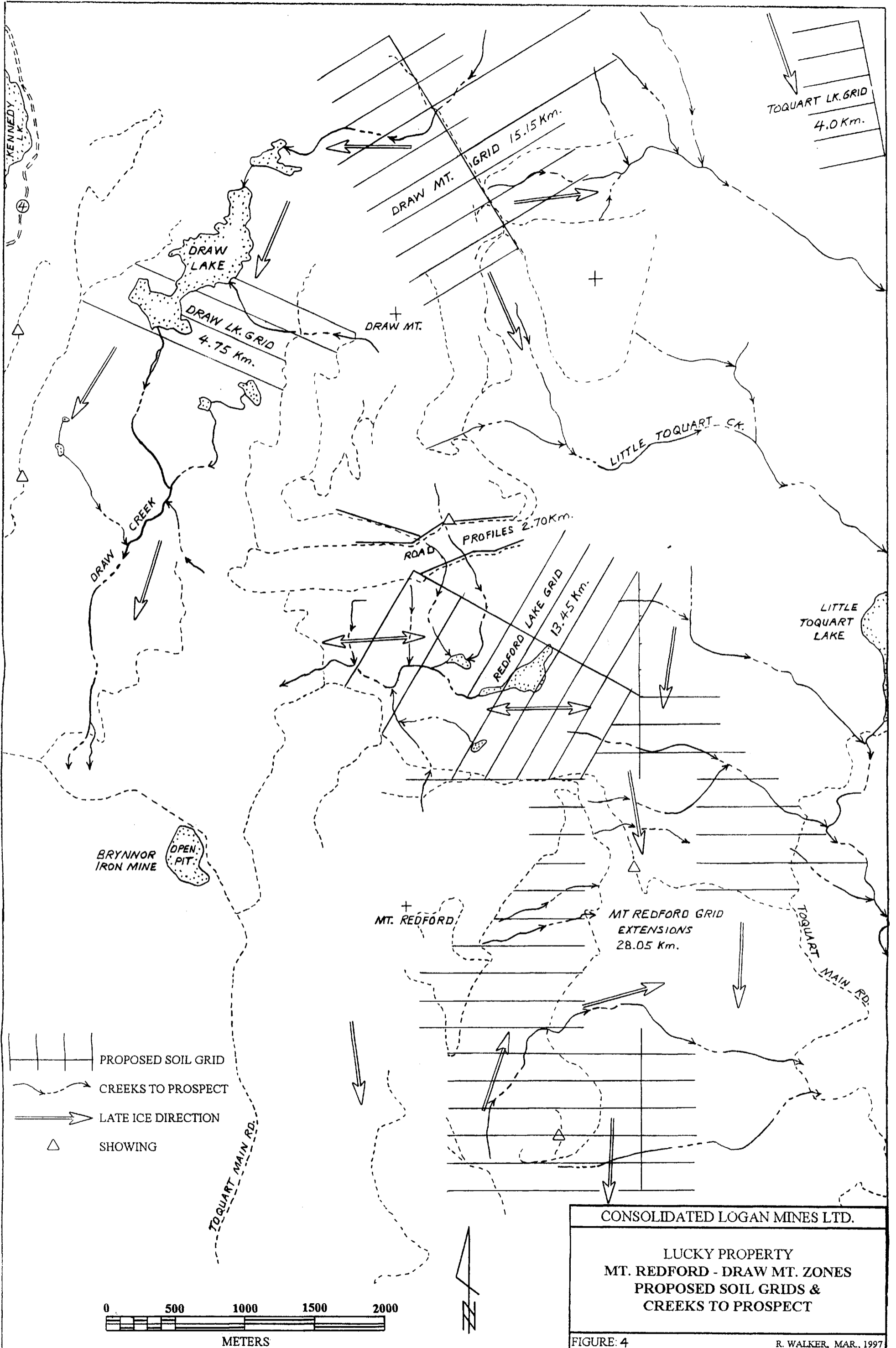


FIGURE 4

R. WALKER, MAR., 1997