CONFIDENTIALITY AGREEMENT

Dunvegan Exploration Ltd. (DEL) will provide you with information in relation to certain mineral claims for the purpose of negotiating an agreement. In consideration of providing such information and the sum of $1.00, you agree that without DEL's written consent:

(a) all information will be:

(i) held in trust and not used for any purpose other than DEL negotiations; and

(ii) not disclosed to any third parties nor will you disclose the fact that negotiations with DEL are ongoing; and

(b) you will not participate directly or indirectly in the exploration or development or acquire any direct or indirect interest in any mineral claim or lease within 5 miles of the mineral claims.

You specifically acknowledge the following:

(a) you will be acquiring or receiving the value and advantage of the expert knowledge and experience of DEL in relation to the mineral claims and the geology of the surrounding area;

(b) the information is confidential and proprietary knowledge of a special and unique nature and value relating to the claims and the geology of the surrounding area;

(c) unauthorized disclosure will result in irreparable harm to DEL which could not be adequately compensated by monetary damages; and

(d) the execution of this agreement is a material inducement to DEL to enter into negotiations and provide the information which DEL would not otherwise disclose to you absent the inducement.

The obligation of confidentiality shall not apply to information which is at the time of disclosure or thereafter in the public domain or after twenty-four (24) months from the date hereof. Upon written request you will return to DEL all copies of evaluation material.

Please indicate your acceptance of the above terms and receipt of $1.00 by signing and returning the enclosed copy of this letter.

Yours sincerely,

AGREED TO ____________________
John Slack

For BYG Natural Resources Inc. and JMS and Associates.

Mary P. Webster
Director
DUNVEGAN EXPLORATION LTD.

January 25, 1996

Geological Report on the
BUG, PHIL and TOG - GOT - POT Group of Claims

BUG CLAIMS:

Latitude	60 22'00"N
Longitude	134 12'00"W
NTS	105 D/8

PHIL CLAIMS:

Latitude	60 23' 15"N
Longitude	134 02'30"W
NTS	105 D/8

TOG - GOT - POT GROUP OF CLAIMS:

Latitude	60 25'00"N
Longitude	133 37'20"W
NTS	105 C/5

Whitehorse Mining District
Yukon Territory

for

Dunvegan Exploration Ltd.
205 - 700 West Pender Street
Vancouver, B.C.
V6C 1G8

by

William A. Taylor B.Sc.
David J. Copeland B.Sc., P. Eng.
David A. Shaw, Ph.D.
September 5, 1989

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SUMMARY

The three properties that are owned by Dunvegan Exploration Ltd., the BUG property, the TOG property and the PHIL property, are located in the southwest part of the Yukon Territory. The nearest major settlement is Whitehorse which is located to the northwest, approximately 80 kilometres distance along the Alaska Highway. All properties are road accessible from this highway.

All interests in the claims are 100% owned by Dunvegan Exploration Ltd. and in total comprise 180 claim units.

The properties are largely underlain by Cache Creek terrane rocks recognized to be part of an ophiolitic complex, a dismembered ocean floor sequence.

Activity dating back to 1898 is recorded on the BUG claims when they were originally staked as the Cooper Bell claim. During the 1960's and early 1970's a limited amount of hand trenching was performed, on a chrome mica iron carbonate (listwaenite) alteration zone. This was subsequently drilled during a two hole diamond drill program. Core recovered during this program was re-assayed by G. McLeod and returned gold values up to 2.00 g/t (0.058 oz/ton). During the 1980's the claims have received a succession of small exploration programs that have focused on the strongly altered ultramafic rock. A trench was excavated at the site of a 750 ppb gold soil anomaly, chip sampling returned values from the trench of 1790 ppb gold over a width of 0.5m and 500 ppb gold over a width of 4.0m.

The ground now staked as the TOG group of claims was initially explored by Gordon McLeod in the 1970's whilst he was prospecting in the area. Work on the TOG claims has been limited to brief property examinations, minor mapping for asbestos, access construction and cat trenching. A pan concentrate from Seaforth Creek, located on the eastern perimeter of the property, assayed 0.7 oz./ton gold. A value of 0.262 oz./ton gold was returned from a sample collected on the property by S.B. Ballantyne in 1985. In late 1988 samples collected from the main showing by G. McLeod returned up to 31.651 oz./ton gold.

The PHIL claims were originally staked on behalf of G. McLeod in 1987 and have received limited attention since then.

The 1989 exploration program was directed towards gaining an understanding of the geology and the potential for economic mineralization. Results to-date have outlined strong structural controls on both the BUG and TOG properties associated with both an intense alteration of tectonically emplaced ultramafic bodies and anomalous to very high grade gold mineralization. On the BUG property a wedge of altered sediments anomalous in gold found within a well defined shear zone, has been documented. On the TOG property extremely high grade gold mineralization (assay values up to 41.482 oz/ton) has been mapped and sampled within a structually controlled zone of quartz veining and quartz carbonate alteration. The amount of gold mineralization is very encouraging and similar in type to the Motherlode district in California, noted for its spectacular pocket bonanza concentrations of gold within the vugs in quartz veins. Coarse visible gold has been found on the TOG property over a known strike length of 26 metres and across a true width of 5 metres in thirteen localities on surface. Geophysical surveying has detected conductors at the showing, suggesting mineralization may continue along strike for at least 140 metres.

On both the BUG and TOG properties the gold mineralized zones are open along strike and down dip. Furthermore there are additional targets that warrent investigation based on similar structures and (listwaenitic) alteration haloes as documented at the main showings.

The geological setting of the BUG and TOG properties is also very similar to that of the Atlin Gold Camp located 110 kilometres to the south.

INTRODUCTION

Dunvegan Exploration Ltd. of Vancouver, B.C., operates the BUG, PHIL and TOG properties, three seperate mining properties comprising 180 claims in the Whitehorse Mining District, Yukon Territory.

This report, prepared at the request of the directors of Dunvegan Exploration Ltd., describes the geological setting, history, 1989 exploration results and economic potential of the properties. As a result of the initital 1989 fieldwork a further exploration program is recommended on the BUG and TOG properties along with an estimate of cost.

During the 1989 field season (June 29 to August 3) W. Taylor supervised an exploration program on the BUG and TOG properties which included the establishment of a grid, rock and soil sampling, geological mapping and geophysical surveying. D. Copeland reviewed the initial program and commented on progress. During this period the climatic conditions were extremely favourable for conducting field activities.

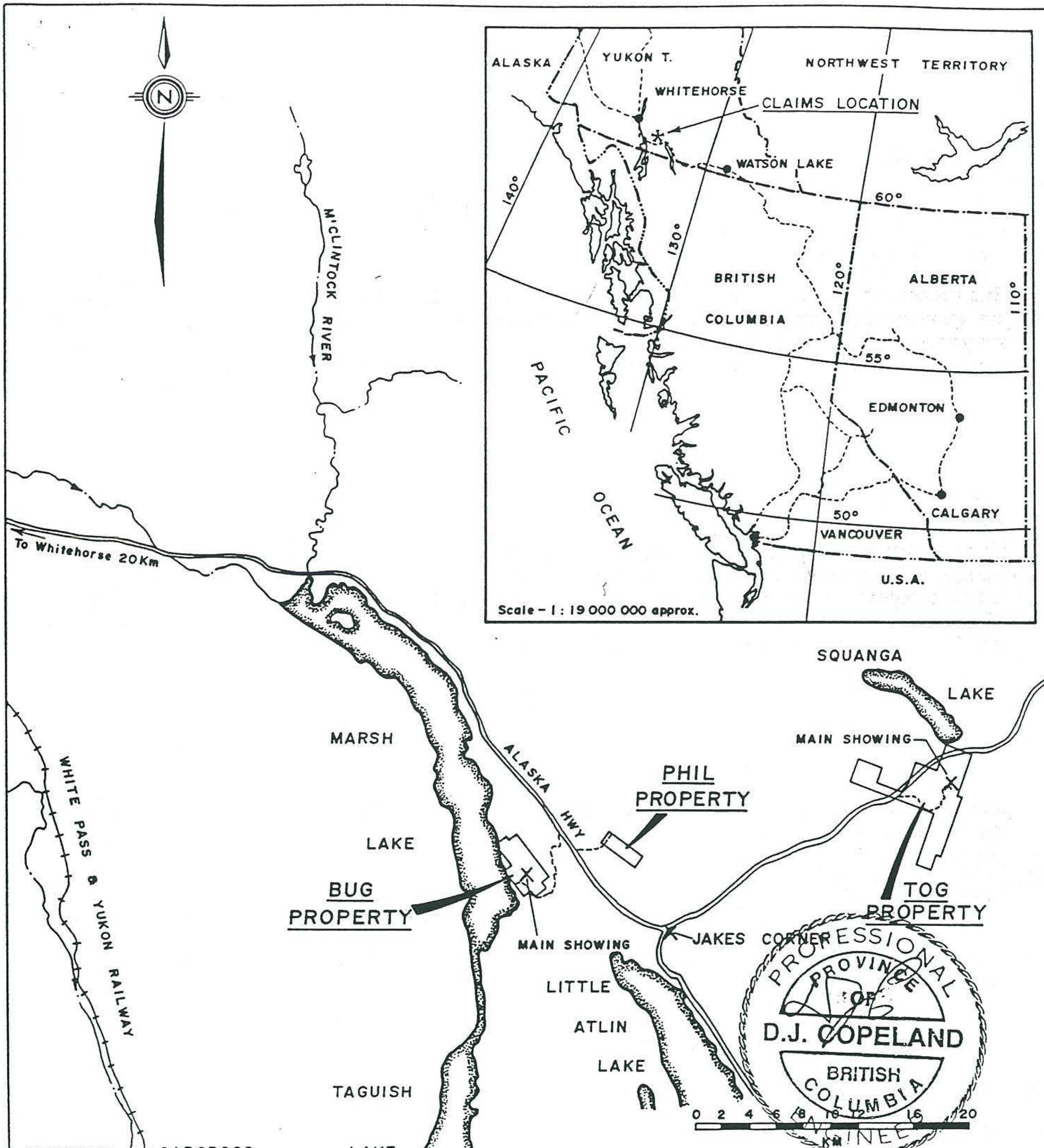
Major sources of information consulted during the course of this study include: an assessment report on the BUG property by M.P. Webster (Noranda Exploration Co. Ltd., 1986), a report on the BUG property by T.J. Bremner (Department of Indian and Northern Affairs, 1987), an assessment report on the BUG property by G. Davidson (1988), a report on the TOG property by D.A. Shaw (1988) and various written communications between S.B. Ballantyne (Geological Survey of Canada) and G. McLeod (1985 to present day) that concerned both the BUG and TOG properties.

Property

The Dunvegan Exploration Ltd. holdings consist of 180 mineral claims. These are summarized in Table 1. (Dunvegan Exploration Ltd. has 100% beneficial interest in all of the claim units listed below).

Table 1

Claim	Grant Numbers	Expiry Date
Tog 1 - 10	YA82536 - YA82545	July 3, 1991
Tog 11 - 24	YB20446 - YB20459	July 18, 1992
Tog 25 - 44	YB24638 - YB24657	Dec 13, 1989
Tog 45 - 73	YB25431 - YB25459	Feb 28, 1990
Got 1 - 16	YB20460 - YB20475	July 18, 1992
Got 17 - 21	YB25460 - YB25464	Feb 28, 1991
Got 22 - 29	YB25465 - YB25472	Feb 28, 1990
Pot 1 - 16	YB20476 - YB20491	July 18, 1992
Bug 1 - 4	YA87163 - YA87166	May 25, 1991
Bug 5 - 12	YA94879 - YA94886	May 25, 1991
Bug 13 - 16	YA95186 - YA95189	May 25, 1991
Bug 17 - 20	YA97369 - YA97372	May 25, 1991
Bug 21 - 24	YA98074 - YA98077	July 2, 1990
Bug 25 - 50	YB12869 - YB12894	Feb 18, 1990
Phil 1 - 12	YA96636 - YA96647	Jan 14, 1990

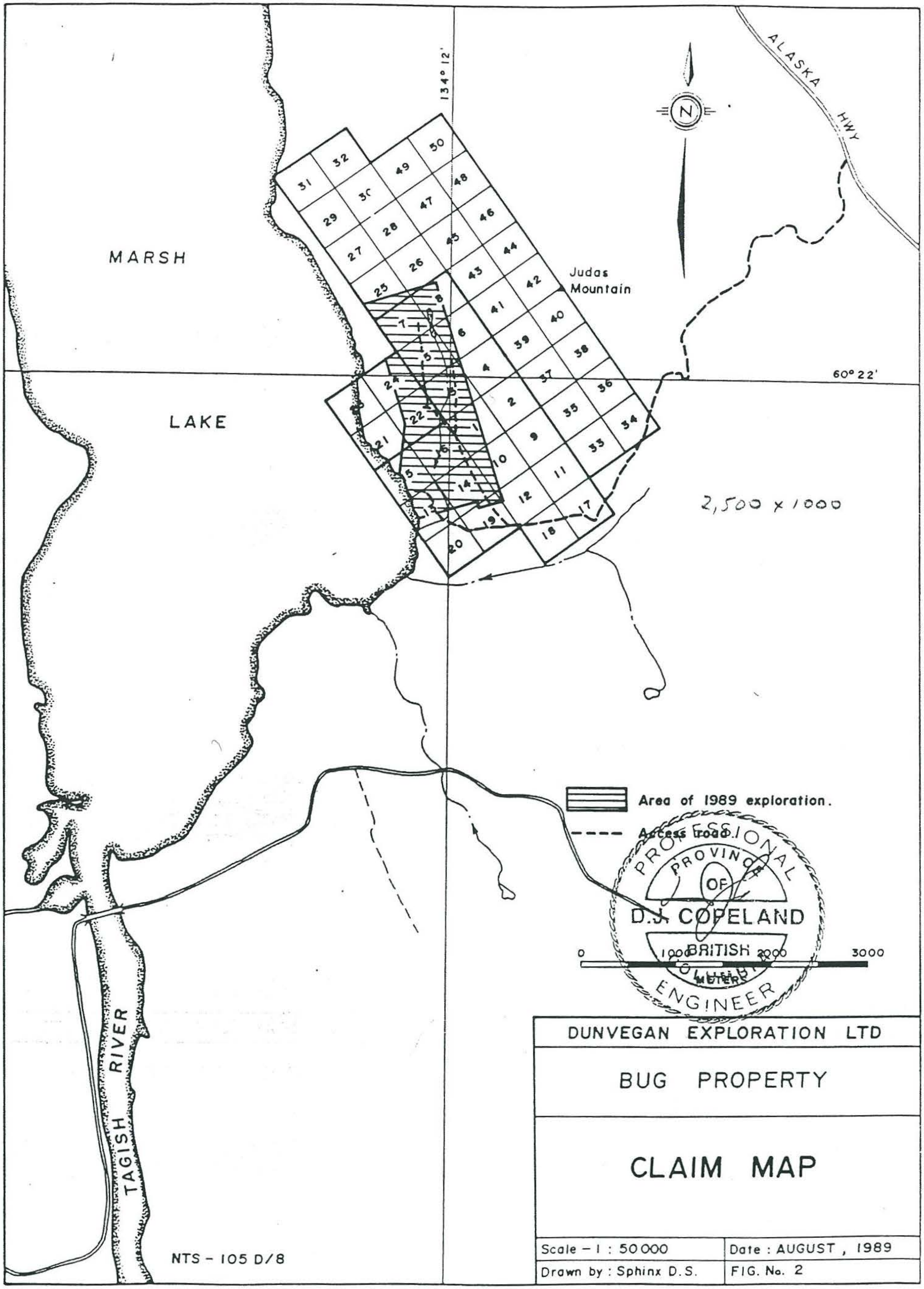


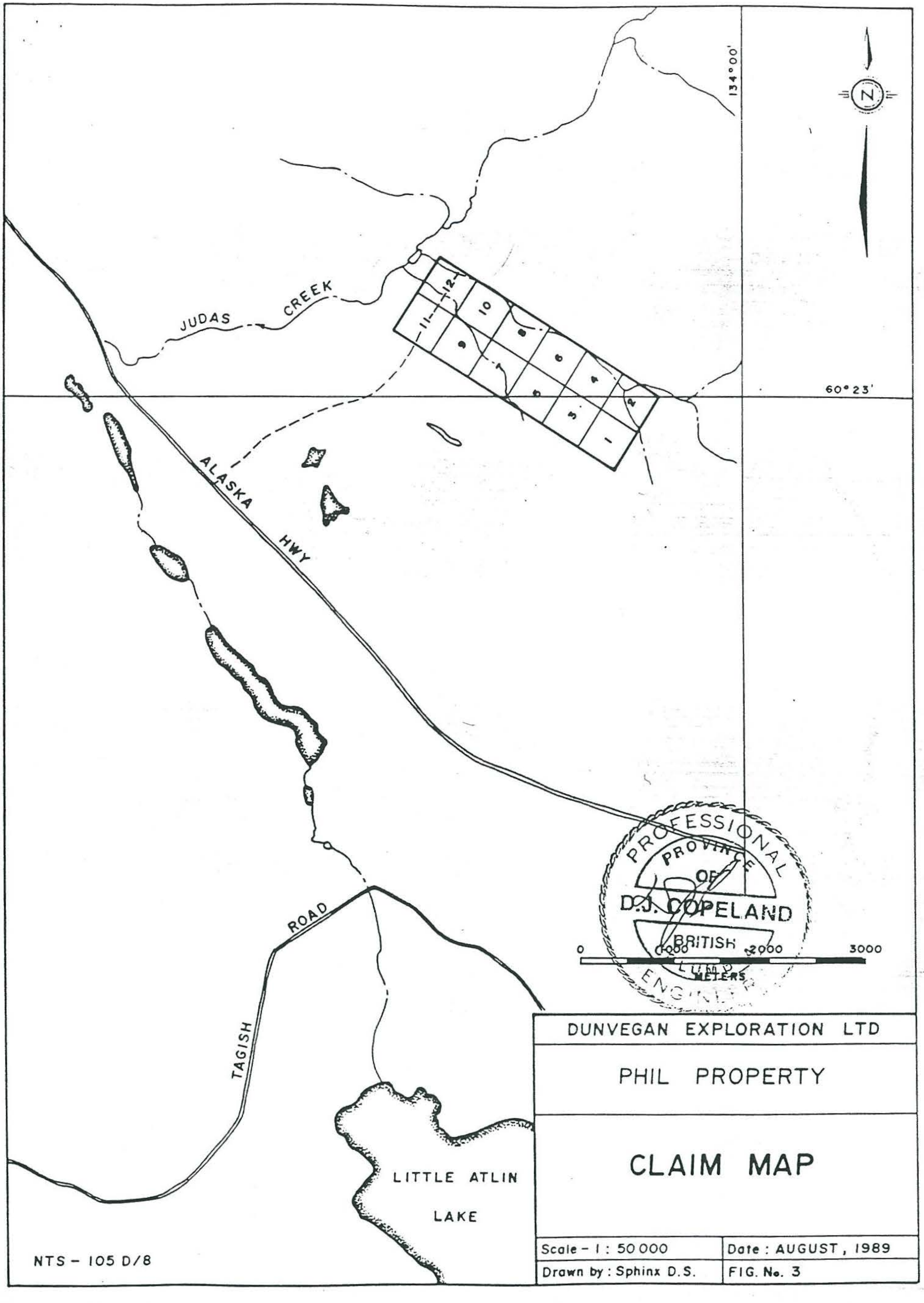
DUNVEGAN EXPLORATION LTD

BUG, PHIL & TOG CLAIMS

PROPERTY LOCATIONS MAP

Data: W.T.	Date: August, 1989
Drawn by: Sphinx D.S.	FIG. No. 1


ALASKA HWY
134° 12'
60° 22'
MARSH
LAKE
Judas Mountain
TAGISH RIVER
2,500 x 1000
Area of 1989 exploration.
Access road.
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
D.J. COPELAND
0 1000 2000 3000
METERS
NTS - 105 D/8
DUNVEGAN EXPLORATION LTD
BUG PROPERTY
CLAIM MAP
Scale - 1 : 50000
Date : AUGUST , 1989
Drawn by : Sphinx D.S.
FIG. No. 2

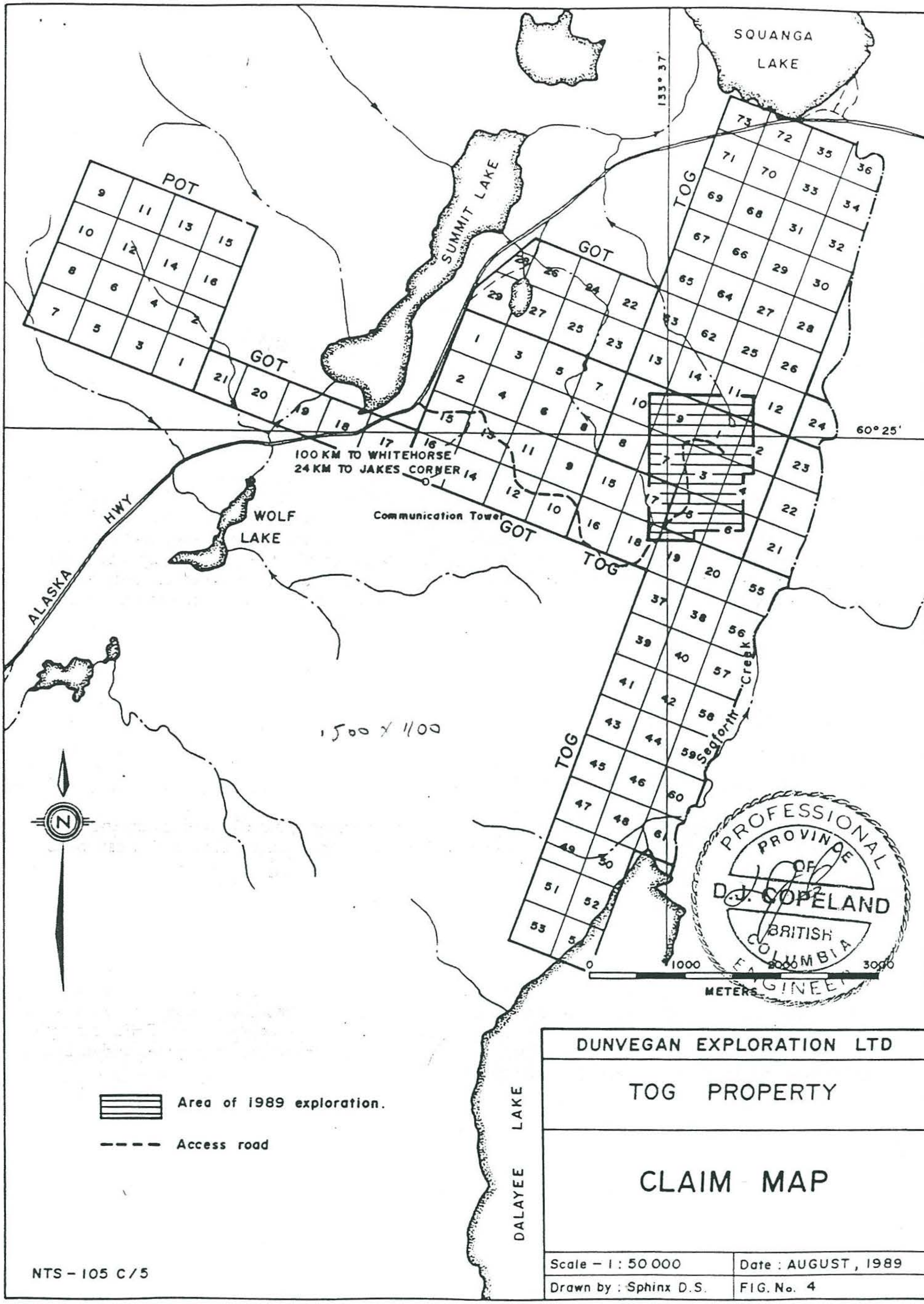


DUNVEGAN EXPLORATION LTD

PHIL PROPERTY

CLAIM MAP

Scale – 1 : 50 000	Date : AUGUST, 1989
Drawn by : Sphinx D.S.	FIG. No. 3



DUNVEGAN EXPLORATION LTD

TOG PROPERTY

CLAIM MAP

Scale - 1 : 50 000	Date : AUGUST, 1989
Drawn by : Sphinx D.S.	FIG. No. 4

Location and Access

The BUG claims (NTS 105 D/8) lie 70 kilometres southeast of Whitehorse, Yukon. The claims are located at the southeast corner of Marsh Lake at latitutde 60°22'N and longitude 134°12'W (figure 1). Access to the claims is via a two wheel drive road which meets the Alaska Highway 100 metres south of Judas Creek, and follows a southerly direction (Figure 2). The main showing (trench 1) is 8km along subsidiary 'cat' roads.

The PHIL claims (NTS 105 D/8) lie 70 kilometres southeast of Whitehorse, Yukon. The claims are located 3 kilometres east of the Judas Creek campground at latitude 60°23'15'N and longitude 134°2'30"W (figure 1). The PHIL claims are 9 kilometres east-north-east from the BUG claims. Access is via a two wheel drive gravel road which meets the Alaska Highway 2 kilometres south of Judas Creek (Figure 3).

The TOG-GOT-POT group of claims, which here and after will be referred to as the TOG claims or property (NTS 105 C/5), lie 88 kilometres southeast of Whitehorse, Yukon (N.T.S. 105 D/8). The claims are located between Squanga and Delayee Lakes (Figure 1) at latitude 60°25'00"N, longitude 133°37'20"W. To the west, the claims cross the Alaska Highway at the southern end of Summit Lake. Access to the claims is via the Alaska Highway, 100 kilometres southeast from Whitehorse. South of Summit Lake and 24 kilometres west north west of Jakes Corner, a 4-wheel drive summer road winds in an easterly direction for 5.5 kilometres to the main showing (Figure 4).

A resort and motel are conveniently located on Marsh Lake and at Jakes Corner, food and accomodation facilities are offered in addition to a service station. All three properties are a few minutes drive from these amenities, while Whitehorse has a daily bus and air service to Vancouver.

Physiography, Vegetation

Elevations on the area of exploration on the BUG claims range from 655 metres on the lake front, to 760 metres. Northwesterly trending "rocky" ridges occur east and west of a north/south trending stream, that drains the southwest quadrant of the property and flows into Marsh Lake. Vegetation on the BUG claims consists of moderately dense jackpine forest and to a lesser extent poplar trees. Alpine moss and shrubs occur on rocky ridges and marsh grasses with dense buckbrush grow in the swampy areas.

Elevations on the PHIL claims vary from less than 790 metres in the northwest, gently rising to 884 metres in the southeast. This relatively flat lying ground is incised by two north west flowing tributaries which run the length of the claims and drain into Judas Creek (Figure 3). Glacial sand and gravel deposits cover most of the claim. Vegetation on the PHIL claims consists of light jackpine and spruce forest. Towards Judas Creek the tributaries widen and in the swampy areas the buckbrush is dense.

Elevations in the area explored in 1989 on the TOG claims range from 1160 metres in the south to 915 metres in the north. Topography varies throughout the claims but is relativley steep to the south and east of the main showing, flattening towards the marshy lands of Seaforth Creek to the east. Generally the claims are incised by northwest trending creeks. Vegetation is dense on the TOG property, whilst some of the higher ridges have a cover of small shrubs as well jackpine and spruce, much of the claims are covered in dense buckbrush. Jackpine forests predominate in the northern part of the claims towards the highway.

Climate

Southwestern Yukon has a dry subartic climate with warm summers and cold winters. Average annual rainfall is 40cm. The area of the three properties is generally free from snow cover between May and November.

HISTORY

The following is an outline of the history of the three properties using all known and available data to the authors:

The BUG property was originally staked in 1898 as the Cooper Bell claim. This area was restaked as the GNM claims in 1964, and the DYMAX and MINERAL claims in 1966. Between 1964 and 1971, the claims were explored by hand trenching, a 1.5m adit and a 4.6m packsack drill hole. In 1972, two holes totalling 208.9 metres were drilled at the site of the adit through orange-weathering, siliceous, iron carbonate (chrome mica) altered ultramafics, into fractured and altered volcanic rocks. In 1981, G. McLeod (prospector and present director of Dunvegan Exploration Ltd.) reassayed the old drill core which returned assays of 1.6 g/t and 2.0 g/t gold, in the fractured volcanic rock (T. Bremner, DIAND, July 1987 Geological Report). McLeod then restaked the property as the FM and MF claims. Shakwak Exploration Co. Ltd. optioned the property in 1982 and limited geological mapping with a brief magnetometer survey was done. The FM and MF claims were restaked by G. McLeod in 1985 as the BUG 1-4 claims.

Noranda Exploration Co. Ltd. examined the claims in June 1986 (Assessment Report #091860) and three days of prospecting, soil and rock sampling, was conducted by M.P. Webster. The small soil survey revealed an isolated gold/arsenic geochemical anomaly (750 ppbAu/540ppm As). The BUG 5-24 claims were then added to the property on June 28, 1987 by G. McLeod.

In 1987 G. Davidson (P. Geol.) of Whitehorse supervised a trenching and sampling program. Four trenches were excavated by a combination of D8K caterpiller bulldozer work and blasting and an extensive access road system was constructed on the property. Mapping of the trenches was carried out by G. Davidson in June 1987, and trench 1, located in the vicinity of the 750 ppb gold soil anomaly, returned 1790 ppb gold over 0.5m and 500 ppb gold over 4.0m, from brecciated and altered sedimentary rocks containing pyrite. A felsic dyke returned a value of 1010 ppb gold. (Evaluation Report for Dunvegan Exploration Co. Ltd. by G. Davidson.) During this period T. Bremner (D.I.A.N.D.) spent several days mapping on and near the property, in order to relate the showing to the regional geology. Prominent alteration zones 12 metres wide, forming conspicuous orange cliffs 9 metres high and traceable for at least 2.4 km along strike, were noted by Bremner.

Newmont Exploration of Canada Ltd. re-sampled trench 1 and trench 2 in 1987 and several chip samples of quartz veining, quartz stock work, quartz fault breccia and altered sheared rocks were collected, and anlaysed by neutron activation. Values of up to 992 ppb gold were obtained. J. Turner of Newmont stated that "the sampling on the BUG claims did show elevated values in gold and the property has merit". (Letter to G. McLeod, November 26, 1987.) No option agreement was signed, however. Following this, 25 claim units were added to the BUG claims on behalf of Dunvegan Exploration Ltd. in February 1988. In October 1988, D. Shaw of Resource Research Group made a brief review of available data and suggested that a limited program was required in order to extend the known anomalies and to test for new ones.

The PHIL claims lie on a tributary system of Judas Creek that was originally of interest to placer gold prospectors. (Personal communication - G. McLeod). The claims were staked for G. McLeod in 1987 over an airborne magnetic high (G.S.C. Aeromagnetic Map 1315G) and in May 1987, G. Davidson conducted a brief prospecting and soil sampling survey, which revealed two areas of elevated gold values (510 ppb Au and 242 ppb Au), but these were not continuous along parallel sample lines. One area was resampled in July 1987 but the previous anomalous values from May were not duplicated (Assessment Report G. Davidson 1988).

Work on the TOG claims has been limited to brief property examinations, minor mapping, road construction and cat trenching.

Recorded prospecting on the ground now covered by the claims, dates back to the early 1970's when Gordon McLeod (prospector and present director of Dunvegan Exploration Ltd.), staked claims on a chromite prospect. (McLeod was prospecting for nickel in 1972 and discovered a small pod of chromite within serpentinized ultramafic rocks). Mapping was conducted in 1979 by Archer Cathro & Associates Ltd. who were reportedly looking for asbestos (G. McLeod, personal communication), and that year Michael Marchand, the Whitehorse District Geologist, examined the chromite prospect and conducted a microprobe analysis on the pod which showed the Cr_2O_3 content to be 49.4%. G. Yeo of Noranda Exploration visited the claim area in September 1982 and noted the ultramafic hosted chromite and abundant chrome mica rich outcrops, and stated the gold potential to be 'most interesting', after seeing specks of visible gold in siliceous material. A pipeline corridor restriction curtailed exploration activity during this period. In 1983 a pan sample concentrate collected from Seaforth Creek for G. McLeod was analysed by the Bureau of Mines at the University of Alaska and returned a Fire assay I.C.P. value of 0.700 oz/ton gold (Foley, 1983).

Further prospecting of the area in 1984 revealed a quartz vein within a carbonate altered zone. The following year five pits were sand blasted to expose the area which now is referred to as the TOG showing (G. McLeod, personal communication). In 1985, S.B. Ballantyne of the Geological Survey of Canada examined the property and with an assistant collected quartz, altered chrome-mica ultramafic, and quartz with visible gold. His electron microprobe work showed the gold occuring with silver in the quartz vein material and to be very fine: 939.7 (93.5% Au and 6% Ag). Samples collected returned gold values up to 0.262 oz/ton. Ballantyne noted the vuggy nature of some of the quartz-vein material which was surrounded by broad, pervasive, alteration envelopes of carbonate and he stated that there were strong similarities to the Motherlode district style of mineralization. Trever Bremner, the present Whitehorse District Geologist, also sampled the pits in 1987 and selective grab samples from these pits returned gold values up to 0.244 oz/ton.

Newmont Explorations' sampling of the pits in 1987, returned low gold values, and the area was subsequently opened up by cat trenching to make one large trench. Some 6km of road was put in during this time by Dunvegan Exploration Ltd. to access the main showing.

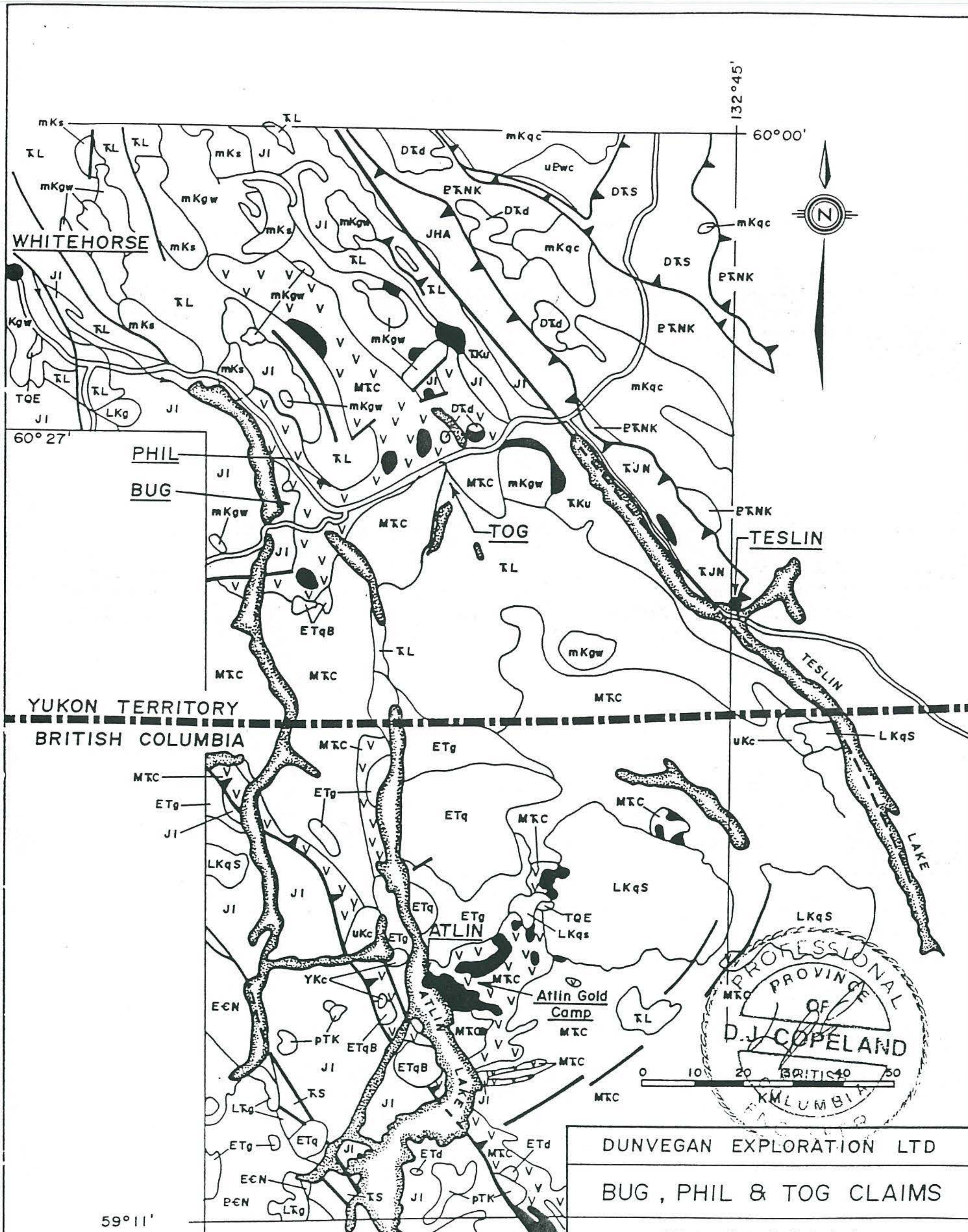
D. Shaw of Resource Research Group was retained by Dunvegan Exploration Ltd. and spent 3 days examining the main trench in October 1988, the purpose of which was to review the showing and outline an exploration and/or development program. The work was hampered by snow cover. A northwest trending, southwest dipping, quartz and iron carbonate alteration zone was mapped. The face observed was 12 meters long and 4 metres wide. A 0.5 metre zone of grey quartz veins, hosting pyrite, malachite and native gold was recognized between white quartz in the hanging wall and black volcanics in the footwall. Selective grab and float samples collected by G. McLeod in the presence of D. Shaw, returned values from 0.039 oz/ton gold to 31.651 oz/ton gold. D. Shaw delineated a number of potential structures using aerial photographs and proposed a preliminary exploration program to outline more prospects and to extend and systematicaly sample the main showing.

GEOLOGY

Regional Geology

The BUG claims straddle a northwest trending, in part tectonic, contact between Lower and Middle Jurassic Inklin clastics to the west of Marsh Lake, and Mississippian to Upper Triassic Cache Creek oceanic volcanics and sediments, to the east (Figure 5). Locally these rocks have been termed the Laberge Group and the Tuku Group (Wheeler, 1951). The Laberge Group consists of greywacke, arkose, quartzite, conglomerate, siltstone argillite and hornfels and the Tuku Group consists mainly of volcanic tholeiitic to alkaline basalts.

The PHIL claims lie south of northwest trending Inklin clastics (Laberge) Group and are fault bounded to the west, by Cache Creek volcanics and to the east, by Upper Triassic Lewes River interarc clastics, believed to be Cache Creek Terrane in part (Wheeler, 1987) (Figure 5).



DUNVEGAN EXPLORATION LTD

BUG, PHIL & TOG CLAIMS

REGIONAL GEOLOGY

Drawn by: W.T.	Date: AUGUST, 1989
Drafting by: Sphinx D.S.	Fig. No. 5

Modified from: G.S.C. OPEN FILE 1565 "Tectonic Assemblage Map of the Canadian Cordillera" (J.O. Weeler & P. McFeely, 1987)

Note: v = volcanic facies.

LEGEND

PLUTONIC AND ULTRAMAFIC ROCKS.

EARLY TERTIARY

ETqB	Bennett:'high level' alaskite
ETg	Granodiorite

LATE CRETACEOUS

LKqs	Surprise lake:Foliated alaskite
LKg	Surprise lake:Granodiorite,quartz monzonite.

MID CRETACEOUS

mKgv	Whitehorse:Granodiorite,diorite,monzonite,leucogranite, and feldspar quartz porphyry dykes.
mKqc	Cassiar:Monzonite and granodiorite(sheared and mylonitized western margins).

LATE TRIASSIC

LTg	Stikine and Coast Range:Diorite,granodiorite,monzonite.

DEVONIAN-TRIASSIC

	Oceanic ultramafic:Dunite,olivine,harzburgite,pyroxenite, commonly serpentinized.
DTd	Diorite,amphibolite.

TERTIARY

pTK	Kamloops volcanics.

LATE UPPER CRETACEOUS

uKc	Carmacks volcanics.

MID CRETACEOUS

mKs	South Fork volcanics 'cauldron subsidence and transtensional arc'.

LOWER AND MIDDLE JURASSIC

JI	Inklin(Laberge Group):Interbedded conglomerate,greywacke, siltstone,shale,limestone.Marine and non-marine.
JHA	Hall:Carbonaceous shale,siltstone,greywacke,conglomerate, Marine.

UPPER TRIASSIC - LOWER JURASSIC

TJN	Nicola:'Arc volcanics and sediments'.

UPPER TRIASSIC

TL	Lewes River(In part Cache Creek):Breccia,tuff,volcanic sandstone,siltstone and limestone,locally interbedded with radiolarian chert.Marine 'arc volcanics'.
TKU	Kutcho:Rhyolites,rhyodacites,silicic tuff,basalt,andesite, phyllite,greywacke and limestone.Marine 'arc volcanics' in Cache Creek.Terrane.

MISSISSIPIAN - UPPER TRIASSIC

MTc	Cache Creek:Mainly MORB-like tholeiitic to alkiline basalt (sub-green schist),serpentinized peridotite and dunite,tradhjemite and diabase,melange with blocks of Upper Nicola.Radiolarian ribbon chert,argillite volcanic sandstone and limestone.Marine(Oceanic volcanics and sediments and local accretionary prism melange).

UPPER PROTEROZOIC - PALEOZOIC

PTNK	Nisutlin:Catacristic sediments and volcanics.

DEVONIAN - TRIASSIC

DTs	Slide Mountain:Oceanic marginal basin volcanics and sediments.

UPPER PROTEROZOIC - LOWER CAMBRIAN

PEN	Nisling:Metamorphosed 'passive continental margin' assemblage.

UPPER PROTEROZOIC

uPwc	Windermere:Mainly clastic 'continental margin' sediments.

STRATIGRAPHIC SYMBOLS

- Geological contact.
- Fault of unknown displacement.
- Thrust fault.

LEGEND FOR FIG. No. 5

The TOG claims straddle the boundary between Mississippian to Upper Triassic Cache Creek oceanic volcanics and sediments and Upper Triassic Lewes River interarc clastics. Contacts are at least in part tectonic (Figure 5). Near the claims these rocks have been mapped as volcanic and altered volcanic rocks, with chert, minor argillite and quartzite (Mulligan, 1963). Within 20 kilometres of the TOG claims to the east, is a Mid Cretaceous hornblende granodiorite pluton (Figure 5).

Of significance to all properties are the oceanic ultramafic units of dunites, harzburgites and pyroxenites that occur within the Cache Creek Terrane rocks. These have been well documented in the Atlin Gold Camp of Northwestern British Columbia (Bloodgood et al 1989), (Figure 5). They range from linear bodies many tens of kilometres long, to pods and slivers a few metres in length and it has been suggested that these bodies represent oceanic basement. Many of the gold bearing veins in the Atlin camp are related to these ultramafic rocks.

Figure 5 illustrates the network of tectonic linements throughout the region, the ribbon lakes emphasize this feature in particular and of notable mention is the northwesterly trending Teslin Fault System which may have influenced the setting for gold mineralization in the region. (Ballantyne, 1986)

Property Geology

It should be noted that the numbers allocated to each lithology in Figure 6 and Figure 7 for the BUG and TOG properties, do not assume a chronological sequence (i.e. unit 4 may well be the same age stratigraphically as unit 1).

BUG Claims

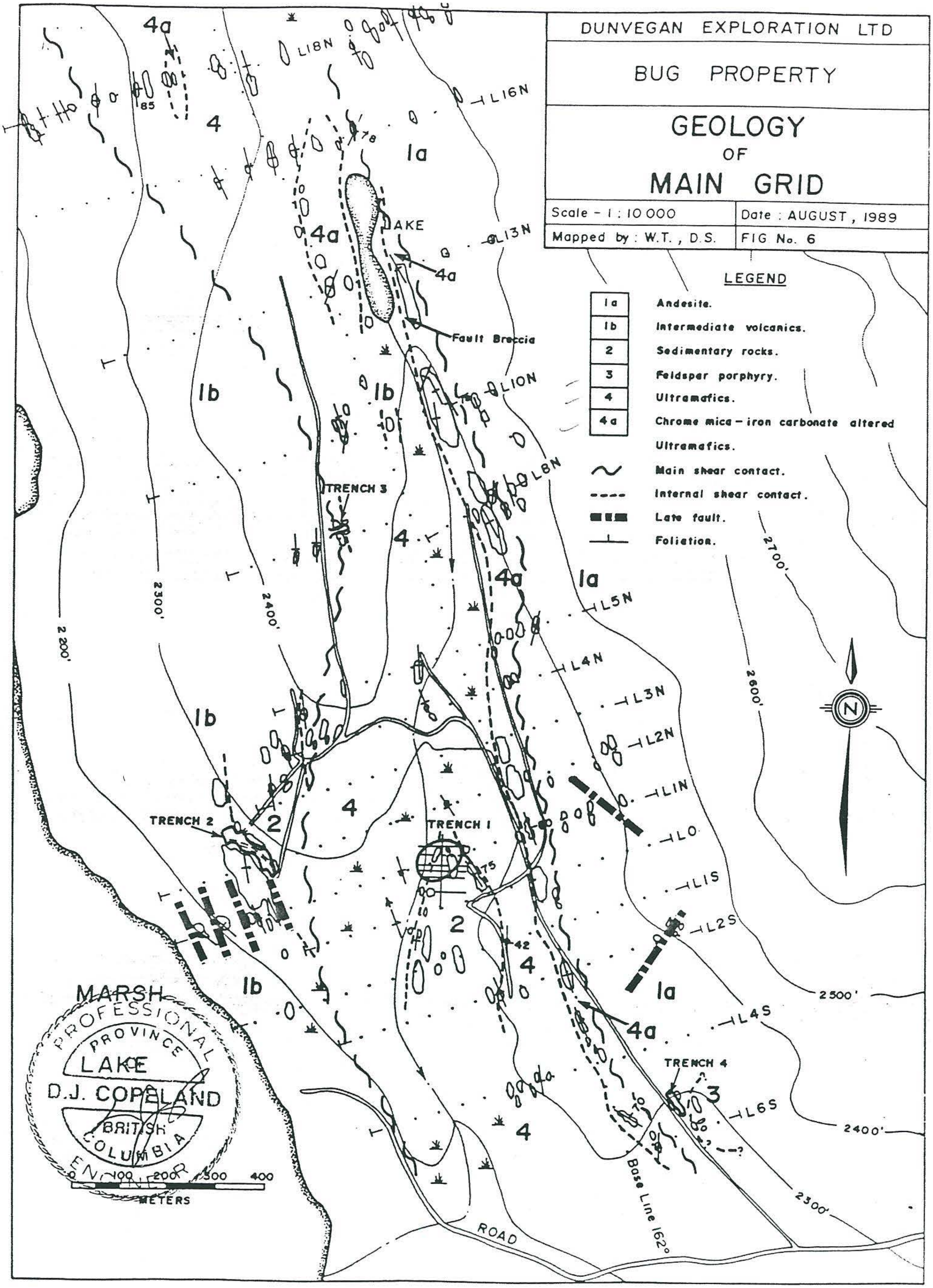
Lithologies

The geology of the area mapped by W. Taylor and D. Shaw is illustrated in Figure 6. The dominant geological trend is north-northwest/south-southwest.

All units are structurally emplaced with vertical to subvertical, sharp tectonic contacts. An exception to this may be the contact between units 1b and 2, where sedimentary rocks and volcanic rocks appear to be intercalated along the western margins of the claims.

Unit 1a

Rocks of unit 1a are comprised of grey, medium grained, andesitic tuffs and flows which contain abundant white plagioclase feldspar phenocrysts. In some areas the rock is sufficiently fine grained to be termed basalt. Outcrops occur in a series of prominent ridges striking NNW which appear to have been formed as a result of block faulting. These rocks are generally massive and lack strong foliation.


DUNVEGAN EXPLORATION LTD
BUG PROPERTY
GEOLOGY OF MAIN GRID
Scale - 1 : 10 000
Date : AUGUST, 1989
Mapped by : W.T., D.S.
FIG No. 6
LEGEND
1a Andesite.
1b Intermediate volcanics.
2 Sedimentary rocks.
3 Feldspar porphyry.
4 Ultramafics.
4a Chrome mica - iron carbonate altered Ultramafics.
Main shear contact.
Internal shear contact.
Late fault.
Foliation.
LAKE
Fault Breccia
TRENCH 1
TRENCH 2
TRENCH 3
TRENCH 4
L18N
L16N
L13N
L10N
L8N
L5N
L4N
L3N
L2N
L1N
L0
L1S
L2S
L4S
L6S
Base Line 162°
ROAD
2200'
2300'
2400'
2500'
2600'
2700'
N
0 100 200 300 400
METERS
PROFESSIONAL PROVINCE
D.J. COPELAND
BRITISH COLUMBIA
MARSH LAKE

Unit 1b

Clastic volcanics of unit 1b, occur on the western margin of the property and appear to be more intermediate in composition, than unit 1a. These are mostly tuffaceous, medium to fine grained volcanics that have a green colour due to regional, greenschist facies metamorphism. Unaltered, grey, basaltic material outcrops in the middle of trench 2 (Figure 6) but this may be a later dyke. Unit 1b is defined by prominent ridges and although generally massive in texture, locally there is a strong foliation developed and banding with fine grained, dark grey, shaly material is common.

Unit 2

Unit 2 is composed of clastic rocks which outcrop in two known areas on the property; northeast of trench 2, and the area surrounding trench 1 (Figure 6). In both areas these rocks have structural contacts with the serpentinized peridotite. Unit 2 is predominantly sedimentary with minor intercalated clastic volcanics and is important in that it hosts the gold mineralization near shear contacts associated with quartz-iron carbonate alteration. Northeast of trench 2, graphitic shales, sandstones, grits, cherts, conglomerates, mudstones and minor limestone occur which become progressively sheared toward the contact with the ultramafic rock. At trench 1, the sedimentary rocks are bounded to the west and east by ultramafic rocks (Figure 6). Along the eastern boundary of trench 1, grits and shales exhibit graded bedding with younging to the east (Figure 8), whilst in the middle of the trench, conglomerates do not show the same degree of shearing as in the area northeast of trench 2, but are strongly brecciated and silicified with up to 5% pyrite (Figure 8). Iron carbonate, chrome mica rich rocks surrounding this brecciated conglomerate in trench 1, show strong shear banding and altered volcanic lenses intercalated with the sedimentary rocks often have gouge contacts (Figure 8). Such structures are important channels for the anomalous gold mineralization.

Unit 3

Unit 3 is a medium to coarse grained, feldspar porphyry that outcrops to the northeast of trench 4 (Figure 6). The matrix is grey to buff in colour, and contains subhedral feldspar phenocrysts and irregular shaped quartz crystals. In places it appears tuffaceous and the spatial distribution of this unit is not clearly understood.

Unit 4

Unit 4 is dark green to black peridotite which is variably serpentinized, usually close to fault contacts. Weathered surfaces are orange-brown and pyroxene crystals show a positive relief. In places silica sweats have been exsolved along fractures, giving the appearance of quartz veins.

Alteration

The distinctive alteration of the ultramafic units is a very noticable feature on the BUG property. Unit 4A is a yellowish-green, schistose rock composed of quartz, dolomite, talc, limonite and chrome mica (Figure 6). This type of rock is formed by carbon dioxide rich fluids passing through ultramafic rocks and the term 'Listwaenite', is used by Russian geologists to describe similar carbonate rocks which occur along the borders of Alpine-type ultramafic massifs (Buisson and Leblanc, 1985). In this report, these rocks have been called chrome mica, iron carbonate altered ultramafics. The alteration zone is up to 50 metres wide and is marked by prominent orange weathered cliffs, continuous over a distance of 2.4 kilometres from 6+00S to 18+00N. This strong alteration feature is open to the south and north of the grid (Figure 6).

A fault breccia borders the eastern edge of the alteration zone, 100 metres east of the baseline near 13+00N, here, light grey, sub-angular fragments occur within a quartz-carbonate matrix, the quartz is often vuggy in form. Chalcedonic textures and crosscutting veinlets of silica may represent a late stage silicification of the altered ultramafics.

White talcose alteration often occurs between peridotites (unit 4) and chrome mica, iron carbonate altered ultramafics (unit 4A) where silica alteration is depleted.

The alteration on either side of the brecciated conglomerate and volcanic lenses in trench 1, suggests shearing has mobilized much of the silica, as chrome mica rich, pyritic rocks are strongly foliated in a north-south direction with lenses of quartz concordent to the fabric. The presence of pyrite within this zone suggests that gold mineralization is nearby, and at Zone B (Figure 6), anomalous gold mineralization is found within rocks of this nature.

TOG Claims

The geology of the TOG property is illustrated in Figure 7. The rock units are divided into four main categories and two main alteration categories. All lithological contacts are thought to be tectonic, however, an exception to this is where cherts (unit 2) may be intercalated with basaltic rocks (unit 1).

Unit 1

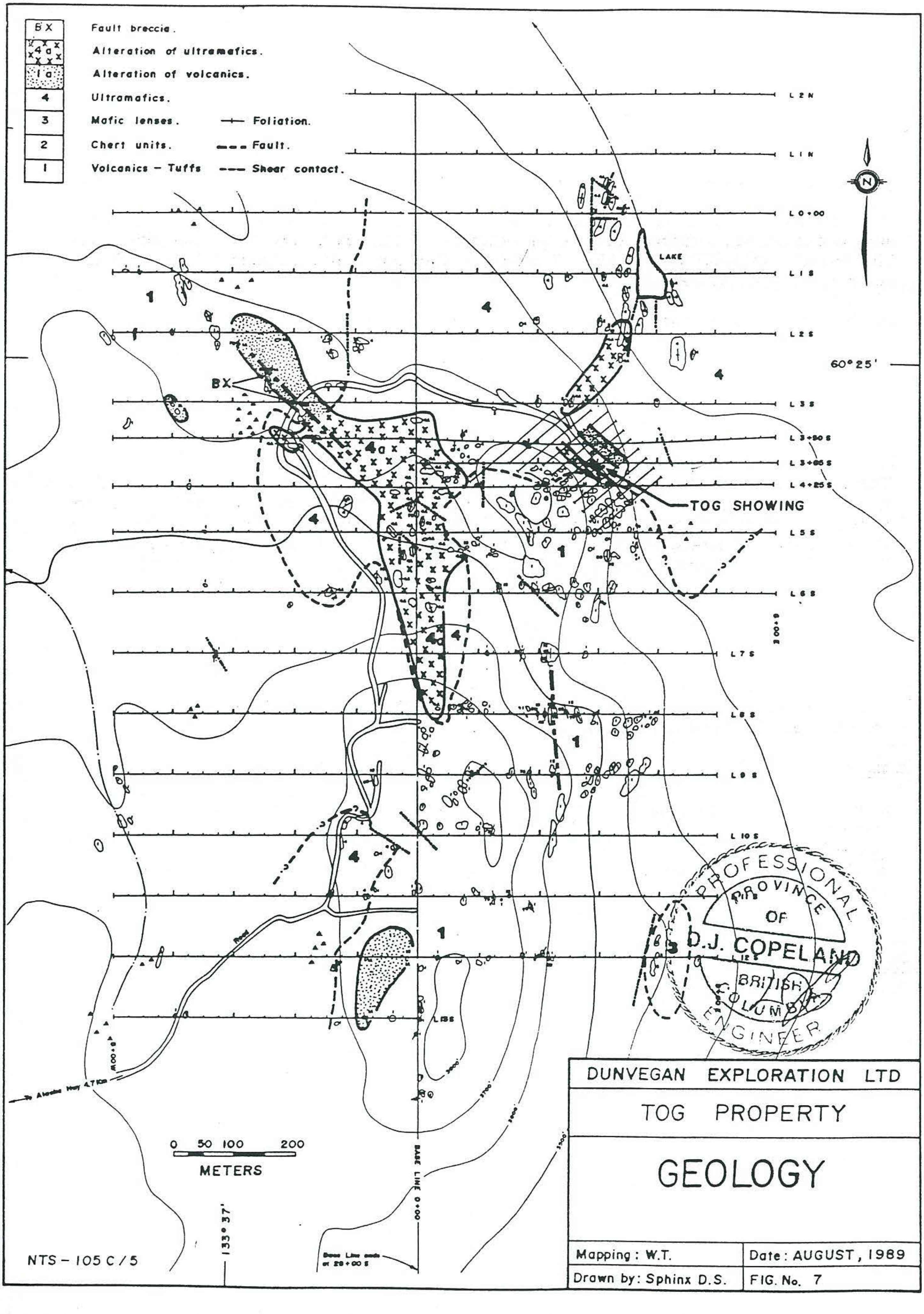
Most of the area is overlain by light green (greenschist facies), fine grained, volcanics. Both tuffs and flows are recognized, with remnant white feldspar crystals evident in the medium grained volcanics. These rocks are generally massive with a well developed conjugate joint fracture system, although in some areas strong foliation has occured, eg. at 8+00S 3+00E, chloritic and talcose foliation is well developed and quartz occurs as boudins and sweats, with elongation parallel to this foliation.

Unit 2

Black, banded cherts occur in localized areas, eg. at 2+00S 3+00E, where a chert subcrop is strongly folded. Elsewhere the cherts often occur as lensoid ribbons or boudins, within volcanics.

Unit 3

Unit 3 consists of mafic lenses of gabbro, diorite and pyroxenite, exhibiting chloritic alteration. Where hornblende crystals can be distinguished, the rock appears dioritic. At 3+00S 1+25E a dioritic rock is strongly pyritized (with cubes of pyrite up to 4mm).


BX Fault breccia.
4a Alteration of ultramafics.
1a Alteration of volcanics.
4 Ultramafics.
3 Mafic lenses.
2 Chert units.
1 Volcanics – Tuffs
Foliation.
Fault.
Shear contact.
L 2 N
L 1 N
L 0+00
L 1 S
L 2 S
L 3 S
L 3+50 S
L 3+85 S
L 4+25 S
L 5 S
L 6 S
L 7 S
L 8 S
L 9 S
L 10 S
LAKE
BX
TOG SHOWING
60° 25'
133° 37'
Road
BASE LINE 0+00
0 50 100 200
METERS
NTS – 105 C/5
DUNVEGAN EXPLORATION LTD
TOG PROPERTY
GEOLOGY
Mapping : W.T.
Date: AUGUST, 1989
Drawn by: Sphinx D.S.
FIG. No. 7
PROFESSIONAL
PROVINCE OF
D.J. COPELAND
BRITISH COLUMBIA
ENGINEER

Unit 4

Peridotites and related ultramafics cover the central portion of the grid and are in close proximity to the main showing (Figure 6). Coarse, crystalline, peridotites occur near the small lake at 1+00S 4+00E where large pyroxene crystals (averaging 0.5cm in diameter) that weather to a brown colour, are contained within a black, fine-grained, groundmass. Adjacent to tectonic contacts, the peridotites are strongly serpentinized, and foliated.

Alteration

The TOG property displays a strong lithological alteration halo (Figure 7) as represented by two alteration types:

(a) 1A - where volcanic rocks and cherts have been carbonatized and show subsequent silica flooding, as seen in the footwall of the main showing where volcanic tuffs have been carbonatized to graphite across a surface width of at least 85 metres and unknown strike length.

(b) 4A - the more extensive chrome mica rich, carbonatization of the ultramafic rocks, that has occured with silicification and sulphide mineralization. This is seen in the hanging wall of the main showing, across a surface width of 10 metres and of undetermined strike length.

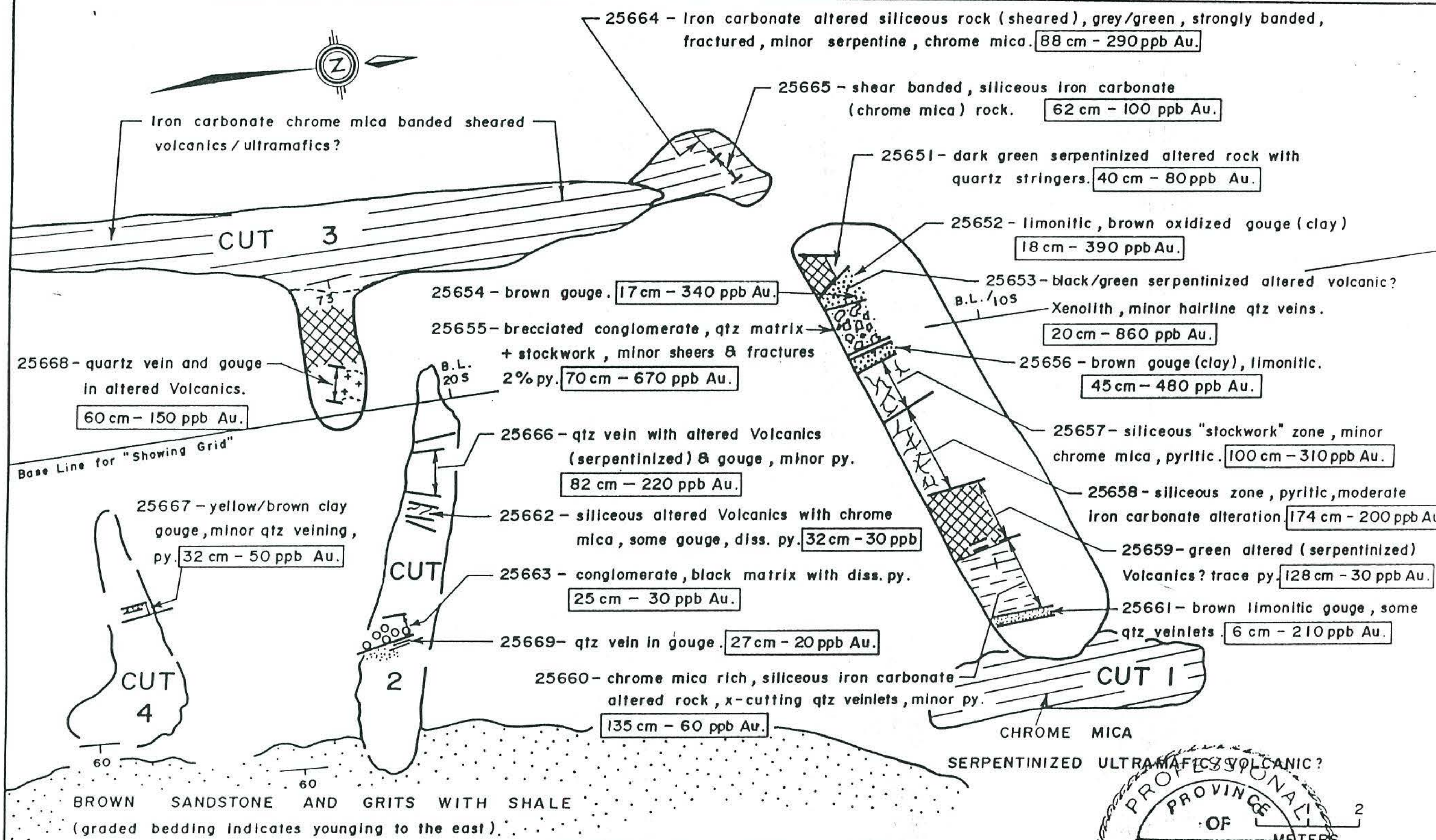
Similar alteration zones can be traced for several hundreds of metres and have a width of at least 150 metres (Figure 7). The outline of these zones is less well defined than on the BUG property, because of the more complex structural setting, and the lack of outcrop on much of the grid. In addition a northwest striking, silicified fault breccia zone, between altered serpentinites to the south, and altered volcanics and cherts to the north, hosts angular chert and volcanic fragments within a silica flooded matrix. This zone can be traced along strike for 75 metres, crosses the road at 3+00S 2+00W and is parallel to the northwest trending structure hosting the gold mineralization at the showing.

MINERALIZATION

Mineralization on both the BUG and TOG properties occurs adjacent to bounding structures associated with tectonically emplaced ultramafic bodies that have been carbonatized and locally enriched in silica. The mineralized veins appear to be strongly structurally controlled by faults and/or shears (S.B. Ballantyne, written communication, August 18, 1989 in appendix).

BUG Property

The mineralization on the BUG property is hosted by a wedge of intercalated sediments and volcanics within the main shear structure (Figure 6). It is these rocks exposed in trench 1, which are silica rich and are consistantly anomalous in gold over a surface width in excess of 11 metres (Figure 8). Altered volcanic and shear banded, chrome mica-iron carbonate



DUNVEGAN EXPLORATION LTD

BUG PROPERTY

SYSTEMATIC CHIP SAMPLING OF TRENCH I (SHOWING)

Sampling by: W.T., M.M.
Scale - 1 : 100

Date: AUGUST, 1989
Drawn by: Sphinx Drafting Services

FIG. 8

TABLE 2
ASSAY RESULTS AND SAMPLE DESCRIPTIONS BUG PROPERTY TRENCH #1

Date	Location	Sample No.	Width	Description	Au (ppb) unless indicated in oz/ST	Remarks
3/7/89	Cut 1	25651	40cm chip	Serpentinized, dark green volcanic/ultramafic. Quartz stringers.	80	1042 ppm As
3/7/89	Cut 1	25652	18cm chip	Limonitic brown oxidized clay rich gouge.	390	0.6 ppm Ag 781 ppm As
3/7/89	Cut 1	25653	20cm chip	Volcanic xenolith, serpentinized black/green colour. Hairline quartz veins.	860	1.1 ppm Ag 452 ppm As 115 ppm Zn
3/7/89	Cut 1	25654	17cm chip	Brown gouge, clay rich.	340	0.6 ppm Ag 374 ppm As
3/7/89	Cut 1	25655	70cm chip	Brecciated conglomerate quartz matrix and stockwork. Minor shears and fractures. 2% py.	670	1.2 ppm Ag 594 ppm As
3/7/89	Cut 1	25656	45cm chip	Tan/brown gouge, limontic/clay.	480	
3/7/89	Cut 1	25657	100cm chip	Siliceous 'stockwork' zone. Minor chrome mica, py.	310	1.1 ppm Ag
3/7/89	Cut 1	25658	174cm chip	Siliceous zone, moderate iron carbonate alteration, py.	200	0.6 ppm Ag
3/7/89	Cut 1	25659	128cm chip	Green, altered (serpentinized) volcanic, trace py.	30	0.4 ppm Ag 1188 ppm As
3/7/89	Cut 1	25660	135cm chip	Chrome mica rich, siliceous iron carbonate altered rock. X-cutting quartz veinlets, minor py.	60	1.1 ppm Ag 1005 ppm As
3/7/89	Cut 1	25661	6cm chip	Brown limonitic gouge. Some quartz veinlets.	210	0.6 ppm Ag 1046 ppm As
3/7/89	Cut 2	25662	32cm chip	Siliceous altered volcanic with chrome mica. Some gouge. Diss py.	30	1.1 ppm Ag 724 ppm As
3/7/89	Cut 2	25663	25cm chip	Conglomerate. Black matrix with diss py.	30	0.6 ppm Ag
3/7/89	West end of Cut 1	25664	88cm chip	Iron carbonate altered siliceous volcanic/ultramafic. Sheared and fractured. Minor serpentine, chrome-mica.	290	1.2 ppm Ag
3/7/89	West end of Cut 1	25665	62cm chip	Shear-banded, siliceous iron carbonate (chrome mica). Volcanic?	100	2.6 ppm Ag 1062 ppm As
3/7/89	West end of Cut 2	25666	82cm chip	Quartz vein with altered volcanic (serpentinized) and gouge. Minor py.	220	1.1 ppm Ag
3/7/89	Cut 4	25667	32cm chip	Gouge, yellow/brown colour. Clay rich, minor quartz veining, py.	50	
3/7/89	Cut 3	25668	60cm chip	Quartz vein and gouge in altered volcanic.	150	
3/7/89	Cut 2 east of 25663	25669	27cm chip	Quartz vein in gouge.	20	
3/7/89		25680	Blasted Float fist size	Brecciated conglomerate. Black matrix, volcanic clasts (intermediate compostion). Cross-cutting quartz veinlets. Abundant py along fractures and coating, quartz flooded fragments.	1030	1.2 ppm Ag 912 ppm As
3/7/89		25681	Blasted Float	Same as 25680	0.010 oz/ST.	
3/7/89		25682	Blasted Float	Black volcanic breccia. Siliceous rounded volcanic/quartzile fragments abundant py.	580	1.4 ppm Ag 667 ppm As

TABLE 2
ASSAY RESULTS AND SAMPLE DESCRIPTIONS BUG PROPERTY TRENCH #1 (Cont'd)

Date	Location	Sample No.	Width	Description	Au (ppb)	Remarks
3/7/89		25683	Blasted Float	Quartz vein - white/grey colour. Chlorite/limonite/ /clay alteration. Volcanic remnants. Fine diss py.	0.005 oz/ST.	
3/7/89		25684	Blasted Float	Siliceous, black/volcanic/ ultramafic. Chrome mica & epidote alteration. Black/ grey/green colour, py.	60	818 ppm As
3/7/89		25685	Blasted Float	Brecciated quartz conglomerate. clasts up to 4cm. Matrix poor (black) with abundant py.	590	1.2 ppm Ag 558 ppm As
3/7/89		25686	Blasted Float	Siliceous, clay altered volcanic - grey/yellow colour. Diss py.	180	
9/7/89		25693	Blasted Float 75cm chip taken 90° to elongation of fragments.	Brecciated conglomerate, black matrix, volcanic clasts (intermediate composition). Very siliceous, quartz veinlets. Abundant py.	0.02 oz/ST.	
9/7/89	28W 60S (small grid)	25694	45cm chip (Subcrop)	Brecciated altered ultramafic. Chrome mica and chlorite alteration. Silicified with py.	100	530 ppm As
3/8/89		25862	Blasted Float	Brecciated conglomerate. Dark green matrix. Light grey siliceous fragments, slightly serpentinized. Quartz veinlets. Diss py mostly in matrix.	740	
3/8/89		25863	Blasted Float	Same as 25863 with more silica veinlets. Crosscutting the fabric.	940	

TABLE 3
ASSAY RESULTS AND SAMPLE DESCRIPTIONS BUG PROPERTY ZONE B

#4

Date	Location	Sample No.	Width	Description	Au (ppb)	Remarks
9/7/89	26W 60S Zone B	25695	Selective Grab (Subcrop)	Quartz flooded, grey/white/tan coloured altered ultramafic. Chrome mica/epidote py.	810	225 ppm As
9/7/89	28W 56S Zone B	25696	Selective Grab (Subcrop)	Silica rich, altered ultramafic. Chrome mica. Minor py.	100	269 ppm As
9/7/89	32W 60S Zone B	25697	Selective Grab (Subcrop)	Silica rich altered ultramafic, strongly foliated. Chrome mica/chlorite & minor py.	370	571 ppm As

material is weakly pyritic and also anomalous. The highest gold anomalies occur within a silica flooded, brecciated conglomerate which returned assay values up to 1030 ppb gold, in contrast to a gold background level of less than 20 ppb on samples taken from the three other trenches on the property (Figure 6). Where the gold values are found to be anomalous it is generally the case that arsenic and silver values are also anomalous (Table 2 and 3). Visible sulphides, other than pyrite, are rare.

Three selective grab samples of pyritic, silica rich, iron carbonate altered, ultramafic rocks from a subcrop location; Zone B (Figure 6), 50 meters along strike and southwest of trench 1, all returned anomalous gold values of up to 810 ppb (Table 3). A northeasterly trending lineament that lies parallel to, and in the vicinity of the two zones was detailed by geophysical (VLF) surveying (Figure 12).

<u>TOG Property</u>

A zone of sheared, massive quartz veining and quartz-carbonate alteration occurs at the faulted contact between a sequence of volcanic tuffs and cherts (footwall) with ultramafic rocks (hangingwall). The zone strikes northwest/southeast and dips towards the southwest at 45 degrees; in the area of the showing it attains a width of 8 metres with pervasive pyritic silicification extending at least another 2 metres into the hanging wall to the southwest. The massive quartz vein is structurally below the zone of quartz-carbonate chrome mica alteration and has been segmented by numeous through-going shear fractures, the majority of which are graphitic. These fractures are the structural host for coarse, visible gold mineralization in association with malachite, azurite, pyrite, galena and sphalerite.

Visible gold was recognized in thirteen samples over a strike length of 26 metres and across a true width of 5 metres. Assay values up to 41.482 oz./ton gold were recorded from selected grab samples and up to 2.119 oz./ton gold over 0.46 metres from chip samples (Figure 9, Table 4). It should be noted that many of the samples that returned high values of gold were also highly anomalous with regard to silver content, with values greater than 50 ppm (beyond detection limit of assaying equipment). Whilst individual widths over which the visible gold mineralization occurs is not large, there is a consistency to the occurrence of gold along the exposed strike length of the structure (Figure 9). In addition the visible gold mineralization is not limited to one shear fracture within the main zone; there are in excess of 8 individual mineralized graphitic, shear fractures over a true width of 5 metres (Figure 9). The very high grade gold values have been obtained where shear fractures are in contact (either hangingwall or footwall), with a massive, buff weathered, calc-silicate unit containing disseminated pyrite and chrome mica (Figure 9). This unit is possibly a highly altered dyke that has been sheared into the main vein structure. It attains widths up to 0.5 metres and is seen within at least four structural horizons (Figure 9).

Aside from the 26 metres of high grade visible gold mineralization defined, the continuation of this gold mineralization is still untested along strike because bedrock is covered by a light layer of soil and blasted rock debris.

Quartz vein subcrop has been mapped 40 metres to the southeast of the main showing and in excess of 80 metres to the northwest to give a strike length minimum of 120 metres (Figure 13). The zone of carbonatization on surface is estimated to be at least 85 metres wide and that silicification is at least 10 metres wide within this zone.

There is thus, definite potential to extend the zone along strike, in both directions, and down dip. Furthermore in the area of the showing, VLF conductors have been correlated with graphitic horizons which are conformable with the mineralized horizon and can be traced along strike over 140 metres (Figure 13).

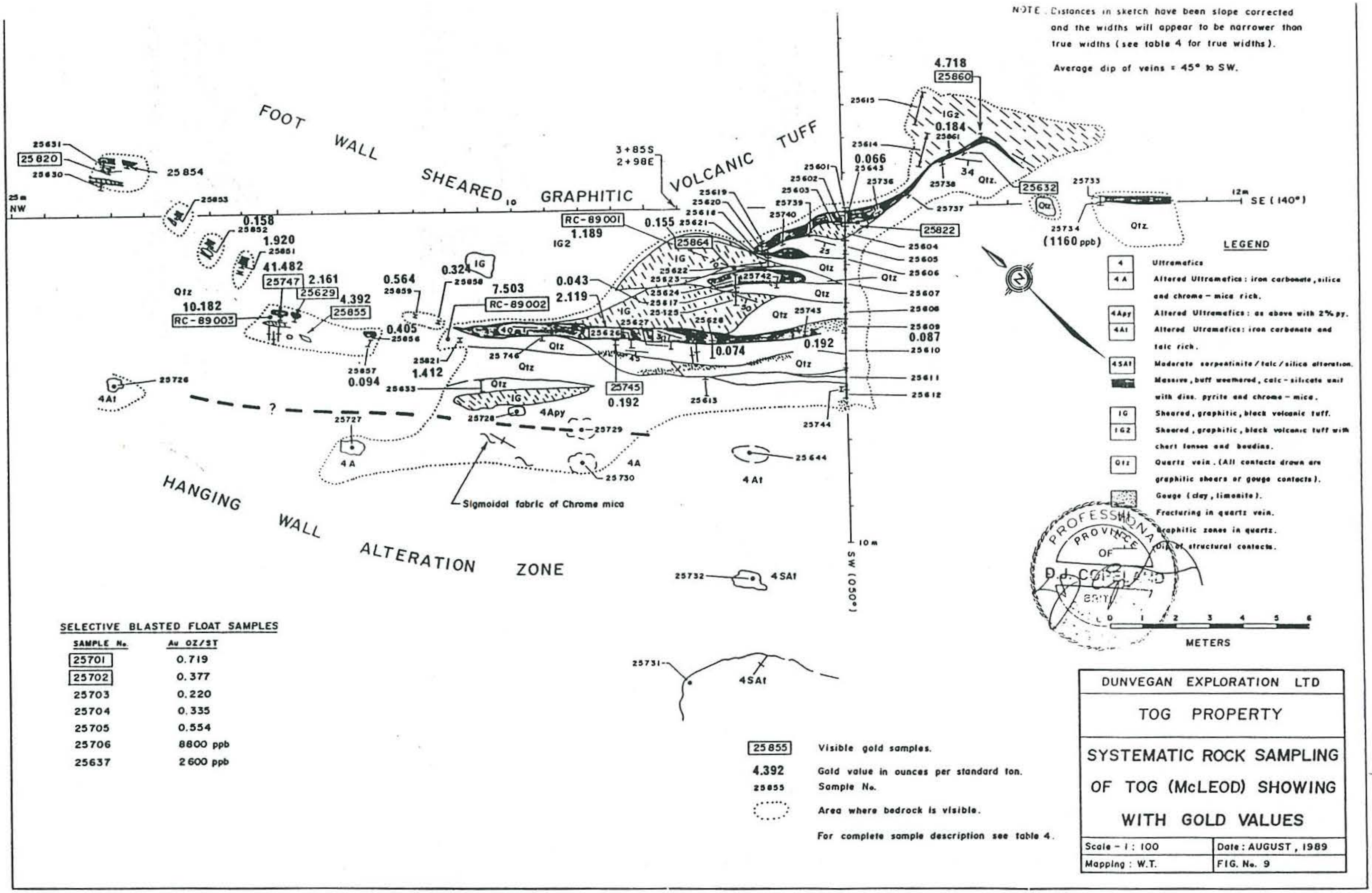

NOTE. Distances in sketch have been slope corrected and the widths will appear to be narrower than true widths (see table 4 for true widths).
Average dip of veins = 45° to SW.
FOOT WALL SHEARED GRAPHITIC VOLCANIC TUFF
HANGING WALL ALTERATION ZONE
25m NW
SE (140°)
SW (050°)
3+85S 2+98E
RC-89001
RC-89002
RC-89003
Sigmoidal fabric of Chrome mica
LEGEND
4 Ultramafics
4A Altered Ultramafics: iron carbonate, silica and chrome-mica rich.
4Apy Altered Ultramafics: as above with 2% py.
4At Altered Utramafics: iron carbonate and talc rich.
4SAt Moderate serpentinite/talc/silica alteration.
Massive, buff weathered, calc-silicate unit with diss. pyrite and chrome-mica.
IG Sheared, graphitic, black volcanic tuff.
IG2 Sheared, graphitic, black volcanic tuff with chert lenses and boudins.
Qtz Quartz vein. (All contacts drawn are graphitic shears or gouge contacts).
Gouge (clay, limonite).
Fracturing in quartz vein.
Graphitic zones in quartz.
Dip of structural contacts.
METERS
SELECTIVE BLASTED FLOAT SAMPLES
SAMPLE No. Au OZ/ST
25701 0.719
25702 0.377
25703 0.220
25704 0.335
25705 0.554
25706 8800 ppb
25637 2600 ppb
25855 Visible gold samples.
4.392 Gold value in ounces per standard ton.
25855 Sample No.
Area where bedrock is visible.
For complete sample description see table 4.
DUNVEGAN EXPLORATION LTD
TOG PROPERTY
SYSTEMATIC ROCK SAMPLING OF TOG (McLEOD) SHOWING WITH GOLD VALUES
Scale - 1 : 100
Date: AUGUST, 1989
Mapping: W.T.
FIG. No. 9

TABLE 4
ASSAY RESULTS AND SAMPLE DESCRIPTIONS TOG PROPERTY SHOWING

Date	Location	Sample No.	Width	Description	Au (oz/ST) unless indicated in ppb	Remarks
31/7/89		25701	Blasted Float	Quartz vein, graphitic, vuggy, Dogtooth quartz crystal inter-growth. Gal, mal, az, cpy.	0.719	VISIBLE GOLD 49.1 ppm Ag 3447 ppm Cu >20,000 ppm Pb 5610 ppm Zn 1512 ppm Sb 434 ppm Cd
31/7/89		25702	Blasted Float	Quartz vein, graphitic, Dogtooth quartz crystal inter-growth. Gal, mal, az, cpy. Reassayed	10000 ppb 0.377	VISIBLE GOLD >50.0 ppm Ag 88.1 ppm Cd 4031 ppm Cu 5788 ppm Pb 10548 ppm Zn 1524 ppm Sb
31/7/89		25703	Blasted Float	Quartz vein, graphitic, cpy, gal, py, mal, az.	0.220	50 ppm Ag 1349 ppm Cu 687 ppm Pb 950 ppm Zn
31/7/89		25704	Blasted Float	Same as 25703. Reassayed	10,000 ppb 0.335	>50.0 ppm Ag 24.2 ppm Cd 1670 ppm Cu 544 ppm Pb 1696 ppm Zn 190 ppm Sb
31/7/89		25705	Blasted Float	Quartz vein with 2-5% mal, az, 1% gal, cpy, py.	0.554	>50 ppm Ag 3547 ppm Cu >20,000 ppm Pb 1615 ppm Zn 1554 ppm Sb 32.2 ppm Cd
31/7/89		25706	Blasted Float	sames as 25705	8800 ppb	>50.0 ppm Ag 259 ppm As 38.9 ppm Cd 4351 ppm Cu 12964 ppm Pb 1767 ppm Zn 1221 ppm Sb
31/7/89		25707	Blasted Float	Bull Quartz. Some Limonite, trace py, cpy.	0.005	3.4 ppm Ag 127 ppm Cu 430 ppm Pb 726 ppm Zn
31/7/89		25708	Blasted Float	Same as 25707.	30 ppb	
1/8/89	10SW 33NW	25725	Grab	Siliceous chrome mica iron carbonate, diss py.	20 ppb	
1/8/89	5SW 22NW	25726	Grab	Sheared chrome mica iron carbonate rock. Serpentine, talc-epidote alteration.	n.d.	
1/8/89	7SW 15NW	25727	Grab	Iron carbonate altered ultramafic, talc, quartz banding, minor chrome mica. Light green colour.	n.d.	
1/8/89	6.5SW 10NW	25728	Grab	Very siliceous chrome mica rich iron carbonate. Diss py. Light green colour.	n.d.	
1/8/89	6.5SW 8NW	25729	Grab	Siliceous chrome mica rich iron carbonate, grey/green colour. Diss py.	n.d.	
1/8/89	7.5SW 8NW	25730	Grab	Siliceous iron carbonate, some foliation.	n.d.	
1/8/89	14SW 5NW	25731	Grab	Serpentinite above altered hanging wall.	20 ppb	
1/8/89	11SW 3NW	25732	Grab	Sheared serpentinite some talc.	n.d.	

TABLE 4
ASSAY RESULTS AND SAMPLE DESCRIPTIONS TOG PROPERTY SHOWING (Cont'd)

Date	Location		Sample No.	Width	Description	Au (oz/ST)	Remarks
1/8/89	B.L.	8SE	25733	Grab (30 cm)	Massive volcanic (footwall of Quartz veins). Fractured with quartz veinlets, cpy, py in fractures. diss py up to 5%.	40 ppb	
1/8/89	B.L.	8SE	25734	Selective Grab	Quartz vein with limonitic weathered out py. (H.W. of 25733)	1160 ppb	6.8 ppm Ag 1511 ppm Pb 580 ppm Zn 210 ppm Cu
1/8/89	10.5SW	14-5SE	25735	Grab	Serpentinized ultramafic.	n.d.	
2/8/89	B.L.	1.25SE	25736	Chip 11 cm	Quartz vein, dogtooth crystal intergrowth. Gal, trace mal.	0.120	28.7 ppm Ag 395 ppm cu 1529 ppm Pb 476 ppm Zn
2/8/89	0.75NE (1m ESE of 25736)	2SE	25737	7cm chip	Quartz vein. Same as 27536 but more massive and more mal.	0.033	31.5 ppm Ag 283 ppm Cu 1468 ppm Pb 1260 ppm Zn
2/8/89	1.2NE	3SE	25738	5cm chip	Quartz vein, py, gal, sph. H.W. of massive cal silicate horizon.	0.005	
2/8/89	1NW	1SW	25739	13cm chip	Quartz vein dogtooth crystal intergrowth. Graphitic banding. Gal, mal, az, py, lim.	0.005	
2/8/89	1SW	1.9NW	25740	6cm chip	Quartz vein in F.W. of massive calc silicate abundant gal, some py minor mal.	0.006	
2/8/89	45cm ESE of 25616		25741	27cm chip	Quartz vein graphitic bands. Py, mal in-between 2 lenses of massive volcanic.	0.009	
2/8/89	30 cm SW of 25741		25742	14cm chip	Quartz vein graphitic bands. Very coarse gal, py, mal. cpy.	0.005	
2/8/89	3.75SW	1.3NW	25743	16cm chip	Quartz vein - fractured vuggy. Coarse gal, mal, py.	0.192	>50 ppm Ag 1271 ppm Cu >20,000 ppm Pb 183 ppm Sb 939 ppm Zn
2/8/89	B.L. 5.3 SW		25744	Selective grab	Quartz vein near iron carbonate hanging wall. Lim, py?	0.005	
2/8/89	40cm WNW of 25626		25745	18cm chip	Quartz vein, graphitic bands. Au, mal, py, gal, cpy. Massive calc silicate in F.W.	n.d.	COARSE, VISIBLE GOLD. 9.8 ppm Ag 228 ppm Cu 1586 ppm Pb 1332 ppm Zn
2/8/89	9NW (220cm NW of 25745)	3.75SW	25746	20cm chip	Quartz vein abundant gal. some py.	0.005	3.5 ppm Ag 61.8 ppm Cd 773 ppm Pb 7655 ppm Zn 808 ppm Sb
2/8/89	17NW (0.5m NNW of 25629)	3SW	25747	Selective grab of equi-dimensional block 8cm wide x 8cm x 8cm.	Quartz vein with graphitic banding sheared volcanics in H.W., pyritic calc silicate in F.W.	41.482	COARSE, VISIBLE GOLD. > 50 ppm Ag 7128 ppm Pb 3938 ppm Zn
2/8/89			25749	Blasted Float	Highly siliceous - serpentinized rock. Black/light green colour. Large py cubes.	n.d.	

TABLE 4
ASSAY RESULTS AND SAMPLE DESCRIPTIONS TOG PROPERTY SHOWING (Cont'd)

Date	Location	Sample No.	Width	Description	Au (oz/ST)	Remarks
13/7/89	B.L. 0.10SW Line 0	25601	10cm chip	Quartz vein. Grey colour, with py.	0.005	6.1 ppm Ag 259 ppm Cu 682 ppm Pb 377 ppm Zn
13/7/89	0.20 0.48SW Line 0	25602	28cm chip	Massive calc silicate unit.	0.005	1.5 ppm Ag 266 ppm As 139 ppm Cu 185 ppm Pb 433 ppm Zn
3/7/89	0.50 0.58SW Line 0	25603	8cm chip	Quartz vein stockwork of veinlets py minor az, mal.	0.001	
3/7/89	0.58 1.00SW Line 0	25604	36cm chip	Black sheared volcanics/gouge & quartz veinlets striking NNW.	0.005	1.6 ppm Ag 240 ppm As 242 ppm Zn
3/7/89	1.00 1.40SW Line 0	25605	70cm chip	Quartz vein,minor graphitic bands and lenses.	0.005	
13/7/89	1.40 1.80SW Line 0	25606	36cm chip	Quartz vein - grey stock - work of veinlets with py.	0.005	
13/7/89	1.80 2.60SW Line 0	25607	120cm chip	Quartz vein. Fractured graphitic banding across 25cm of sample.	0.005	
13/7/89	2.60 3.45 Line 0	25608	100cm chip	Quartz vein (bull).	0.006	
13/7/89	3.45 3.60 Line 0	25609	29cm chip	Orange sandy gouge, some black volcanics.	0.087	3.2 ppm Ag 108 ppm Cu 427 ppm Pb 10.1 ppm Cd 2022 ppm Zn
13/7/89	3.60 4.75SW Line 0	25610	125cm chip	Quartz vein. Fractured cemented gouge. py.	0.008	1.2 ppm Ag 111 ppm Pb 141 ppm Zn
13/7/89	4.75 5.43SW Line 0	25611	67cm chip	Quartz vein. Fractured. Some graphitic banding.	0.005	
13/7/89	5.43 5.65SW Line 0	25612	50cm chip	Green, orange, yellow sandy gouge.	0.005	
13/7/89	4NW 5.5SW	25613	160cm chip	Highly siliceous iron carbonate altered ultramafic with chrome mica. Diss py.	0.005	
13/7/89	2m East of B.L. and Line 0	25614	116cm chip	Sheared graphitic black volcanic - quartz veinlets py.	0.013	
13/7/89	East of 25614 (in contact with)	25615	130cm chip	Sheared graphitic black volcanic. Quartz veinlets with py.	0.005	5.5 ppm Ag 126 ppm Cu 647 ppm Pb 291 ppm As 417 ppm Zn
13/7/89	2SW 2NW	25616	10cm chip	Quartz vein with graphitic banding. Au, py, az, mal. Sinuous vein with massive calc silicate in F.W. and sheared volcanic in H.W.	0.028	VISIBLE GOLD. 2.2 ppm Ag 2271 ppm Zn 309 ppm Pb 15.1 ppb Cd
		25864		Reassayed	0.155	
15/7/89	1m west of 25616	25617	20cm chip	Quartz vein. Az, mal, py, gal. Sheared volcanics in H.W. massive calc silicate in F.W.	0.043	25.9 ppm Ag 410 ppm Cu 3396 ppm Pb 405 ppm Zn
15/7/89	0.5 NE of 25616	25618	26cm chip	Quartz vein, near sheared volcanics, some yellow gouge Minor py.	0.01	17.5 ppm Ag 238 ppm As 560 ppm Pb 658 ppm Zn 171 ppm Cu

TABLE 4
ASSAY RESULTS AND SAMPLE DESCRIPTIONS TOG PROPERTY SHOWING (Cont'd)

Date	Location		Sample No.	Width	Description	Au (oz/ST)	Remarks
15/7/89	2.5NW	1.05SW	25619	9cm chip	Quartz vein. Py, gal, cpy, sph. Dip 35°SW	0.005	10.8 ppm Ag 17.8 ppm Cd 1617 ppm Pb 3520 ppm Zn
15/7/89	Between 25618 and 25619		25620	25cm chip	Massive calc silicate elongate mafic crystals, epidote bleached. Diss py.	0.005	0.8 ppm Ag 136 ppm Pb 889 ppm Zn 254 ppm As
15/7/89	Between 25616 and 25618		25621	20cm chip	Massive calc silicate unit micro veinlets of quartz in fractures. py up to 5%.	0.01	1.6 ppm Ag 295 ppm As 166 ppm Pb 653 ppm Zn
15/7/89	Hanging wall above 25616		25622	22cm chip	Hanging wall, black, sheared, graphitic volcanics. Yellow sulphur staining.	0.005	1.3 ppm Ag 210 ppm Pb 460 ppm Zn
15/7/89	Hanging wall above 25622		25623	6cm chip	Quartz vein. Gal, py. Massive calc silicate in H.W. Sheared volcanics in F.W.	0.006	6.8 ppm Ag 1034 ppm Pb 162 ppm Zn
15/7/89	Footwall of 25617		25624	20cm chip	Iron carbonate altered ultramafic, silica flooded. Abundant py.	0.031	19.2 ppm Ag 600 ppm Cu 3339 ppm Pb 1368 ppm Zn
15/7/89	3NW	3SW	25625	100cm chip	Sheared black volcanics (H.W. of vein) Minor quartz veinlets with minor py.	0.005	0.9 ppm Ag 193 ppm Zn
15/7/89	7NW	4SW	25626	46cm chip	Quartz vein. Gal, py, mal, az. Sulphides more enriched near massive calc silicate F.W.	2.119	VISIBLE GOLD. 38.9 ppm Ag 18.6 ppm Cd 998 ppm Cu 5983 ppm Pb 1837 ppm Zn
15/7/89	2m SE OF 25626		25627	23cm chip	Quartz vein. Mal, az, minor py. Massive calc silicate in F.W. bull quartz in H.W.	0.076	14.9 ppm Ag 523 ppm Cu 2326 ppm Pb 2333 ppm Zn
15/7/89	160cm SE from 25627		25628	60cm chip	Quartz vein. Fractured and powdery. Mal and az. Massive calc silicate in F.W., gouge and bull quartz in H.W.	0.074	3.7 ppm Ag 365 ppm Pb 244 ppm Zn
15/7/89	16NW	3SW	25629	20cm chip	Quartz vein. Au, cpy, py, az, mal. Massive calc silicate footwall.	2.161	VISIBLE GOLD. 24.5 ppm Ag 421 ppm Cu 8004 ppm Pb 5496 ppm Zn 29.9 ppm Cd
17/7/89	22NW	1.1NE	25630	27cm chip	Quartz vein, graphitic. Mal, az, py, cpy bands. Massive calc silicate footwall.	0.011	0.7 ppm Ag 177 ppm Pb 115 ppm Zn
17/7/89	22NW	1.5NE	25631	38cm chip	Quartz vein with some gouge some massive calc silicate. Minor py, mal?	0.006	0.8 ppm Ag 711 ppm Ni 101 ppm Zn
17/7/89	3.7SE	2NE	25632	10cm chip	Quartz vein. Mal, az, py, gal. Massive calc silicate in F.W.	0.006	VISIBLE GOLD. 26.9 ppm Ag 136 ppm Cu 3609 ppm Pb
17/7/89	5.5SW	11NW	25633	55cm chip	Quartz vein, grey/white. Limonitic clusters.	0.005	

TABLE 4
ASSAY RESULTS AND SAMPLE DESCRIPTIONS TOG PROPERTY SHOWING (Cont'd)

Date	Location	Sample No.	Width	Description	Au (oz/ST)	Remarks
30/7/89		25637	Blasted Float	Quartz vein - fractured graphitic banding. Py, mal, az, tetra?	2600 ppb	> 50.0 ppm Ag 694 ppm Cu 189 ppm Zn
30/7/89		25638	Blasted Float	Very siliceous iron carbonate chrome mica altered ultramafic 'Stockwork' of quartz veinlets. Py.	6 ppb	1.3 Ag 1173 As
30/7/89		25639	Blasted Float	Same as 25638	0.005	
30/7/89		25640	Blasted Float	Other half of 25639.	10 ppb	1 ppm Ag 651 ppm As
30/7/89		25641	Blasted Float	Quartz vein with graphitic banding fractured. Py, mal, az, tetra?	0.030	
30/7/89		25642	Blasted Float	Quartz vein with graphitic banding, limonitic clusters, vuggy cavities mal.	0.012	
30/7/89	B.L. Line 0	25643	Selective Grab	Massive calc silicate unit. Lath like mafic crystals. Fractured and bleached light green. Veinlets of quartz in fractures with py and cpy. Diss py. Buff colour weathering.	0.066	
30/7/89	7.5SW 3NW	25644	Grab	Talc/serpentine altered ultramafic. Moderately siliceous. Foliated.	20 ppb	0.9 ppm Ag 361 ppm As
3/8/89	18.1NW 1.65W	25851	Selective Grab	Quartz vein with graphitic bands. Coarse gal, py. Massive calc silicate in F.W. sheared volcanics in H.W.	1.920	14.9 ppm Ag 5928 ppm Pb 350 ppm Zn
3/8/89	19NW 15W (105cm NNW of 25851)	25852	Selective Grab	Quartz vein with graphitic bands. Vuggy, limonitic. Aggregates of gal, minor py, trace mal.	0.158	19.2 ppm Ag 252 ppm Cu 822 ppm Pb 10243 ppm Zn
3/8/89	B.L. 20NW	25853	Selective Grab	Quartz vein graphitic bands. Trace mal, py - limonite.	0.025	2.1 ppm Ag 200 ppm Pb 200 ppm Zn
3/8/89	21.5NW 1.6NE	25854	Selective Grab	Quartz vein - sweat, trace py. Some rusty iron carbonate in sample.	0.018	
3/8/89	95cm South of 25747	25855	Selective Grab	Quartz vein graphitic and and fractured with coarse gal. Dip 45° SW. Massive calc silicate in F.W.	4.392	VISIBLE GOLD. 18.7 ppm Ag 2652 ppm Pb 1609 ppm Zn
3/8/89	14.25NW 3.3SW	25856	Selective Grab	Quartz vein with dogtooth crystal intergrowth. Abundant gal, mal, az, cpy, py. Massive calc silicate at F.W.	0.405	50 ppm Ag 16.7 ppm Cd 2394 ppm Cu 16006 ppm Pb 1334 ppm Zn
3/8/89	14.25NW 3.3SW	25857	25cm chip	Quartz vein with graphitic banding. Trace mal, gal, py.	0.094	7.9 ppm Ag 1594 ppm Pb 590 ppm Zn
3/8/89	225cm SSE from 25857	25858	Selective Grab	Quartz vein, with graphitic bands. Some vuggy cavities. Gal, mal, cpy, minor py.	0.324	21.7 ppm Ag 19.6 ppm Cd 6239 ppm Pb 3488 ppm Zn 370 ppm Cu
3/8/89	73cm NNW of 25858	25859	Selective Grab	Same as 25858.	0.564	31.7 ppm Ag 728 ppm Cu 5408 ppm Pb 3496 ppm Zn 32.2 ppm Cd
3/8/89	4.25SE 2.10NE	25860	Selective Grab	Quartz vein with graphitic banding Trace py, cpy, massive calc silicate in H.W., sheared volcanic in F.W.	4.718	VISIBLE GOLD. 31.7 ppm Ag

TABLE 4
ASSAY RESULTS AND SAMPLE DESCRIPTIONS TOG PROPERTY SHOWING (Cont'd)

Date	Location	Sample No.	Width	Description	Au (oz/ST)	Remarks
3/8/89	110cm NW of 25860	25861	Selective Grab	Quartz vein with graphitic banding. Trace py, cpy, massive calc silicate in H.W., sheared volcanic in F.W.	0.184	5.3 ppm Ag 1054 ppm Pb
19/7/89	2;NW B.L.	25820	Selective Grab	Quartz vein with gal, py, cpy. Reassayed	0.005 0.036	VISIBLE GOLD 0.8 ppm Ag
19/7/89	11.8NW 4SW	25821	Selective Grab	Quartz vein at F.W of massive calc silicate. Gal, cpy, py, mal, az.	1.412	> 50 ppm Ag 22.8 ppm Cd 6818 ppm Cu > 20000 Pb Sb 2000 ppm Zn 1138 ppm
19/7/89	0.8 metres south B.L. Line 0	25822	Selective Grab	Quartz vein. Au, cpy, py, mal az. Reassayed	0.005 0.023	VISIBLE GOLD 1.2 ppm Ag 517 ppm Pb
19/7/89	40NW 8SW	25836	Grab	Black-sheared graphitic volcanic with quartz veins. Trace mal. Yellow sulphur staining.	260 ppb	1.3 ppm Ag 157 ppm Pb 412 ppm Zn
15/7/89	3NW 1.85SW	RC-89001	Selective Grab	Quartz vein, graphitic bands. Gal, py.	1.189	VISIBLE GOLD.
15/7/89	12NW 4SW	RC-89002	Selective Grab	Quartz vein at F.W. of massive calc silicate. Gal, cpy, py, mal, az.	7.503	COARSE VISIBLE GOLD.
15/7/89	30cm NW of sample 25747	RC-89003	Selective Grab	Quartz vein with graphitic bandings. Sheared volcanics in H.W. Massive, pyritic calc silicate in F.W.	10.182	COARSE VISIBLE GOLD.

GEOCHEMISTRY

All geochemical analysis was performed by Vangeochem Lab. Ltd. in Vancouver, B.C.

Rock Geochemistry

Rock samples were collected on the BUG and TOG properties by W. Taylor and M. Moore (Geological Assistant). R. Clark (Secretary of Dunvegan Exploration Ltd.) took 3 samples (RC89001, RC89002 and RC89003) in the presence of W. Taylor on the TOG showing. Rocks on the BUG and TOG properties were analysed by gold metallics (+140 mesh and -140 mesh) or by Fire Assay (AAS finish on a 20g sample). A description of the technique involved is included in the appendix. A total of 53 rock samples were analysed on the BUG property and 160 rock samples on the TOG property. Analytical sheets for pertinent samples collected are included in the Appendix.

BUG

The significant geochemical results on the BUG property are documented in Table 2 and 3. These include all samples taken from Trench 1 (Figure 8), those samples taken from Zone B (Figure 12) are documented in Table 3. Multi element (I.C.P.) analysis shows that higher gold values generally give elevated levels of silver, arsenic and to some extent zinc (Table 2 and 3).

TOG

The significant geochemical results on the TOG property are documented in Table 4. These include all samples taken from the TOG showing. Multi element (I.C.P.) analysis shows that high gold values at the TOG showing are associated with elevated levels of silver, zinc, cadmium, galena, copper and sometimes arsenic and antimony (Table 4). There appears to be a stronger arsenic-gold correlation on the BUG showing than on the TOG showing (Table 3 and Table 4).

Soil Geochemistry

The geochemistry of 162 soil samples collected on the BUG property and 453 samples from the TOG which were analysed for gold and 25 element I.C.P., proved to be inconclusive. Poor soil development and quality, due to a light cover of glacial till, permafrost and the high frequency of swampy ground may explain this. Because of the association of zinc with the higher gold values on both properties in rock geochemistry, zinc 100 ppb may be a weak pathfinder, however, no geostatistics has been done to confirm this idea.

On the PHIL property, four soils, two silts and two pan concentrate samples were collected. The 1987 510 ppb gold soil anomaly of G. Davidson was resampled and returned insignificant gold values. However, visible gold was discovered in the silt by W. Taylor and M. Moore whilst panning in the north part of the PHIL-4 claim unit (Figure 3). A 30g panned concentrate of this material analysed for gold by Fire Assay (AAS finish) returned 1630 ppb gold, reflecting the potential for gold mineralization in the region.

GEOPHYSICS

Orientation VLF/EM and magnetometer surveys were conducted on the BUG and TOG properties. More detailed studies were completed over the main showings on both claim groups (see Figures 10 and 11).

These techniques have been useful in outlining mineralized structures on the Golden Bear Deposit (Muddy Lake) of North American Metals. On the BUG and TOG claims these methods were employed to define boundaries of major structures and to delineate any secondary structures within these zones that may be important with respect to hosting precious metal mineralization.

The magnetometer surveys were used principally to outline geological units and in particular magnetite depleted listwaenite alteration zones which are characterized by discrete magnetic lows. The VLF/EM proved useful in outlining shear and or graphitic horizons. The result of these surveys summarized below and are more completely discussed in a detailed geophysical report submitted to the company in July 1989 (Steele, 1989).

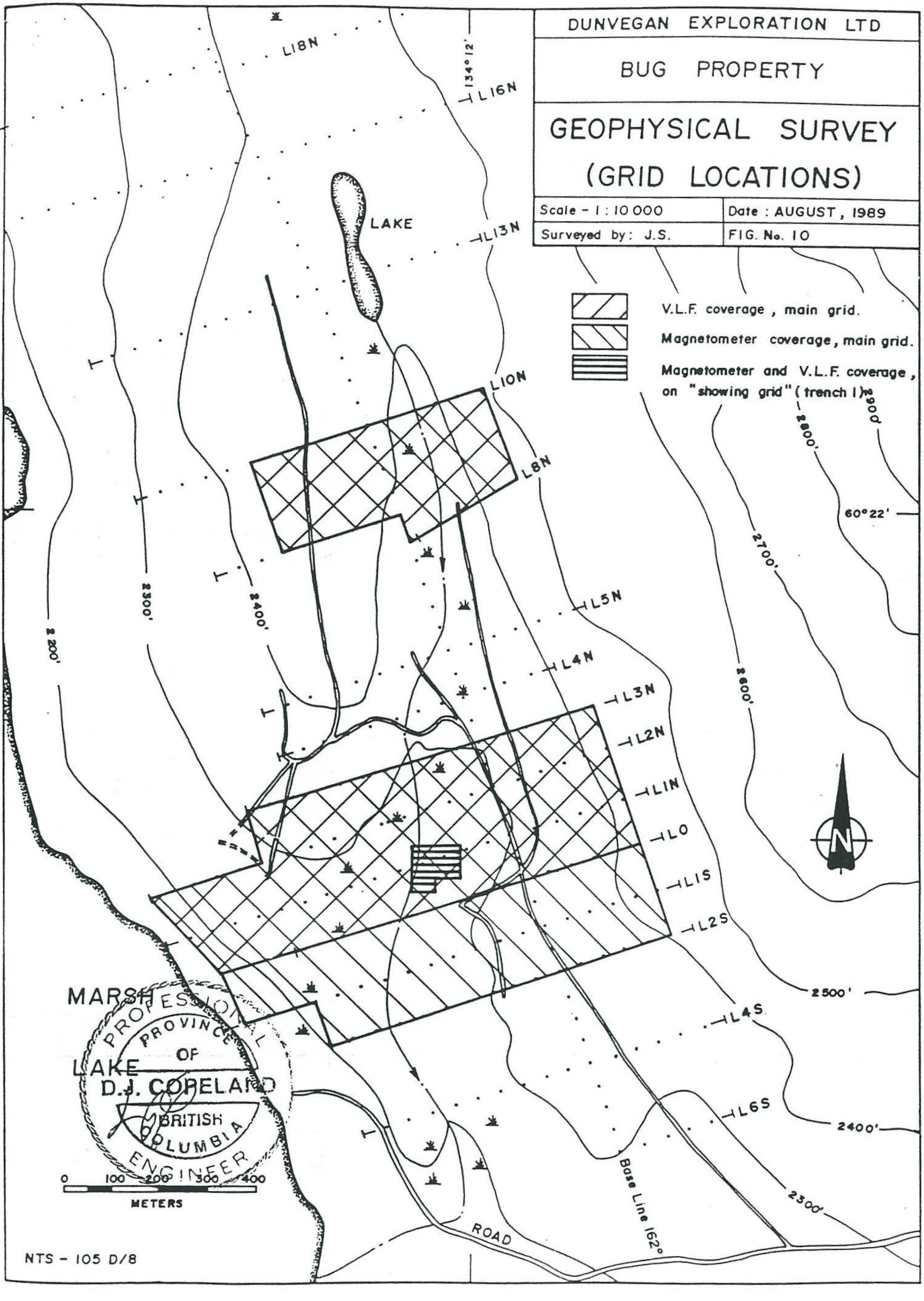
BUG Claims

Magnetometer surveys on the BUG were successful in delineating the contacts between serpentinized ultramafics and a volcanic-sedimentary package. Magnetic lows were found to coincide with zones of alteration and are often bounded by VLF/EM conductors. In the area of the main showing a magnetic low is centred within higher magnetics to the west, north and east and is bounded on the east and west by north south trending VLF/EM conductors (Figure 12). The conductors are interpreted to represent shears marginal to alteration zones and may extend along strike for up to 1800m to the north. The magnetic low/alteration zone has returned values of up to 1030 ppb gold. In addition, a weak northeast trending conductor can be traced in the vicinity of the main showing and Zone B where values of up to 810 ppb gold are associated with altered rocks (Figure 12).

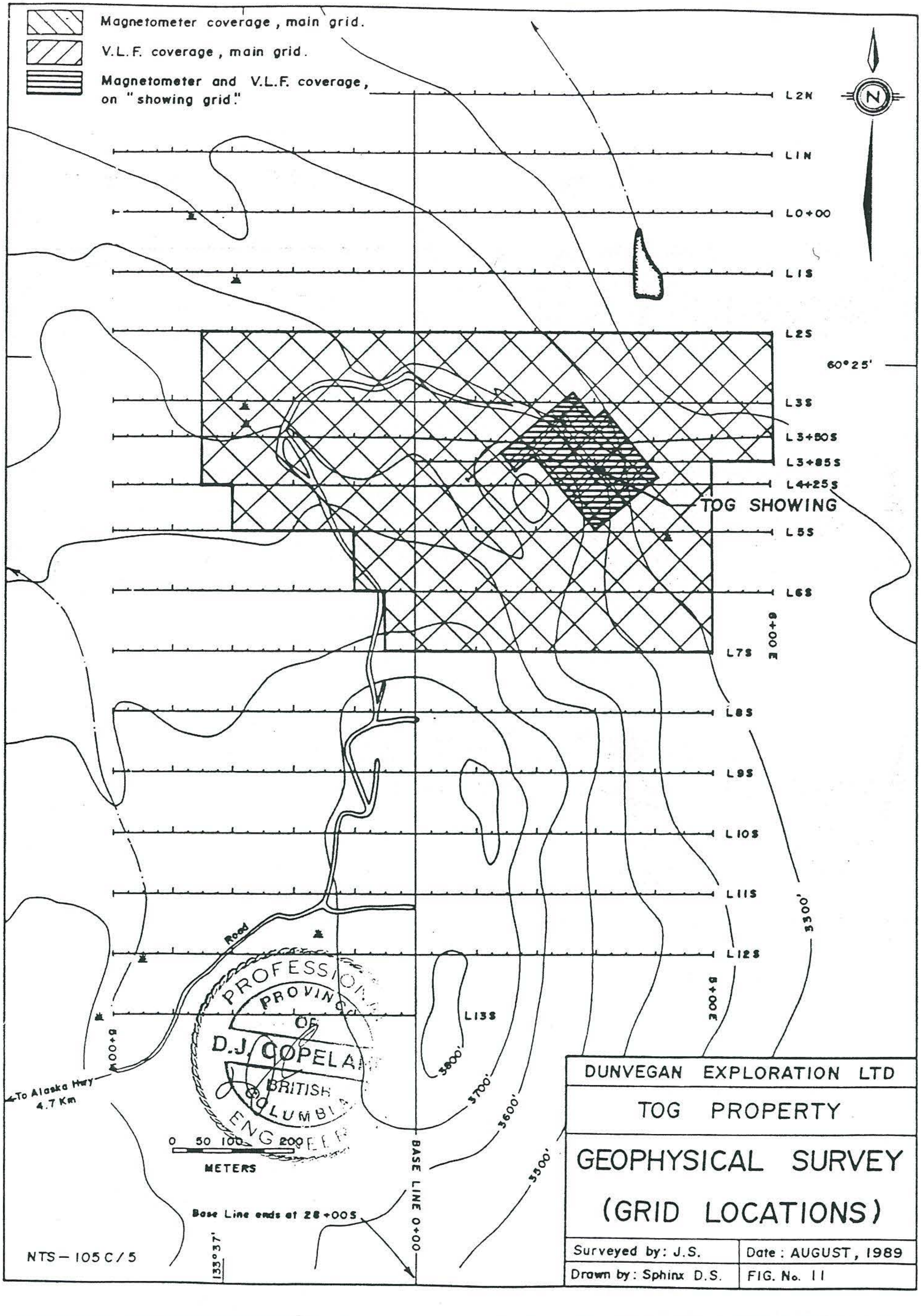
TOG Claims

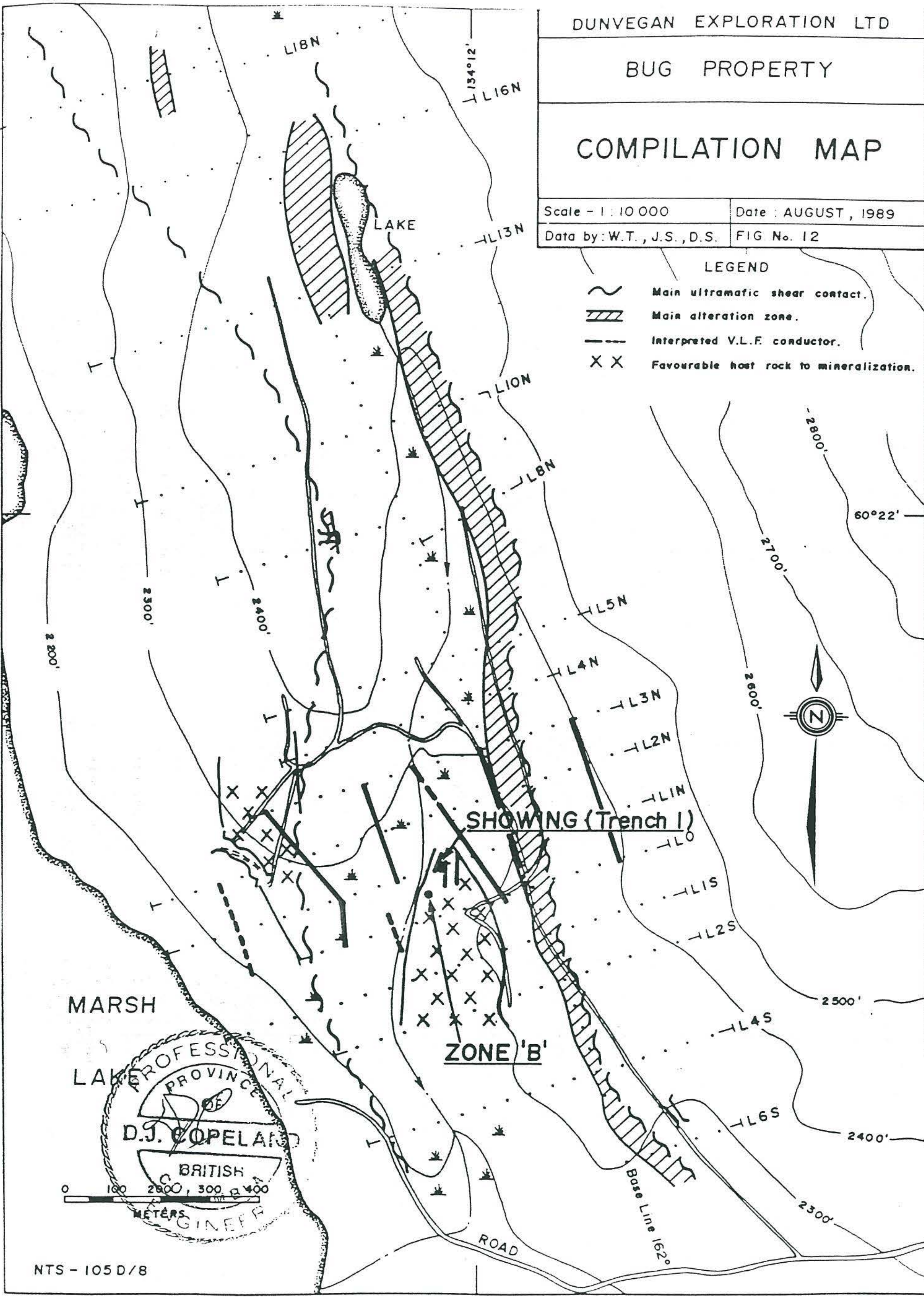
Similar to the BUG claims, the magnetometer surveys are useful in delineating geological units, in particular magnetic lows are found to be associated with alteration zones. Several VLF/EM conductors are interpreted to represent shears, faults and/or graphitic horizons.

The magnetic signature over the showing was poorly defined. One main northwest trending VLF/EM conductor and one or more secondary VLF/EM conductors however, have been outlined near the main zone of gold mineralization. The main conductor has been correlated with a graphitic horizon, which lies marginal to the hanging wall of the mineralized quartz bearing structure (Figure 13). This has been traced under overburden for 140 metres from 1+00NW to 0+40SE through the main showing. It is open to the southeast. In addition, weak isolated VLF/EM conductors lie along the footwall trace of the gold bearing quartz vein structure (Figure 13).



DUNVEGAN EXPLORATION LTD
BUG PROPERTY
GEOPHYSICAL SURVEY
(GRID LOCATIONS)
Scale - 1 : 10 000
Date : AUGUST, 1989
Surveyed by: J.S.
FIG. No. 10
V.L.F. coverage, main grid.
Magnetometer coverage, main grid.
Magnetometer and V.L.F. coverage, on "showing grid" (trench I)
L18N
L16N
L13N
L10N
L8N
L5N
L4N
L3N
L2N
L1N
L0
L1S
L2S
L4S
L6S
134°12'
60°22'
LAKE
MARSH LAKE
2200'
2300'
2400'
2500'
2600'
2700'
2800'
2900'
Base Line 162°
ROAD
N
0 100 200 300 400
METERS
NTS - 105 D/8
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
D.J. COPELAND


Magnetometer coverage, main grid.
V.L.F. coverage, main grid.
Magnetometer and V.L.F. coverage, on "showing grid."
L2N
L1N
L0+00
L1S
L2S
L3S
L3+50S
L3+85S
L4+25S
L5S
L6S
L7S
L8S
L9S
L10S
L11S
L12S
L13S
TOG SHOWING
60°25'
3300'
3500'
3600'
3700'
3800'
Road
To Alaska Hwy 4.7 Km
0 50 100 200
METERS
BASE LINE 0+00
Base Line ends at 28+00S
NTS – 105 C/5
133°37'
DUNVEGAN EXPLORATION LTD
TOG PROPERTY
GEOPHYSICAL SURVEY
(GRID LOCATIONS)
Surveyed by: J.S.
Date: AUGUST, 1989
Drawn by: Sphinx D.S.
FIG. No. 11
PROFESSIONAL PROVINCE OF D.J. COPELAND BRITISH COLUMBIA ENGINEER


DUNVEGAN EXPLORATION LTD
BUG PROPERTY
COMPILATION MAP
Scale - 1: 10 000
Date : AUGUST, 1989
Data by: W.T., J.S., D.S.
FIG No. 12
LEGEND
Main ultramafic shear contact.
Main alteration zone.
Interpreted V.L.F. conductor.
X X Favourable host rock to mineralization.
L18N
L16N
L13N
L10N
L8N
L5N
L4N
L3N
L2N
L1N
L0
L1S
L2S
L4S
L6S
134°12'
60°22'
LAKE
2200'
2300'
2400'
2500'
2600'
2700'
2800'
2300'
2400'
2500'
SHOWING (Trench 1)
ZONE 'B'
MARSH
LAKE
ROAD
Base Line 162°
0 100 200 300 400
METERS
NTS - 105D/8
PROFESSIONAL
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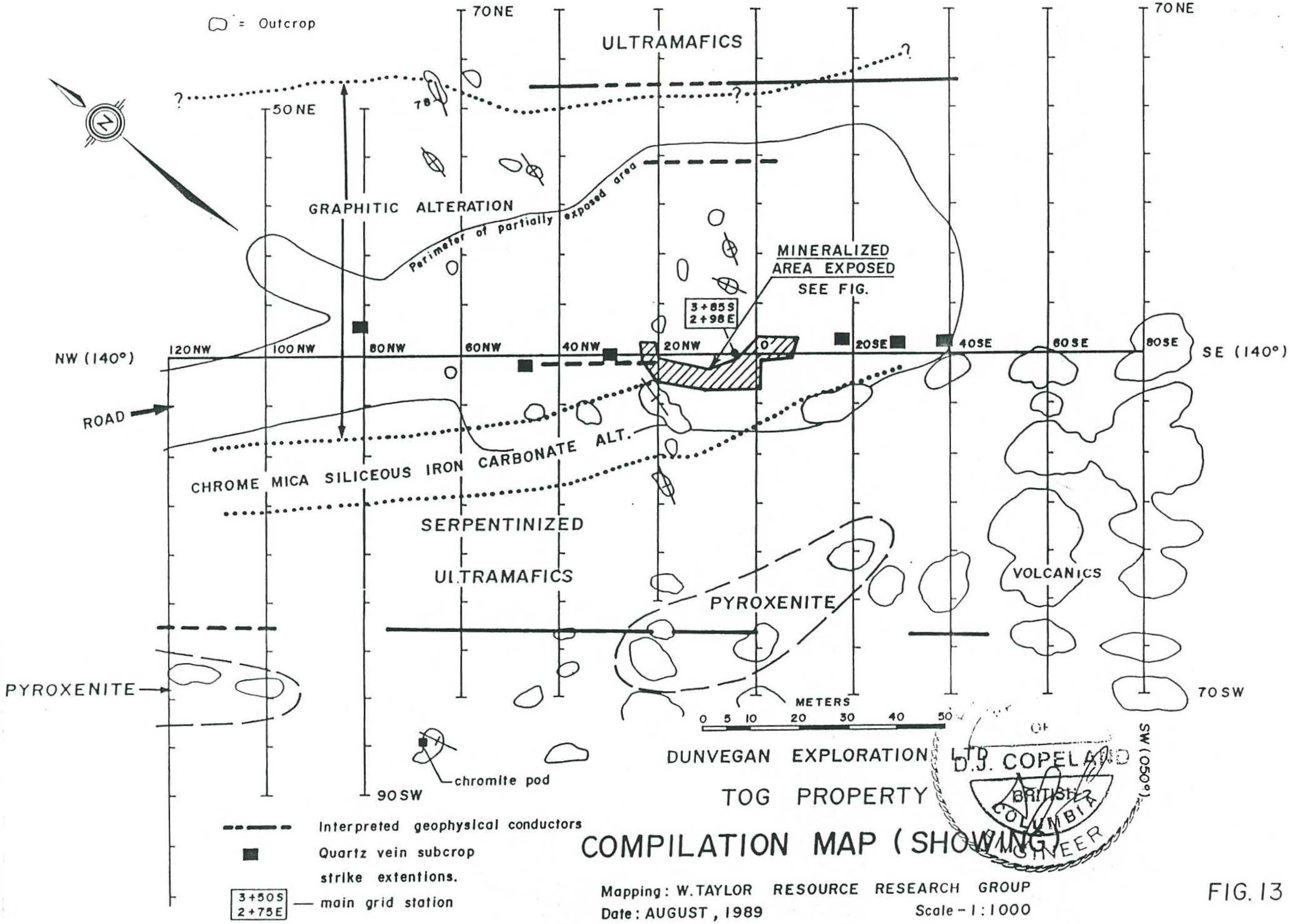
COLUMBIA
ENGINEER


= Outcrop
70NE
70NE
50NE
ULTRAMAFICS
78
GRAPHITIC ALTERATION
Perimeter of partially exposed area
MINERALIZED AREA EXPOSED
SEE FIG.
3+85S
2+98E
NW (140°)
120NW
100NW
80NW
60NW
40NW
20NW
0'
20SE
40SE
60SE
80SE
SE (140°)
ROAD
CHROME MICA SILICEOUS IRON CARBONATE ALT.
SERPENTINIZED
ULTRAMAFICS
PYROXENITE
VOLCANICS
PYROXENITE
70SW
90SW
METERS
0 5 10 20 30 40 50
SW (050°)
chromite pod
DUNVEGAN EXPLORATION LTD.
TOG PROPERTY
COMPILATION MAP (SHOWING)
Interpreted geophysical conductors
Quartz vein subcrop
strike extentions.
3+50S
2+75E
main grid station
Mapping: W. TAYLOR RESOURCE RESEARCH GROUP
Date: AUGUST, 1989
Scale - 1:1000
BRITISH COLUMBIA
FIG. 13

CONCLUSIONS

It is the opinion of the writers that further exploration is definately warranted on the BUG and TOG properties for the following reasons:

BUG Property

Anomalous gold mineralization across a surface width of at least 11 metres has been indentified at the site of trench 1. Siliceous, brecciated conglomerate with pyrite returned gold values of up to 1030 ppb during the 1989 exploration program.

A second zone of anomalous gold mineralization has been identified 50 metres to the southwest: 'Zone B', where values of gold up to 810 ppb, have been obtained from quartz flooded 'listwaenitic' rocks near the sedimentary rock contact.

These two areas combined, represent a favourable exploration target of at least 50 metres strike length.

The gold mineralization has been shown to be the result of the occurence of a favourable host rock (coarse clastic sediments and volcanics) within a major shear zone.

Geophysical surveying has shown that similar prospective structures and host lithologies may be defined elsewhere on the property and that certain conductors can be correlated with mineralized zones, as is the case at Trench 1. A strong continuous 'listwaenitic' alteration zone with carbonitization and silicification attaining a width of 50 metres is presently recognized along the whole length of the main shear zone with a strike length of 2.4 km, which is untested to the north, south and also at depth. Areas of low geophysical magnetic response which correspond with interpreted conductors within the main shear zone should provide prospective exploration targets on a property scale.

The geological situation is very similar to that described in the Atlin Gold camp.

TOG Property

Very high grade, visible gold mineralization has been recognized at the showing on the property, gold assay values up to 41.482 oz/ton have been obtained. This style of gold mineralization is similar to the Motherlode district in California U.S.A. where very high grade 'pocket' bonanza concentrations of gold are seen in veins.

The zone of quartz veining that hosts visible gold mineralization (across a true width of 5 metres and a known strike length of 26 metres, within the presently exposed bedrock), is defined by numerous through going graphitic shears, suggesting strong structural controls to gold mineralization.

Geophysical surveying has detected conductors at the showing, suggesting mineralization may continue along strike for at least 140 metres.

The altered carbonatized zone of the TOG showing attains a width of 85 metres, with silicification and sulphide mineralization over a width of at least 10 metres, suggesting a fairly large hydrothermal system is responsible. Both the gold mineralized zone and this alteration zone are untested at depth.

The structural setting and type of alteration seen at the showing is also evident at other locations on the property, the main such location is a northwest trending zone 600m west of the showing. Prospective alteration zones may be detected geophysically.

The structures, geology, extensive listwaenitic alteration, and type of gold mineralization found, is very similar to the gold mineralization in the Atlin Camp where gold quartz veins are structurally controlled by faults and or shears adjacent to ultramafic bodies.

RECOMMENDATIONS AND COST ESTIMATES

BUG Property

Phase 1:

Establish an accurate grid on which to conduct further detailed geophysical surveying. Using geophysics to identify and define additional zones within the shear structure that exhibit a similar geophysical character to that displayed in the area of Trench 1 and Zone B. Conduct backhoe trenching program to expose bedrock at Zone B and in the area between Trench 1 and Zone B. Once exposed the bedrock should be systematically sampled. Extend the trenching program to any new areas identified as a result of the geophysical survey.

Phase 2:

Contingent upon positive results from the Phase 1 program, a diamond drill program should be implemented to test the outlined mineralized zones at depth.

TOG Claims

Phase 1:

Establish an accurate grid on the property in order to conduct detailed geophysical and geological mapping over that part of the property that was not covered during the preliminary program.

Conduct a backhoe trenching and stripping program to extend the zone of mineralization at the high grade gold showing along strike in both directions.

With the backhoe open up bedrock exposure on line 3 + 00S at 2 + 00W and at line 5 + 00S on the baseline, where the prospective structure, alteration and geophysical signature are coincident.

Conduct detailed sampling across measured widths at all of the above locations.

Phase 2:

Contingent upon successful results from Phase 1, conduct a diamond drill program to test the mineralized zones at depth.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
D.J. COPELAND

David J. Copeland
September 8, 1989

Cost Estimate

BUG Property

Phase 1:

	$
Grid establishment (all-in)	7,000.00
Geophysical survey (all-in)	16,000.00
Backhoe hire ($120.00/hr.)	14,400.00
Geologist (21 days @ $250.00 per day)	5,250.00
Geological assistant (21 days @ $150.00 per day)	3,150.00
Supervision (11 days @ $400.00 per day)	4,400.00
Vehicle hire (21 days @ $75.00 per day)	1,575.00
Assay costs (300 @ $30.00 per sample)	9,000.00
Accommodation	1,000.00
Air fares	3,500.00
Food	1,800.00
Fuel	250.00
Freight	1,000.00
Supplies	500.00
Communication	170.00
Report	5,000.00
Contingency @ 10%	7,400.00
Total	$ 81,395.00

Phase 2:

Diamond drilling (2000 ft. @ $50.00/ft. all-in)	100,000.00
Geologist (14 days @ $250.00 per day)	3,500.00
Assistant geologist (14 days @ $150.00 per day)	2,100.00
Supervision (8 days @ $400.00 per day)	3,200.00
Assay costs	6,000.00
Vehicle hire (14 days @ $75.00 per day)	1,050.00
Accommodation	600.00
Air fares	3,500.00
Food	1,100.00
Fuel	150.00
Freight	600.00
Supplies	300.00
Communication	100.00
Report	3,000.00
Contingency @ 10%	12,520.00
Total	$ 137,720.00

Total cost of Phase 1 and 2:	$ 219,115.00

PROFESSIONAL PROVINCE OF D. J. COPELAND BRITISH COLUMBIA ENGINEER

David J. Copeland
September 5, 1989

TOG Property

Phase 1:	$
Grid establishment (all-in)	15,000.00
Geophysical Survey (all-in)	30,000.00
Backhoe hire (@ $120.00 per hour)	24,000.00
Geologist (23 days @ $250.00 per day)	5,750.00
Geological assistant (23 days @ $150.00 per day)	3,450.00
Supervision (16 days @ $400.00 per day)	6,400.00
Assay costs	12,000.00
Vehicle hire (23 days @ $75.00 per day)	1,725.00
Accommodation	1,200.00
Food	2,200.00
Air fares	3,500.00
Fuel	300.00
Freight	1,200.00
Supplies	600.00
Communication	200.00
Report	6,000.00
Contingency @ 10%	11,350.00
Total	$ 124,875.00

Phase 2:	
Drill programme (2,000 ft. @ $50.00 per foot all-in)	100,000.00
Geologist (14 days @ $250.00 per day)	3,500.00
Geological assistant (14 days @ $150.00 per day)	2,100.00
Supervision (8 days @ $400.00 per day)	3,200.00
Assay costs	6,000.00
Vehicle hire (14 days @ $75.00 per day	1,050.00
Accommodation	600.00
Air fares	3,500.00
Food	1,100.00
Fuel	150.00
Freight	600.00
Supplies	300.00
Communication	100.00
Report	3,000.00
Contingency @ 10%	12,520.00
Total	$ 137,720.00
Total cost of Phase 1 and 2:	$ 262,595.00
Total cost of proposed Dunvegan exploration program	$ 481,710.00

David J. Copeland
September 5, 1989

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STATEMENT OF QUALIFICATIONS

I, David J. Copeland, of the City of Vancouver, Province of British Columbia, do hereby certify that:

1. I am a consulting geological engineer with a business office at Suite 1575 - 200 Granville Street, Vancouver, B.C. and am secretary of C.E.C. Engineering Ltd.

2. I am a graduate in economic geology with a Bachelor of Science degree from the University of British Columbia in 1970.

3. I am a registered member, in good standing, of the Association of Professional Engineers of B.C.

4. Since graduation I have been engaged in mineral exploration and mine development in Canada, United States of America, South America and Australasia.

5. I have directed the initial exploration activities and reviewed progress of activities on the subject property of this report between July and September, 1989.

6. I own no direct or indirect shares or securities of Dunvegan Exploration Ltd.

7. I own no direct or indirect interest in the subject claims of this report.

8. I hereby give my permission for inclusion of this letter into a statement of material facts or prospectus.

PROFESSIONAL PROVINCE OF D.J. COPELAND BRITISH COLUMBIA ENGINEER

D.J. Copeland, P.Eng.

September 5, 1989

STATEMENT OF QUALIFICATIONS

I, William A. Taylor, of the City of Vancouver, Province of British Columbia, do hereby certify that:

1. I am a geologist residing at 2494 Cornwall Ave., Vancouver, B.C. and I am employed by Resource Research Group/C.S.L. with an office at 1530 - 144 4th Ave. S.W., Calgary, Alberta T2P 3N4.
2. I hold a Bachelor of Science (Hons.) degree in Geology from the University of London, England.
3. I have practised my profession continuously since 1983.
4. I co-ordinated and conducted the field exploration on the BUG, PHIL and TOG properties between June and September, 1989.
5. I own no direct or indirect shares or securities of Dunvegan Exploration Ltd.
6. I own no direct or indirect interest in the subject claims of this report.
7. I hereby give my permission for inclusion of this letter into a Statement of Material Facts or Prospectus.

William A. Taylor, B.Sc.
Resource Research Group/C.S.L.

September 5, 1989

STATEMENT OF QUALIFICATIONS

I, David A. Shaw, of the City of Calgary, Province of Alberta, do hereby certify that:

1. I am an employee of Resource Research Group/C.S.L. which has their office at 1500 - 144, 4th St. S.W., Calgary, Alberta.
2. I am a graduate in Geology with a Bachelor of Science (Specialized Honours) from the University of Sheffield, England, in 1973.
3. I graduated from Carleton University, Ottawa, in 1980 with a Doctorate of Philosophy in the field of Structural Geology.
4. Since graduation I have been engaged in resource study and exploration in Europe, North America and Southeast Asia.
5. I supervised and participated in the exploration projects on the BUG and TOG properties during parts of the months of June, July, August and September, 1989.
6. I own no direct or indirect shares or securities of Dunvegan Exploration Ltd.
7. I own no direct or indirect interest in the subject claims of this report.
8. I hereby give my permission for inclusion of this letter into a Statement of Material Facts or Prospectus.

David A. Shaw.

David A. Shaw, Ph.D.
Resource Research Group/C.S.L.

September 5, 1989

APPENDIX 1

Energy, Mines and Resources Canada
Geological Survey of Canada Sector
Énergie, Mines et Ressources Canada
Secteur de la Commission géologique du Canada
601 Booth Street
Ottawa, Ontario
K1A 0E8

August 18, 1989

Mr. James E. Ryan
President
Dunvegan Explorations Ltd.
#205 - 700 West Pender St.
Vancouver, British Columbia
V6C 1G8

Dear Mr. Ryan,

I have received your letter of July 24th. I wish to thank you, Arnie Mullenand and Gord McLeod for the opportunity to revisit your Tog property in Teslin map sheet NTS 105C-5. Gord and I went to this prospect in the summer of 1985 by helicopter. It certainly is a valuable improvement having such an excellent road into the now well exposed and trenched outcrop.

From my limited examination of the discovery outcrops (i.e. I have not walked the whole property) I can say that my impressions of the showing as reported to G.M. McLeod by letter (August 7, 1986) have not changed, <u>but</u> they have been strongly confirmed.

1) In the local context, the prospect is most similar to gold-bearing veins found in the Atlin placer mining camp. They are therefore directly comparable to gold-quartz vein mineralization found in the famous Motherlode Gold Belt of California.

2) The "Tog" is hosted in Cache Creek Group rocks of the Atlin Terrane which is a dismembered ocean floor sequence (ophiolite). The gold-quartz veins appear to be strongly structurally controlled by faults and/or shears. The well developed vein(s) and/or vein system occurs at the contact of altered ultramafic rocks and varying more competent rock types. Note that the minor Teslin Fault system (i.e. Teslin Lake Suture) could have influenced your local structural patterns since your geologic setting is comparable to the lodes found in portions of the Motherlode Belt, California. These types of "mega" scale structures and associated ocean floor rocks are also being actively and successfully explored for gold lodes along the Pinchi Fault system of central British Columbia and along the important Baie Verte Fault System of Newfoundland.

3) I collected some visible gold samples in 1985 and found numerous locations of visible gold in the newly exposed portion of what would now appear to be a strong vein(s) system of variable width. The visible gold is associated as free gold in smokey grey quartz, gold with tetrahedrite, gold along graphitic (black) fractures in quartz and gold in iron carbonate. As previously reported the gold was examined with an electron microprobe at the Geological Survey of Canada and found to contain 93.5% gold and 6.0% silver. These results will be checked against the new samples collected from the above varying styles of occurrence.

4) The general sulphide content of the vein(s) is low, however, in the bleached carbonate-altered wall rock of the vein limited pyrite concentrations are observed. Previous geochemical analysis by the GSC suggests that this pyritized altered material also carries gold values. Silver values in the veins are low suggesting a high gold to silver ratio similar to the gold composition itself.

5) Your geophysical work being done should be successful in delineating the altered structural zones since the intense hydrothermal alteration of the rocks results in very obvious linear high low patterns. This anomaly contrast has also been confirmed to be the best indicator of "blind" ore shoots being followed in Atlin and Newfoundland.

6) The professional approach to exploration as exhibited by your field crew was indicative of a well planned multi-facetted survey program. I am sure that the results from the Tog and Bug properties will be most encouraging.

7) As my research results become available I will keep you fully informed.

Thanks again for your support of GSC research activities.

Yours sincerely,

S.B. Ballantyne

S.B. Ballantyne
Mineral Resources Division

APPENDIX 2

VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE
1988 TRIUMPH ST.
VANCOUVER, B.C. V5L 1K5
• (604) 251-5656
• FAX (604) 254-5717

BRANCH OFFICES
PASADENA, NFLD.
BATHURST, N.B.
MISSISSAUGA, ONT.
RENO, NEVADA, U.S.A.

August 21, 1989

TO: Dunvegan Exploration Ltd
205 - 407 Granville St
Vancouver, B C
V6C 1T2

FROM: Vangeochem Lab Limited
1988 Triumph Street
Vancouver, British Columbia
V5L 1K5

SUBJECT: Analytical procedure used to determine metallic gold by fire assay and gravimetrically.

1. Method of Sample Preparation

(a) Rock samples would be received at the laboratory in poly ore bags.

(b) Dried rock samples would be crushed using a jaw crusher and pulverized to 140 mesh or finer by using a disc mill.

(c) The whole sample or portion of the sample would then be screened through a 140 mesh screen. The +140 mesh fraction (metallics) would be weighed and then put into an envelope for gold analysis with its weight recorded. The -140 mesh fraction would be weighed then rolled and transferred to a new bag with its weight recorded and a portion subsequently used for analysis.

2. Method of Extraction

(a) The whole +140 mesh fraction is fluxed and fused. 1/2 to 1 assay tonne of the pulp sample (-140 mesh fraction) would be used.

(b) A flux of litharge, soda ash, silica borax, and either flour or potassium nitrate is added. The samples are thoroughly mixed. Liquid Ag inquart is added, then the samples are fused at 1900 degrees Fahrenheit to form lead buttons.

(c) The lead buttons are cupelled to dore beads. The beads are parted with dilute nitric acid and washed several times.

VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE
1988 TRIUMPH ST.
VANCOUVER, B.C. V5L 1K5
• (604) 251-5656
• FAX (604) 254-5717

BRANCH OFFICES
PASADENA, NFLD.
BATHURST, N.B.
MISSISSAUGA, ONT.
RENO, NEVADA, U.S.A.

(d) The gold beads are then annealled.

3. **Method of Determination**

The gold beads are weighed using a Sartorius electronic micro-balance. Using the weights of +140 mesh and -140 mesh fractions and the weights of gold, the assay is then calculated and reported in ounces per short tonne or grams per tonne.

4. **Analysts**

The analyses were supervised or determined by Mr. Raymond Chan or Mr. Conway Chun and his laboratory staff.

Raymond Chan
Vangeochem Lab Limited

C.E.C. ENGINEERING LTD.

SUITE 1575 - 200 GRANVILLE STREET
VANCOUVER, B.C. V6C 1S4
TELEPHONE: (604) 684-6328
FACSIMILE: (604) 681-2741

RECEIVED
JAN 22 1990

January 2, 1990

Mr. G. Growe - President
Dunvegan Exploration Ltd.
205 - 470 Granville Street
Vancouver, B.C.
V6C 1V5

Dear Mr. Crowe:

Based upon the positive results obtained from the 1989 exploration program on the TOG and BUG claims, I feel 2000 feet of diamond drilling is justified during Phase I of exploration. In particular, the TOG property should be evaluated in the vicinity of the main (McLeod) showing, to test for the down-dip continuation and strike extension of the gold bearing structures.

The drilling must not be at the expense of the earlier components of the Phase I program but rather would be contingent upon the success of geological, geophysical and geochemical surveys. Consequently the drilling would commence at the end of the Phase I program (outlined in the Geological Report on the BUG, PHIL AND TOG - GOT - POT Group of Claims by W.A. Taylor, D.J. Copeland and D.A. Shaw, 1989) once the results from the geological, geophysical and geochemical surveys are fully assessed.

The addition of the diamond drilling to the Phase I program will increase the cost estimate on the TOG Property from $124,875.00 to $224,875.00, based upon an all inclusive diamond drilling cost of $50/ft.

Should you have any questions, please do not hesitate to contact me.

Sincerely yours,

C.E.C. ENGINEERING LTD.

D.J. Copeland, P.Eng.

DJC/hm/J16DEL

DIAMOND DRILLING AND BULK SAMPLING
Assessment Report on the
TOG PROPERTY
1990

Latitude 60 25'00"N
Longitude 133 33'20"W
NTS 105 C/5

Whitehorse Mining District
Yukon Territory

for

Dunvegan Exploration Ltd.
Box 4063, Whitehorse
Yukon, Y1A 3S9

by

M.P. Webster, B.Sc.,
November 13, 1990

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INTRODUCTION

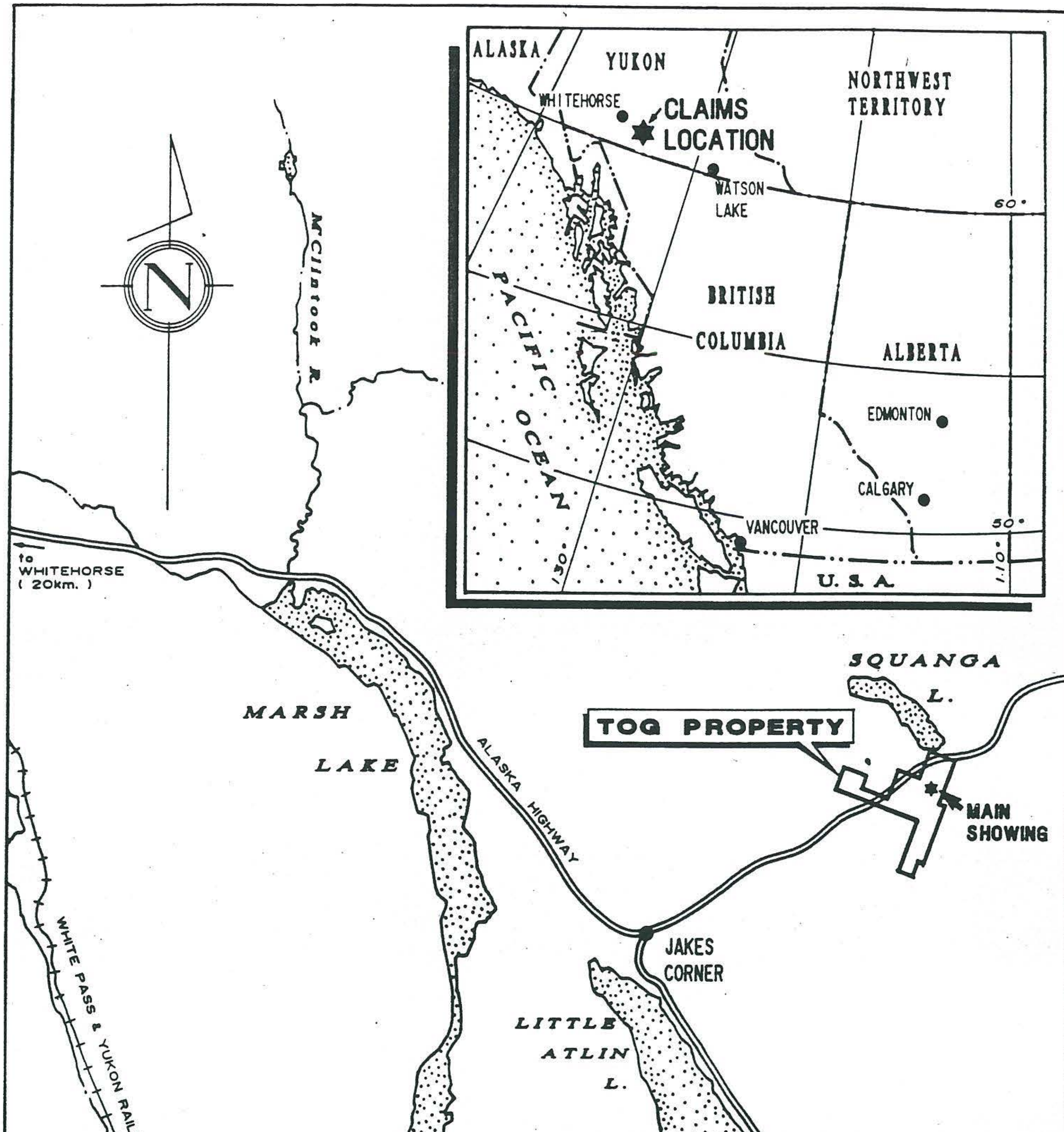
Dunvegan Exploration Ltd. of Whitehorse, Yukon continued exploration on the TOG Property in the 1990 field season by way of bulk sampling and diamond drilling.

This report summarizes previous geological reports and papers of the property and describes the 1990 exploration progress and results. Work was supervised by M.P. Webster with assistance from Rob MacIntyre and Gordon McLeod.

LOCATION AND ACCESS

The TOG Property is located on the Alaska Highway approximately 88 km southeast from Whitehorse, Yukon. The claim block extends south from Squanga Lake to Marsh Lake and crosses the Alaska Highway at the southernmost limit of Summit Lake. The claims are located at latitude 60°25'00"N, longitude 133°37'20"W and NTS 105C/5.

Access to the claims is by way of the Alaska Highway, an approximate distance of 100 km southeast from Whitehorse, 24 km northeast from Jakes Corner, to a 4-wheel drive summer property access road which exits southeast from the Alaska Highway. The property road continues approximately 5.5 km to the main showing of the TOG property. A cat trail approximately 1.5 km in length was extended northwest from the main showing to a small pond and water supply for the 1990 drill program. A new cat road was excavated parallel to and approximately 30 metres south of the main showing for drill pads. The property access road and claims are shown on Figures 1 and 2.



DUNVEGAN EXPLORATION LTD.

TOG PROPERTY

YUKON TERRITORY N.T.S 105C, D

PROPERTY LOCATION MAP

MAP AFTER DUNVEGAN EXPLOR. LTD. REPORT, AUG.'89

Work by: Mary Webster	Date: Dec. 1990	Scale: As Shown
Drawn by: Rodel E. Ortiz		Figure No. 1

PHYSIOGRAPHY AND VEGETATION

The physiography of the TOG property is comprised of a series of steeply sloping, northwest trending ridges drained by northwest draining creeks. Overburden depths vary from a few centimetres along ridge crests to unknown depths in the valley bottoms. The ridges gradually flatten to gently sloped, flat and hummocky terrain near Seaforth Creek to the east and Marsh Lake to the south.

Vegetation comprises Jack pine and poplar forests with moss covered outcrop on the ridges to dense forest and buckbush along the perifery of the property.

CLIMATE

Located within the dry subartic region of Southeastern Yukon, the property is largely free from snowfall from May through October. Colder temperatures experienced in January are the only weather conditions considered to potentially hamper year round operations. The annual rainfall is approximately 40 cm and water supply is available as surface runoff, springs and small ponds on the property. Squanga, Summit and Marsh Lakes may provide larger sources of water if required.

PROPERTY

The TOG Property is wholly owned by Dunvegan Exploration Ltd. and is comprised of 125 claims (Figure 2). The property claims are listed in Table 1 below.

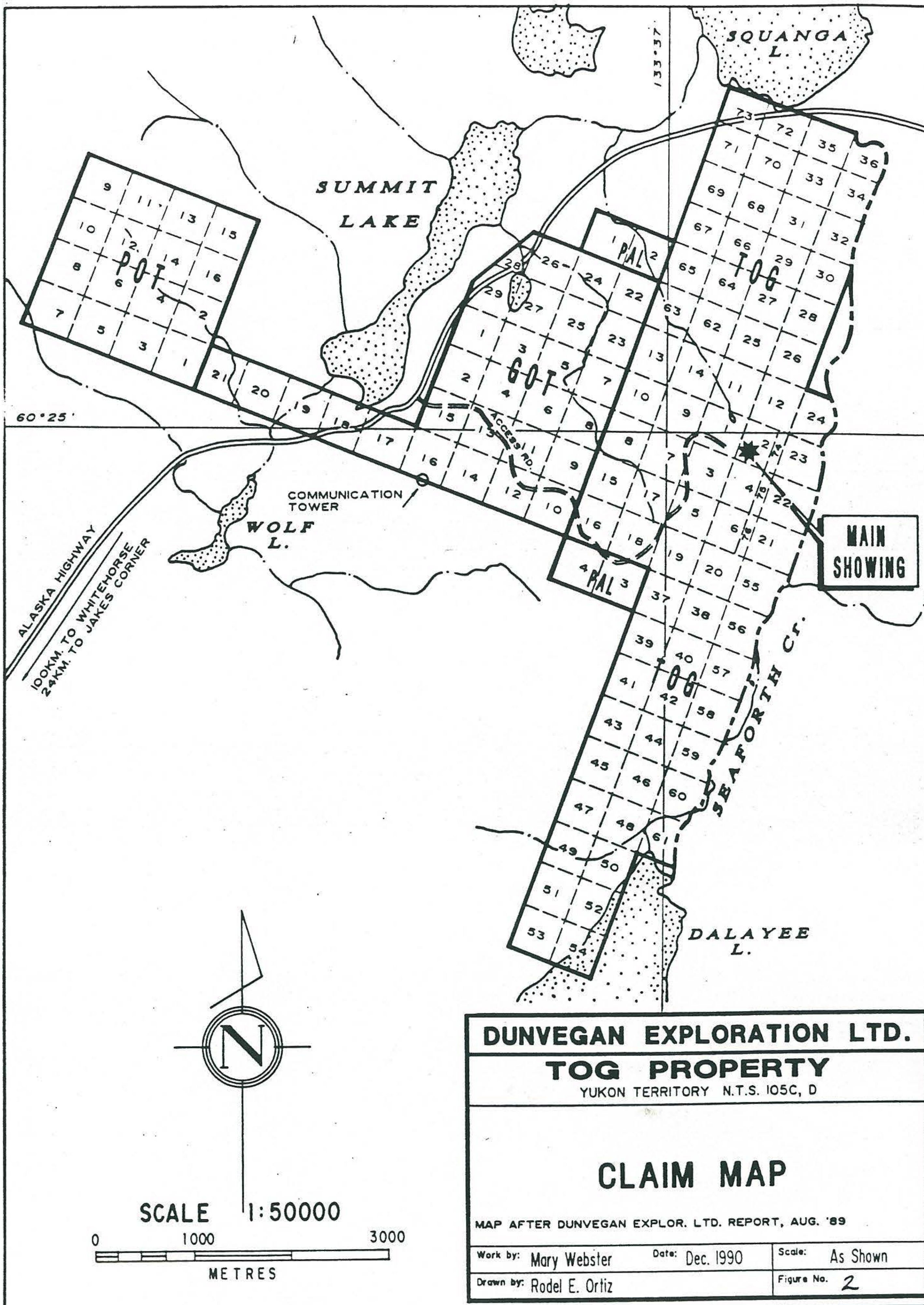
TABLE 1

GOOD STANDING QUARTZ CLAIMS OWNED BY Dunvegan Exploration Ltd.

GRANT	CLAIM NAME	LAPSE DATE
YA82536	TOG 1	97.07.03
YA82537	TOG 2	97.07.03
YA82538	TOG 3	97.07.03
YA82539	TOG 4	97.07.03
YA82540	TOG 5	97.07.03
YA82541	TOG 6	97.07.03
YA82542	TOG 7	97.07.03
YA82543	TOG 8	93.07.03
YA82544	TOG 9	97.07.03
YA82545	TOG 10	97.07.03
YB20446	TOG 11	97.07.18
YB20447	TOG 12	97.07.18
YB20448	TOG 13	97.07.18
YB20449	TOG 14	97.07.18
YB20450	TOG 15	93.07.18
YB20451	TOG 16	97.07.18
YB20452	TOG 17	93.07.18
YB20453	TOG 18	97.07.18
YB20454	TOG 19	97.07.18
YB20455	TOG 20	97.07.18
YB20456	TOG 21	97.07.18
YB20457	TOG 22	97.07.18
YB20458	TOG 23	97.07.18
YB20459	TOG 24	97.07.18
YB20460	GOT 1	92.07.18
YB20461	GOT 2	92.07.18
YB20462	GOT 3	92.07.18
YB20463	GOT 4	92.07.18
YB20464	GOT 5	96.07.18
YB20465	GOT 6	92.07.18
YB20466	GOT 7	96.07.18
YB20467	GOT 8	92.07.18
YB20468	GOT 9	92.07.18
YB20469	GOT 10	96.07.18
YB20470	GOT 11	92.07.18
YB20471	GOT 12	96.07.18
YB20472	GOT 13	92.07.18
YB20473	GOT 14	96.07.18
YB20474	GOT 15	92.07.18
YB20475	GOT 16	96.07.18
YB20476	POT 1	92.07.18
YB20477	POT 2	92.07.18

GOOD STANDING QUARTZ CLAIMS OWNED BY Dunvegan Exploration Ltd.

GRANT#	CLAIM NAME	LAPSE DATE
YB25449	TOG 63	95.02.28
YB25450	TOG 64	95.02.28
YB25451	TOG 65	95.02.28
YB25452	TOG 66	95.02.20
YB25453	TOG 67	95.02.28
YB25454	TOG 68	95.02.28
YB25455	TOG 69	95.02.28
YB25456	TOG 70	95.02.28
YB25457	TOG 71	95.02.28
YB25458	TOG 72	95.02.28
YB25459	TOG 73	95.02.28
YB25460	GOT 17	95.02.28
YB25461	GOT 18	95.02.28
YB25462	GOT 19	95.02.28
YB25463	GOT 20	95.02.28
YB25464	GOT 21	95.02.28
YB25465	GOT 22	95.02.28
YB25466	GOT 23	95.02.28
YB25467	GOT 24	95.02.28
YB25468	GOT 25	95.02.28
YB25469	GOT 26	95.02.28
YB25470	GOT 27	95.02.28
YB25471	GOT 28	95.02.28
YB25472	GOT 29	95.02.28
YB26873	PAL 1	95.10.29
YB26874	PAL 2	95.10.29
YB26875	PAL 3	95.10.29
YB26876	PAL 4	95.10.29
YB35441	TOG 74	95.10.15
YB35442	TOG 75	95.10.15
YB35443	TOG 76	95.10.15



DUNVEGAN EXPLORATION LTD.

TOG PROPERTY

YUKON TERRITORY N.T.S. 105C, D

CLAIM MAP

MAP AFTER DUNVEGAN EXPLOR. LTD. REPORT, AUG. '89

Work by: Mary Webster	Date: Dec. 1990	Scale: As Shown
Drawn by: Rodel E. Ortiz		Figure No. 2

PROPERTY HISTORY

Work on the TOG property includes prospecting, geological mapping, soil and rock geochemistry, geophysics, trenching, road construction, bulk sampling and diamond drilling. Although previous work programs include a variety of exploration techniques, detailed and follow-up exploration should be completed in order to develop targets for diamond drilling.

Claims were first staked in 1972 by Gordon McLeod on the discovery of a small pod of massive chromite within ultramafic rocks. In 1979, geological mapping was conducted by Archer Cathro and Associates Ltd. and microprobe analysis, done by Michael Marchand the Whitehorse District Geologist, proved the Cr_2O_3 content to be 49.4%. The gold potential of the property was reported by G. Yeo (Noranda Exploration Co. Ltd.) as visible gold in siliceous rock during a property visit in September 1982. In 1983, Jeff Foley reported 0.700 oz per ton gold in a pan concentrate sample from Seaforth Creek (U.S. Bureau of Mines, University of Alaska).

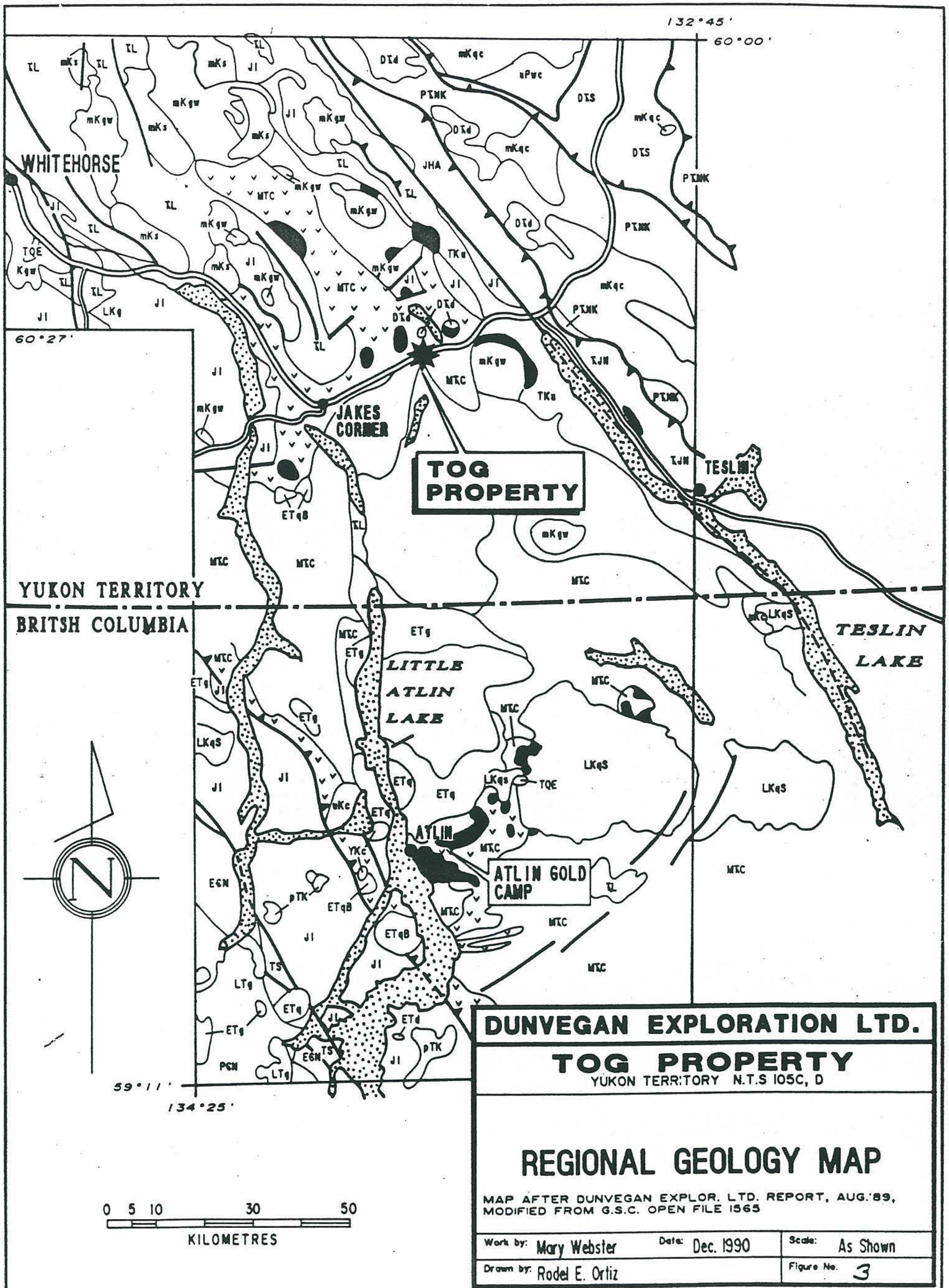
The main TOG showing was discovered in 1984 by prospecting. During 1984, five pits were blasted and hand mucked to expose the main TOG vein. S.B. Ballentine of the Geological Survey of Canada visted and sampled the property in 1985. Ballentyne reported sample assays up to 0.262 oz. per ton, gold fineness of 939.7 (93.5 Au and 6% Ag) and suggested that the mineralization is comparable to the Motherlode or bonanza style of mineralization. In 1987, the Whitehorse District Geologist, Trevor Bremner sampled the main vein and reports values up to 0.244 oz. per ton gold. Newmont Exploration also sampled the pits and reported low gold values. The 5.5 km long access road was excavated. In October 1988, David Shaw of Resources Research Group examined the property, collected samples which returned values of 0.039 to 31.651 oz. per ton gold and outlined the exploration program for 1989.

Magnetometer and VLF/EM geophysical surveys, geological mapping and detailed sampling of the main showing was conducted in 1989. The main quartz main was sampled returning values up to 41.482 oz. per ton gold in a grab sample and 2.119 oz. per ton gold over 0.46 metres in a chip sample. Over a 26 metre strike length, visible gold was identified in 13 samples and coincident geophysical conductors suggested that the vein continued for at least 140 metres along strike. The geologic and structural setting of the deposit including listwaenitic alteration was found to be similar to Motherlode or bonanza style of mineralization also described in the Atlin Gold mining camp located 100 km to the south.

During June and July of 1990, a four man crew conducted bulk sampling on the main vein, a total of 250 lbs of material was selectively mined, hand cobbed and hand sorted into highgrade visible gold bearing ore (No.1) and ore considered to be auriferous (No.2). A total assay returned 3.16 oz.per ton gold sample. A 80 kg. combined No.1 and No.2 ore sample submitted to Northern Analytical Laboratories for a bulk gold assay.

In August a second bulk sample test done by Bacon Donaldson and Associates, Vancouver. This scoping cyanidation test on 26 kg. of Dunvegan No.1 ore indicated a possible recovery of 70-80% gold by gravity concentration alone and returned an average metallic sieve assay of 56.81 gl tonne gold and 112.58 gl tonne silver.

Diamond drilling was done on the main showing in September and October. A total of 262.5 metres (860.8 ft.) was drilled in 8 HQ holes. This drill program confirmed the main vein to dip 25 to 30 degrees south, extend greater than 90 metres along strike and continue down dip a length of greater than 100 metres. The deposit remains open at depth and along strike. The deposit may include series of subparallel veins as a second vein was intersected above the main vein. Visible gold was noted in hole 5-90 and returned assays up to 1.547 oz. per ton gold over 0.18 m (0.6 ft.)



DUNVEGAN EXPLORATION LTD.

TOG PROPERTY

YUKON TERRITORY N.T.S 105C, D

REGIONAL GEOLOGY MAP

MAP AFTER DUNVEGAN EXPLOR. LTD. REPORT, AUG.'89, MODIFIED FROM G.S.C. OPEN FILE 1565

Work by: Mary Webster	Date: Dec. 1990	Scale:	As Shown
Drawn by: Rodel E. Ortiz		Figure No.	3

LEGEND

PLUTONIC AND ULTRAMAFIC ROCKS.

EARLY TERTIARY

ETqB	Bennett:'high level' alaskite
ETg	Granodiorite

LATE CRETACEOUS

LKqs	Surprise lake:Foliated alaskite
LKg	Surprise lake:Granodiorite,quartz monzonite.

MID CRETACEOUS

mKgw	Whitehorse:Granodiorite,diorite,monzonite,leucogranite, and feldspar quartz porphyry dykes.
mKqc	Cassiar:Monzonite and granodiorite(sheared and mylonitized western margins).

LATE TRIASSIC

LTg	Stikine and Coast Range:Diorite,granodiorite,monzonite.

DEVONIAN-TRIASSIC

	Oceanic ultramafic:Dunite,olivine,harzburgite,pyroxenite, commonly serpentinized.
DTd	Diorite,amphibolite.

TERTIARY

pTK	Kamloops volcanics.

LATE UPPER CRETACEOUS

uKc	Carmacks volcanics.

MID CRETACEOUS

mKs	South Fork volcanics 'cauldron subsidence and transtensional arc'.

LOWER AND MIDDLE JURASSIC

JI	Inklin(Laberge Group):Interbedded conglomerate,greywacke, siltstone,shale,limestone.Marine and non-marine.
JHA	Hall:Carbonaceous shale,siltstone,greywacke,conglomerate, Marine.

UPPER TRIASSIC - LOWER JURASSIC

TJN	Nicola:'Arc volcanics and sediments'.

UPPER TRIASSIC

TL	Lewes River(In part Cache Creek):Breccia,tuff,volcanic sandstone,siltstone and limestone,locally interbedded with radiolarian chert.Marine 'arc volcanics'.
TKU	Kutcho:Rhyolites,rhyodacites,silicic tuff,basalt,andesite, phyllite,greywacke and limestone.Marine 'arc volcanics' in Cache Creek.Terrane.

MISSISSIPIAN - UPPER TRIASSIC

MTc	Cache Creek:Mainly MORB-like tholeiitic to alkiline basalt (sub-green schist),serpentinized peridotite and dunite,tradhjemite and diabase,melange with blocks of Upper Nicola.Radiolarian ribbon chert,argillite volcanic sandstone and limestone.Marine(Oceanic volcanics and sediments and local accretionary prism melange).

UPPER PROTEROZOIC - PALEOZOIC

PZNK	Nisutlin:Catacristic sediments and volcanics.

DEVONIAN - TRIASSIC

DTs	Slide Mountain:Oceanic marginal basin volcanics and sediments.

UPPER PROTEROZOIC - LOWER CAMBRIAN

PEN	Nisling:Metamorphosed 'passive continental margin' assemblage.

UPPER PROTEROZOIC

uPwc	Windermere:Mainly clastic 'continental margin' sediments.

STRATIGRAPHIC SYMBOLS

——	Geological contact.
——	Fault of unknown displacement.
▲▲▲	Thrust fault.

Coincident geophysical conductors and a strong alteration zone, at least 150 metres wide of carbonatization/ silicification alteration are located approximately 300 meters west of the main showing. Chert units occur throughout the property as lenses or boudins and within a northwest striking fault breccia zone. This silicified fault zone extends at least 75 m along strike between altered volcanic and chert units to the north and serpentinites to the south and is parallel to the strike of the main showing.

Lithology (Figures 5-9)

In this report, the lithological units described in the 1989 Geological Report have been adopted with the addition of massive vein quartz and dykes as type lithologies. Alteration has been confined to carbonitization, silicification, choritization and sulphidization. Abbreviated Lithologic names appear on figures and the 1989 numeric geologic code for the property is referenced in the description of units below.

Serpentinite (Unit 4, 1989)

Dark Green, very fine grained to amorphous, occasionally pyritic.Possibly strongly serpentinized, foliated peridotile. Frequently fractured with orangy-brown iron oxide fracture coatings. Intermittently pervasively altered to mottled texture. Contacts are pervasively iron carbonate altered serpentinite and usually gradatimal over centimetres to metres. May contain narrow tulcose shears. Moderate to very good core recovery, less core recovered in fracture zones.

Iron Carbonate Altered Serpentinite (Unit 4A, 1989)

Orange-brown, fine to medium grained, loosely to well consolidated, locally brecciated with fine grained white quartz or chalcedony filled fractures, fine grained disseminated syrite ranging from 5-15%, pervasively carbonatized serpentinite. Local whitish-grey falcose fractures, moderate to strong foliation. Most frequently occurs adjacent to quartz vein. Contacts are gradational from serpentinite but sharp to massive quartz. Accissory minerals include pyrite, rare galena and magneta, chlorite and fuschite.

Massive Quartz

White to smokey grey, medium to coarse grained, frequent graphite (moderately to weakly pyritic) fractures in smokey grey quartz. Massive white "bull" quartz may contain inclusions (centimetres) of serpentinite and altered serpentinite. Very fine grained greyish chalcedony locally infills fractures. Fuschite and minor galena, magnetite, pyrite, chalcopyrite and sphalerite may be dissimined in quartz or along fractures. Visible gold occurs in smokey grey, graphitic quartz near lower, commonly brecciated contact of main vein.

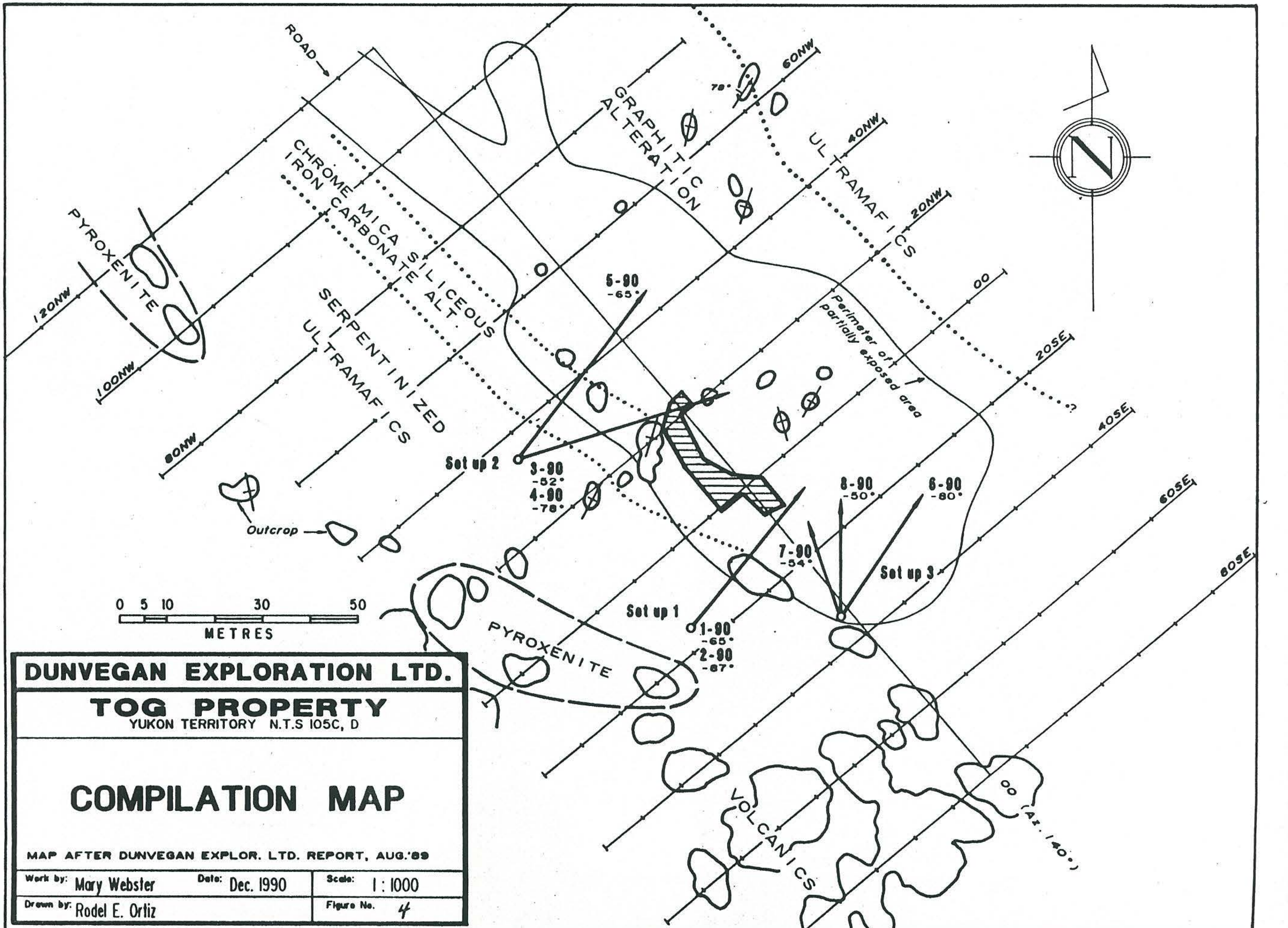
Core recovery is low in fractured and becciated zones but very good in massive quartz.

Dyke (Rhyolitic)

Orange brown to brown, fine to medium grained, bleached, sparcely pyritic, chalcopyritic wakly cloritic rhyolitic dyke. Occurs consistantly along lower contact of main quartz vein. Contact to quartz is sharp, locally brecciated and infilled with grey silica or chalcedony, moderate to strongly fractured. Locally moderate to strongly pervasively silicified over 10-30 centrimeters. Accessory minerals include pyrite, chalcopyrite, galena, rare sphalerite. Core recovery very poor in fracture zones to good.

Argillite

Black to very dark green, graphitic, very fine to fine grained argillite. Locally fractured with graphitic slickensides. Infrequent silica flooded breccia zones centimetres to metres wide. Weak to strongly pervasive cloritization. Moderate to strong foliation. Very fine to medium grained disseminated enhedial pyrite; 10-20%.



DUNVEGAN EXPLORATION LTD.

TOG PROPERTY
YUKON TERRITORY N.T.S 105C, D

COMPILATION MAP

MAP AFTER DUNVEGAN EXPLOR. LTD. REPORT, AUG.'89

Work by: Mary Webster	Date: Dec. 1990	Scale: 1 : 1000
Drawn by: Rodel E. Ortiz		Figure No. 4

BULK SAMPLING PROGRAMS

Two bulk samples of hand cobbed ore from the Main Showing of the Tog Property were tested for gold recovery by (1) grind-jig-amalgamation and (2) grind-jig-cyanidation processes.

(1) The first bulk sample contained approximately a 50:50 ratio of number 1 and number 2 ore from the Main Showing and weighed 80 kg. The sample was submitted to Northern Analytical laboratories in Whitehorse for crushing, jig concentration and tabling. The table concentrate was then ground to 200 mesh and the gold amalgamated with mercury. The gold was separated from the amalgam by dissolving the mercury with nitric acid then cupelled with lead.

The total assay results were 3.16 oz. per ton gold and fractional recoveries were as follows;

FRACTION	ASSAY	WEIGHT	g AU
Concentrate	82.44%	7.034 g	5.799 g
Mids	443.8 gl+	1057 g	0.472 g
Tails	30.45 gl	78936 g	2.403 g

Refer to Appendix 1

(2) Bacon Donaldson and Associates Ltd., Vancouver performed a single scoping test on the cyanidation potential of the No.1 ore. Approximately 26 kg. of No.1 grade gold ore was provided for a single grind-jig-cyanidation test utilizing a fine primary grind (70% 200 mesh) as the starting point in this evaluation of the ore.

The following discussion of results was submitted to the company by Bacon Donaldson and Associates;

SAMPLE PREPARATION

A single 20 litre pail of dry, minus 15 cm ore was received on August 8, 1990 at BDA's laboratory facilities in Richmond, B.C. It was noticed immediately that the ore contained significant sulphide and oxide (iron oxide, copper oxide) mineralization, but no assays were conducted to identify the specific elements at this time. The ore was jaw crushed to minus 1/4 inch, riffle-split (one half saved at this size) and the remainder was cone crushed to minus 6 mesh. From the minus 6 mesh material, samples were prepared to testwork.

HEAD ASSAY

A head assay was conducted on a 350 gram sample of the cone crushed ore. Because of the suspected high grade, free gold nature of the ore, the assay was conducted by the metallic sieve method. This method involves pulverizing the entire 350 g sample, then screening the pulp at 150 mesh to scalp off the oversize (the pulverizing is done to a degree that ensures there will be less than 25 g of + 150 mesh remaining). The entire + 150 mesh fraction is assayed for Au/Ag, while the -150 mesh fraction is sampled and assayed in duplicate. This assay method is based on the fact that any coarse gold in the sample will flatten rather than pulverise and will therefore report to the +150 mesh fraction (which is assayed entirely).

All assay numbers are factored together to give the head assay for the ore. By the matallic sieve method, the Dunvegan No.1 ore assayed 56.81 g/tonne Au and 112.58 g/tonne Ag (1.66 oz/ton Au, 3.28 oz/ton Ag). The complete details of the metallic sieve assay are appended.

GRIND-JIG-CYANIDATION

A 2000 gram sample of the Dunvegan ore was ground in a laboratory rod mill to 71% minus 200 mesh. The ground slurry was then passed through a 1" x 1" Denver, lab-scale jig to produce a rougher high concentrate of ~125 grams. This rougher concentrate was then upgraded further by hand panning to produce a small (6 g) sample which was assayed in its entirety. BDA's experience with laboratory processing has indicated that this rougher-jig, cleaner-handpan procedure closely approximates the results obtained with a full-scale, two stage gravity processing operation.

Visual observation of the hand panned jig concentrate indicated that it contained significant free gold, with an approximate top size of 48 mesh. The hand panned jig concentrate assayed 7372 g/tonne Au (215 oz/ton Au) and recovered 49% of the gold in the sample.

The rougher jig tailings and the hand panning tailings were combined, dewatered to 400% solids and leached in a vertical agitation cyanide test for 48 hours. The test began at an initial cyanide concentration of 2.0 g/l NaCN, with the free cyanide level maintained at 1.0 g/l NaCN for the duration of the test.

Including the recovery from jigging, the grand-jig-cyanidation test recovered 70.6% Au. The extraction rate for the test is graphed in Figure 1. It can be seen from the graph that the ore was still leaching when the test was ended after 48 hours. In fact, the extraction rate has not begun to level off and depicts a straight line from time zero. This suggests that further leaching would extract more gold. At the current (straight line) leaching rate, gold extraction would reach 90% within another 48 hours of leaching.

Cyanide consumption for this test was very high at 6.4 kg. NaCN per tonne of ore. Reducing power, a qualitative indication of the dissolved contaminants in the cyanide solution, was also fairly high. To investigate this, the pregnant cyanikde solution was analyzed for dissolved copper and zinc, two of the more common cyanicides (cyanide consumers). These metals were found to be dissolved in the pregnant solution at levels of 1.78 g/l Cu and 0.087 g/l Zn. These levels suggest that dissolition of copper by the leach solution was responsible for many of the poblems experienced with this leach (slow leach rate for gold, high cyanide consumption) as cyanide solution will preferentially dissolve copper before dissolving gold).

RECOMMENDATIONS

As a first attempt of the single grind-jig-cyanide test are promising; (1) jig recovery was very high; (2) the ore is indicated to be leachable by cyanide. However, the ore also contains significant values of copper (amd other?) mineralization and this adversely affects the leaching of gold by consuming cyanide and by slowing the gold extraction rate. These problems are serious enough that other processing options should be analyzed.

FLOTATION

A grind-jig-bulk flotation test utilizing a similar grind as the cyanide test would quickly indicate if flotation holds promise. If the gold values are either "free or associated with the sulphide minerals, then it should be possible to produce a bulk sulphide flotation concentrate that recovers most of the gold values.

Further testwork would involve cleaning flotation to upgrade the bulk concentrate into a marketable flotation concentate.

GRAVITY CONCENTRATION

The results of the jig/hand-panning procedure are very promising.
As the operating costs of a gravity processing plant are low compared to those of a cyanide or flotation plant, it is worthwhile to investigate the possibilities optimizing gravity concentration. It may be possible to achieve 70 to 80% gold recovery by gravity concentration alone. There are many specialized gravity concentration techniques available besides jigging (Knelson concentrator, Falcon concentrator, etc.). Optimization would include testing some of the various gravity concentration techniques while varying the primary grind and the blend of the ore.

MINERALOGY AND GEOLOGY

It is highly recommened that more effort be spent at this time to define the mode of the gold occurrence, the other mineralization in the ore, and the variability of the ore grade across the deposit. The sample BDA tested was acknowledged to be hand-picked, high grade sample. Future testwork should be conducted on average run-of-mine ore.

BACON DONALDSON & ASSOCIATES LTD.
Ed Henrioulle, B.A. Bc.
Dr. M.J.V. Beattie, P. Eng.

Refer to Appendix 2

DIAMOND DRILL PROGRAM

A total of 860.8 ft. (262.5 m) HQ core was drilled in eight holes on the TOG property between September 24 and October 4, 1990. The holes were drilled from three set-ups to test the continuity of grade and structure of the Main Showing.

Holes 1-90 and 2-90 intersected the main vein approximately 15 and 30 metres respectively, down dip from the 1989 surface sample 25860 which returned a value of 4.718 oz. per ton gold. Holes 3-90 and 4-90 also intersected the main vein approximately 15 and 30 metres respectively, down dip from the 1989 surface sample 25747 that assayed 41.482 oz. per ton gold (Figure 6). Hole 5-90 tested the northwest extension of the main showing and proved vein continuity consistant with 1989 geophysical conductors. Visible gold was recovered in white quartz at 20.0 m depth which returned values of metallics analysis of 1.547 oz. per ton gold (check results 1.376 oz. per ton gold) over 0.18 m (Figure 7.

Holes 6-10, 7-90 and 8-90 tested the southeast extent of the Main Showing and confirmed consistant vein structure and coincidence between the vein occurence and geopysical conductors identified in the 1989 exploration program (Figure 5). The results of the diamond drill program are outlined below. Detailed logs and sample intervals are included in Appendix 5.

The 1990 Diamond Drill Program confirmed the down dip and strike contuinity of the main vein structure. The extent of the vein has been tested approximately 30 m (100 ft) down dip and along strike a distance of 90 m (300 ft.).

Results

Hole 1-90 (Figure 5)

Start:	September 24,1990 Finish: September 26,1990
Dip:	-65 Azimuth: 40° Length: 171.0 ft. (52.1 m)
Target:	Intersect vein approx.15 m down dip from 1989 Surface Sample 25860 which returned 4.718 oz. per ton gold.
Results:	Quartz vein intersected from 65.9 ft. (20.1 m) to 75.5 ft. (23.0 m) to prove a down dip width of 9.6' (2.9 m).

Total 52 samples including 5 metallics samples. Whole hole sampled 5 sampled taken across vein as follows:

	From	To	Width	Au ppb.
82615	20.1	20.6	0.5	112
82616	20.6	21.1	0.5	51
82617	21.1	21.8	0.7	158
82618	21.8	22.5	0.7	60
82619	22.5	23.0	0.5	179

Highest Value:

82629	30.0	31.0	1.0	546

Brecciated argilite, minor quartz stringers adjacent to dyke.

Gold values range: 75- 546 ppb Au
Vein average: 111.6 ppb Au over 9.5 ft. (2.9 m)

<u>Holes 2-90</u> (Figure 5)

Start: September 26, 1990 Finish: September 28, 1990
Dip: -87 Azimuth: 40° Length: 196.8' (60.0 m)
Target: Intersect vein approx. 15 m down dip from Hole 1-90.
Results: Quartz vein intersected from 73.5' (22.4 m) to 80.4' (24.5 m) to prove a down dip width of 6.9' (2.1 m).

A total 44 samples taken the hole was sampled from 10.0 to 60 m (EOH) Seven samples were taken across vein as follows:

		From	To	Width	Au ppb
	82668	22.0	22.4	0.4	25
	82669	22.4	22.6	0.2	67
	82670	22.6	23.0	0.4	120
	82671	23.0	23.5	0.5	<10
	82672	23.5	24.0	0.5	<10
	82673	24.0	24.5	0.5	43
Grab	82692	24.3	24.5	0.2	396

Highest Value:

82688	38.0	40.0	817
	Graphitic Argilite, Fault		

Gold value range: <10-817 ppb Au
Vein average: 40.2 ppb au over 8.2 ft. (2.5 m)
(not including 82692)

Hole 3-90 (Figure 6)

Start: September 28, 1990 Finish: September 29, 1990
Dip: -57 Azimuth: 75° Length: 93.5 ft. (28.5 m)
Target: Intersect vein approx. 15 m. down dip from 1989 Surface Sample 25747 which returned 41.482 oz. per ton gold.
Results: Quartz vein intersected from 80.1 ft. (24.4 m) to 86.0 ft. (26.2 m) to prove a down dip width of 5.9 ft. (1.8 m)

A total 4 samples were taken; all from the vein as follows;

	From:	To	Width	Au ppb
76304	24.6	25.2	0.6	22
76305	25.2	25.4	0.2	34
76306	25.4	25.7	0.3	39
76307	25.7	26.0	0.3	3168

Vein average: 701.5 ppb Au over 4.6 ft. (1.4 m)

Hole 4-90 (Figure 6)

Start: September 29, 1990 Finish: September 30, 1990
Dip: - 78 Azimuth: 75° Length: 114 ft.(35.7 m)

Target: Intersect vein approximately 15 m. down from Hole 3-90.

Results: Quartz vein intersected from 68.9 ft. (21 m) to 64. ft. (22.6 m.) to prove a down dip width of 5.2 ft. (1.6 m.).

A total of 10 samples were taken including 6 samples from quartz vein as follows:

		From	To	Width	Au ppb
	82698	21.0	21.7	0.7	14
	82699	21.7	22.9	1.2	25
	82700	22.9	23.9	1.0	115
	76301	23.9	24.9	1.0	64
	76302	24.9	25.7	0.8	57
Grab	76303	33.0	33.6	0.6	32

Vein average: 20.9 ppb Au over 5.2 ft. (1.9 m.)

Hole 5-90 (Figure 7)

Start: September 30, 1990 Finish: October 1, 1990
Dip: -65 Azimuth: 40° Length: 74.5 ft. (22.7 m.)
Target: Test vein northwest from the known Main Showing.

Results: Quartz vein intersected from 60 ft. (18.3 m) to 64.3 ft. (19.6 m) to prove a down dip width of 4.3 ft (1.3 m.)

Visible gold, galena, chalcopyrite, pyrite 64.0' (19.5 m) to 64.3 ft. (19.6 m).
Total 28 samples taken including 5 check samples and 5 metallics samples.

Gold values range 29 to 148 ppb Au except for the following sample which contained visible gold;

76332	19.83	20.01	0.18 (0.6 ft)	1.547 oz/t Au
			check sample	1.376 oz/t Au

HOLE 6-90 (Figure 8)

Start: October 1, 1990 Finish: October 2, 1990
Dip: -80° Azimuth 40° Length: 72 ft. (22 m.)
Target: Test vein southeast from the known Main Showing
Quartz vein intersected from 19.7 ft. (6.0 m) to 31.8 ft. (9.7 m) to prove a down dip width 12.1 ft (3.7 m)

Total samples taken as follows:

	From	To	Width	Au ppb
76336	6.1	6.3	0.2	275
76337	6.3	6.7	0.4	89
76338	6.7	6.9	0.2	44
76339	6.9	7.3	0.4	40
76340	7.3	7.9	0.6	97
76341	7.9	8.2	0.3	37
76342	8.2	8.5	0.3	14
76343	8.5	9.0	0.5	67
76344	9.0	9.5	0.5	94

Vein average: 79.2 ppb Au over 11.2 ft. (3.4 m)

HOLE 7-90 (Figure 9)

Start: October 2, 1990 Finish: October 3, 1990
Dip: -54 Azimuth 340' Length: 36 ft. (10.9 m))
Target: Test vein approximately 15 m down dip from vein exposed in surface pit.
Quartz Vein intersected from 22' (6.7 m) to 31.2' (9.5 m) to prove a down dip width 9.2 ft (2.8 m)

A total of 10 samples were taken as follows:

	From	To	Width	Au ppb
76345	2.7	2.9	0.2	27
76346	6.3	6.4	0.1	23
76347	6.4	6.7	0.3	24
76348	6.7	7.0	0.3	34
76349	7.0	7.3	0.3	18
76350	7.3	7.6	0.3	14
76376	7.6	7.9	0.3	118
76377	7.9	8.5	0.6	60
76378	8.5	8.8	0.3	67
76379	8.8	9.8	1.0	46

Vein average: 47.7 ppb Au over 11.5 ft. (3.5 m)

HOLE 8-90 (Figure 9)

Start: October 3, 1990 Finish: October 4, 1990
Dip: -50 Azimuth 360° Length: 100 ft. (30.48 m)
Target: Test vein approximately 15 m down dip from vein exposed in surface pit.
Quartz vein intersected from 20.0 ft.(6.1 m) to 31.2 ft.(9.5 m) to prove a down dip width 11.2 ft. (3.4 m)

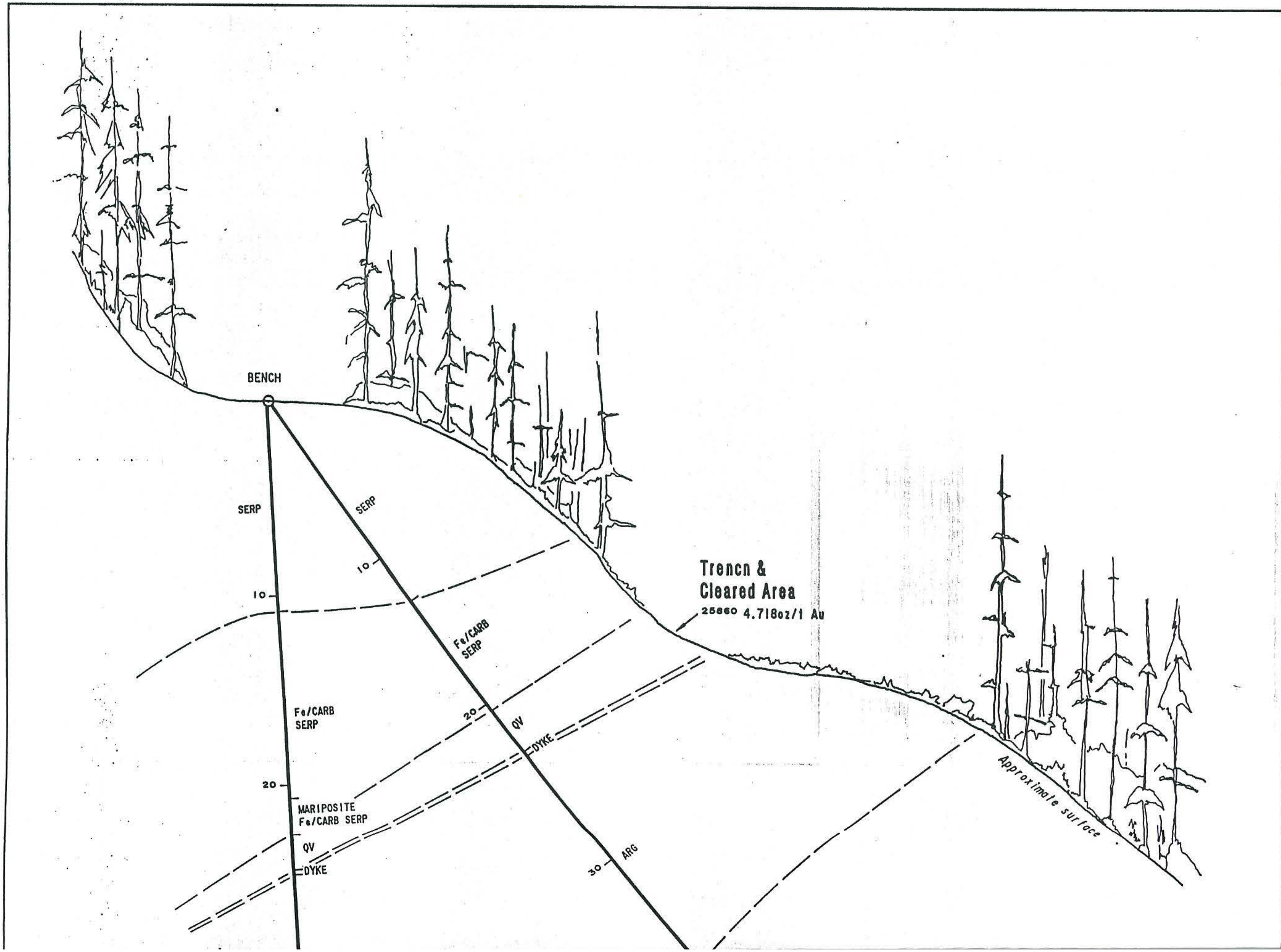
A total of 5 samples were taken as follows:

	From	To	Width	Au ppb
76380	0.0	1.5	1.5	44
76381	6.4	6.7	0.3	44
76382	6.7	7.0	0.3	32
76383	7.0	8.2	0.8	<10
76384	8.2	9.5	1.3	110

Vein average: 56.8 ppb over 10.2 ft. (3.1 m)

CORE STORAGE

All the core is stored in the H.S. Bostock Core library in Whitehorse, Yukon.


BENCH
SERP
SERP
10
10
Fe/CARB SERP
Fe/CARB SERP
20
20
QV
DYKE
MARIPOSITE
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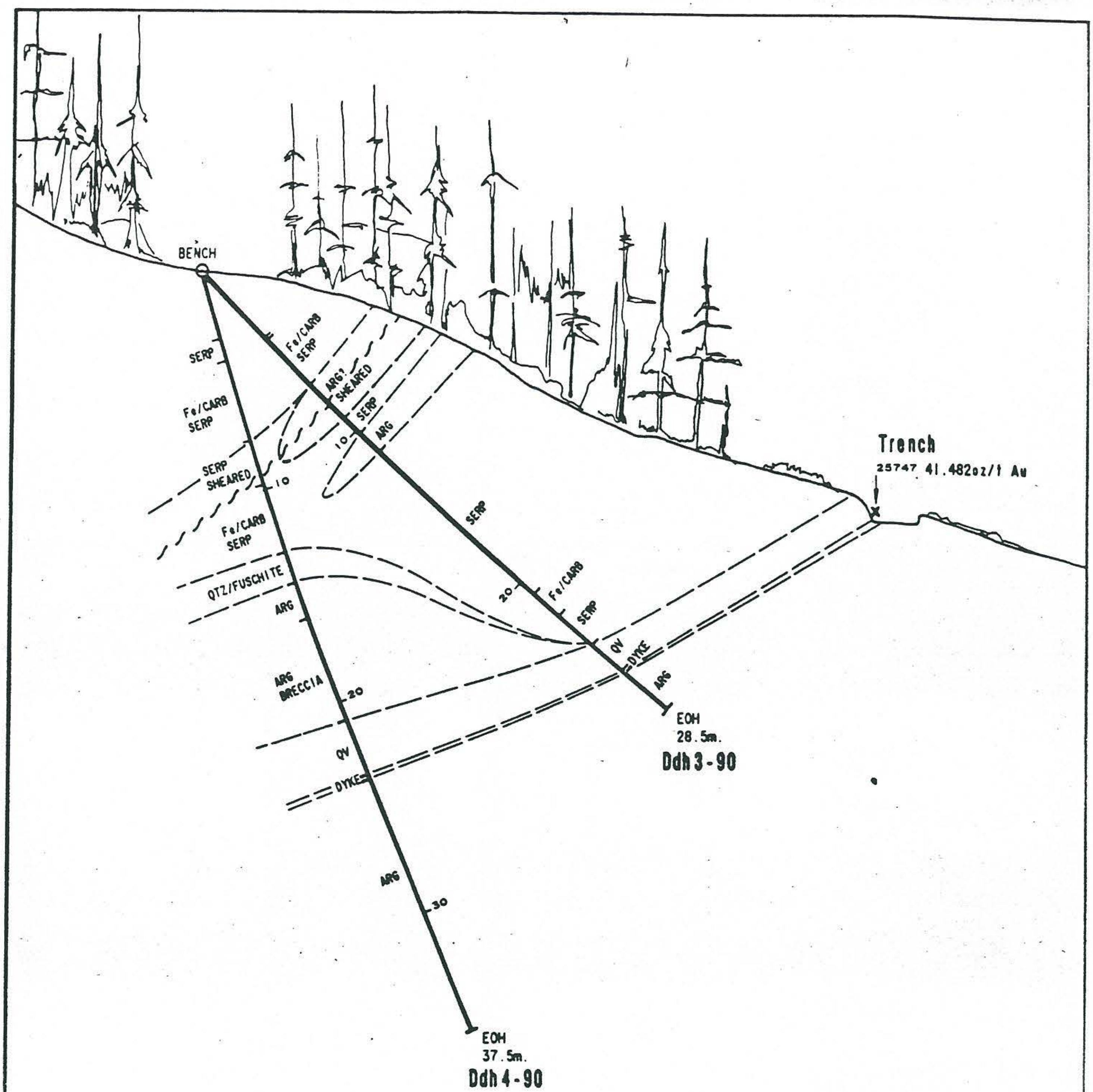
QV
DYKE
30
ARG
Trencn &
Cleared Area
25860 4.718oz/t Au
Approximate surface



LEGEND:

Fe/CARB	*Iron carbonate*
ARG	*Argillite*
SERP	*Serpentinized*
QV	*Quartz vein*

DUNVEGAN EXPLORATION LTD.

TOG PROPERTY

YUKON TERRITORY N.T.S 105C, D

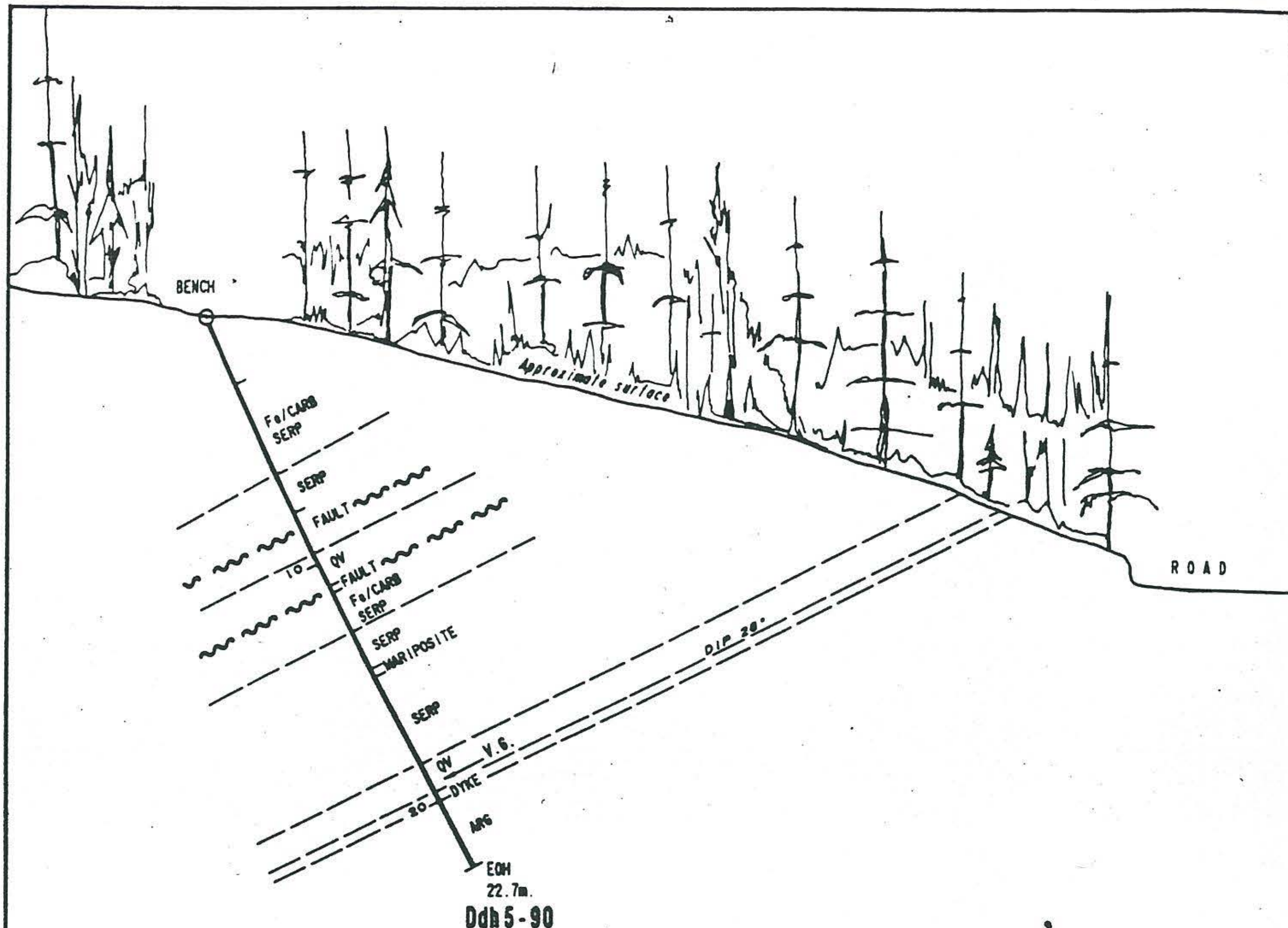
PRELIMINARY DRAWING

DIAMOND DRILLHOLE SECTION

Set up 2, Holes 3-90, 4-90

(Section azimuth 075°)

Work by: Mary Webster	Date: Dec. 1990	Scale: 1 : 250
Drawn by: Rodel E. Ortiz		Figure No. 6



LEGEND:

Fe/CARB	*Iron carbonate*
ARG	*Argillite*
SERP	*Serpentinized*
QV	*Quartz vein*

DUNVEGAN EXPLORATION LTD.

TOG PROPERTY

YUKON TERRITORY N.T.S 105C, D

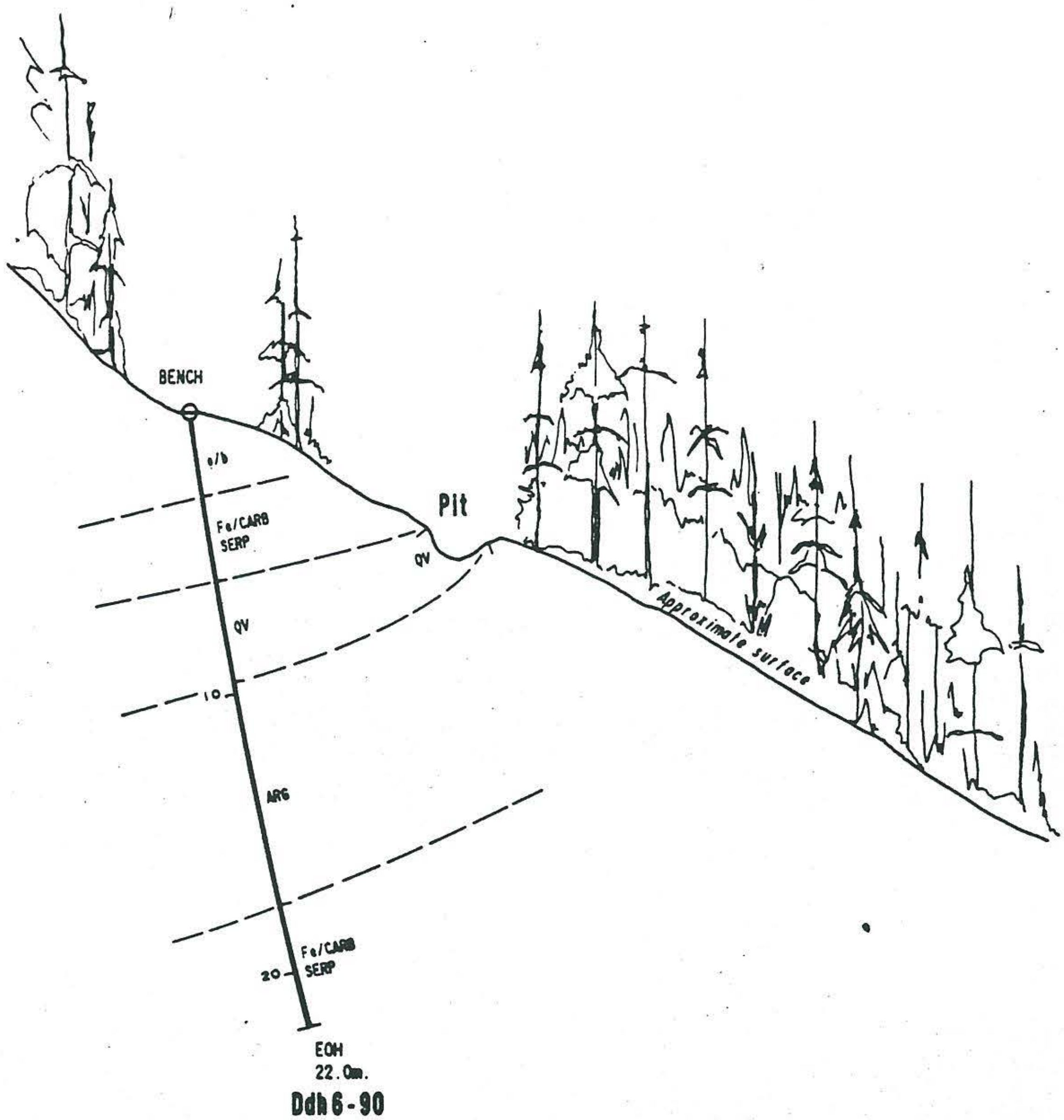
PRELIMINARY DRAWING

DIAMOND DRILLHOLE SECTION

Set up 2, Hole 5-90

(Section azimuth 040°)

Work by: Mary Webster	Date: Dec. 1990	Scale: 1 : 250
Drawn by: Rodel E. Ortiz		Figure No. 1



LEGEND:

Fe/CARB	*Iron carbonate*
ARG	*Argillite*
SERP	*Serpentinized*
QV	*Quartz vein*

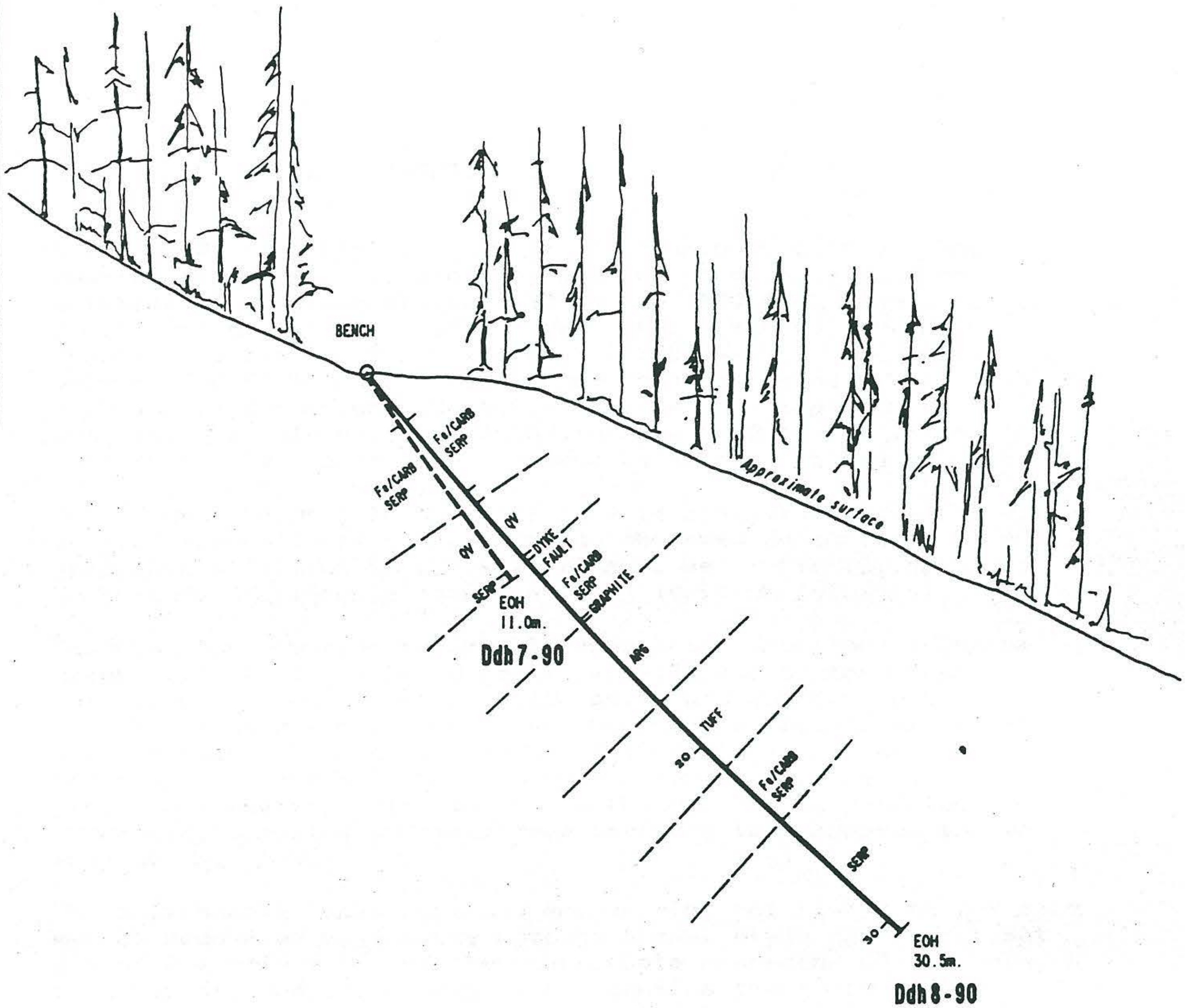
DUNVEGAN EXPLORATION LTD.

TOG PROPERTY
YUKON TERRITORY N.T.S 105C, D

PRELIMINARY DRAWING

DIAMOND DRILLHOLE SECTION
Set up 3, Hole 6-90
(Section azimuth 040°)

Work by: Mary Webster	Date: Dec. 1990	Scale: 1 : 250
Drawn by: Rodel E. Ortiz		Figure No. 8



LEGEND:

Fe/CARB	*Iron carbonate*
ARG	*Argillite*
SERP	*Serpentinized*
QV	*Quartz vein*

DUNVEGAN EXPLORATION LTD.

TOG PROPERTY

YUKON TERRITORY N.T.S 105C, D

PRELIMINARY DRAWING

DIAMOND DRILLHOLE SECTION

Set up 3, Holes 7-90, 8-90

(Section azimuth 000°)

Work by: Mary Webster	Date: Dec. 1990	Scale: 1 : 250
Drawn by: Rodel E. Ortiz		Figure No. 9

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STATEMENT OF COSTS

BULK SAMPLING PROGRAM

LABOUR		
Andy MacDonald	21 days @ $150.00 per day	3,150.00
Benny Wood	10 days @ $100.00 per day	1,000.00
Pete Hildeband	30 days @ $200.00 per day	6,000.00
Gord McCLeod	30 days @ $200.00 per day	6,000.00
TRUCK Rental	30 days @ $25.00 per day	750.00
Gas/Maintenance		640.00
EXPLOSIVES and related supplies		350.00
ROOM AND BOARD	61 Mandays @ $25.00 per day	1,525.00
Bulk Gold Assay		700.00
Scoping Cyanidation test		820.00
		$20,935.00

DIAMOND DRILL PROGRAM

DRILL PAD AND WATERLINE PREPARATION	
D8 Cat 10 hrs. @ $125.00 per hr.	1,250.00
DIAMOND DRILLING	31,070.00
860.8 FT. (262.5 m) HQ	32,320.00
GEOCHEMISTRY AND ASSAY	
30 Element ICP/Au Geochem/Sample Preparation	2,538.25
15 Metallics Assay/Sample Preparation	472.50
TRUCK Rental 20 days @ 25.00/day	500.00
Gas/Maintenance	810.00
LABOUR	
Mary P. Webster 30 days @ $200.00 per day	6,000.00
Gord McCleod 20 days @ $200.00 per day	4,000.00
Roy Roberts 4 days @ $100.00 per day	400.00
CONTRACT GEOLOGICAL SERVICES	
Bob McIntyre	3,235.00
ROOM AND BOARD	
40 Mandays @ $25.00 per day	1,000.00
COMMUNICATIONS	263.82
SURVEYING	3,278.75
REPORT PREPARATION	
Drafting	590.00
Secretarial Services/Supplies	920.00
	56,328.32
TOTAL COST (BULK AND DRILLING PROGRAMS)	$77,263.32

STATEMENT OF QUALIFICATIONS

I, Mary P. Webster, of the City of Whitehorse, Yokon Territory, do hereby certify that

1. I am a graduate in Geology with a Bachelor of Science from the University of McMaster, Ontario, in 1983.

2. Since graduation I have been engaged in mining exploration and development in Ontario, Newfoundland, Saskatewan, British Columbia and the Yukon Territory.

3. I supervised and participated in the 1990 exploration project on the TOG property.

4. I have direct interest by way of shares in the Dunvegan Exploration Ltd.

5. I have no direct interest in the TOG property.

7. I submit this letter for inclusion in assessment report material forms only.

M. P. Webster
....
Mary P. Webster
November 12, 1990

DUNVEGAN EXPLORATION LTD.

TOG PROPERTY
1990
BULK GOLD ASSAY

NORTHERN ANALYTICAL LABORATORIES
GRIND-JIG-AMALGAMATION TEST

Appendix 1

July 27,1990

Bulk Gold Assay

The following results were derived from this procedure:

1) Sample submitted by Gordon Mcleod weighed at 80 kg.
2) Sample was crushed to - 1/4 " and then to 1/8 ".
3) Sample was ground with a ball mill down to 80#.
4) Sample was concentrated using a Denver Jig. The jig reduced the sample to about 1/3 of its´ original mass.
5) The jig concentrate was then tabled. The tails were recombined with the jig tails and a sample taken and assayed. A sample was also taken from the middlings portion.
6) The table concentrate was then ground to 200# and the gold amalgamated with mercury.
7) The gold was separated from the amalgam by dissolving the mercury with nitric acid.
8) The gold was then cupelled with lead.

Results

Fraction	Assay	Weight	g Au
Conc.	82.44 %	7.034g	5.799g
Mids	443.8 g/t	1057g	0.472g
Tails	30.45 g/t	78936g	2.403g

Total Assay = 3.16 oz/t

Applied Science Technologists and Technicians of British Columbia
6992
GERALD F. HAYES
A.Sc.T.

DUNVEGAN EXPLORATION LTD.

TOG PROPERTY
1990
BACON DONALDSON AND ASSOCIATES

SCOPING CYANIDATION TEST

Appendix 2

BACON,
DONALDSON
& ASSOCIATES LTD.

12271 HORSESHOE WAY
RICHMOND B.C. CANADA V7A 4Z1
TELEPHONE (604) 277-2322
FACSIMILE (604) 274-7235

August 28, 1990

File Number: M90-240

DUNVEGAN RESOURCES LTD.
P.O. Box 4063
Whitehorse, Y.T.
Y1A 3S9

Attention: Mary Webster

Dear Madam,

Re: Scoping Cyanidation Test on Dunvegan Ore

1.0 INTRODUCTION

Bacon Donaldson and Associates Ltd. (BDA) received approximately 26 kg of high grade gold ore from Dunvegan Resources Ltd. and was requested to perform a single scoping test to provide some information on the cyanidation potential of the ore. In a telephone conversation with the client, BDA suggested a single grind-jig-cyanidation test utilizing a fine primary grind (70% minus 200 mesh) as a logical starting point in the evaluation of this ore.

2.0 DISCUSSION OF RESULTS

2.1 Sample Preparation

A single 20 litre pail of dry, minus 15 cm ore was received on August 8, 1990 at BDA's laboratory facilities in Richmond, B.C. It was noticed immediately that the ore contained significant sulphide and oxide (iron oxide, copper oxide) mineralization, but no assays were conducted to identify the specific elements at this time. The ore was jaw crushed to minus 1/4 inch, riffle-split (one half saved at this size) and the remainder was cone crushed to minus 6 mesh. From the minus 6 mesh material, samples were prepared for testwork.

2.2 Head Assay

A head assay was conducted on a 350 gram sample of the cone crushed ore. Because of the suspected high grade, free gold nature of the ore, the assay was conducted by the metallic sieve method. This method involves pulverizing the entire 350 g sample, then screening the pulp at 150 mesh to scalp off the oversize (the pulverizing is done to a degree that ensures there will be less than 25 g of +150 mesh remaining). The entire +150 mesh fraction is assayed for Au/Ag, while the -150 mesh fraction is sampled and assayed in duplicate. This assay method is based on the fact that any coarse gold in the sample will flatten rather than pulverize and will therefore report to the +150 mesh fraction (which is assayed entirely).

All assay numbers are factored together to give the head assay for the ore. By the metallic sieve method, the Dunvegan ore assayed 56.81 g/tonne Au and 112.58 g/tonne Ag (1.66 oz/ton Au, 3.28 oz/ton Ag). The complete details of the metallic sieve assay are appended.

2.3 Grind-Jig-Cyanidation

A 2000 gram sample of the Dunvegan ore was ground in a laboratory rod mill to 71% minus 200 mesh. The ground slurry was then passed through a 1" x 1" Denver, lab-scale jig to produce a rougher high concentrate of ~125 grams. This rougher concentrate was then upgraded further by hand panning to produce a small (6 g) sample which was assayed in its entirety. BDA's experience with laboratory processing has indicated that this rougher-jig, cleaner-handpan procedure closely approximates the results obtained with a full-scale, two-stage gravity processing operation.

Visual observation of the hand panned jig concentrate indicated that it contained significant free gold, with an approximate top size of 48 mesh. The hand panned jig concentrate assayed 7372 g/tonne Au (215 oz/ton Au) and recovered 49% of the gold in the sample.

The rougher jig tailings and the hand panning tailings were combined, dewatered to 40% solids and leached in a vertical agitation cyanide test for 48 hours. The test began at an initial cyanide concentration of 2.0 g/l NaCN, with the free cyanide level maintained at 1.0 g/l NaCN for the duration of the test.

Including the recovery from jigging, the grind-jig-cyanidation test recovered 70.6% Au. The extraction rate for the test is graphed in Figure 1. It can be seen from the graph that the ore was still leaching when the test was ended after 48 hours. In fact, the extraction rate has not begun to level off and depicts a straight line from time zero. This suggests that further leaching would extract more gold. At the current (straight line) leaching rate, gold extraction would reach 90% within another 48 hours of leaching.

Cyanidation of Dunvegan Ore

Gold Extraction VS. Time

TEST C1

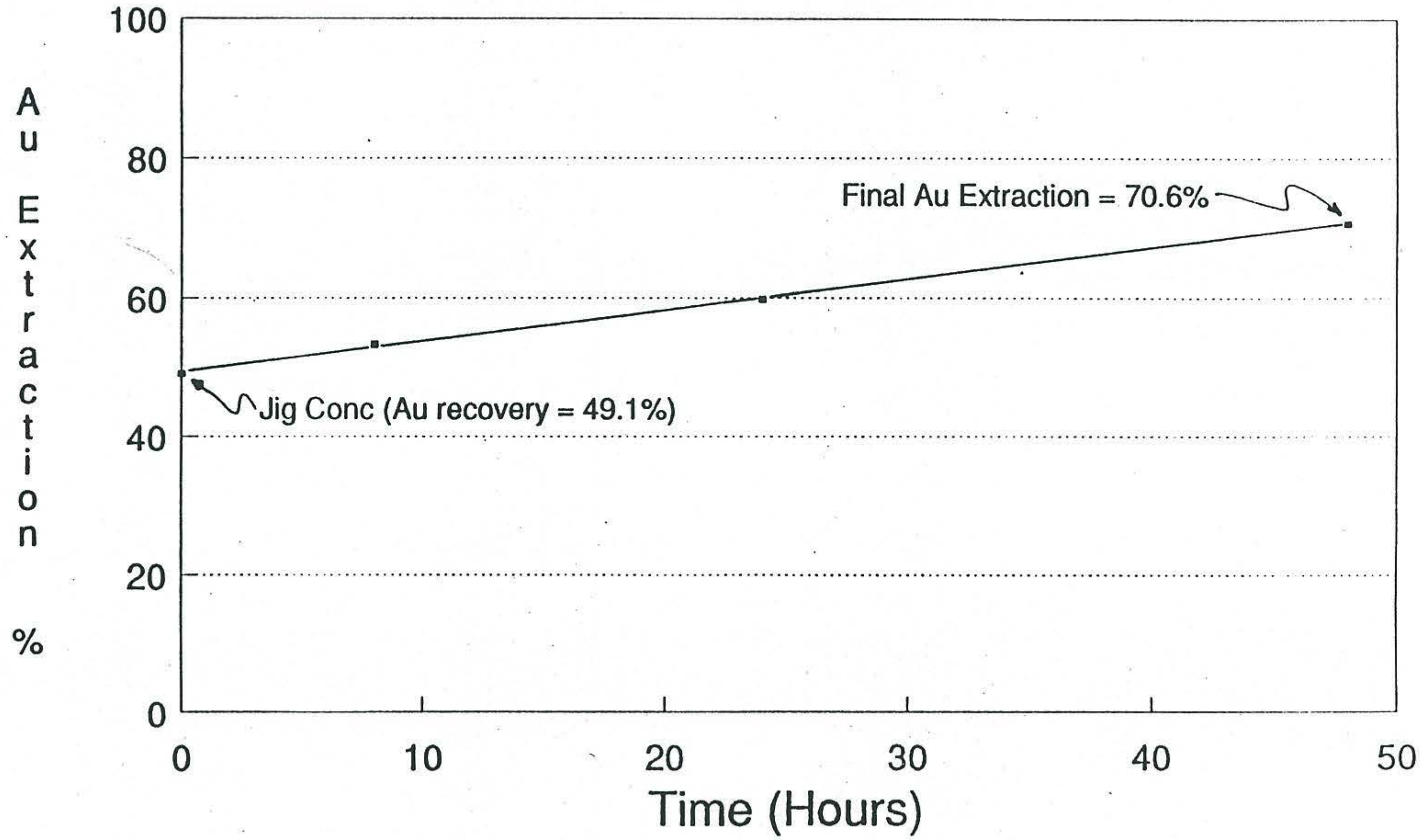

Figure 1

Cyanide consumption for this test was very high at 6.4 kg NaCN per tonne of ore. Reducing power, a qualitative indication of the dissolved contaminants in the cyanide solution, was also fairly high. To investigate this, the pregnant cyanide solution was analyzed for dissolved copper and zinc, two of the more common cyanicides (cyanide consumers). These metals were found to be dissolved in the pregnant solution at levels of 1.78 g/l Cu and 0.087 g/l Zn. These levels suggest that dissolution of copper by the leach solution was responsible for many of the problems experienced with this leach (slow leach rate for gold, high cyanide consumption) as the cyanide solution will preferentially dissolve copper before dissolving gold.

3.0 RECOMMENDATIONS

As a first attempt, the results of the single grind-jig-cyanide test are promising: 1) jig recovery was very high; 2) the ore is indicated to be leachable by cyanide. However, the ore also contains significant values of copper (and other ?) mineralization and this adversely affects the leaching of gold by consuming cyanide and by slowing the gold extraction rate. These problems are serious enough that other processing options should be analyzed.

3.1 Flotation

A grind-jig-bulk flotation test utilizing a similar grind as the cyanide test would quickly indicate if flotation holds promise. If the gold values are either "free" or associated with the sulphide minerals, then it should be possible to produce a bulk sulphide flotation concentrate that recovers most of the gold values.

Further testwork would involve cleaning flotation to upgrade the bulk concentrate into a marketable flotation concentrate.

3.2 Gravity Concentration

The results of the jig/hand-panning procedure are very promising. As the operating costs of a gravity processing plant are low compared to those of a cyanide or flotation plant, it is worthwhile to investigate the possibilities of optimizing gravity concentration. It may be possible to achieve 70 to 80% gold recovery by gravity concentration alone. There are many specialized gravity concentration techniques available besides jigging (Knelson concentrator, Falcon concentrator, etc.). Optimization would include testing some of the various gravity concentration techniques while varying the primary grind and the blend of the ore.

3.3 Mineralogy and Geology

It is highly recommended that more effort be spent at this time to define the mode of the gold occurrence, the other mineralization in the ore, and the variability of the ore grade across the deposit. The sample BDA tested was acknowledged to be a hand-picked, high grade sample. Future testwork should be conducted on average run-of-mine ore.

Yours truly,
BACON DONALDSON & ASSOCIATES LTD.

Ed Henrioulle, B.A.Sc.

Dr. M. J. V. Beattie, P.Eng.
EH/MJVB/jlb

APPENDIX I

Metallic Sieve Assay

METALLIC SIEVE ANALYSES

Project Number : M90-240
Project Name : Dunvegan Resources

Date : Aug 20/90

Client I.D.	WEIGHTS Total Sample (g)	Total +150 # (g)	Total -150 # (g)	+150 Mesh Total Sample Au (mg)	Ag (mg)	-150 Mesh 1st A.T. Au (mg)	Ag (mg)	2nd A.T. Au (mg)	Calculated Total Au (mg)	Ag (mg)	TOTAL SAMPLE Au (mg)	Ag (mg)	Average Grade (total sample) Au g/tonne	Ag g/tonne
Composite	352.81	1.25	351.56	5.411	0.691	1.211	3.238	1.217	14.633	39.030	20.044	39.721	56.81	112.58

Government Certified Assayer
BACON DONALDSON & ASSOC.

APPENDIX II

Detailed Cyanidation Results

CYANIDATION REPORT

File No :M90-240 Start Date :Aug 13, 1990
Test No :C1

Starting Conditions :

2000.0 dry g of feed Feed Description:ore
3000.0 ml of water
40.0 % solids Grind Time (min) : 22
`2.0 g/l NaCN, maintain 1 g/l
10.5 target pH
0.0 g carbon added

Test Progress :

Time hr	NaCN Conc g/l	NaCN Add g	Ca(OH)2 Conc g/l	Ca(OH)2 Add g	Start pH	End pH	O2 ppm
-1.0				1.72	8.2	10.6	0.8
-0.8				0.85	9.7	10.6	1.0
-0.5				0.88	9.8	10.7	1.2
0.0		6.00		1.07	10.1	10.6	4.0
1.0	0.50	3.00		0.00	10.9		6.5
2.0	0.75	1.35		0.00	11.0		
4.0	0.80	1.20		0.00	10.9		
8.0	0.80	1.20		0.00	11.0		
21.0	0.60	1.20		0.00	10.6		
24.0	1.00	0.00		0.00	10.6		8.5
28.5	0.80	0.60		0.00	10.7		
48.0	0.60		0.35		10.6		8.8

Reagent Consumption : NaCN = 6.39 kg/t
Lime = 1.74 kg/t
Reducing Power : RP = 600 ml of N/10 KMnO4 per l solution

Assays and Extractions :

Time hr	Product	Solids Au g/t	Solids Ag g/t	Liquid Au ppm	Liquid Ag ppm	Extract Au %	Extract Ag %
0.0	JigConc	7372.21				49.1%	
8.0	Soln			1.08		4.2%	
24.0	Soln			2.80		10.7%	
48.0	Soln			5.76		21.5%	
	Total Extracted					70.6%	
48.0	Solids	11.76				29.4%	
						100.0%	

	Au (g/t)	Ag (g/t)	Au (oz/ton)	Ag (oz/ton)
Calc Head	39.87		1.163	
Assy Head	56.82	112.61	1.657	3.284

SIZE DISTRIBUTION

SAMPLE NO: M90-240 C1 Tails

Size Fraction (mesh)		Individual Percentage Retained	Cumulative Percentage Passing
	+100	0.7	99.3
-100	+150	6.9	92.5
-150	+200	21.4	71.0
-200	+325	27.8	43.3
-325	+400	2.4	40.8
-400		40.8	

DUNVEGAN EXPLORATION LTD.

TOG PROPERTY
1990
DIAMOND DRILL PROGRAM

1990 DRILL HOLE LOGS

Appendix 3

DATE STARTED: SEPT 24/90 HOLE DIP: -65° HOLE AZIMUTH: 220° UTM COLLAR E
DATE COMPLETED: SEPT 26/90 HOLE LENGTH: [illegible] ACID TESTS: NOT DONE N
DRILLED BY: KLUANE DRILLING LTD. GEOLOGIC LOG BY: [illegible] LOGGED BY: [illegible] PAGE 1 OF 5

FROM (m)	TO (m)	LITHOLOGY	[illegible]	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
0.0	1.0 NCR	VERY DARK GREEN, FRACTURED SERPENTINITE						
1.0	13.3	VFG TO AMORPHOUS, VERY DARK GREEN MASSIVE, SPOTTED AND MOTTLED SERPENTINITE, FREQUENTLY FRACTURED; UNEVEN TO IRREGULAR [illegible]; FG TALC, CHLORITE, IRON CARBONATE QUARTZ, IRON OXIDE STAIN FILLED; <1.0MM TO 0.5M WIDE AVE 1 FRACTURE PER 10 CM., TREND 45-60°. MINOR 5-15% VFG DISSEMINATED PYRITE [illegible] FRACTURES. NIL CALCITE		82601	1.0	4.0		
		1.0-1.3 DARK GREEN SILICEOUS CHLORITIC VOLCANIC - ANDESITE? MINOR MILKY WHITE QUARTZ STRINGERS AND BLEBS 5% VFG DISSEM. PYRITE IN QUARTZ		82602	4.0	6.0		
		1.3-2.0 BROKEN CORE, ANGULAR FRAGMENTS LIMONITE, TALC 1.5 BIFURCATED 1-3CM WIDE WHITE QTZ/CHL STRINGER 55°		82603	6.0	8.0		
		2.0-5.2 SPOTTED SERPENTINITE; DARK GREEN SERPENTINITE, 1-3MM DIAMETER SUBROUND TO ROUND, BUFF VFG CLAY TO IRON CARBONATE RIMMED TRANSLUCENT GREY, AMORPHOUS 'FELDSPAR' ?? [illegible] 3-4 PER CM², WEAK FOLIATION APPROX 60°.		82604	8.0	10.0		
		3.7-4.5 BROKEN CORE		82605	10.0	12.0		
		5.2-6.1 BROKEN CORE TO GOUGE; MINOR FAULT ROUGH TALC COATED, MINOR IRON STAIN, MARIPOSITE TO CHLORITIC GOUGE AT BOTTOM OF INTERVAL. TRACE TO 5% FG DISSEMINATED PYRITE		82606	12.0	14.0		
		6.1-9.0 DARK GREYISH GREEN WEAKLY MOTTLED SERPENTINITE CROSSCUT BY 4.0-5.0MM WIDE VFG WHITE-BUFF TO LIGHT GREEN TALC, IRON CARBONATE, QUARTZ, MINOR MARIPOSITE FILLED, BIFURCATED FRACTURES						
		7.1-7.3 BROKEN CORE						
		7.8 FRACTURES - QUARTZ BIFURCATED; TRACE SULPHIDES 45°						
		8.5 FRACTURE IRON STAINED 50°						
		9.0-13.3 MODERATELY PERVASIVELY CARBONATISED DARK GREEN TO BUFF GREEN MOTTLED SERPENTINITE. FINELY SPOTTED TO ANASTOMISING, BUFF TO ORANGISH IRREGULAR PATCHES CARBONATISED SERPENTINE. MOD TO STRONG FOLIATION @ 60° ABUNDANT FINE FRACTURES INFILLED WITH FG IRON CARBONATE TALC MILKY WHITE QUARTZ, MG ROUNDED PATCHES UP TO 0.5CM DIAM PYRRHOTITE SPARSELY DISTRIBUTED ALONG FRACTURES, RED LIMONITE/ HEMATITE HALO AROUND SULPHIDE GRAINS. SHOWS VFG-FG PYRRHOTITE AND MINOR DISSEMINATED PYRITE IN STRINGERS TOTAL SULPHIDE 10%. [illegible] SULPHIDES OXIDIZED ALONG GRAIN BOUNDARIES						
		10.1 [illegible] TO > 2.0CM WIDE WHITE BUFF FG [illegible]						

FROM	TO	LITHOLOGY	GRAPHIC LOG	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
		13-13.0 MODERATELY PERVASIVELY [redacted] SERPENTINE ABUNDANT HAIRLINE [redacted] BUFF ALTERATION 1-5mm [redacted] TRANSLUCENT [redacted] VFG DISSEMINATED [redacted]		82607	14.0	15.0		
				82608	15.0	16.0		
		13.0-13.3 STRONGLY STRINGERED [redacted] SINUOUS TO BIFURCATING [redacted] STRINGERS, TREND 65-70° [redacted] VFG DISSEM PYRITE MINOR VFG PATCHES PYRITE LOWER CONTACT FRACTURED 82°		82609	16.0	18.0		
				82610	discarded			
13?	2.1	GREY GREEN TO ORANGY [redacted]		82611	18.0	18.5		
		FG-MG, DARK GREY GREEN WITH DARK GREEN [redacted] PATCHES, VERY FINE [redacted] ON? HAIRLINE FRACTURES ~50° AND 110°, [redacted] TO VERY STRONGLY PERVASIVE [redacted] ALTERATION [redacted] PERCENTAGE RANGES [redacted] FROM GREY BUFF CARBONITIZATION TO [redacted] SERP? FRAGMENTS TO >50% ORANGY Fe/MSA CLOTS IRON CARBONATE SILICA, MINOR CALCITE		82612	18.5	19.0		
				82613	19.0	19.5		
				82614	19.5	20.1		
		13.?-14.4 MOD FOLIATED, DARK GREEN GREY SERP CROSSCUT BY MANY GREY FRACTURES						
		14.4 ALTERATION HALO CONTACT TO BUFF ORANGE MOD PERVASIVE IRON CARBONATE ALTERATION CROSSCUT BY ORANGE IRON CARBONATE CALCITE (TRACE), TALC FILLED FRACTURES.						
		16.2 8cm TALCOSE GOUGE TREND 54° CONTACTS SHARP, SLICKENSIDED						
		17.0 6cm TALCOSE GOUGE - TREND 80° "						
		?.2-17.4 BROKEN CORE TO TALCOSE GOUGE "						
		17.5-18.0 ORANGE BUFF GRITTY TALCOSE GOUGE. UPPER CONTACT RAGGED OVER 5.0cm, 70°; LOWER CONTACT SHARP ~90°						
		18.0-19.? MOTTLED; BLUE GREEN TO LIGHT OLIVE GREEN ENROBED BLEACHED REMNANT SERP(?) FRAGMENTS. IRON CARBONATE ALTERATION INTERMITTENTLY PERVASIVE. MINOR TO TRACE CALCITE 30% IRON CARBONATE, 1-3% VFG DISSEMINATED PYRITE, 2-10% MARIPOSITE LOWER CONTACT GRADATIONAL						
		19.?-20.0 STRONGLY PERVASIVELY IRON CARBONATE ALTERED, WISPS TO IRREGULARLY FOLIATED CLOTS UP TO 1.5cm WIDE ORANGE-BUFF IRON CARBONATE, WISPS CHL (SERP?) DARK GREEN MATRIX						
		50% IRON CARBONATE, 1-5% VFG DISSEM PY, TRACE CALCITE LOWER CONTACT FRACTURED, ROUGH, UNEVEN						
		20.?-2?.? GREY GREEN VOLCANIC BRECCIA; FG-CG DARK TO GREY GREEN VOLC, MODERATELY COARSELY BRECCIATED						

FROM	TO	LITHOLOGY	GRAPHIC LOG	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
20.1	23.0	WHITE / BLACK GRAPHITIC QUARTZ, MINOR ARGILLITE INCLUSIONS		82615	20.1	20.6		
		FG-MG, MILKY TO BLUISH WHITE QUARTZ, GRAPHITE COATED ROUGH FRACTURES, PREDOMINANTLY ALONG QUARTZ VEIN MARGINS, RED [illegible] PLOTS IRON OXIDE, 1-15% DISSEMINATED VFG PYRITE. FG TO VFG DISSEM MILKY WHITE SCHEELITE; WEAKLY BRECCIATED, SUBANGULAR FRAGMENTS MOST COARSELY DISSEMINATED AT VEIN CORE, 0.1-4.0CM DIAM.		82616	20.6	21.1		
				[illegible]	21.1	21.8		
		20.1-20.4 OLIVE GREEN GRITTY CHLORITIC TALCOSE GOUGE INTERCALATED/INFILLING FRACTURES FROM QUARTZ FRACTURES [illegible]		82618	21.8	22.5		
		20.4-20.6 GRAPHITIC FRACTURES ~ IRREG SUTUR LINES; ROUGH GRAPHITE COATED, LIMONITE STAINED, CHROMIC SLICKENSIDES		82619	22.5	23.0		
		20.6-21.1 MILKY WHITE QTZ/GRAPHITE FRACTURED QUARTZ		82620	23.0	23.5		
		21.1-21.2 FRACTURED SLICKENSIDED SERPENTINE, IRON CARBONATE		82621	23.5	24.0		
		21.2-21.9 GREENISH BLACK QUARTZ STRINGERED ARGILLITE. CONTACTS FRACTURED, UCT BX LCT SHARP ~80° ANGLE		82622	24.0	24.5		
		21.8-22.5 WHITE MILKY QUARTZ; GRAPHITIC FRACTURES, V. MINOR FG CALCITE. TRACE VFG DISSEMINATED PYRITE ON FRACTURES. MINOR MG LIMONITE STAINED CUBIC VUGS - DISSOL. PY.		82623	24.5	25.0		
				82624	25.0	25.5		
		22.5 - 22.7 FRACTURED CORE; GRAPHITIC QUARTZ STRINGERED						
		22.7 - 23.0 FG GREY BROWN, FINELY PORPHYRITIC DYKE VFG BUFF CHILLED MARGINS 2-6CM WIDE, 3MM WIDE EXTERNAL BUFF VFG BAND. MINOR GRAPHITIC QUARTZ FILLED EMBAYMENTS AND <1.0CM DIAM BRECCIA FRAGMENTS. MINOR 'BLEACHED' BUFF 1-5MM WIDE FRACTURES SUBPARALLEL TO CORE AXIS. DYKE CONTACTS 63°						
23.0	38.2	DARK GREY BLACK PYRITIC BRECCIATED NONCALC BANDED ARGILLITE						
		VFG, LIGHT GREY TO BLACK, PERVASIVELY FINELY BRECCIATED, MODERATELY GRAPHITIC, WEAKLY TO MODERATELY SILICEOUS, MOD TO STRONGLY FOLIATED. BRECCIA CLASTS ROTATED, THIN IRREGULAR BANDS GREY, BLACK ARG, MINOR LIMONITE, MINOR QUARTZ. VFG DISSEMINATED PYRITE THROUGHOUT. FRACTURED 10-20CM, [illegible] LIMONITE STAINED. MILKY QUARTZ FILLED FRACTURES ~45°, 1 PER 25CM, <1.0CM WIDE IRREG, EMBAYED, OFFSET AND [illegible] BY LAMINAE IN LITHOLOGIC BANDS. MINOR LIMONITIC FAULTS						
		[illegible] BN 72°, QTZ FRACTURES 10°						
		[illegible] BN 70°, " " 80°						

FROM	TO	LITHOLOGY	GRAPHIC LOG	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
		25.5 FOLIATION, BRECCIATED ARGILLITE FINE PYRITE STRINGERS 40°						
		26.0-26.5 COARSELY BRECCIATED ARGILLITE, LIMONITE STAINS ALONG GREY ARGILLITE CLASTS		82625	25.5	26.0		
		26.8-27.0 FINE ARGILLITE BRECCIA, MOD. SILICEOUS 10-15% VFG PYRITE, DISSEMINATED TO WISPS, CONTACT 35°		82626	26.0	27.0		
		27.0-30.8 FAULT ZONE, V. COARSELY BROKEN CORE: BRECCIATED PYRITIC, QUARTZ STRINGERED ARG, MINOR CHLORITIC POSSIBLY SERPENTINITE FRAGMENTS. INTERSTITIAL AND FRACTURE FILLING ORANGY VFG IRON CARBONATE, CHLORITE VFG DISSEM AND LOCALLY STRINGERED PYRITE		82627	27.0	28.0		
				82628	28.0	30.0		
		27.75-28.25 LIMONITIC - IRON CARBONATE - CHLORITE GOUGE		82629	30.0	31.0		
		30.8-33.7 COARSELY BRECCIATED DARK GREY, BLACK METAMORPHOSED ARGILLITE, FRACTURED GREY GREEN VFG 'DYKE' INTERMEDIATE VOLCANIC COMMONLY LIMONITE STAINED ALONG MARGINS. MILKY QUARTZ (MINOR DISSEM. SENECITE) INTERSTITIAL TO BRECCIA FRAGMENTS. BRECCIA QTZ TRUNCATED BY LIMONITIC, PYRITIC IRREGULAR 0.1-0.5CM STRINGERS, SUBPARALLEL TO CORE AXIS AND ALONG MORE COMPETANT VOLCANIC BOUNDARIES. NARROW QTZ FILLED GASH VEINS CROSSCUT LIMONITE STAINED FRACTURES AND VOLC.		82630	31.0	32.0		
				82631	32.0	33.0		
				82632	33.0	34.0		
				82633	34.0	35.0		
		30.8-31.4 BRECCIATED ARG. INTERSTITIAL QTZ, LIMONITE-PY STRINGERS		82634	35.0	36.0		
		32.3-33.7 50% GREY GREEN BRECCIATED, FRACTURED VFG VOLC DYKE, MINOR QTZ BRECCIA, LIMONITIC FRACTURES AND GASH VEINS 32.5 GASH QTZ STRINGERS 50°		82635	36.0	37.0		
		33.7-33.9 LIMONITIC FRACTURE AND BROKEN CORE 30°		82636	37.0	38.2		
		33.9-34.6 BRECCIATED GREY, BLACK VFG ARGILLITE - 10-15% INTERSTITIAL QUARTZ BLEBS, FRACTURE FILLING 10-15% VFG DISSEMINATED PYRITE UPPER CONTACT LIMONITE STAINED.						
		34.6-38.2 STRONGLY BRECCIATED QTZ AND LIMONITE STRINGERED PYRITIC ARG WEAKLY HUMMOCKY BANDED ARG, SUBPARALLEL BANDS <1.0MM LIMONITE, FINELY DISSEMINATED PYRITE THROUGHOUT, MINOR VUGGY QTZ AND/OR LIMONITE STAINED FRACTURES, BROKEN CORE AT BOTTOM OF INTERVAL.						
		35.2 QTZ STRINGERS 40° 1.0MM TO 1.0CM WIDE, BRECCIATED						
		35.7 HUMMOCKY, BANDED ARGILLITE 75°						
		36.4-38.2 FRACTURED TO SHEARED GRAPHITIC PYRITIC ARGILLITE 37.6-38.0 FAULT; GRAPHITIC SHEAR						
		38.1-38.2 LIMONITE STAINED GRAPHITIC ARGILLITE SHEAR ZONE SUBPARALLEL TO CORE AXIS CONTACT ABRUPT / GROUND CORE						

FROM	TO	LITHOLOGY
38.2	48.5	GREY BLACK, [redacted] MG-CG, LIGHT GREY TO [redacted] FOLIATED TO LAMINATED [redacted] DISSEMINATED PYRITE. [redacted] SCHEELITE STRINGERS MOST [redacted] GRADATIONAL [redacted] MARIPOSITE; [redacted] AND LESS ALTERED [redacted], LIMONITE ON ROUGH FRACTURES. NON CALCAREOUS. 38.4 - 39.6 FG-MG VISIBLE DISSEMINATED ROUNDED TO FLAKY GOLD GRAINS LARGELY OCCUR WITHIN THE BLACK 'GRAPHITIC' MATRIX, GRAINS ALIGNED AND FOLIATED WITH MOST ROCK LINEATIONS/FOLIATIONS. BIFURCATED GREY WHITE MG-CG QUARTZ STRINGERS UP TO 4.0CM WIDE, MINOR MG DISSEMINATED SCHEELITE, 5-10% MG BLEBS DISSEM PYRITE, FOLIATED PATCHES UP TO 3.0CM DIAM BRIGHT GREEN MARIPOSITE. MINOR GROUND CORE 39.6 - 41.8 MG, STRONGLY FOLIATED TO BANDED, MARIPOSITE PATCHES CROSSCUT BY MG-CG WHITE QTZ-SCHEELITE STRG, SHARP STRINGER CONTACTS 39.8 FOL 40° 40.5 5.0CM WIDE QTZ/SCHEELITE STRINGER ~45° 40.8 - 42.0 SLIGHTLY INCREASED IRON CARBONATE 41.8 - 42.5 BROKEN CORE TO COARSE SHEAR ZONE - LIMONITE STAIN, UP TO 50% BUFF IRON CARBONATE, <10% MARIPOSITE FINELY DISSEMINATED PYRITE THROUGHOUT 8-10% PY. 42.6 FOL 40° 45.5 - 48.5 MIXED MARIPOSITE, IRON CARBONATE ALTERATION MINOR FRACTURE ZONES <0.5M WIDE, FINE GRAINED, MIXED CHARACTER, NON CALCAREOUS POSSIBLE FINE GRAINED RHYOLITE CLOTS / BLEACHED PATCHES. 47.3 - 46.0 FRACTURED CORE, MINOR NARROW QTZ STRINGERS LIMONITE, ROUGH FRACTURES 80°, 80% RECOVERY 46.3 - 46.7 FRACTURED CORE, SERPENTINE SLICKENSIDES CARBONATE STRINGERS, LIMONITE STAIN 47.0 - 47.5 FRACTURED CORE, GRAPHITIC SLICKENSIDES, TALC AND SERPENTINE SLICKENSIDES LOWER CONTACT GRADATIONAL.
48.5	52.12 EOH	GREY, BLACK GREENISH IRON CARBONATE ALTERED PYRITIC SERPENTINITE VFG FG, BLACK MATRIX, PATCHES WISPS TO IRREG BANDS LIGHT GREY NON CALC CREAMY ALTERATION. PATCHES UP TO 3.0CM [illegible] IRON CARBONATE, LIMONITE ALONG UNEVEN FRACTURES. FG-MG SUBHEDRAL TO EUHEDRAL PYRITE DISSEM THROUGHOUT, MANY SLICKENSIDES ALONG FRACTURES. MOD TO STRONG FOLIATION 40-45° THROUGHOUT V. MINOR <1.0CM QTZ STRINGERS PER METER. TALC ON FRACTURES.

GRAPHIC LOG	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
	82637	38.2	39.0	METALLICS	
	82638	39.0	39.5	"	
	82639	39.5	40.0	"	
	82640	40.0	40.5	"	
	82641	40.5	41.0	"	
	82642	41.0	41.5		
	82643	41.5	42.0		
	82644	42.0	42.5	✓	
	82645	42.5	43.0		
	82646	43.0	44.0		
	82647	44.0	46.0		
	82648	46.0	47.0		
	82649	47.0	48.0		
	82650	48.0	49.0		
	82651	49.0	50.0		
	82652	50.0	51.0		
	82653	51.0	52.12 EOH		

Sept 2/90 [signature]

Northern
Analytical
Laboratories ltd.

[illegible]

[illegible]
[illegible]
Whitehorse, Yukon

Work Order # [illegible]

File # [illegible]

Assay Certificate For Samples Provided

Sample	ppb Au
76308	127
76309	40
76310	148
76311	51
76316	98
76317	36
76318	41
76322	24
76323	29
76324	59
76325	41
76326	90
76327	45
76328	35
76329	59
76336	275
76337	89
76338	44
76339	40
76340	97
76341	37
76342	14
76343	67
76344	94
76345	27
76346	23
76347	24
76348	34
76349	18
76350	14

Au -- 15g Fire Assay/AAS

Applied Science Technologists and Technicians of British Columbia
6992
CERALD F. HAYES
A.Sc.T.

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

DATE STARTED: SEPT 26/90 HOLE DIP: -87 HOLE AZIMUTH 220° COLLAR – THOMPSON – ANTOIN
DATE COMPLETED: SEPT 28/90 HOLE LENGTH 60.0m
DRILLED BY: KWANE DRILLING LTD. GEOLOGIC LOG BY: ALAN SAMPLED BY: ROY ROBERTS PAGE 1 OF 3

FROM	TO	LITHOLOGY	GRAPHIC LOG	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
0	3.0	NO CORE RECOVERED						
3.0	10.8	VERY DARK GREEN, SPOTTED TO MOTTLED FRACTURED SERPENTINITE						
		VFG TO AMORPHOUS, VERY DARK GREEN TO BROWN GREY, FREQUENTLY SHEARED AND FRACTURED 1 PER 20CM, FRACTURES COATED BUFF-WHITE IRON CARBONATE, CALCITE, MINOR TALC. SHEARS – SLICKENSIDED TO GOUGE						
		3.0 ? 10.0CM DARK GREY SILICEOUS CHLORITIC VEIN. VFG, MODERATELY PERVASIVELY SILICEOUS 5-10% DISSEM VFG PYRITE						
		3.0 – 5.6 BROKEN SPOTTED SERPENTINITE VERY DARK GREEN, FREQUENTLY FRACTURED TO SHEARED BUFF VFG CLAY OR IRON CARBONATE ALTERED, TRANSLUCENT GREY 'SERPOND' SPOTS, 3-4 PER CM², WEAK FOLIATION 70-90°						
		5.6 – 7.0 FAULT, GREY GREEN TO DARK GREEN GOUGE NON TO LOOSELY CONSOLIDATED, TALCOSE SERPENTINITE		82654	10.0	11.0		
		7.0 – 10.8 MOTTLED DARK GREEN SERPENTINITE VFG, ANASTOMISING, GREY BUFF		82655	11.0	12.0		
		LOWER CONTACT SHEARED						
10.8	20.6	GREYISH GREEN TO BUFF MOTTLED FE CARBONATE TALC ALTERED SERP		82656	12.0	13.0		
		FG CG, DARK GREY GREEN, COARSE GRAINED DISSEM SUB TO ANHEDRAL PATCHES BROWN MICA AND DARK GREEN CHLORITE, INCREASED PERVASIVE FE CARBONATE ALTERATION WITH INCREASING METERAGE. FRACTURES TREND 60°, 1-4MM MINOR 1.0CM WIDE. TRANSLUCENT LIGHT GREEN ?? TO ORANGY IRON CARBONATE, RARE QUARTZ INFILLING. MOD TO STRONGLY FOLIATED		82657	13.0	14.0		
				82658	14.0	15.0		
		13.6 – 13.8 TALCOSE FE CARBONATE GOUGE ~ 60-80° SHEAR		82659	15.0	16.0		
		16.2 – 19.1 FREQUENTLY FRACTURED; UNEVEN TO ROUGH TALC FRACTURES						
		17.0 – 17.3 GOUGE, V. BROKEN CORE		82660	16.0	17.0		
		17.8 – 19.1 " "						
		20.0 FOLIATION 72°		82661	17.0	18.0		
		LOWER CONTACT GRADATIONAL, SHEAR AT 20.6 65°		82662	18.0	19.0		
20.6	22.4	RUSTY ORANGE IRON CARBONATE ALTERED SERPENTINITE		82663	19.0	20.0		
		VFG-CG. STRONGLY PERVASIVELY FE CARBONATE ALTERED SERPENTINITE, MOTTLED TO MOD FOLIATED WAVEY TO WISPS MASSIVE ORANGE FE CARBONATE, CORE BROKEN 3-20CM, 90° UNEVEN.		82664	20.0	20.5		
		MINOR VFG DISSEMINATED PYRITE, INTERSTITIAL CHROMITE, AND TRANSLUCENT PALE YELLOW MICA		82665	20.5	21.0		

FROM	TO	LITHOLOGY	GRAPHIC LOG	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
22.4	24.50	WHITE GREY MASSIVE QUARTZ		82666	21.0	21.5		
		CG, WHITE-GREY, MASSIVE QUARTZ, MINOR CHLORITE COATED, V. MINOR GRAPHITIC COATINGS PREDOMINANTLY ON FRACTURES AT BOTTOM OF INTERVAL CONTACTS SHEARED AND BROKEN, RARE LIMONITE STAIN, TRACE TO NIL SULPHIDES. DRILL GREASE FLOURESCES		82667	21.5	22.0		
				82668	22.0	22.4		
		22.4 - 22.6 FOLIATED SHEAR, MINOR QUARTZ STRINGERS AND CLOTS, IRON CARBONATE THROUGHOUT		82669	22.4	22.6		
		22.6 - 23.1 BROKEN MASSIVE QUARTZ		82670	22.6	23.0		
		23.1 - 24.2 MASSIVE CG WHITE QUARTZ		82671	23.0	23.5		
		24.2 - 24.5 BROKEN MASSIVE GRAPHITIC, INCLUSIONS SHEARED DARK GREEN SERPENTINITE, V. MINOR LIMONITE STAIN SPARSELY DISSEM ALONG FRACTURES WITH OXIDIZED DISSEMINATED MG PYRITE 1% DISSEM PY		82672	23.5	24.0		
		LOWER CONTACT; FAULT		82673	24.0	24.5		
24.5	24.7	LIGHT GREEN LIMONITE STAINED, ALTERED NON CALC. RHYOLITE DYKE						
		VFG, LIGHT GREY GREEN, NON CALCAREOUS RHYOLITE, MODERATELY GRADATIONALLY TO STRONGLY PERVASIVELY LIMONITE ALTERED, LIMONITIC FRONT - SUBPARALLEL TO CORE AXIS. MINOR VFG-FG QTZ STRINGERS CROSSCUT DYKE 0.1-0.5CM WIDE, VFG DISSEM PYRITE THROUGHOUT RHYOLITE; MINOR DISSEM PY, LOCALLY OXIDIZED IN STRINGERS CORE VERY BROKEN TO LIMONITIC GOUGE		82674	24.5	24.7		
				82675	24.7	25.0		
				82676	25.0	25.5		
		LOWER CONTACT; FAULT.		82677	25.5	26.0		
24.7	52.4	BLACK TO LIGHT GREY BRECCIATED FOLIATED PYRITIC ARGILLITE		82678	26.0	27.0		
		VFG-CG, MIXED MODERATELY TO STRONGLY BRECCIATED, LOCALLY BANDED ARGILLITE TO GRITTY SEDIMENTS, WEAKLY TO MODERATELY CHLORITIC, FREQUENTLY FRACTURED TO LIMONITE/CHLORITE/GRAPHITE GOUGE. MINOR NARROW (UP TO 20CM) WIDE BUFF GREY NON-CALCAREOUS BRECCIATE, 0.1-1.0 CM WIDE QUARTZ STRINGERED RHYOLITE. LIMONITIC FRACTURES AND BLAST COATINGS VFG PYRITE DISSEM THROUGHOUT, 10-15% PY, MINOR MG CLOTS PY MODERATELY TO STRONGLY FOLIATED		82679	27.0	28.0		
		24.7 - 25.0 BROKEN CORE, FO 80						
		25.3 - 25.5 BRECCIATED GREY GREEN PYRITIC RHYOLITE DYKE						
		25.7 - 25.9 " " " " "						
		26.0 27.0 BROKEN CORE. BANDING @ 30°, GOUGE AT CONTACTS,						
		[illegible] 2 - [illegible] " [illegible] BR [illegible]						

FROM	TO	LITHOLOGY	GRAPHIC LOG	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
		29.6 - 30.0 BROKEN CORE; GOUGE		82680	28.0	29.0		
		30.0 - 30.2 MINOR BRECCIATED GREY RHYOLITE CROSSCUT BY 0.5CM WHITE QUARTZ STRINGERS STRG 25°, RHYOLITE CONTACTS AND MINOR LIMONITE STRINGERS 125°		82681	29.0	30.0		
		30.5 - 31.2 BROKEN CORE, BRECCIATED RHYOLITE, 10-20% VFG DISSEM PY, LIMONITE COATINGS ON FRACTURES		82682	30.0	31.0		
		MINOR QUARTZ STRINGERS WITH COUNTRY ROCK INCLUSIONS		82683	31.0	32.0		
		31.2 - 32.5 MIXED GREY RHYOLITE BRECCIA, FG GRAPHITIC ARGILLITE MINOR SERP. FRACTURES ROUGH, LOCALLY SLICKENSIDED		82684	32.0	33.0		
		CHL (SERP), LIMONITE STAINED. VFG PY INTERSTITIALLY TO BRECCIA CLASTS, FRACTURE FILLING & DISSEMINATED		82685	33.0	34.0		
		33.0 BANDING 50°						
		33.6 - 36.0 BROKEN CORE; ROUGH GRAPHITIC, COARSELY BRECCIATED AND MIXED GREY BLACK ARGILLITE, MINOR GRAPHITIC		82686	34.0	36.0		
		GOUGE, RARE SLICKENSIDES		82687	36.0	38.0		
		36.5 - 37.2 BROKEN SLICKENSIDED CORE						
		38.6 - 39.4 BROKEN MIXED GRAPHITIC ARGILLITE; LOWER 40.0CM GRAPHITIC GOUGE.		82688	38.0	40.0		
		41.0 - 45.5 CORE BROKEN 2-20CM; GRAPHITIC SLICKENSIDES COMMON, LIMONITE STAIN.		82689	40.0	42.0		
		41.0 - 41.5 VUGGY, PITTED CORE, WEATHERED OUT		82690	42.0	44.0		
		47.5 - 47.8 LIGHT GREY CHERTY PYRITIC ARGILLITE, BROKEN CORE		82691	48.0	50.0		
		47.8 - 50.9 BRECCIATED PYRITIC ARGILLITE CROSSCUT BY LIMONITE - PYRITE STRINGERS MINOR CHLORITIC GOUGE						
		50.9 - 52.4 GRAPHITIC CHLORITIC SHEARED ARGILLITE; GRITTY CG QUARTZ, CHL, 5% DISSEM. FG PYRITE SHEAR @ 50°		82692	24.3	24.5	GRAB	
52.4	60.0	DARK GREEN FRACTURED TALCOSE SERPENTINITE		82693	32.0	32.2	GRAB	
	EOH	VFG DARK GREEN, MOD TO STRONGLY SHEARED TALCOSE SERPENTINITE, MINOR <5% DISSEM PY, V. RARE QUARTZ STRINGERS (2 AT TOP OF INTERVAL)		82694	47.4	47.6	GRAB	
		52.4 - 52.8 ORANGY SHEARED FE-CARBONATE ALTERED SERPENTINITE						
		56.0 FOLIATION 42°						
		57.0 - 58.1 BROKEN CORE TO SHEAR AT EOH						

M. P. Webster
Sept 29/90

DATE STARTED [illegible]
DATE COMPLETED SEPT. 29/90
DRILLED BY KLUANE DRILLING LTD

HOLE DIP: -57° AZIMUTH 75°
TOTAL LENGTH (FT): 93.5 (M): 28.5
LOGGED BY RLM

COLLAR: N:
E:
EL:

SAMPLED BY Roy Roberts

FROM (m)	TO (m)	LITHOLOGY	[illegible]	SAMPLE #	FROM	TO	Au g/t	Ag g/t
0	4.6	NO RECOVERY						
4.6	4.9	FG-MG VERY DARK GREEN FRACTURED, SLIGHTLY ALTERED SERPENTINITE; NUMEROUS V. SMALL (<.2cm) QTZ VEINLETS w/ VFG DISS SULPHIDES IN QTZ						
4.9	7.43	RUSTY ORANGE Fe CARB. ALTERED SERPENTINITE VFG-CG, STRONGLY PERVASIVELY ALTERED, CORE BROKEN						
7.43	9.5	GREY BLACK GRAPHITIC SHEAR BRECCIA (?) CORE VERY SOFT - MUSHY						
9.5	10.2	GREYISH - BUFF MODERATELY - STRONGLY (AT LOWER CONTACT) [illegible] Fe - CARB ALTERED SERPENTINITE; MOTTLED; [illegible] 10.1						
10.2	11.7	GREY - BLACK GRAPHITIC SHEARED ARGILLITE; NON PYRITIC						
11.7	21.0	GRAYISH GREEN TO BUFF MOTTLED Fe CARBONATE TALC ALTERED SERPENTINITE - UNIT APPEARS AS 10.8 - 20.6 IN DDH 2-90; GRADES INTO AND OUT OF GREYISH GREEN CHLORITIC ALTERED SERP FROM 17.4 - 19.0		76304	24.6	25.2		
21	24.4	MODERATELY, LOCALLY TO PERVASIVELY CARBONATISED VERY DARK GREEN TO BUFF GREEN MOTTLED, SHEARED SERPENTINITE; 1-2 cm QTZ STRINGERS THROUGHOUT STRONGLY LIMONITIZED SHEARS / FRACTURES		76305 76306	25.2 25.4	25.4 25.7		
24.4	26.2	MASSIVE MILKY WHITE QTZ VEIN (S) → SEPARATED BY 15 cm DYKE 24.4 - 25.3 MASSIVE QTZ; VERY MINIMAL GRAPHITIC SHEARING 25.3 - 25.45 GREENISH - GREY ALT. RHYOLITE DYKE; VFG PYRITE DISSEMINATED THROUGHOUT 25.45 - 25.5 QTZ - ABUNDANT GRAPHITIC SHEARS 25.5 - 25.6 GRAPHITIC SHEAR THROUGH QTZ VEIN 25.6 - 26.2 MASSIVE MILKY QTZ, ABUNDANT .2 - 1 cm GRAPHITIC SHEARS		76307	25.7	26.0		
26.2	26.5	GREY - GREEN ALT. (BLEACHED) RHYOLITE DYKES; LIMONITE STAINED, 1 cm QTZ STRINGER, NO SULPHIDES						
26.5	28.5 E.O.H.	BLACK TO LIGHT GREY BRECCIATED FOLIATED PYRITIC ARGILLITE VFG-CG, MODERATELY TO STRONGLY BRECCIATED; LARGELY COARSELY BRECCIATED LOCALLY PYRITIC						

DATE STARTED: [illegible]
DATE COMPLETED: [illegible] 30 [illegible]
DRILLED BY: KLUANE DRILLING LTD.

HOLE DIP: -78°
HOLE LENGTH 117'
LOGGED BY: RLM

AZIMUTH: 45°
SAMPLED BY

COLLAR: N
E
Z

FROM (m)	TO (m)	LITHOLOGY	GRAPHIC LOG	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
0	3	NO CORE						
3	4	VFG TO AMORPHOUS, LIGHT GREEN PYRITIC SERPENTINITE, FREQ. FRACTURES IRON OXIDE IN FRACTURES W/ MORE ABUNDANT PY; VFG DISSEM. PY THROUGHOUT						
4.1	7.9	BUFF MOTTLED Fe-CARB TALC ALTERED SERP. UPPER CONTACT OBSCURED BY LOSS OF CORE. LOWER CONTACT SHEARED TO GOUGE 4.1 - 6.0 BROKEN CORE 6.0 - 7.8 BUFF TO ORANGE MOTTLED, FREQ. TALC / CALCITE STRINGERS VERY SOFT, HIGHLY ALTERED ROCK, SOME Fe STAINING BUT NO SULPH 7.8 - 7.9 GOUGE TO SHEARED CONTACT						
7.9	9.8	MG VERY DARK GREEN SERPENTINITE (TALCOSE), MOD TO STRONGLY SHEARED NO QTZ STRINGERS - VIRTUALLY ALL BROKEN CORE, APPROX 50% RECOVERY						
9.8	12.8	MG-CG GREYISH GREEN Fe CARBONATE TALC ALTERED SERPENTINITE, LIMONITE ON FRACTURES W/ MINOR OCCASIONAL QTZ VEINLETS, MINOR VFG DISSEMINATED PYRITE; MODERATELY TO STRONGLY PERVASIVELY ALTERED 2 CM MILKY WHITE QTZ VEINLET MARKS LOWER CONTACT						
12.8	14.5	VFG-MG SMOKY GREY QTZ / CHALCEDONY; FRACTURED, LOCALLY WHITE QTZ. FUCHSITE W/ PYRITE IN VERY SMALL STRINGERS AND CLOTS THROUGHOUT 90° TO CORE AXIS, LOWER CONTACT IS GRADATIONAL INTO ARGILLITE UNIT 12.8 - 13.6 FG-MG GREY QTZ W/ MINOR FUCHSITE/PY IN 1:1 RATIO 13.6 - 14.5 FG-MG GREY QTZ W/ ABUNDANT FUCHSITE/PY PYRITE IN CLOTS ALONG FUCHSITE FRACTURES AS WELL AS VFG DISS IN QTZ; MINOR LIMONITE ON FRACTURES						
14.5	16.1	MG-CG GREY-BLACK QTZ RICH BANDED ARGILLITE; FRACTURED / BRECCIATED VERY MINOR VFG DISS. PY LOCALLY, WITH V. MINOR FUCHSITE 16.0 - 16.1 10 CM QTZ VEIN W/ DOGTOOTH XTAL INTERGROWTHS						
16.1	21.0	V. DARK GREY - BLACK BRECCIATED BANDED BARREN ARGILLITE; <2 CM QTZ VEINLETS ABUNDANT; MINOR FUCHSITE, TRACE TO NIL SULPHIDES		82698	21.0	21.7		
				82699	21.7	22.9		
21.0	[illegible]	MASSIVE MILKY WHITE QTZ [illegible] OR [illegible]						

DUNVEGAN EXPLORATION LTD. - TOG PROPERTY

FROM	TO	LITHOLOGY	SAMPLE	FROM	TO	
		20.75 - 21.65 9cm GREENISH GREY VOLCANIC BRECCIA, < 1cm (ALTERED DYKE) QTZ VEINLETS w/ LIMONITE RIMS w/ FG PYRITE				
22.6	35.7	21.65-22.6 MASSIVE MILKY QTZ. VEIN, BARREN VFG PY DISSEMINATED	82700	22.9	23.9	
	E.O.H.	GREY - BLACK FRACTURED, BRECCIATED ARGILLITE ; VFG DISSEM. PYRITE AND MINOR FUCHSITE, A FEW SMALL (< 6 CM) QTZ VEINS; SUSPECTED V. GOLD (VG)	76301	23.9	24.9	
		22.6 - 23.7 BLACK, FRACTURED, BANDED ARGILLITE, [illegible]	76302	24.9	25.7	
		23.7 - 23.8 MILKY QTZ. VEIN, BRECCIATED CONTACTS, MINOR XTAL GROWTH ON RIMS, BARREN OF SULPHIDES				
		23.8 - 28 BLACK/GREY COARSELY BRECCIATED / FRACTURED ARGILLITE w/ QTZ. STRINGERS < 2CM ABUNDANT ; 5-10% VFG DISS. PY	76303	33.0	33.6	GRAB
		.8 - 32 AS ABOVE w/ SOME FUCHSITE IN QTZ, 10% DISS. F.G. PY				
		32 - 32.05 QTZ VEIN, DOG TOOTH XTAL GROWTH @ MARGINS, 85° TO CORE, BARREN				
		32.05 - 33.0 GREY BLACK ARGILLITE UNIT WITH SOME FUCHSITE IN QTZ, 10% DISS. F.G. ~ VFG. PYRITE				
		33 - 33.05 QTZ VEIN, DOG TOOTH XTAL GROWTH @ MARGINS, 90° TO CORE AXIS, BARREN				
		33.05 - 35.7 GREY ~ BLACK [illegible], FRACTURED, [illegible] GRAINED THAN ABOVE, PYRITE BECOMES SCARCER TO NIL WITH DEPTH				

E.O.H.

[signature] 90.10.01

DATE STARTED : [illegible]

DATE COMPLETED : OCT. 1 90

DRILLED BY : [illegible] DRILLING LTD.

HOLE DIP : -65° AZIMUTH : 40° COLLAR N :

E :

TOTAL LENGTH (F): 74.5 (M): 22.7 Z :

LOGGED BY : RCM

FROM (m)	TO (m)	LITHOLOGY
0	2.7	≃15% RECOVERY REAMED/CASED CAVE : ROUNDED PIECES OF GREENISH-GREY ALTERED SERPENTINITE
2.7	6.4	≃25% RECOVERY BUFF - ORANGY MG FE CARB. ALTERED SERP ; BROKEN CORE, MODERATELY PERVASIVELY ALTERED
6.4	7.9	DARK GREENISH-GREY FRACTURED SERPENTINITE ; NUMEROUS .5CM QTZ VEINLETS
7.9	9.5	COMPLETELY DEFORMED GREENISH-GREY FAULT GOUGE ; CLAYEY CONSISTENCY 60-70% CORE (SIC) RECOVERY
9.5	10.7	1.2 m MASSIVE MILKY WHITE <u>QUARTZ VEIN</u>, MINOR GRAPHITE SHEARING GRAPHITIC SHEARS W/ PYRITE MORE ABUNDANT AT UPPER AND LOWER CONTACTS (FOR 5-10 CM) 10.7 - AZURITE / MALACHITE IN HAIRLINE FRACTURES ; BLACK SULPHIDE (TETRAHED?) IN V. SMALL FRACTURE FILLINGS AT LOWER CONTACT
10.7	11	GREENISH GREY COMPLETELY DEFORMED CLAYEY FAULT GOUGE
11	12.8	GREYISH GREEN FE CARBONATE TALC ALTERED SERPENTINITE
12.8	14.3	GREY, MOTTLED SHEARED SERPENTINITE ; SEVERAL .5CM - 3CM QTZ VEINS 90° TO CORE AXIS
14.3	14.6	GREYISH GREEN MARIPOSITE ALTERED SERPENTINITE, LIMONITIC FRACTURES, SOME 1 CM QTZ VEINLETS
14.6	18.3	VERY DARK GREEN TO BLACK FRACTURED SERPENTINITE ; 99% CORE RECOVERY 2.0CM QTZ VEIN + 5CM QTZ VEIN W/ LIMONITIZED RIMS AT LOWER CONTACT
18.3	19.6	1.3 M MASSIVE MILKY WHITE <u>QUARTZ VEIN</u> 19.3 - 19.4 10 cm FOLIATED, SHEARED, LIMONITIZED, ALTERED SERP 19.5 - 19.6 SULPHIDES IN HAIRLINE FRACTURES AND .1CM CLOTS, VISIBLE GALENA, CHALCOPYRITE, PYRITE ; VISIBLE GOLD ON CORE ENDS (GRAPHITE SHEAR)
19.6	19.9	GREENISH GREY ALTERED NON CALC. RHYOLITE DYKE; PYRITE
19.9	22.7	BLACK TO GREY MOTTLED BRECCIATED FOLIATED PYRITIC ARGILLITE, PYRITE

E.O.H. [illegible] ...PTH

CORE ANGLE	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
	76308	9.61	9.76		
	76309	9.76	10.25		
	76310	10.25	11.29		
	76311	11.29	11.47		
	76312	11.47	11.59	CHECK	
	76313	11.47	11.59		
	76314	11.59	11.77	CHECK	
	76315	11.59	11.77		
	76316	11.77	12.08		
	76817	17.87	18.00		
	76818	18.00	18.30		
	76819	18.30	18.48		
	76820	18.48	18.61	CHECK	
	76322	18.48	18.61		
	76821	18.61	18.79	CHECK	
	76323	18.61	18.79		
	76324	18.79	18.91		
	76325	18.91	19.09		
	76326	19.09	19.22		
	76327	19.22	19.40		
	76328	19.40	19.52		
	76329	19.52	19.70		
	76330	19.70	19.83		
	76331	19.70	19.83	CHECK	
	76332	19.83	20.01		
	76333	19.83	20.01	CHECK	
	76334	20.01	20.31		
	76335	20.01	20.31	CHECK	

HOLE [illegible]

PAGE 1 OF 1

DATE STARTED: OCT. 3/90
DATE COMPLETED: OCT. 4/90
DRILLED BY: KLUANE DRILLING LTD.

HOLE DIP: -[struck out] -80° AZ.: 40°
HOLE LENGTH: 72' 22m
LOGGED BY: RLM
SAMPLED BY: R. ROBERTS

COLLAR: N:
E:
Z:

FROM	TO	LITHOLOGY	SAMPLE NO.	FROM	TO	Au g/t	Ag g/t
0	3	10% RECOVERY OF CRUMBLED FRAGMENTS IN OVERBURDEN AND WEATHERED BEDROCK; CHUNKS OF BULL QUARTZ @ VERY TOP, CONTAINING SOME SLIGHT AZURITE/MALACHITE STAINING ON ONE PIECE	76345	2.7	2.9		
			76346	6.3	6.4		
3	6	RUSTY ORANGE TO BUFF MOTTLED IRON CARBONATE ALTERED SERPENTINITE	76347	6.4	6.7		
			76348	6.7	7.0		
6	9.7	MASSIVE MILKY WHITE TO GREY MOTTLED QUARTZ — BROKEN CORE / MATRIX ARGILLITE ie 25% RECOVERY	76349	7.0	7.3		
		- THERE APPARENTLY A POSSIBLE ZONATION OF THE QUARTZ INVOLVING GRAPHITE HEALING FRACTURES AT DOWNHOLE ENDS OF MORE GREY MOTTLED QUARTZ THAT ALWAYS APPEAR, MINOR VFG PYRITE; VERY POOR RECOVERY PRECLUDES ACCURATE OR RELIABLE DEPTH MEASUREMENTS	76350	7.3	7.6		
9.7	17.8	BROWNISH BLACK BRECCIATED GRAPHITIC ARGILLITE; DECOMPOSED; CORE ALL CRUMBLED POOR RECOVERY; LIMONITIC FRACTURES (CORE NOT COMPETENT ENOUGH FOR ∠ DETERMINATIONS) - SOME AREAS ALTERED TO CLAYEY FAULT GOUGE, SAND OLIVE HUE	76376	7.6	7.9		
			76377	7.9	8.5		
			76378	8.5	8.8		
17.8	22 E.O.H.	MG STRONGLY ALTERED LT-GREY TO GREENISH GREY TALC MARIPOSITE ALTERED SERPENTINITE - PYRITE TO 1mm GRAINS ASSOCIATED WITH MARIPOSITE IN LISTWANITE FACIES	76379	8.8	9.8		
		17.8 - 18.3 MOTTLED GRAYISH FRACTURED LAMINAR SERP., WEAKLY TO NIL PYRITIZED					
		18.3 - 18.45 MARIPOSITE / VFG 10% Py, MGRAINED					
		18.45 - 20.4 PURPLISH GREY MOTTLED, MARIPOSITE / TALC CLOTS TO .5 cm					
		20.4 - 22.0 AS ABOVE, WITH GREATER RUSTY (LIMONITIC) FRACTURE CONTAINING ABOVE EOH					

DATE STARTED: OCT 3 /[illegible] HOLE DIP: -50° AZIMUTH: 360° COLLAR N:
DATE COMPLETE: OCT 4 [illegible] TOTAL LENGTH (ft): 100 (m): 30.5 E:
DRILLED BY: KLUANE DRILLING LTD. LOGGED BY: RLM Z:

FROM (m)	TO (m)		SAMPLE No	FROM	TO		
0	2.2	NO RECOVERY : OVERBURDEN / WEATHERED BEDROCK	76380	0.0	1.5		
2.2	6.1	ALTERED ULTRAMAFIC – GREY ~ LT. GREEN SOME FG CARB TALC ALTERED SERP – FG, MOTTLED, SOME LIGHT GREY * NOTE AT 2.3 M, SEVERAL CRUMBLED PIECES (IN AREA OF POOR RECOVERY) OF BULL QUARTZ ∴ A SMALL CROSS FRACTURE (?) STRUCTURE OF QUARTZ VEIN, FROM .5-10cm THICK OCCURS. BROKEN/CRUMBLED CORE IN ENTIRE TOP 3 METRES MAKES DEPTH DETERMINATION OF THIS SMALL VEIN UNRELIABLE. – ALL ABOVE UNIT(S) RETURNED APPROX 25% CORE RECOVERY	76381	6.4	6.7		
6.1	9.5	MASSIVE MILKY WHITE BULL QUARTZ VEIN ; APPROX 20% RECOVERY – ALL CORE BROKEN, CRUMBLED, VERY POOR RECOVERY – UNRELIABLE STRATIGRAPHY – QUARTZ AT 9.46-9.5 (4cm) HAS MINOR Py, GRAPH, SHEARS	76382 76383	6.7 7.0	7.0 8.2		
9.5	9.6	CG OLIVE ~ BUFF ALTERED SERP. WITH FRAGMENTS OF ALTERED [illegible] DYKE – DYKE FRAGMENTS TO 2 cm, DISTORTED	76384	8.2	9.5		
9.6	10.7	RUBBLE FROM CAVED MATERIAL ; ALTERED SERP.					
10.7	12.8	FG · MG LT. GREENISH GREY ALTERED ULTRAMAFICS ; PYRITIC, LIMONITE ALONG FRACTURES 45° TO CORE AXIS					
12.8	13.4	BLACK, LAMINATED GRAPHITIC MATERIAL ; CORE ALL CRUMBLED FRAGMENTS					
13.4	17.9	AG BLACK PYRITIC GRAPHITIC ARGILLITE w/ TUFFACEOUS BEDS ; QTZ VEINLETS CROSSCUTTING AND FRACTURED QTZ VEINLETS TO 1cm INCREASE WITH DEPTH, GRADES INTO LT GREY INDURATED TUFF AT LOWER CONTACT LIMONITE ALONG ALL FRACTURES @ 65° TO CORE AXIS					
17.9	21.3	LT. GREY APHANITIC – PORPHYRITIC TUFF (?) WITH SOME FLOW STRUCTURE QTZ VEINLETS TO 1cm PARALLEL TO FLOW (45° TO CORE AXIS) WITH MINOR LIMONITIC RIMS ; VFG DISSEMINATED PYRITE WITHIN & ADJACENT TO QUARTZ VEINING – FLOWS ARE 2-5cm THICK. OCCASIONAL 5 cm INTERCALATIONS OF [illegible]	NOTE:	LEAD SHOT FROM DRILLERS CORE TUBE MALLET FELL INTO THIS BOX – CAUSE OF CONTAMINATION IF ASSAYS CONTAMINATED. [illegible]			

DATE STARTED : OCT. 03/90
DATE COMPLETE : OCT. 03/90

DRILLED BY: KLUANE DRILLING LTD.

HOLE DIP : -54° AZIMUTH : 340°
TOTAL LENGTH (F): 36 (M): 11

COLLAR N
E :
Z :

FROM (m)	TO (m)	LITHOLOGY	SAMPLE NO.	FROM	TO		
0	2.4	NO CORE- OVERBURDEN					
2.4	6.7	GREYISH GREEN TO BUFF, MOTTLED FE-CARB TALC ALTERED SERPENTINITE FG-CG, MODERATELY TO STRONGLY FE CARB ALTERED					
		2.4 - 3.0 POOR RECOVERY, MIXED ROUNDED UNRELIABLE FRAGMENTS (CAVED)					
		3.0 - 5.4 GREY-GREEN TALCOSE SERP, POOR RECOVERY — [illegible] PIECES WISPY TALC, LIMONITE ON SHEARS	76336	6.1	6.3		
		5.4 - 5.8 ORANGEY FE CARB PERVASIVELY STRONGLY ALTERED SERP. LOWER CONTACT GRADATIONAL	76337	6.3	6.7		
		5.8 - 6.1 GREY GREEN FE CARB TALC ALTERED SERP.	76338	6.7	6.9		
		6.1 6.7 SAND - REAMED THROUGH CAVE IN	76339	6.9	7.3		
			76340	7.3	7.9		
6.7	9.5	MILKY WHITE MASSIVE QUARTZ VEIN 50% RECOVERY, SOME SECTIONS BROKEN	76341	7.9	8.2		
		- DUE TO POOR RECOVERY AND FRACTURED/RUBBLED NATURE OF CORE, STRATIGRAPHY (IN REGARDS TO APPARENT FACIES CHANGES - IE MORE OR LESS ABUNDANT GRAPHITIC SHEARS IN FRACTURES) IS UNRELIABLE	76342	8.2	8.5		
		- POSSIBLE ZONATION OF VEIN	76343	8.5	9.0		
		- NO V.G., TRACE SULPHIDES					
9.5	11	MG VERY SLIGHTLY PYRITIC FRACTURED MODERATELY ALTERED SERP - VERY POOR RECOVERY; CRUMBLED FRAGMENTS	76344	9.0	9.5		
	E.O.H.						

90.10.06

Northern Analytical Laboratories ltd.

[illegible]

[illegible]
[illegible] Main St.
Whitehorse, Yukon

Work Order # 08437

File # 08437a

Assay Certificate For Samples Provided

Sample	ppb Au
82654	294
82655	<10
82656	<10
82657	14
82658	120
82659	23
82660	28
82661	21
82662	<10
82663	19
82664	14
82665	15
82666	<10
82667	<10
82668	25
82669	67
82670	120
82671	<10
82672	<10
82673	43
82674	168
82675	209
82676	64
82677	206
82678	29
82679	177
82680	139
82681	171
82682	143
82683	396

Au -- 15g Fire Assay/AAS

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FROM (m)	TO (m)	LITHOLOGY	
21.3	24.0	BUFF FG-MG Fe CARB TALC ALTERED SERPENTINITE ; CLOTS TO 2 cm TALC, CHROME MICA VARIES IN ABUNDANCE ALONG SECTION, OCCURS ALONG HAIRLINE FRACTURES STRONGLY, PERVASIVELY ALTERED	
24.0	24.3	ABOVE UNIT GRADES INTO (OVER 5 cm) LT. GREY FACIES W/ ABUNDANT CHROME MICA, CHLORITE CLOTS, FRACTURED – FUCHSITE/ MARIPOSITE MORE ABUNDANT AT LOWER CONTACT, ALONG WITH MINOR VFG PYRITE ARRANGED WITHIN MARIPOSITE CONCENTRATIONS	NO SAMPLES TAKEN
24.3	30.5 E.O.H	LT GREY TO SLIGHTLY GREENISH GREY MOTTLED TALC ALTERED SERPENTINITE 24.3 - 29.3 - DARK GREENISH GREY, RARE LIMONITE ON FRACTURED FACES OCCASIONAL 1cm QTZ - CARB VEINLET 90° TO AXIS 29.3 - 30.5 - LT. GREY, FG, PURPLISH TALC CLOTS TO .5 cm GIVES PURPLISH HUE TO CORE; SOME .2 cm V. LIGHT GREENISH TALC CLOTS – RARE PYRITE TO 1mm IN MATRIX	

DUNVEGAN EXPLORATION LTD.

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1990
DIAMOND DRILL PROGRAM

ASSAY CERTIFICATES
(INCLUDING CHECK SAMPLES)

Appendix 4

Northern
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TRACE LEVEL GOLD FIRE ASSAY

15g of sample is mixed with a suitable flux in a 30g crucible, inquarted with 2 mg Ag and fused at 1900 F. The contents of the crucible are poured into a mould and allowed to cool. The slag is broken off and discarded. The lead button is then pounded into a cube.

The lead button is placed into a bone ash cupel which has been preheated to 1800 F. When the lead is completely molten, the temperature is dropped to 1750 F. The dampers are opened to allow air inside the furnace. When cupelation is complete, the cupel is taken out and allowed to cool.

The silver-gold prill is picked out of the cupel and dropped into a 16 x 150 mm test tube. 2 mls of 1:1 Nitric Acid is added and the test tube is heated to dissolve the silver. 3 mls of HCl are then added to dissolve the gold. The test tube is made up to 10 mls using a reference, mixed and run on the A.A.

ORE GRADE GOLD FIRE ASSAY

The furnace procedure is identical to the above method except that 30g or one Assay Ton of sample is usually weighed.

The resulting silver-gold prill is picked out of the cupel and hammered flat and dropped into a porcelein crucible. 1:9 Nitric acid is added and the crucible is placed on a 250 F hot plate until all the silver is dissolved. Some Conc. Nitric is added to ensure complete dissolution of the silver. The Silver Nitrate solution is decanted off and the gold is washed three times with D.I. water. The crucible is then replaced on the hot plate to dry.

The gold is annealed using a propane torch and allowed to cool to room temperature. The gold is now weighed on a micro-balance to one microgram. After calculations, oz/t or g/t gold is reported.

Silver is calculated by weighing the bead prior to parting and subtracting the weight of gold.

FREE GOLD FIRE ASSAY

Free or metallic gold in the original sample pulp is screened off using a 100 mesh sieve. The -100 mesh pulp is assayed as above for ore grade gold fire assay. The entire +100 mesh fraction is fire assayed and the metallic gold is weighed. the result is a calculated weighted average with both the + and - 100 mesh assays reported.

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ATOMIC ABSORPTION ANALYSIS

Geochem Digestion [Trace Level Analysis]

0.500g of sample is weighed into a 16 x 150 mm test tube. 2 mls of 1:1 Nitric Acid is added and the test tube is placed in a boiling water bath for 20 minutes. 3 ml of HCl is added and the sample is heated for on hour. When digestion is completed, the sample is cooled in a cold water bath. The test tube is then bulked to 10 mls using a reference, mixed and allowed to settle. The sample is now ready to run on the A.A.

For ICP the sample is digested in one step using 5 mls of 3 parts HCl, 1 Part Nitric Acid and 2 parts water and heated for one hour in a hot water bath.

Assay Digestion [Ore Level Analysis]

1.000g of sample is weighed into a class A 100 ml volumetric flask. 5 mls of Nitric Acid is added and the flask is placed on a 400 F hot plate until the red fumes indicating reaction subside. 20 mls of water* and 10 mls of HCL are added and placed on the hot plate for 5 minutes. The flask is then bulked to the neck with water and brought to a boil. The flask is then cooled, bulked to the mark, shaken and allowed to settle prior to running on the A.A.

* Some elements require special treatment. For example, Sb requires 20 mls 10% Tartaric acid.

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[illegible]

[illegible] Exploration
[illegible] Main St.
Whitehorse, Yukon

Work Order # [illegible]

File # [illegible]

Assay Certificate For Samples Provided

Sample	ppb Au
76301	64
76302	57
76303	32
76304	22
76305	34
76306	39
76307	3168
82698	14
82699	25
82700	115

Au -- 15g Fire Assay/AAS

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[illegible] 12, [illegible]

[illegible]
[illegible] Main St.
Whitehorse, Yukon

Work Order # [illegible]

File # [illegible]

Assay Certificate For Samples Provided

Sample	ppb Au
76376	116
76377	60
76378	67
76379	46
76380	44
76381	44
76382	32
76383	<10
76384	110

Au -- 15g Fire Assay/AAS

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September 28,1990 **Work Order # 08430**

Dunvegan Exploration
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Whitehorse, Yukon

Assay Certificate For Samples Provided

Sample	ppb Au
82601	40
82602	27
82603	30
82604	42
82605	53
82606	47
82607	34
82608	37
82609	14
82611	36
82612	39
82613	43
82614	72
82615	112
82616	51
82617	158
82618	60
82619	179
82620	141
82621	66
82622	95
82623	48
82624	187
82625	53
82626	69
82627	106
82628	288
82629	546
82630	70
82631	51
82632	45

Au -- 15g Fire Assay/AAS

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September 28,1990

Work Order # 08433

File # 08433a

Dunvegan Exploration
10 - 204 Main St.
Whitehorse, Yukon

Assay Certificate For Samples Provided

Sample	ppb Au
82633	66
82634	65
82635	47
82636	89
82642	41
82643	50
82644	47
82645	55
82646	42
82647	58
82648	29
82649	48
82650	46
82651	25
82652	36
82653	29

Au -- 15g Fire Assay/AAS

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September 28,1990

Work Order # 08433

Dunvegan Exploration
10 - 204 Main St.
Whitehorse, Yukon

File # 08433b

Assay Certificate For Samples Provided

Sample	+100 oz/t Au	-100 oz/t Au	oz/t Au
82637	<0.002	0.005	0.005
82638	<0.002	<0.002	<0.002
82639	<0.002	<0.002	<0.002
82640	<0.002	<0.002	<0.002
82641	<0.002	<0.002	<0.002

Au -- Metallics Fire Assay

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Northern Analytical Laboratories ltd.

[illegible] 1988 | Work Order # [illegible]

[illegible] Exploration
[illegible] Main St.
Whitehorse, Yukon

File # [illegible]

Assay Certificate For Samples Provided

Sample	ppb Au
82684	188
82685	114
82686	158
82687	166
82688	817
82689	233
82690	13
82691	132
82692	396
82693	503
82694	67
82695	241
82696	52
82697	157

Au -- 15g Fire Assay/AAS

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[illegible]

[illegible]
[illegible] Main St.
[illegible] Yukon

Work Order # [illegible]

File # [illegible]

Assay Certificate For Samples Provided

Sample	+100 oz/t Au	-100 oz/t Au	oz/t Au
82637	<0.002	0.005	0.005
82638	<0.002	<0.002	<0.002
82639	<0.002	<0.002	<0.002
82640	<0.002	<0.002	<0.002
82641	<0.002	<0.002	<0.002

Au -- Metallics Fire Assay

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[illegible]

[illegible]
[illegible] Main St.
Whitehorse, Yukon

Work Order # [illegible]

File # [illegible]

Assay Certificate For Samples Provided

Sample	+100 oz/t Au	-100 oz/t Au	oz/t Au
76313	<0.002	0.015	0.014
76316	<0.002	0.016	0.015
76330	<0.002	<0.002	<0.002
76332	0.593	1.019	1.547
76334	<0.002	0.007	0.007

Au -- Metallics Fire Assay

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1990
DIAMOND DILL PROGRAM

ICP ANALYSIS CERTIFICATES

Appendix 5

CAVENDISH ANALYTICAL LABORATORY LTD.

2225 S. Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-2560 Fax:299-6252

CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LAB
105 COPPER RD.
WHITEHORSE YUKON
PROJECT : WO# 8448
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 901006D
INVOICE # : NAL1006D
DATE ENTERED : OCT 8, 1990
FILE NAME : P1006D
PAGE # : 1

PRE FIX	SAMPLE NAME	PPM MO	PPM CU	PPM PB	PPM ZN	PPM AG	PPM NI	PPM CO	PPM MN	% FE	PPM AS	PPM U	PPM AU	PPM HG	PPM SR	PPM CD	PPM SB	PPM BI	PPM V	% CA	% P	PPM LA	PPM CR	% MG	PPM BA	% TI	PPM B	% AL	% NA	% SI	PPM W	PPM BE
	76301	14	76	25	218	1.1	385	24	484	3.58	500	N/A	ND	ND	155	1	47	2	16	1.02	0.05	8	91	2.84	196	0.01	166	0.50	0.01	0.01	1	1
	76302	14	73	22	186	0.4	362	26	511	3.23	384	N/A	ND	ND	212	1	27	2	14	1.65	0.07	5	76	2.53	187	0.01	211	0.49	0.01	0.01	1	1
	76303	5	55	24	55	0.1	911	58	1110	3.38	710	N/A	ND	ND	918	1	45	2	12	6.29	0.01	4	190	8.18	118	0.01	63	0.20	0.01	0.01	1	1
	76304	7	6	1	11	0.1	29	2	76	0.39	54	N/A	ND	ND	22	1	6	11	8	0.20	0.01	1	40	0.21	113	0.01	16	0.15	0.01	0.01	1	1
	76305	1	91	45	87	0.9	143	30	1002	4.81	114	N/A	ND	ND	622	1	17	2	52	4.93	0.25	47	93	3.62	529	0.10	84	1.15	0.01	0.01	1	3
	76306	10	14	75	151	0.6	145	13	363	2.07	115	N/A	ND	ND	35	1	23	15	12	0.24	0.01	8	68	1.47	68	0.01	18	0.22	0.01	0.01	3	1
	76307	6	59	149	304	1.3	214	16	463	2.18	105	N/A	ND	ND	339	2	32	6	12	2.15	0.09	23	65	1.80	86	0.01	27	0.21	0.01	0.01	3	1
	82698	11	31	21	34	0.5	45	9	277	1.45	69	N/A	ND	ND	130	1	18	11	18	1.28	0.07	12	86	1.01	173	0.02	53	0.35	0.01	0.01	1	1
	82699	13	36	100	1918	1.5	61	5	137	0.63	100	N/A	ND	ND	49	11	16	21	6	0.33	0.01	2	69	0.50	48	0.01	41	0.09	0.01	0.01	1	1
	82700	17	65	24	166	0.1	108	13	90	2.44	157	N/A	ND	ND	54	1	28	5	11	0.36	0.05	8	69	0.41	130	0.01	313	0.45	0.01	0.01	1	1
	CAVENDISH STDC	19	178	89	125	0.2	49	10	216	1.15	18	N/A	ND	ND	25	1	6	11	18	0.39	0.03	6	74	0.42	114	0.02	49	0.28	0.01	0.01	13	1
	CAVENDISH STDS	25	830	520	513	20.1	248	335	996	3.52	346	N/A	60	669	755	174	927	444	118	0.42	2.99	1136	70	0.50	261	0.14	666	1.61	0.10	0.01	316	54

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CAVENDISH ANALYTICAL LABORATORY LTD.

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CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LAB
105 COPPER RD.
WHITEHORSE YUKON
PROJECT : WO#0430 & 0433
TYPE OF ANALYSIS : ICP

CERTIFICATE # : [illegible]
INVOICE # : NAL100[illegible]
DATE ENTERED : OCT 03, 1990
FILE NAME : [illegible]
PAGE # : 1

PRE FIX	SAMPLE NAME	PPM MO	PPM CU	PPM PB	PPM ZN	PPM AG	PPM NI	PPM CO	PPM MN	% FE	PPM AS	PPM U	PPM AU	PPM HG	PPM SR	PPM CD	PPM SB	PPM BI	PPM V	% CA	% P	PPM LA	PPM CR	% MG	PPM BA	% TI	PPM B	% AL	% NA	% SI	PPM W	PPM SE
	STDS	21	782	494	494	16.8	233	307	857	3.33	291	N\A	47	565	646	144	785	383	99	0.34	2.36	957	106	0.41	220	0.12	522	1.37	0.09	0.01	278	45
	82601	1	150	3	38	0.6	1121	62	489	3.19	25	N\A	ND	ND	25	1	3	2	27	0.66	0.09	4	381	9.66	20	0.01	25	0.32	0.01	0.01	3	2
	82602	1	45	24	44	0.3	1481	75	672	3.31	23	N\A	ND	ND	9	1	5	2	15	0.30	0.02	3	301	12.32	17	0.01	27	0.20	0.01	0.01	5	1
	82603	1	32	3	24	0.2	1524	78	718	2.98	15	N\A	ND	ND	6	1	2	2	9	0.18	0.01	2	155	11.93	10	0.01	32	0.11	0.01	0.01	3	1
	82604	1	35	2	28	0.2	1596	80	511	3.52	2	N\A	ND	ND	5	1	2	2	11	0.13	0.01	2	198	14.57	11	0.01	49	0.14	0.01	0.02	1	1
	82605	1	31	3	28	0.4	1447	72	521	3.31	8	N\A	ND	ND	6	1	2	2	9	0.25	0.01	2	160	14.05	9	0.01	22	0.15	0.01	0.02	1	1
	82606	1	28	2	20	0.2	1546	78	524	3.01	25	N\A	ND	ND	2	1	2	2	1	0.13	0.01	2	88	14.56	9	0.01	33	0.02	0.01	0.02	1	1
	82607	1	22	2	20	0.6	1077	72	403	2.58	15	N\A	ND	ND	2	1	2	2	1	0.08	0.01	2	40	10.62	7	0.01	8	0.01	0.01	0.01	1	1
	82608	1	21	3	16	0.4	698	57	421	2.77	4	N\A	ND	ND	18	1	2	2	1	0.24	0.01	2	26	9.97	7	0.01	5	0.01	0.01	0.01	1	1
	82609	1	43	2	12	0.4	790	57	470	2.66	23	N\A	ND	ND	14	2	2	5	1	0.14	0.01	2	42	8.75	8	0.01	5	0.03	0.01	0.01	1	1
	82611	1	34	2	12	0.7	561	41	311	2.68	72	N\A	ND	ND	2	1	3	2	2	0.05	0.01	3	42	8.03	5	0.01	5	0.03	0.01	0.01	1	1
	82612	1	20	1	8	0.1	678	52	187	2.41	73	N\A	ND	ND	3	2	2	4	2	0.04	0.01	2	50	6.76	7	0.01	5	0.01	0.01	0.01	1	1
	82613	1	17	1	12	0.1	757	59	324	2.71	55	N\A	ND	ND	3	1	5	8	4	0.05	0.01	2	74	6.77	8	0.01	5	0.04	0.01	0.01	1	1
	82614	2	27	9	22	0.4	755	56	488	2.55	274	N\A	ND	ND	30	1	13	9	6	0.24	0.01	2	106	7.12	11	0.01	5	0.07	0.01	0.01	1	1
	82615	7	28	16	32	1.1	801	40	495	1.95	483	N\A	ND	ND	167	1	31	9	22	1.62	0.02	7	101	3.40	39	0.01	5	0.60	0.01	0.01	2	1
	82616	7	18	12	10	0.5	54	6	54	0.29	46	N\A	ND	ND	13	1	8	13	6	0.10	0.03	2	19	0.29	8	0.01	5	0.08	0.01	0.01	1	1
	82617	8	216	16	68	10.8	371	25	678	2.69	493	N\A	ND	ND	250	1	42	3	48	2.71	0.02	9	101	3.65	49	0.02	5	1.28	0.01	0.01	1	2
	82618	9	31	3	10	1.3	34	4	73	0.26	33	N\A	ND	ND	25	1	9	2	5	0.21	0.03	2	19	0.24	14	0.01	5	0.07	0.01	0.01	1	1
	82619	7	47	22	66	0.7	183	21	473	2.73	170	N\A	ND	ND	188	1	27	2	35	1.80	0.08	16	42	2.42	150	0.03	18	0.76	0.01	0.01	1	1
	82620	7	78	12	106	1.0	234	20	618	4.62	333	N\A	ND	ND	147	1	41	6	24	1.49	0.03	13	35	3.26	90	0.01	59	0.55	0.01	0.01	1	1
	82621	7	46	16	47	0.4	28	9	113	1.61	36	N\A	ND	ND	20	1	12	3	5	0.16	0.05	9	14	0.40	37	0.01	119	0.13	0.01	0.01	1	1
	82622	7	38	18	43	0.1	29	7	106	1.43	39	N\A	ND	ND	24	1	6	6	6	0.24	0.04	6	19	0.22	31	0.01	97	0.14	0.01	0.01	1	1
	82623	9	37	12	46	0.1	35	8	160	1.50	36	N\A	ND	ND	45	1	9	3	9	0.47	0.04	7	27	0.48	46	0.01	90	0.20	0.01	0.01	1	1
	82624	12	94	18	100	3.3	139	13	243	2.39	171	N\A	ND	ND	68	1	19	6	30	0.74	0.06	7	40	1.31	60	0.01	87	0.66	0.01	0.01	2	1
	82625	15	82	8	146	1.1	249	29	512	3.74	274	N\A	ND	ND	70	1	41	8	26	0.88	0.11	9	42	1.52	85	0.01	70	0.71	0.01	0.01	1	1
	82626	4	92	6	143	0.6	106	46	900	5.60	126	N\A	ND	ND	60	1	11	7	17	0.97	0.07	4	22	1.86	68	0.01	93	0.30	0.01	0.01	1	1
	82627	6	90	21	130	0.7	127	25	573	3.77	215	N\A	ND	ND	93	1	24	5	12	1.26	0.08	4	22	1.01	59	0.01	38	0.41	0.01	0.01	1	1
	82628	4	122	13	139	0.7	111	46	1044	6.31	280	N\A	ND	ND	136	1	20	2	27	2.11	0.07	3	19	1.79	87	0.01	307	0.52	0.01	0.01	1	1
	82629	4	132	136	389	3.5	90	37	574	6.63	399	N\A	ND	ND	105	5	28	3	22	1.47	0.05	3	14	1.24	60	0.01	593	0.68	0.01	0.01	3	1
	82630	1	189	13	197	1.0	84	47	1190	6.89	120	N\A	ND	ND	123	2	13	4	28	2.07	0.10	3	19	2.39	65	0.01	38	0.25	0.01	0.01	1	1
	82631	2	140	12	111	0.1	76	46	1257	5.62	96	N\A	ND	ND	205	1	19	8	26	3.93	0.07	5	21	2.44	60	0.01	5	0.23	0.01	0.01	2	1
	82632	2	130	10	88	0.2	85	37	1158	5.42	95	N\A	ND	ND	140	1	10	5	26	2.88	0.06	3	22	2.09	45	0.01	5	0.22	0.01	0.01	2	1
	STANDARD-69	17	199	327	376	0.2	13	3	104	0.74	155	N\A	ND	ND	14	1	3	21	11	0.51	0.05	5	34	0.21	38	0.01	5	0.17	0.01	0.01	2	1

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CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LAB
105 COPPER RD.
WHITEHORSE YUKON
PROJECT : WO# 8437
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 901005B
INVOICE # : NAL1005B
DATE ENTERED : OCT 9, 1990
FILE NAME : P1005B
PAGE # : 1

PRE FIX	SAMPLE NAME	PPM MO	PPM CU	PPM PB	PPM ZN	PPM AG	PPM NI	PPM CO	PPM MN	% FE	PPM AS	PPM U	PPM AU	PPM HG	PPM SR	PPM CD	PPM SB	PPM BI	PPM V	% CA	% P	PPM LA	PPM CR	% MG	PPM BA	% TI	PPM B	% AL	% NA	% SI	PPM W	PPM BE
	82654	1	27	13	26	0.1	1291	65	615	3.03	34	N/A	ND	ND	5	1	2	2	11	0.23	0.01	1	653	12.84	7	0.01	63	0.13	0.01	0.01	1	1
	82655	1	27	7	22	0.1	1196	64	405	3.28	31	N/A	ND	ND	5	1	4	2	12	0.26	0.01	1	438	13.29	3	0.01	50	0.17	0.01	0.01	1	1
	82656	1	23	7	15	0.1	674	49	624	3.18	31	N/A	ND	ND	36	1	2	2	10	0.32	0.01	1	328	10.76	3	0.01	20	0.16	0.01	0.01	1	1
	82657	1	21	13	15	0.2	683	48	795	2.90	29	N/A	ND	ND	3	1	3	2	8	0.09	0.01	1	250	9.90	4	0.01	19	0.13	0.01	0.01	1	1
	82658	1	22	13	13	0.1	567	44	689	3.07	30	N/A	ND	ND	4	1	3	2	6	0.13	0.01	1	214	10.03	3	0.01	19	0.11	0.01	0.01	1	1
	82659	1	21	13	13	0.2	395	40	499	2.94	28	N/A	ND	ND	61	1	2	2	8	0.49	0.01	1	229	9.72	3	0.01	16	0.13	0.01	0.01	1	1
	82660	1	21	13	14	0.2	436	40	544	2.78	30	N/A	ND	ND	36	1	5	2	7	0.41	0.01	1	216	9.14	4	0.01	18	0.13	0.01	0.01	1	1
	82661	1	21	12	13	0.6	434	42	395	2.65	34	N/A	ND	ND	15	1	4	2	7	0.23	0.01	1	203	8.48	4	0.01	16	0.14	0.01	0.01	1	1
	82662	1	29	15	14	0.4	741	50	614	3.00	49	N/A	ND	ND	14	1	2	2	5	0.24	0.01	1	208	9.51	5	0.01	17	0.13	0.01	0.01	1	1
	82663	1	66	16	14	0.1	1360	82	664	3.09	101	N/A	ND	ND	26	1	3	2	1	0.25	0.01	1	108	9.89	4	0.01	46	0.02	0.01	0.01	1	1
	82664	1	28	8	14	0.1	1028	58	305	2.86	88	N/A	ND	ND	10	1	5	3	1	0.11	0.01	1	118	8.10	5	0.01	21	0.01	0.01	0.01	3	1
	82665	1	27	13	17	0.1	1289	76	493	3.35	181	N/A	ND	ND	32	1	20	2	4	0.51	0.01	1	187	9.04	8	0.01	21	0.06	0.01	0.01	3	1
	82666	1	34	13	16	0.1	781	58	405	3.19	125	N/A	ND	ND	27	1	3	2	8	0.29	0.01	1	290	9.37	6	0.01	18	0.16	0.01	0.01	2	1
	82667	1	39	17	16	0.1	1192	82	909	2.96	185	N/A	ND	ND	96	2	13	2	3	1.03	0.01	1	169	10.09	9	0.01	16	0.04	0.01	0.01	3	1
	82668	1	25	15	19	0.8	1312	79	402	2.63	320	N/A	ND	ND	24	2	33	2	3	0.54	0.01	1	134	7.79	8	0.01	17	0.03	0.01	0.01	4	1
	82669	1	61	87	38	4.6	737	48	566	2.35	460	N/A	ND	ND	159	1	35	2	10	1.42	0.01	1	204	7.67	20	0.01	48	0.22	0.01	0.01	3	1
	82670	9	9	33	22	0.8	59	4	70	0.29	35	N/A	ND	ND	27	1	2	4	3	0.20	0.02	1	46	0.71	5	0.01	18	0.03	0.01	0.01	6	1
	82671	9	19	14	14	2.0	16	2	23	0.15	11	N/A	ND	ND	1	1	2	6	3	0.01	0.02	1	32	0.12	6	0.01	15	0.03	0.01	0.01	5	1
	82672	13	5	1	5	0.2	9	1	23	0.15	9	N/A	ND	ND	1	1	2	6	2	0.01	0.02	1	42	0.04	4	0.01	17	0.01	0.01	0.01	4	1
	82673	11	34	12	22	0.9	38	4	106	0.24	19	N/A	ND	ND	6	1	2	6	4	0.05	0.02	1	43	0.15	14	0.01	19	0.08	0.01	0.01	4	1
	82674	2	95	558	433	4.6	268	12	558	2.74	171	N/A	ND	ND	291	4	16	2	21	2.75	0.15	24	53	2.10	227	0.01	62	0.89	0.01	0.01	4	1
	82675	9	97	222	298	2.1	349	29	762	4.18	343	N/A	ND	ND	179	2	22	2	31	1.70	0.07	22	92	3.55	259	0.02	39	0.98	0.01	0.01	2	1
	82676	5	86	21	115	1.4	266	29	677	3.63	253	N/A	ND	ND	211	1	28	2	30	2.42	0.06	8	95	3.85	100	0.01	56	0.78	0.01	0.01	1	1
	82677	11	85	15	175	1.1	313	24	364	3.21	242	N/A	ND	ND	130	1	17	2	31	1.27	0.03	14	83	2.56	110	0.01	37	1.26	0.01	0.01	1	1
	82678	14	68	15	186	0.7	171	15	141	2.69	148	N/A	ND	ND	51	2	14	2	26	0.50	0.08	11	42	1.12	118	0.01	143	1.04	0.01	0.01	2	1
	82679	14	61	14	133	0.9	140	15	197	2.71	189	N/A	ND	ND	60	1	14	3	26	0.60	0.06	7	50	1.16	93	0.01	203	0.68	0.01	0.01	2	1
	82680	5	215	4	194	1.8	95	41	518	5.76	208	N/A	ND	ND	46	1	34	2	17	0.60	0.02	1	54	1.30	94	0.01	313	0.79	0.01	0.01	1	1
	82681	7	39	5	48	0.3	34	6	281	1.47	107	N/A	ND	ND	56	1	5	2	6	0.79	0.06	3	38	0.47	52	0.01	70	0.18	0.01	0.01	3	1
	82682	3	131	30	161	2.3	86	32	871	5.07	219	N/A	ND	ND	215	2	19	2	27	2.56	0.05	2	60	1.94	73	0.01	142	0.66	0.01	0.01	1	1
	82683	4	135	159	223	4.2	89	39	949	5.62	469	N/A	ND	ND	186	3	51	2	28	2.83	0.09	1	61	2.12	70	0.01	536	0.75	0.01	0.01	1	1
	82684	7	81	22	153	1.3	147	34	704	4.70	215	N/A	ND	ND	203	1	21	2	22	2.14	0.05	2	72	2.20	100	0.01	391	0.60	0.01	0.01	6	1
	82685	15	65	16	141	0.8	440	34	508	2.95	797	N/A	ND	ND	173	1	24	2	19	1.94	0.07	8	95	2.23	116	0.01	180	0.63	0.01	0.01	6	1
	82686	15	76	22	138	0.7	143	15	233	2.45	112	N/A	ND	ND	77	1	12	3	17	0.84	0.06	9	36	0.85	136	0.01	188	0.63	0.01	0.01	6	1
	82687	13	55	19	92	1.5	145	14	356	2.23	198	N/A	ND	ND	115	1	19	3	20	1.29	0.06	7	66	1.46	117	0.01	193	0.61	0.01	0.01	5	1
	82688	13	81	45	258	2.5	254	20	497	2.72	297	N/A	ND	ND	137	3	39	2	24	1.99	0.06	7	86	2.92	154	0.01	116	0.64	0.01	0.01	6	1
	82689	9	131	209	145	9.4	242	23	565	3.25	385	N/A	ND	ND	149	1	126	2	20	1.67	0.04	6	81	3.39	165	0.01	344	0.60	0.01	0.01	4	1
	82690	8	56	18	136	0.7	59	18	1029	4.00	102	N/A	ND	ND	184	1	9	2	21	2.07	0.19	9	42	1.57	171	0.01	89	0.33	0.01	0.01	4	1
	82691	5	202	16	78	1.3	190	18	230	3.62	116	N/A	ND	ND	56	1	13	2	26	0.41	0.23	8	36	1.04	90	0.01	164	0.67	0.01	0.01	6	1
	82692	8	59	249	105	2.6	104	6	189	0.84	63	N/A	ND	ND	41	1	10	3	13	0.32	0.03	3	68	0.79	30	0.01	20	0.45	0.01	0.01	7	1
	STD-69	4	109	95	507	4.5	4	2	62	0.75	23	N/A	ND	ND	9	3	3	4	3	0.09	0.06	6	6	0.03	169	0.01	142	0.16	0.01	0.01	15	1

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