REPORT ON GEOLOGICAL AND GEOPHYSICAL SURVEYS OF PARTS OF

DUNCAN & MOLLY CLAIMS

NICOLA MINING DIVISION, BRITISH COLUMBIA

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JULY 2001

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REPORT ON GEOLOGICAL & GEOPHYSICAL SURVEYS OF PARTS OF DUNCAN & MOLLY CLAIMS

Nicola Mining Division, British Columbia

INTRODUCTION

Field work on the Molly Claim commenced in 1998. It comprised geological mapping (including the adjoining Chris and Graham claims) along with magnetometer and VLF-EM surveys of portions of the claim. The Duncan Claim was acquired in 2000, and field work of the same nature was carried of on this property the same year. Because of an exploration history that included extensive diamond drilling within the southern portion of the claim, the preliminary work in the new program was confined mainly to that area. In addition, a zone of VLF-EM anomalies from previous work on Molly Claim was outlined in more detail and extended to the south onto Duncan Claim.

The present report covers the geological mapping and VLF-EM surveying carried out during July and August, 2000. It also includes an evaluation of the economic potential of the area based on the recent work and on the earlier diamond drilling.

LOCATION, ACCESS, CHARACTER OF THE REGION

The area covered in the present report is located within the south-central portion of the Interior Plateau of British Columbia. It lies about 30 kilometres south of the town of Merritt, and 180 kilometres east of Vancouver.

Access to the claims from Merritt is via Highway 5A (Merritt-Princeton Highway) to the road junction 6 kilometres south of the hamlet of Aspen Grove, thence via the Highway 223 (Coalmont Road to a ranch road at Kilometre 6 that provides access to the south part of Molly Claim and to Duncan Claim.

Rolling till-covered hills occupy the western and central parts of the claims. East of the the narrow, steep-sided Otter Creek valley the land slopes abruptly toward the more prominent ridges that lie east of Highway 5A. Most of the rock exposures within the claims are found along the western slope of Otter Creek valley.

The vegetative cover is a mixture of pasture and open woodland, with the former being dominant along the higher ridges in the central parts of the claims. The ranch currently is being utilized as winter pasture and for periodic small-scale logging.

Otter Creek is the only permanently flowing stream. However, its valley has been extensively dammed by beavers and the watercourse consists of a series of interconnected ponds.

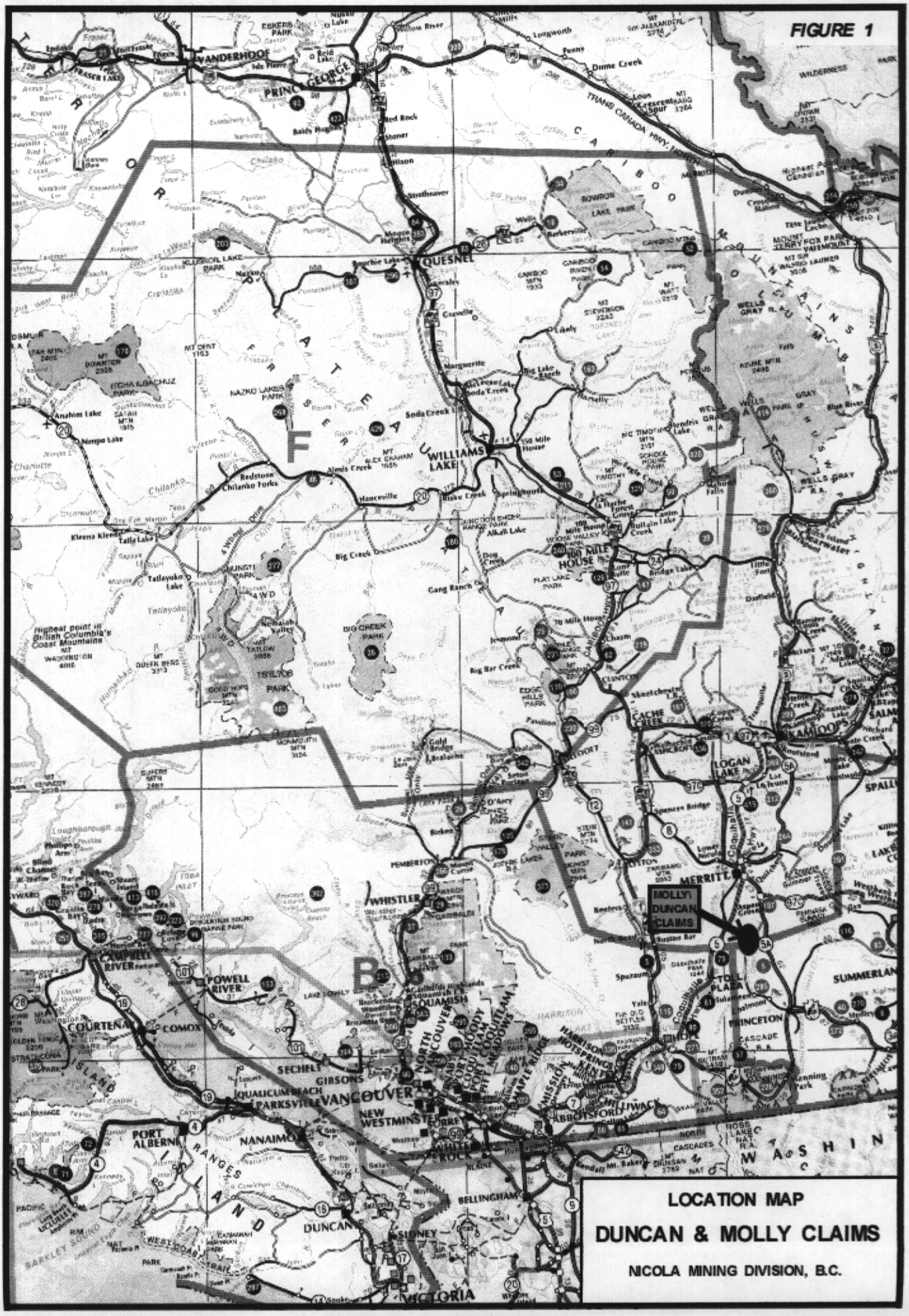


FIGURE 1
PRINCE GEORGE
QUESNEL
WILLIAMS LAKE
100 MILE HOUSE
KAMLOOPS
MERRITT
MOLLY DUNCAN CLAIMS
VANCOUVER
VICTORIA
DUNCAN
NANAIMO
PORT ALBERNI
COURTENAY
COMOX
CAMPBELL RIVER
POWELL RIVER
WHISTLER
SQUAMISH
PRINCETON
ABBOTSFORD
NEW WESTMINSTER
BELLINGHAM
LOCATION MAP
DUNCAN & MOLLY CLAIMS
NICOLA MINING DIVISION, B.C.

PROPERTY

The claims covered by this report are located within the Nicola Mining Division. The Molly Claim contains 15 units; the adjoining Duncan Claim contains 8 units (Figure 2.) The recorded owner is William Richard Bergey of Aldergrove, B.C.

The surface rights to the land on which the claims are situated are owned by Quilchena Cattle Company.

PREVIOUS WORK

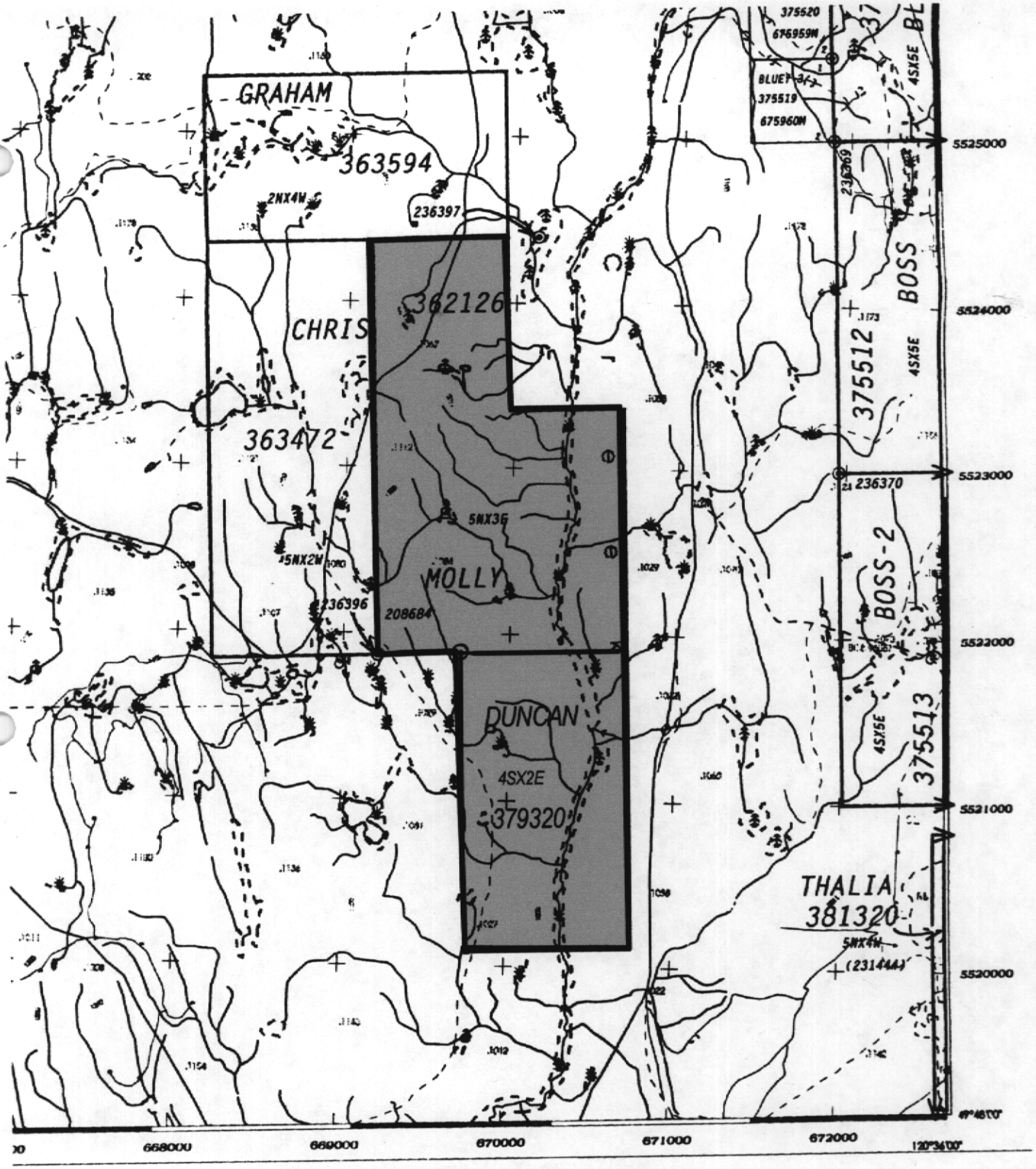
The only published geological maps of the general area are reconnaissance in scope. The most recent of these is a 1:250,000 sheet published by the Geological Survey of Canada in 1989 (Monger,1989). This map is mainly a synthesis of older published and unpublished data data along with newer information from localized mapping and laboratory studies. It is evident that little or no field work was carried out within the area covered in the present report. [The part of the properties that contains most of the rock exposures is shown as overburden covered.] The map replaced earlier GSC Map 888A (Rice, 1947) that more accurately portrays the local geology..

A more detailed study of the volcanic and intrusive rock units that underlie the belt between Princeton and Aspen Grove was carried out by B.C. government geologists (Preto, 1979). Unfortunately, this work stopped just short of the northern and eastern boundaries of the properties.

An aeromagnetic map published by the G.S.C. in 1973 at a scale of One Inch to One Mile (Aspen Grove Sheet – 92H/15) has proven to be useful in interpreting certain geological features.

The only serious exploration work in the area was carried out within the southern part of the present Duncan Claim (formerly part of the PAR Group). Tormont Mines Ltd. completed 2759 metres of diamond drilling in 18 holes between 1962 and 1965, based in part on a 1962 magnetometer survey. Andy Robertson drilled an additional hole to a depth of 123 metres during 1975 and 1977. Although mineral rights to the area covering the main showings have been claimed almost continuously since that time, there is no record of any exploration work having been carried out except for my brief geological reconnaissance in 1999 (Bergey, 1999b). The Assessment Report covering that work and the scant assessment filings on the Robertson drilling are the only publically available reports pertaining to the drilling area. Fortunately I was able to obtain copies of the Tormont logs along with a location map of the drill holes.

There is no record of any mineral exploration specific to the Molly Claim except for the geological mapping and geophysical surveying that I carried out during 1998 (Bergey, 1999a).



MOLLY & DUNCAN CLAIMS

T.N. 19° 19'

MAGNETIC DECLINATION AS OF 2000 DECEASING ANNUALLY

1000 m 0 1 km

[From Mineral Titles Reference Map **M092HO87**]

FIGURE 2

REGIONAL GEOLOGY

Government geological mapping indicates that most of the region is underlain by a north-trending belt of Upper Triassic volcanic rocks assigned to the Nicola Group. Small bodies of granitic intrusive rocks, coeval in part with the volcanic rocks, are widely distributed within the outcrop area of the Nicola rocks. The eastern margin of the Allison Lake intrusive assemblage is shown to lie a short distance west of the boundary of the Molly and Duncan Claims. The age is given as Upper Triassic to Jurassic, but more recent work suggests that younger intrusions may be present within the assemblage. Monger (1989) classifies the Allison Lake intrusive rocks as granodiorite.

My reconnaissance mapping outside of the property suggests that the intrusive suite is more complex and more widespread than Monger indicates. Quartz diorite appears to be the dominant rock type in the hills west of the Duncan Claim. Along the eastern margin of the assemblage there is a fairly wide zone of granitic rocks) that includes highly siliceous granite. (A portion of this zone was mapped by Preto (1979) southeast of the Duncan Claim. The local outline of the Allison Lake intrusions appears to be more accurately depicted by Rice (1947) than by the more recent G.S.C. map.

Another regional geological feature of importance to the present study is the northern extension of the Allison Creek fault that I have renamed the "Otter Creek" fault. Preto (1979) considered this fault to have been of fundamental importance during the emplacement of the Upper Triassic volcanic rocks and the associated intrusions. His map indicated that it formed the boundary between the Central and Western volcanic facies of the Nicola Group. Monger (1989) interpreted the Allison fault to be a northwest-trending structure; his map denies the existence of a fault along Otter Creek and [mistakenly ?] places the facies boundary farther to the west.

Aside from the obvious linearity of Otter Creek for 15 kilometres, several lines of reasoning suggest a major fault zone based in part on my work on the Molly Claim:

1) A pronounced aeromagnetic "low" extends north from Allison creek, follows Otter Creek, and continues north beyond Aspen Grove – more than 40 kilometres in total;

2) A ground magnetic survey indicated that the "low" that follows Otter Creek is narrow and sharply defined;

3) Volcanic rocks along Otter Creek are highly shattered, altered and veined;

4) The felsic rocks that dominate the volcanic assemblage west of Otter Creek were not found east of the creek.

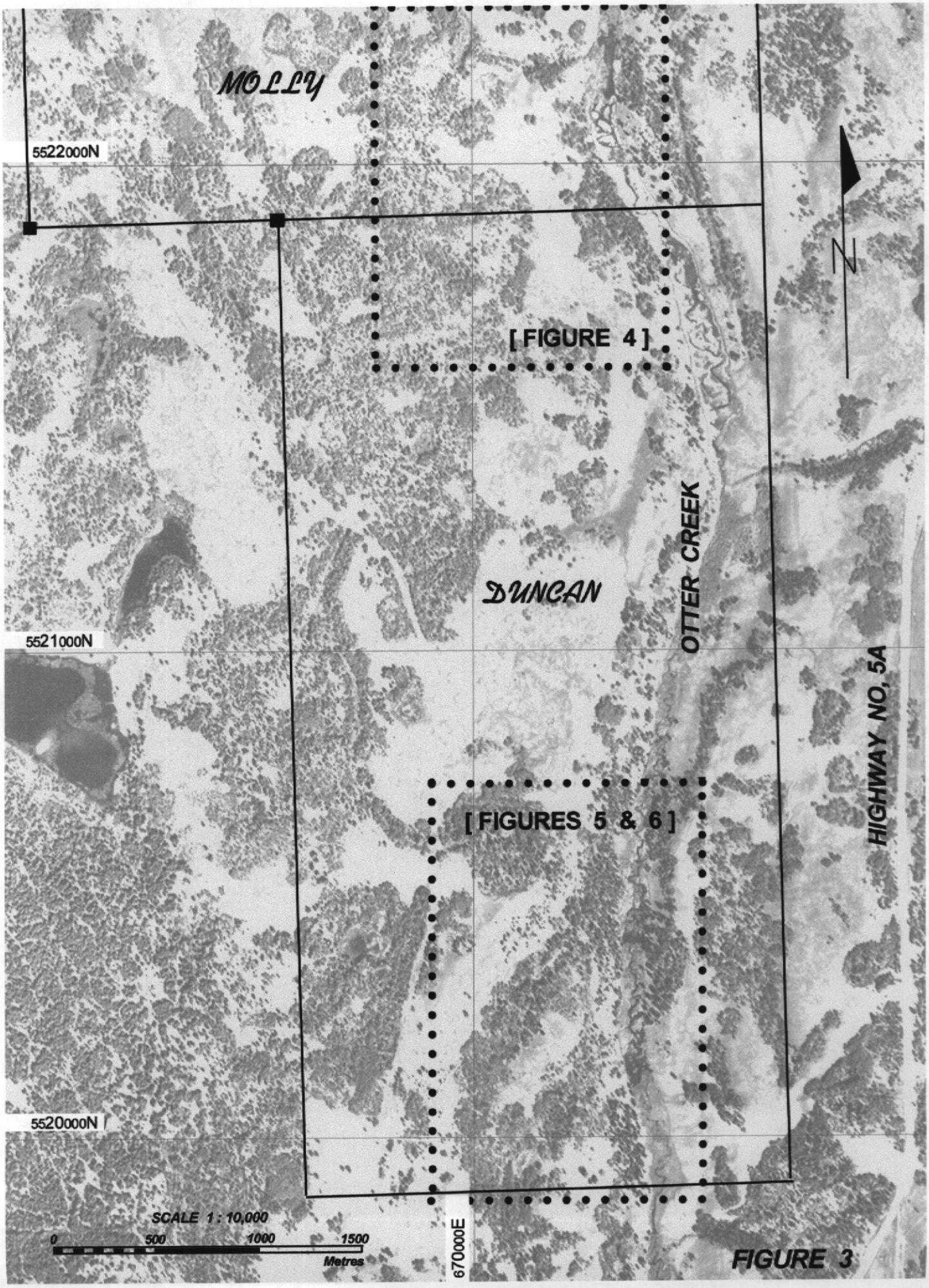

MOLLY
5522000N
[FIGURE 4]
N
DUNCAN
OTTER CREEK
5521000N
HIGHWAY NO. 5A
[FIGURES 5 & 6]
5520000N
SCALE 1 : 10,000
0
500
1000
1500
Metres
670000E

FIGURE 3

GEOPHYSICAL SURVEYS

Dip-angle VLF-EM measurements were taken using Crone *Radem* receiver tuned to Seattle (24.8 KHz) in two areas. The northern survey was an extension of the work carried out during 1998 in the southern part of Molly Claim. The second EM survey covered the drilling area in the southeastern part of Duncan Claim. (See Figure 3 for the location of the survey areas.)

Readings were taken at intervals of 15 metres along east-west lines. In the northern area six lines were surveyed over a total length of about 1.2 kilometres. In the southeast, approximately 4.3 kilometres of surveying totalling 4.3 kilometres were completed.. The "Fraser Filter was utilized to rationalize the dip-angle data for contouring. Only the filtered and contoured data are shown on the figures. The original measurements are appended to this report.

The weakly anomalous VLF-EM readings that were noted in the earlier reconnaissance on the Molly Claim were confirmed to form a continuous north-south zone at least 600 metres in length that extends onto the Duncan Claim (Figure 4). The varied nature of the topography and the surficial materials in the vicinity suggest that the anomaly has a bedrock source. No rock exposures were located within or close to the anomalous zone.

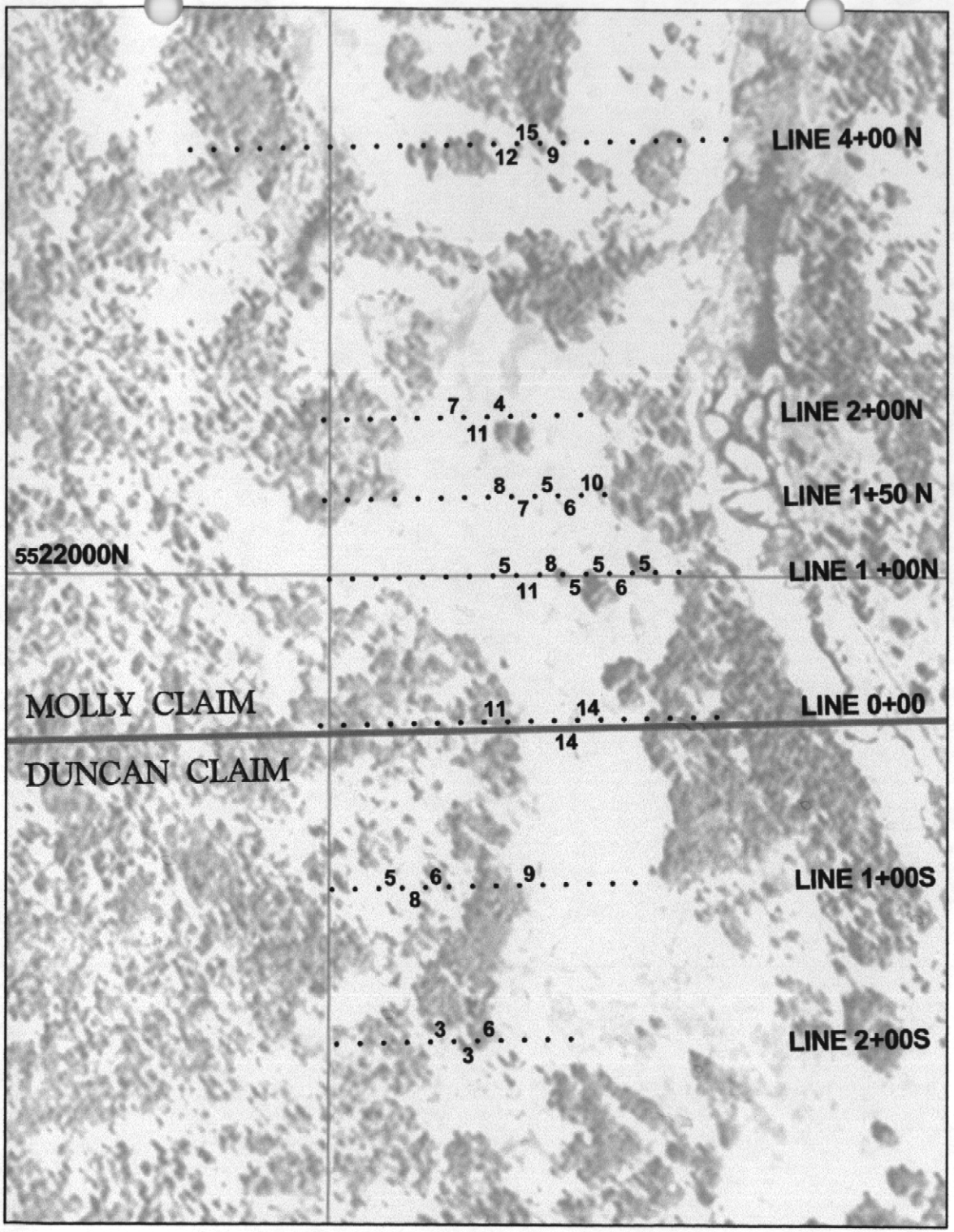
Several narrow, linear zones indicative of positive bedrock conductivity were outlined (Figure 5). An appraisal of the survey results in this area is contained later in this report under "Discussion of the Results."

GEOLOGICAL MAPPING

The geological mapping covered an area of about 25 hectares in the southern part of the Duncan Claim. It included all of the area tested by the various diamond drilling programs. The geological survey results along with the locations of the drill holes and the VLF-EM contoured data are shown on Figure 6. The *Explanation* (Page 5) serves as a Table of Formations.

Earlier work on the Molly Claim indicated that volcanic rocks of the Nicola Group, mainly felsic pyroclastic rocks, underlay most of the area west of the Otter Creek fault. In contrast to the situation to the north and west, most of the rocks within the area covered by the recent mapping are granitic intrusives and moreover they are mainly, or perhaps entirely, brecciated or intensely fractured. These rocks are assumed to be part of the Allison Lake intrusive assemblage.

The Nicola volcanic rocks are confined to the western and northern parts of the map area.. The felsic pyroclastic rocks in the southwest corner are fractured and metamorphosed. North-south foliation is very apparent on weathered surfaces. The andesitic volcanic rocks that crop out along the northwestern margin of the intrusive rocks are metamorphosed and commonly are brecciated. They appear to be tuffaceous for the most part. To the northeast the breccia fragments tend to be elongated and aligned. Foliation generally is north-south. Within the weathered zone most of the andesites are highly limonitic; magnetite is abundant locally.



VLF - EM SURVEY

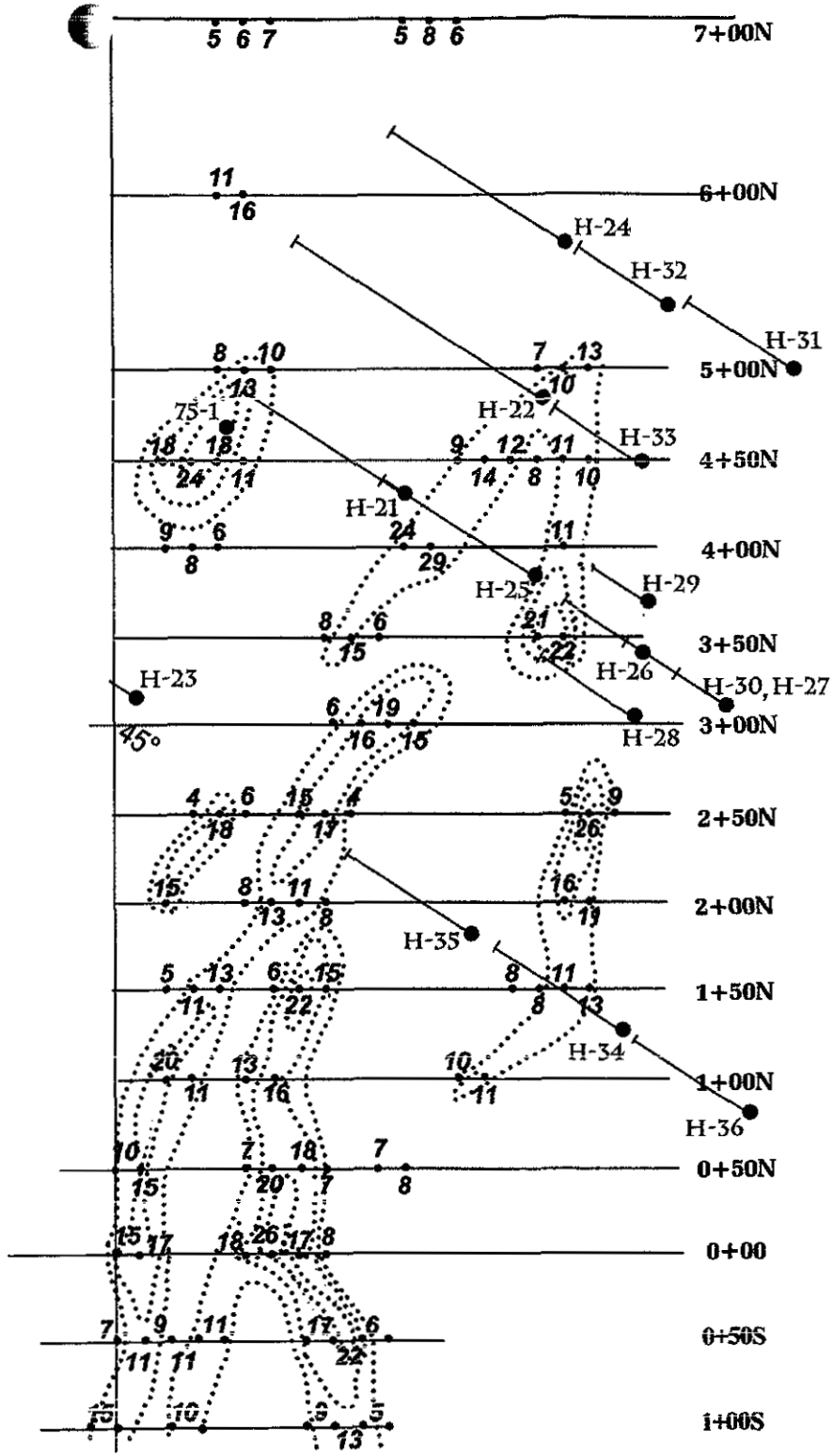
OF PARTS OF

MOLLY & DUNCAN CLAIMS

NICOLA MINING DIVISION, B.C.

Readings shown on traverse lines are positive "Fraser-filtered" values of dip angles from Crone "*Radem*" receiver tuned to Seattle (24.8 KHz)

FIGURE 4



VLF - EM SURVEY

OF SOUTHEASTERN PORTION OF

DUNCAN CLAIM

NICOLA MINING DIVISION, B.C.

SCALE 1 : 4000

0 50 100 200 300

METRES

H-23 Diamond drill hole

Contours of filtered values at 5 - unit intervals

Readings shown on traverse lines are positive "Fraser-filtered" values of dip angles from Crone "*Radem*" receiver tuned to Seattle (24.8 KHz)

FIGURE 5

GEOLOGICAL MAP
OF SOUTHEASTERN PORTION OF THE DUNCAN CLAIM

[EXPLANATION OF FIGURE 6]

TRIASSIC AND / OR JURASSIC

GRANITIC INTRUSIVE ROCKS
[Mainly or entirely brecciated]

π — Small bodies of quartz porphyry [outlines not shown]

TJp — Mainly quartz-feldspar porphyry

TJg — Mainly granite

TRIASSIC

NICOLA GROUP
[Metamorphosed and highly fractured]

TNa — Andestic volcanic rocks

TNr — Felsic volcanic rocks

X — Small outcrop

Outcrop area

Inferred location of Otter Creek fault

Contours of filtered VLF-EM data

70 — Attitude of intense foliation in volcanic rocks

H-31 — Diamond drill hole

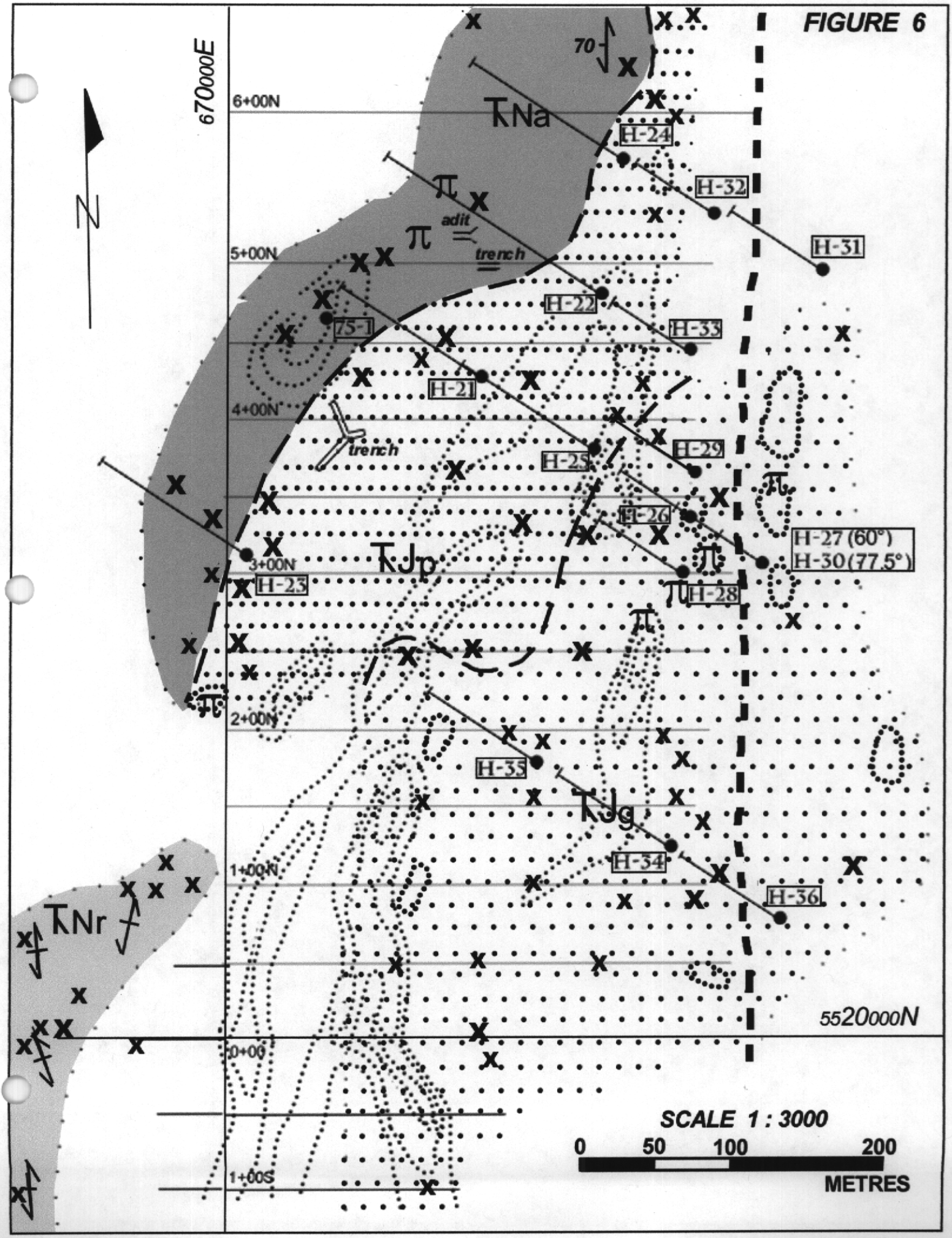


FIGURE 6
670000E
6+00N
5+00N
4+00N
3+00N
2+00N
1+00N
0+00
1+00S
N
TKNa
TKJp
TKJg
TKNr
70
adit
trench
trench
H-24
H-32
H-31
H-22
75-1
H-33
H-21
H-29
H-25
H-26
H-27 (60°)
H-30 (77.5°)
H-23
H-28
H-35
H-34
H-36
5520000N
SCALE 1 : 3000
0
50
100
200
METRES

The eastern part of the map area, on both sides of Otter Creek, is underlain by granitic rocks. Much of the rock is obviously brecciated at hand-specimen scale and the weathered surfaces of the outcrops suggest that most, if not all, of the rocks have been fragmented. The fragments tend to be equant except at a few localities close to Otter Creek where zones of parallel elongated fragments were found.

To the southeast the rock is composed mainly of pink hornblende granite. The rock is coarse grained and highly siliceous. Northeast of the granite a somewhat heterogeneous breccia is exposed. Fine-textured quartz-feldspar porphyry makes up most of the clasts, but equigranular granite, quartz porphyry and volcanic rock fragments also are present locally.

Quartz porphyry is found mainly as small exposures or as clasts in breccia throughout the northern half of the map area. However, several large outcrops near Otter Creek are composed entirely of this material. The quartz porphyry is a distinctive rock type composed of large (up to 1.5 cm.) quartz "eyes" in an extremely hard, ultrafine-grained groundmass. Parallel quartz veinlets are present in most of the hand specimens.

It is not clear whether the larger quartz porphyry outcrops are dikes or merely large blocks in the breccia. .Drill hole H-30 reportedly intersected quartz porphyry from the collar to a depth of 194 feet, and there was an additional intersection of 136 feet at the bottom of the hole. However, no porphyry was reported from Hole 27 immediately above it (and between H-30 and the largest porphyry outcrop). The logs indicate that H- 29 intersected 61 feet of porphyry at the collar, and other intersections of 64 feet and 88 feet were noted farther down the hole. The "quartz porphyry" intersections shown for the latter hole probably are quartz-feldspar porphyry, at least in part.

There is some field evidence that the Otter Creek fault was reactivated following the emplacement of the granitic rocks. Foliation in the breccias is confined almost entirely to the vicinity of Otter Creek. The drill log for hole H-30 noted a zone of sheared and broken quartz porphyry over an interval of 67 feet beneath Otter Creek. Badly broken core was also mentioned in the logs of holes H-27 and H-31, and a "*soft, mushy*" zone was noted in hole H-36, at the appropriate positions.

Aside from the observations noted above, any resemblance between the drill logs and the recent field mapping is coincidental. There is no mention of intrusive rocks, except for the aforementioned quartz porphyry, in any of the logs. The logging was carried out by several geologists and technicians. The logs for holes H-21 to H24 were concerned mainly with skarn and "under-developed skarn." The remainder of the holes were logged by a Russsian geologist who claimed a doctorate from the University of Moscow. He logged all of the cores for H-25 to H-28 as "sandstone" with intercalations of "greenstone", but revised his inferences thereafter to "quartz porphyry", "volcanic rock" and "tuff." Accordingly, the logs were of little use in the preparation of the geological map.

MINERALIZATION

The original discoveries in the area evidently were made in the andesite unit that follows the ridge in the central part of the Duncan Claim. Several trenches were excavated, and the four initial drill holes were dedicated to testing this zone. [The largest trench was put down by an outside party, after completion of the drilling, on the basis of a transported gossan composed of limonitic andesite blocks in a ferruginous matrix,] Mineralization in the original trenched areas consists of minor amounts of chalcopyrite associated with pyrite and patches of massive magnetite in limonitic andesite. The initial drill holes encountered sections of heavily disseminated pyrite with a small amount of chalcopyrite. The best section, in hole H-22, averaged 0.25% Cu over 8.0 feet. Vertical hole 75-1 tested the central part of the zone to a depth of 123 metres. Complete logs were not available to me, but the core apparently contained weak copper mineralization throughout. The best section of 24.4 metres reportedly assayed 0.2% Cu and 2.14 grams/tonne Ag (Assessment Report 5750).

The brecciated porphyry is limonite stained over a wide area and I observed minor amounts of chalcopyrite associated with massive pyrite veinlets in a few places, but there was no evidence of significant copper mineralization in the outcrops that I visited. However, a drilling cross-section southeast of the showings on the ridge encountered significant copper values in two drill holes:

H-26 – 5.8 metres @ 1.4% Cu, 4.3 grams/tonne Ag;
H-27 – 6.7 metres @ 1.9% Cu, 72 grams/tonne Ag.

Lower grade Cu/Ag mineralization was encountered to the north and south of these holes.

The rock in the vicinity of the intersections in the vicinity of the best copper mineralization was logged as "sandstone." with heavy to massive impregnations of "marcasite mixed up with hematite" and with "weak disseminations of chalcopyrite." The intersections in H-26 and H-27 suggest an apparent dip of the mineralization of about 45° to the southeast.

DISCUSSION OF THE RESULTS

The VLF-EM survey in the Molly-Duncan boundary area confirmed that the anomalous indications from the previous survey are continuous and that they probably have a bedrock source. However, the anomaly is very weak and does not warrant follow-up in the absence of favourable geological information..

Two types of mineralization are indicated in the southern part of the Duncan Claim. They are very similar in character, differing only in host rock and mineral association. Low-grade, skarn-type copper mineralization associated with heavily disseminated pyrite is found in altered andesite adjacent to the contact with the granitic intrusion. Copper mineralization also occurs within the brecciated granitic rocks. The chalcopyrite is associated with massive pyrite according to the logs, but it is uncertain whether the sulphides are found along fractures or interstitially in the breccia. Both types of copper mineralization contain significant amounts of silver.

The Otter Creek fault appears to have played an important role both in the emplacement of the intrusive rocks and in the localization of the mineralization. The best copper grades were found close to the inferred location of the fault. Quartz porphyry is closely associated with all of the known mineralized zones, and the largest bodies of this rock were emplaced close to Otter Creek.

The VLF-EM survey of the drilling area outlined six positive indications of conductive zones. Two of these clearly reflect known mineralization. The peak of Anomaly A is localized over the skarn-type mineralization noted in trenches on the ridge and in drill holes H-21 and 75-1. Anomaly C is underlain by heavily limonite-stained outcrops. It may also reflect the up-dip extension of the copper-rich zone in H-26 and H-27. Anomaly B is less definitely correlated with mineralization; however, it may reflect the disseminated sulphide zones noted in H-25.

No significant amounts of sulphides are reported from drill hole H-34, which crosses the weak southern extension of anomaly F. The stronger northern portion was untested.

The most continuous positive VLF-EM indications are Anomalies D and E. Neither of these was tested by drilling and they are located in an area where rock exposures are scarce or absent. These anomalies are open to the south.

RECOMMENDATIONS

It is recommended that the detailed geological mapping and VLF-EM surveys be extended to the north and south of the drilling area. Particular attention should be paid to the area north of the recent survey, where substantial amounts of transported gossans were noted in a previous reconnaissance (Bergey, 1999)

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Respectfully submitted,

W. R. Bergey, P.Eng.

STATEMENT OF COSTS

Type of Work	Dates	Days	Cost/day	Cost
Geological mapping	8/8-8/9	2	$400	$ 800
	8/24-8-26	3		1200
VLF-EM survey	7/29	1		400
	8/10-8/11	2		800
	8/23	1		400
Map & report preparation		4		1600
			Sub-total	$5200
Instrument rental				$ 300
Accommodation				650
Vehicle expenses				500
			TOTAL COST	$6650

STATEMENT OF QUALIFICATIONS

I, William Richard Bergey of 25789 8th Avenue, Aldergrove, B.C. do hereby certify that:

1. I am a Professional Engineer (Geological) in the Province of British Columbia.

2. I have been employed in mining and mineral exploration for the past 54 years.

3 I have supervised and/or carried out numerous exploration programs that employed geological and geophsical techniques to those described in the accompanying "*Report on Geological and Geophysical Surveys of parts of Duncan and Molly Claims*".

4. I personally conducted all of the work described in the above report.

W. R. Bergey, P.Eng.