3537

PROGRESS REPORT

ON

THE DUCKLING CLAIM GROUP

Germansen Landing Area

Omineca Mining Division - British Columbia

93 N / 14W

of

DONNA MINES LTD. (N.P.L.)

JANUARY 20, 1971



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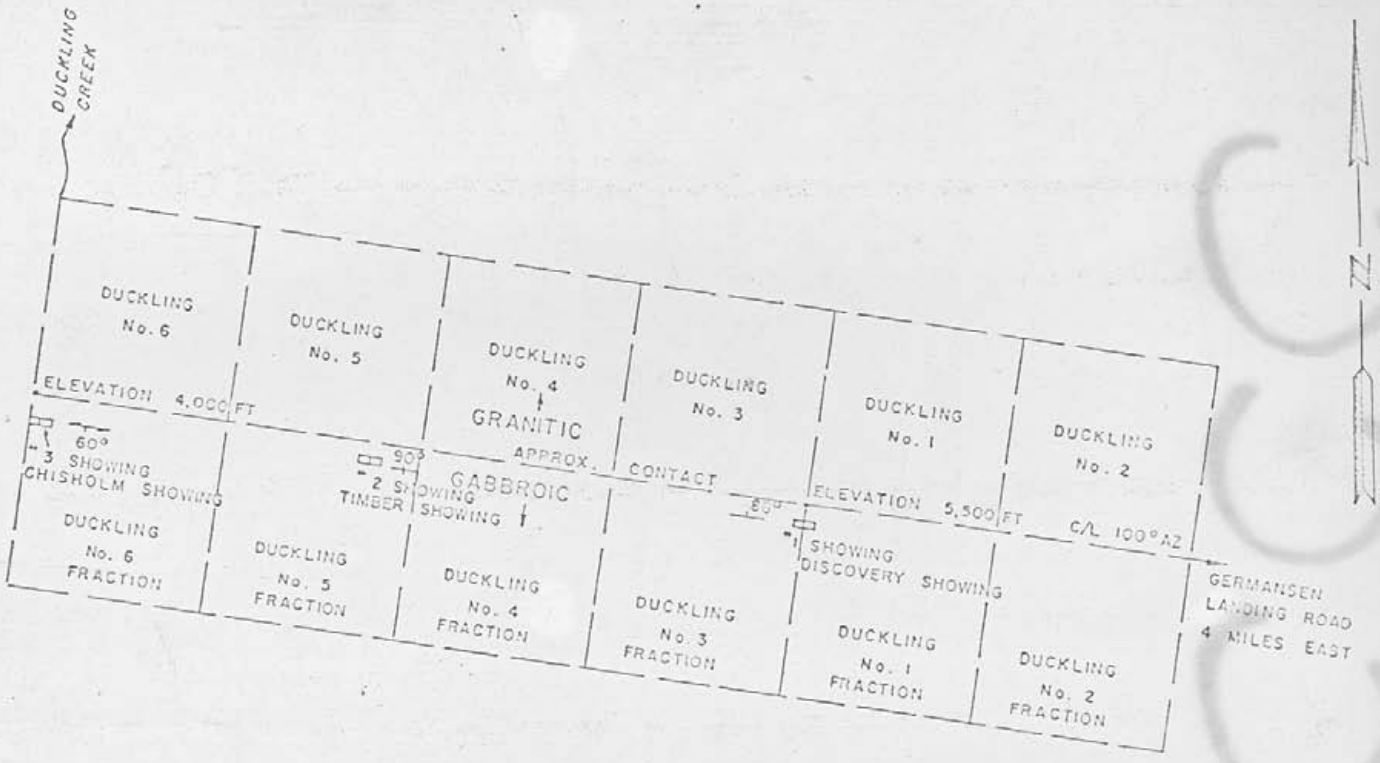
821-602 West Hastings Street,
Vancouver 2, BC.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3537 MAP #1




DONNA MINES LTD. N.P.L.

DUCKLING GROUP

GERMANSEN LANDING AREA

DUCKLING CREEK, CASSIAR DISTRICT B.C.

SHOWING COPPER OCCURRENCES

SCALE: 1" = 1500 Ft.

E.O. CHISHOLM AUG. 29, 1970

FIG. 1

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MAPS

## INTRODUCTION

The results of recent trenching, diamond drilling and a detailed geochemical survey carried out over the Duckling Claims of Donna Mines Ltd. in the Germansen Landing Area are reviewed and recommendations made for further exploration including additional geochemical and geophysical surveys of significant new copper anomalies, followed by trenching.

A previous report by the writer dated September 10, 1970 reviews the earlier results on the property.

## SUMMARY

The results of three diamond drill holes drilled in November on the original high grade copper "discovery zone" did not indicate significant vein type mineralization. Favourable geological conditions however were indicated for the occurrence of a syenite porphyry-copper type of deposit underlying the claim group and drilling was suspended pending the results of a geochemical soil survey over the 12 claim discovery group. This survey disclosed a significant copper-molybdenum anomaly some 3900 ft. long by 1500 ft. a short distance to the west of the "discovery zone" over an area of trenching (timber showing) that shows extensive copper values in mineralized and altered syenitic rocks. A program of geophysical and geochemical surveys followed by bulldozer trenching is recommended totalling an expenditure of $10,000.

## D I A M O N D _ , D R I L L I N G

Three diamond drill holes were bored in the vicinity of the original "discovery zone" but failed to intersect the downward extension of good grade copper mineralization indicated by the surface showings.

A summary of the drill holes follows.

### DDH No. 1

No. 1 hole was drilled north at an angle of 45° at location 200E, 199.00N. The purpose was to intersect the copper vein disclosed in surface trenching at depth.

LOG.

| Depth (Ft.) | Description | Assays |
|---|---|---|
| 0 - 16 | Residual overburden. | |
| 16 - 181 | Basalt (Takla Series). Hornfelsed fine grained chloritic with disseminated pyrite and hematite locally. Core angle 45°. Section from 16 to 30 highly fractured and oxidized with quartz brecciation. Core recovery 50% in this section. At 30 ft., 6-inch zone of pyrite and heavy chloritized fault gouge. From 30 to 181 ft., massive andesite, local quartz stringers. Core recovery 80%. At 163 ft., 1/2 inch stringer containing 50% pyrrhotite and 50% chalcopyrite in fracture at 45° to core. Minor chalcopyrite with pyrrhotite to 165 ft. This probably represents the vertical extension of "discovery zone." | |
| 181 - 231 | Hybrid porphyritic border phase of Hogem Batholith. Classified as porphyritic basalt, dark grey-green colour. Phenocrysts of pink feldspar up to 1/8 inch intermixed with laths of hornblende up to 1/4 inch in diameter. Medium grained texture.<br>Alteration - comprised of saussurite, chlorite epidote, pink K-spar.<br>Mineralization consists of less than 5% pyritization overall, some fine hematite in slips. Sparse magnetite, occasional sparse chalcopyrite. | |

| Depth (Ft.) | Description | Assays |
|---|---|---|
| 181 - 231 | continued<br>Core recovery 80 to 90%. Core angle 45° | |
| 231 - 252 | Fault breccia zone containing heavy chlorite in slips. Slickensides parallel to core. Considerable pyrite and sparse chalcopyrite on slip planes. Recovery 80% | |
| 252 - 282 | Syenite porphyry. Massive dark grey with 1/8 inch pinkish feldspar phenocrysts. Reticulate 1/8 inch quartz veining locally containing 1/2 inch pyrite chrysolite and occasionally chalcopyrite. MoS2 noted on one 1/8 inch veinlet. Core angle 45°. Recovery 90%. | 0.022% Cu.<br>0.003% MoS2<br>0.003% Ni. |

DDH No. 2

No. 2 hole was drilled north at an angle of 45° at 202E, 199.50N. The purpose was to explore at depth the eastern extension of the high grade surface discovery in the vicinity of Hole No. 1.

LOG

| Depth (Ft.) | Descritpion | Assays |
|---|---|---|
| 0 - 15 | Overburden (residual soil). | |
| 15 - 58 | Basalt (Takla Series) fine grained chloritic disseminated pyrite and hematite. Core angle 30 to 45° 6 inches of chloritic fault gouge at contact at 58 ft. with granitic rocks to north. | 31-41.6' (10.5')<br>0.60% Cu. |
| 58 - 216 | Hybrid porphyritic border phase of Hogem Batholith fromed by intrusive here of syenite porphyry to the north, basic lavas of the Takla Series to the south. The hybrid series. The rock classification is difficult because of the variable nature and alteration. Phases include grey basalt with plagioclase phenocrysts, fine grained hornfels, and coarse grained dioritized basalt containing hornblende phenocrysts. The alteration is comprised of saussurite, chlorite epidote; pink K-spar and quartz and carbonate | |

| Depth (Ft.) | Description | Assays |
|---|---|---|
| 58 - 216 | continued veinlets. Considered to be low grade hydro - thermal, mineralization consists of less than 5% of fine grained pyrite forming an overall halo in the border phase extending out from the monzonite intrusion to the north. Locally there are narrow zones containing fine grained sparse chalcopyrite associated with pyrr- hotite accompanied by stronger epidote alter- ation. Core angles are from 60 to 90° Recovery 90%. Rock becomes increasingly syenitic to the north from 216 to 286 feet at syenite contact. | 110-120' (10') 0.030% Cu.<br>120-127' (7') 0.59% Cu.<br>127-136' (9') 0.045% Cu.<br>157-167' (10') 0.035% Cu.<br>179-188' (9') 0.0175% Cu. |
| 286 - 484 | Syenite porphyry, massive dark grey with 1/8" pink orthoclase phenocrysts. Alteration consists of low grade chlorite and epodite principally and becomes less away from contact. Mineralization - Sparse fragmenty pyrite less than 0.5% overall. Some fringle magnetite - no chalcopyrite noted. | 250-260' (10') 0.0036% Cu.<br>373-383' (10') 0.0024% Cu.<br>394-400' (6') 0.0041% Cu. |

COMMENTS

**Holes No. 1 and No. 2 show a typical south to north section drilled from the Takla lava through a faulted contact with the hybrid zone and on into massive syenite intrusive to the north. The downward extension of the high grade surface coppershowings was possibly intersected from 163 to 165 ft. in** Hole No. 1 but is much weaker than the surface vein. It may have been faulted off or pinched out. The hybrid phase of the intrusive contains a pyrite halo at the border of the intrusive syenite batholith. The presence of sparse chalcopyrite in the intrusive border phase accounts for the copper anomalies in the soil overlying the area and suggests the possibility that a low grade porphyry copper type of occurrence might be found in the syenitic rocks in the vicinity.

Disseminated copper mineralization is related to syenite and the border phase rocks and is associated with pyrrhotite and magnetite, K-feldspar and molybdenite mineralization in reticulate quartz veining in the monzonite at the bottom of Hole No. 1 is a significant feature of these syenite porphyry-copper deposits. It suggests that additional work should be done to the north of Hole No. 1 to see if copper values improve in this direction. The north margin of the geochemical anomaly lies some 600 feet north of the end of the hole.

The high grade vein structure of the original surface discovery is discontinuous along strike and in depth. It is not of economic importance and additional work should be concentrated on the porphyry-copper type of occurrence indicated in the syenite intrusive and its border phases.

DDH No. 5

Hole No. 5 was drilled south at an angle of 45° at location 198E - 190.50N approximately 1000 feet south of Hole No. 1. The purpose was to test a copper geochemical anomaly.

LOG

| Depth (Ft.) | Description | Assays |
|---|---|---|
| 0 - 24 | Overburden | 224-233' (9') 0.0176% Cu. |
| 24 - 297 | Basalt, medium grained massive - locally porphyritic. Locally mineralized with disseminated pyrite and occasionally specks of chalcopyrite. Alteration chloritic. Some shearing parallel to core. Core angle 45° - recovery 90%. | 233-243' (10') 0.0146% Cu.<br>268-278' (10') 0.025% Cu.<br>286-291 (5') 0.025% Cu.<br>291-297 (6') 0.0065% Cu. |

COMMENTS

The presence of minor chalcopyrite far below ore grade explains the presence of copper in the soil. The location of this hole was poorly placed at the south edge of the anomalous zone and appears to be in the Takla Volcanic Series extending southward from Hole No. 2. It indicates a width of at least 1000 feet to the lava series.

## T R E N C H I N G

Trenching by backhoe was carried out in two vicinities on the base line, (1) at the "discovery zone" on the base line from 184E to 204E and (2) on the "timber showing" on the base line from 160E to 164E.

(1) The trench on the discovery zone was largely ineffective due to the depth of residual soil and surface oxidation. The trenching outlined a zone containing localized patches of high grade mineralization over narrow widths over a trenched length of approximately 500 feet. The best values encountered were 12.54% copper over 4.0 feet across the original surface discovery zone. A pit to a depth of 20 feet beneath this zone showed the high grade lens narrowed to six inches. A sample across 8 feet assayed 2.70% Cu., 0.7 oz. Ag. and 0.01 oz. Au. At a depth of 110 feet beneath the trench as shown by Diamond Drill Hole No. 1 the surface vein has apparently pinched out to a narrow stringer. D.D. Hole No. 2 located 70 feet to the west to cut the zone failed to intersect the vein. It is apparently cut off by a fault at the contact of the hybrid syenite rocks and the basalt host rock. The westward extension of the vein was not drilled but surface trenching indicates a weakening of the structure.

The discovery zone, from the evidence of the surface trenching and drilling done to date, appears to be a gash type sulphide vein in the Takla lavas associated with faulting and shearing near their contact with the granitic intrusive to the north. It does not appear to have continuity horizontally or in depth.

Associated with the high grade discovery vein is a wider zone of fracturing containing copper values as shown by Trench No. 3 located 50 feet to the east of Trench No. 1. An assay of 2.09% copper over 25 feet was obtained from the oxide zone in this trench. It was not intersected in DD holes 1 or 2 beneath the zone.

(2) The trenching on the timber showing disclosed the presence of low grade copper mineralization in 7 trenches spaced at 50 foot intervals, as shown on the accompanying plan. A small zone 140 feet in length by 30 to 40 feet wide averaging about 0.6% copper was indicated.

The work on the timber showing was not completed due to the onset of winter conditions. The values encountered in the trenches here lie within an extensive copper soil anomaly and are sufficiently encouraging to warrant further trenching with D-8 equipment over the anomaly in the spring.

The mineralized zone disclosed by the trenching trends northeasterly similar to the geochemical anomaly and may represent one of a series of shear zones within the hybrid intrusives that control the copper mineralization. Further trenching is warranted.

## GEOCHEMICAL SURVEY

### Introduction

In order to extend the original surface discoveries of copper mineralization and to find any continuity between the three original showings, the writer recommended a detailed geochemical soil survey over the original 12 claim Duckling Group. An experienced soil sampling crew collected the samples in October 1970.

### Method

Soil samples were taken by digging pits with a mattock to a depth of 6 inches from the surface. The material was taken from the oxidized or "B" zone of the soil profile where possible. In some cases where this zone was not well developed a certain amount of organic material was present in the samples from the "A" zone.

In general, the overburden in the locality of the samples varies from 10 to 15 feet. It is comprised of rock detritus that has broken down into a sandy mixture of rock components. Samples were taken at 100 foot intervals on north/south picket lines spaced at 400 foot centres across the claim group. A total of approximately 600 samples was collected, placed in kraft envelopes and shipped to the Smithers laboratory of Phelps Dodge Corporation for analysis. The total copper content of the samples was extracted by perchloric and hydrochloric acid digestion and detected by atomic absorption technique. All samples were run for copper and alternate samples for molybdenum by a special analytical technique. The results were plotted on a 400 foot plan of the area showing the total copper and molybdenum values. Anomalous values for these two metals were arrived at by anlyzing the "back-

ground" and "anomalous" levels, determined as follows:

COPPER

| Copper Range (in p.p.m.) | No. of Samples | Percentage of Samples In Range | Classification |
|---|---|---|---|
| 0 - 24 | 161 | 27 | Background. |
| 24 - 49 | 180 | 30 | |
| 50 - 74 | 85 | 14 | |
| 75 - 99 | 45 | 7 | Anomalous - 2xbackground |
| 100 - 124 | 35 | 6 | |
| 125--150 | 25 | 3 | |
| 150 - 174 | 20 | 2 | Anomalous - 3xbackground |
| 175 - 199 | 15 | 2 | |
| 200 plus | 44 | 8 | Anomalous - 4xbackground |

It was concluded that the background for copper in the survey area was 50 parts per million and anomalous values were 100 parts per million or more. A similar analysis for results of molybdenum showed the background for molybdenum to be 2 parts per million and anomalous values 4 parts per million and above. The organic content of some of the samples appeared to have little effect on the metal content of the samples themselves.

The chosen background and anomalous levels resulted in well defined anomalous zones for copper and molybdenum that appear to reflect underlying copper and molybdenum mineralization. By the method used all the copper in the soil samples would be recorded and could include copper occurring in oxides,

limonites, carbonates, organic and clay materials and silicates. Since there is abundant pyrite in the halo in the hybrid zone surrounding the monzonite intrusive, the generation of sulphuric acid by surface oxidation promotes the solution and transport of copper. The situation of shallow overburden, pyritization and oxidation provide optimum conditions in the area for the geochemical method.

## Results

Seven separate copper anomalies including two of major size which have anomalous molybdenum values associated with them were delineated. These are denoted as "A" to "G" on the attached 400 scale plan and are described as follows:

### Anomaly "A" and "D"

A well defined northeast/southwest trending copper-molybdenum anomaly extends from line 160 to 188E. It is approximately 3600 feet in length and about 1500 feet in width, and represents a major new exploration target. Its northeast end is still open due to limitation of the survey work.

The anomaly is defined by a contour of 100 p.p.m. in copper which is two times the background of 50 parts per million for the area. The central part of the anomaly is 200 p.p.m. and higher.

The anomalous area occurs on a well drained sidehill slope and is not controlled by drainage topographically.

Near its southwestern end, a limited amount of trenching has disclosed low grade copper mineralization in altered granitic rock over a localized area approximately 120 ft. by 30 ft. in size. The remainder of the anomalous area is covered with shallow sidehill residual overburden.

Molybdenum values are associated with the copper anomaly averaging 5 parts per million or two times background of 2 p.p.m. Mo. for the area.

The anomaly is reflecting copper-molybdenum mineralization in the underlying rock. From the trenching between 160 and 164 on the base line, the rock type underlying the anomaly is believed to be a hybrid phase of syenite intrusive.

The northeasterly trending slope of the anomaly itself and the parallel zones of highs within it suggest the underlying mineralization is controlled by a linear structure in the granitic intrusive such as a shear or fault zone.

Exploration is warranted to further determine its extent. The detail geochemical work should be extended to the northeast followed by magnetometer survey, trenching and finally, possibly diamond drilling if warranted by the results of the trenching.

Anomaly "B"

A well defined somewhat circular anomaly with minor molybdenum values extends across the base line between stations 192E and 206E. It is approximately 1500 feet in diameter. It is well defined by a 100 p.p.m. copper contour line and has a central core of values higher than 200 p.p.m.

in copper. Molybdenum values are spotty and sampling for this metal was incomplete. The highest values in copper encountered were 4,000 to 5,000 p.p.m. in the vicinity of the discovery zone at 200E and 200.00 North. Trenching in this area disclosed a small high grade copper vein described in previous reports, and two diamond drill holes, (No. 1 and No. 2) failed to establish continuity along strike or at depth. A third hole (No. 5) put down 1000 feet southerly near the south edge of the anomaly, encountered only low copper values in porphyritic basalt.

The anomaly straddles the contact near the 200.00N base line, between the volcanics of the Takla Series and the hybrid granitic intrusives to the north. The copper values in the anomaly south of the 200.00 base line are reflecting the high grade gash veins intersected at the contact and disseminated chalcopyrite in structural joints and fractures within the lavas. Further investigation of this anomaly should be directed north of the base line within the hybrid granitic phase.

Anomaly "C"

A well defined copper anomaly is partially outlined by a 100 p.p.m. copper contour. It has spotty molybdenum values associated. It measures some 200 feet long and 600 feet wide and lies within the indicated zone of the Takla Series. It may be of lesser importance however the geochemical survey grid should be extended in this direction to determine its full extent and test pitting or trenching attempted in the area to determine its cause.

Anomalies "E" and "F"

These anomalies outlined by 100 p.p.m. copper contours are approximately 400 feet in diameter and appear to be isolated zones within the Takla volcanics and of lesser economic significance. Some test pitting should be attempted to determine their cause. R. Blusson found disseminated copper mineralization in a rock outcrop on the east bank of Duckling Creek in the vicinity of anomaly "F". An 8 foot chip sample across the zone assayed 0.87% copper. A grab sample from the same area assayed 0.12 oz/ton Au., 0.203% Mo. and 0.2 oz/ton Ag.

Anomaly "G"

A partially surveyed anomaly some 600 feet in length by 400 feet in width outlined by a 100 p.p.m. copper contour lies at the northwest corner of the survey grid. Due to its position within the hybrid zone, it should be further investigated by additonal geochemical survey and test pitting.

## GEOLOGY DISCUSSION

The recent work completed this fall in the area by Tyee Lake Resources Ltd. whose property is located a few miles north, has contributed additional knowledge of the mineralization and geological conditions in the area. A summary of this from a report by J.R. Woodcock dated August 1970 is reviewed since the two properties are underlain by similar geology.

Woodcock points out that the syenite copper deposits of the Germansen Area differ somewhat from the conventional porphyry copper deposits but are nonetheless important. They include such examples as the Stikine Copper of Kennco Explorations Western Ltd.; Ingerbelle of Newmont Mining Corp. of Canada Ltd.; and Cariboo-Bell of Mastodon Highland Bell Mines Ltd. They possess characteristic quartz-deficient intrusive stocks complsed of syenite and diorite; distinctive alteration facies and mineralization. The alteration includes sericite; lime silicates such as epidote; and pervasive pink K-spar. Mineralization is somewhat erratic and is comprised of chalcopyrite, occasional minor bornite and relatively sparse pyrite. The pyrite does not form a separate distinct halo around the margin of a deposit and often occurs in overlapping zones. Molybdenite values may be absent and credits in gold are generally present. Structural control near the contacts of intrusives is more important in syenite deposits than in porphyry deposits. Woodcock states that the lack of pyrite in the syenite stock is particularly significant in the application of geochemistry and geophysics in exploration. Because of the scarcity of pyrite, the total sulphide content of the ore grade material can be so low that it is difficult to detect by induced polarization

survey. Spurious indiced polarization anomalies may be produced however by the high magnetite content of the syenite and diorite. From the foregoing and personal observation by field examination only it is apparent that the Donna Group is very similar geologically to the Tyee Lake Resources property to the north and copper deposition may be expected to occur under similar conditions.

The deposits in general lie near the contact of the Takla Series volcanics and the intrusives of the Hogem Batholith. Between the two is a hybrid zone of mexed or hybrid rocks that are difficult to classify but are generally darker coloured than the syenitic intrusive itself and contain abundant augite. The hybrid zone weathers easily and is characterized by subdued topography as in the area under investigation on the Donna ground. The Takla Series is hornfelsed near the contact. It contains considerable pyrite and limonite staining, abundant epidote and pink feldspar alteration. The presence of considerable magnetite in the Tyee Lake Resources deposit made it detectable by a magnetometer survey within a larger induced polarization anomaly in part due to pyritization.

The Tyee Rondah Group deposit is comprised of disseminated chalcopyrite and pyrite mineralization in hybrid syenite porphyry. It has been partially explored with about 3,000 feet of diamond drilling in five holes. The first hole was drilled at 45° on a 2400 ft. by 1600 ft. I.P. anomaly within which was a smaller 1000 ft. by 600 ft. magnetic anomaly. A geochemical anomaly was alsoobtained. Copper values were obtained grading 0.514% copper, 0.02% Mo3 and values in gold and silver in a 180 foot section from

120 to 300 feet in the hole. Significant but lower values were obtained in the remaining holes. The results of the five holes were quite encouraging because significant intersections encountered economic or marginal grade copper and molybdenum in strongly altered rocks. The minerlized zone appears to be 700 feet in length by some 200 feet wide and is open on both ends in the drilling. Several other geophysical and geochemical targets remain to be explored on the property.

On the basis of an 0.6% grade, a deposit in the order of 30 to 40 million tons cou,d be economic and this would not necessarily be a large target. Careful investigation of any substantial geochemical or geophysical anomaly in the area is warranted.

In applying the experience gained from the exploration ofthe Tyee claims to the Donna ground, the following points may be of value:

1. The most extensive copper mineralization to date has been found in the hybrid rocks at the contacts between the Hogem Batholith syenite and the earlier Takla hornfelsed basalt.

2. Structural zones such as breccia, fracturing and shear zones associated with the contact appear to control the mineralization.

3. Key alteration consists of sericite, chlorite, epidote and pink K-spar.

4. Chalcopyrite mineralization is associated with relatively minor pyrite, pyrrhotite and magnetite.

5. Alteration zones are easily eroded and form areas of subdued topography and shallow depressions.

6. Overburden is largely residual and relatively shallow, contributing to good geochemical responses.

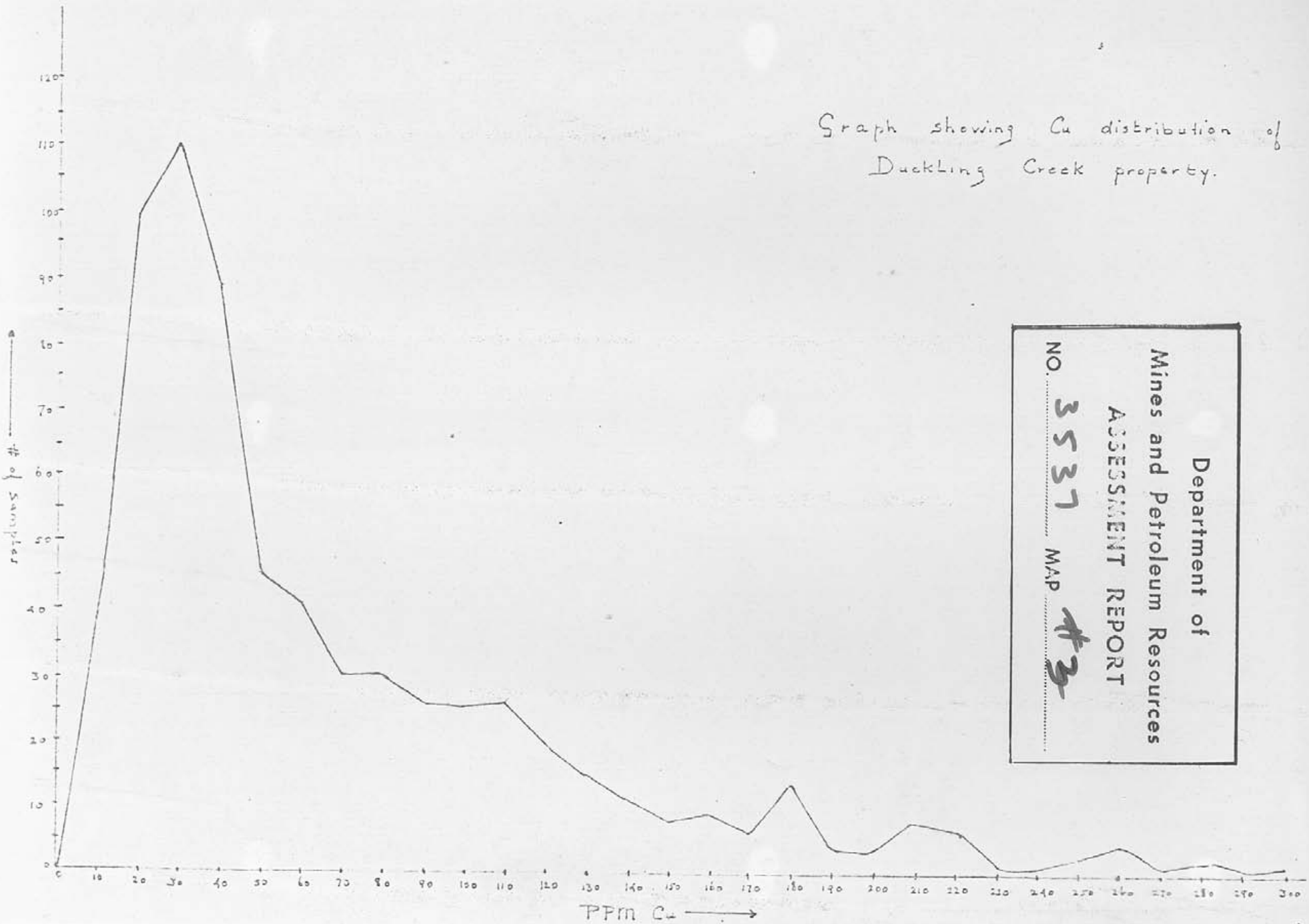
7. The optimum combination for preliminary exploration would consist of geological survey followed by geochemical and magnetic survey. All sizeable anomalous zones should be further investigated by test pitting and trenching where possible.

## CONCLUSIONS AND RECOMMENDATIONS

The Donna Claim Group is underlain by geological conditions favourable for the occurrence of large syenite porphyry type copper deposits. Preliminary work on a small part of the property has given encouraging copper values in surface trenching, and diamond drilling has established the presence of favourable host rocks. Large Copper-Molybdenum anomalies of sufficient size to warrant detailed investigation have been obtained over known copper mineralization in altered hybrid syenite porphyry intrusives near a regional contact zone.

A program of additional geochemical work and magnetometer survey followed by bulldozer trenching is recommended at a cost estimated at $10,000.

Graph showing Cu distribution of Duckling Creek property.




Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3537 MAP #3

## ESTIMATED COST OF RECOMMENDED PROGRAM

Duckling 1-8 Group - 4 Miles of Surveying

| | | |
|---|---|---|
| Line Cutting | $ 600 | |
| Soil Sampling | 400 | |
| Analyses | 500 | |
| Magnetometer Survey | 240 | |
| Geological Mapping | 500 | |
| Camp Costs | 500 | |
| D-8 Cat - 100 hrs. @$35. | 3,500 | |
| Helicopter, Etc. | 1,000 | $ 7,240 |

Outside Claims - Geochemical Stream Reconnaissance

| | | |
|---|---|---|
| Wages | 1,200 | |
| Analyses | 400 | |
| Camp Costs | 500 | |
| Helicopter, Etc. | 500 | 2,600 |
| TOTAL COST | | $ 9,840 |
| SAY | | $10,000 |

Respectfully submitted,

Edward O. Chisholm, P. Eng.

NATIONAL TOPOGRAPHIC SYSTEM

1 : 250,000

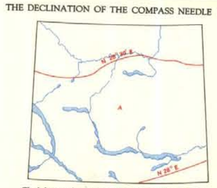
# CANADA

SECOND EDITION

Refer to this Map as: 93 N EDITION 2 ASE SERIES A502

SHEET 93 N


THE DECLINATION OF THE COMPASS NEEDLE 1957



*The declination of the compass needle at any place along a red line is the declination given on that red line. At other places the declination is between those given on the neighbouring red lines; thus at the place marked A, the declination is between N.26° 30' E. and N.28° E. The easterly declinations of the compass needle are decreasing 5.7 minutes annually.*

*First edition surveyed, compiled, drawn and printed by the DEPARTMENT OF MINES AND TECHNICAL SURVEYS 1935-50. Revised, drawn and printed by ARMY SURVEY ESTABLISHMENT R.C.E. 1955-57 Aerial photography by R.C.A.F. 1949.*

## REFERENCE

| | |
|---|---|
| Road, Hard Surface, All Weather | More than 2 Lanes Wide |
| " " " " | 2 Lanes Route No. Less than 2 |
| " Loose Surface, All Weather | 2 Lanes Wide or More |
| " " " Less than 2 Lanes. | All Weather Dry Weather |
| Cart Track, Trail | Cart Track Trail |
| Railway, Multiple Track | |
| " Single Track | |
| Boundary, International | Marker |
| " Province or State | |
| " County or District | |
| " Reservations, Indian, Military, etc. | |

# MANSON RIVER

CASSIAR DISTRICT

BRITISH COLUMBIA

Scale 1 : 250,000

1 Inch to 4 Miles approximately.

Miles 5 0 5 10 15 20 Miles

Kilometres 5 0 5 10 15 20 25 30 Kilometres

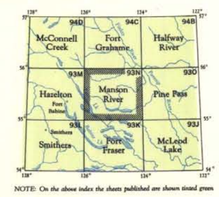
*Copies may be obtained from The Map Distribution Office, Dept. of Mines and Technical Surveys, Ottawa.*

*Contour Interval 500 Feet*
*Elevations in Feet above Mean Sea Level.*

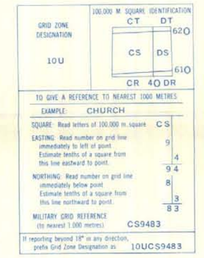
*Universal Transverse Mercator Projection*
*North American Datum 1927*

## REFERENCE

| | |
|---|---|
| Church, School | Horizontal Control Point |
| Settlement, Town | Spot Elevation, in feet 124 |
| Contours, Elevation | Forest, undefined |
| " Depression | Swamp or Marsh |
| " Approximate | |
| Dry River Bed | |
| Stream, Intermittent | Ferry W. L. 125 |
| " Perennial | Mud |
| Dam | Lighthouse Sand |
| Falls | |
| Airfield, on Land | Water (E) Landing Ground (+) Anchorage (S) |
| Power Transmission Line | |



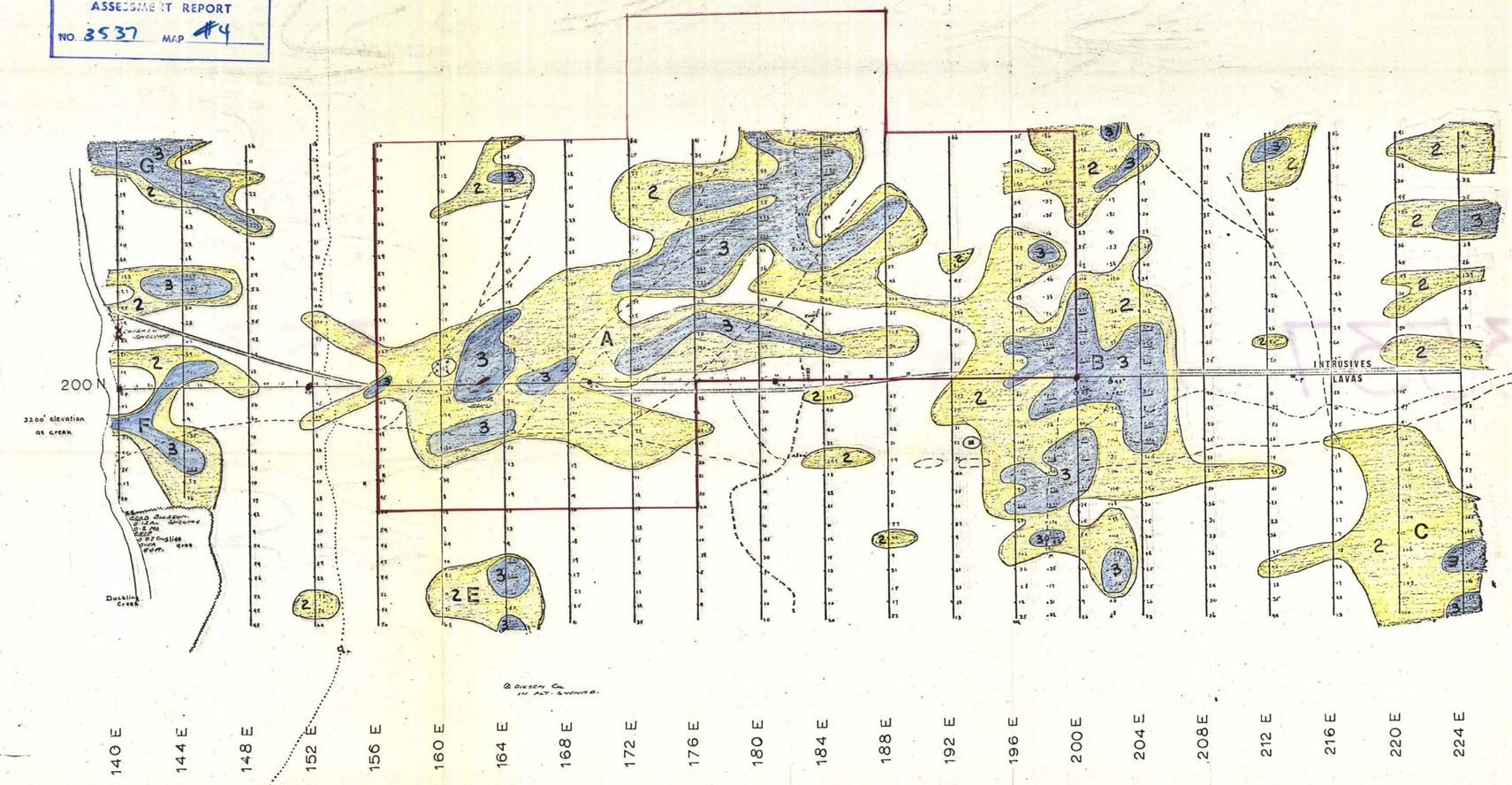

NOTE: On the above index the sheets published are shown tinted green




TEN THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 10

MANSON RIVER
SHEET 93-N
EDITION 2 ASE

To mag.
400' lines
100' Spacing




3537 M4

REFERENCE ONLY

DONNA MINES LTD.

Legend of Duckling Creek.

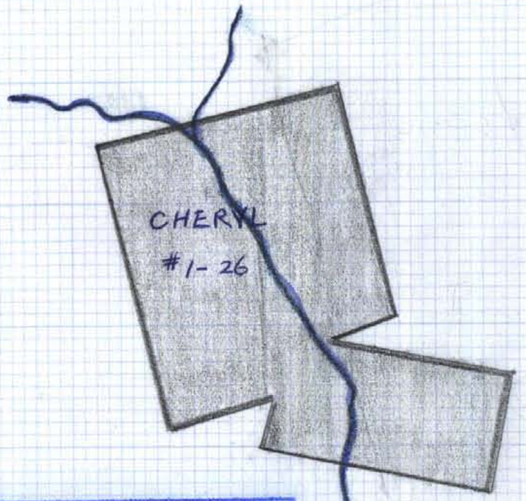
| | |
|---|---|
| scale | 1" = 400' |
| | streams |
| | horse trail |
| | cat. trail |
| | edge of saddle |
| | claim post |
| | trench |
| | heliport |
| | pond |
| | D.D.H. |

Contoured w.r.t. Cu values

| | |
|---|---|
| 3 | ≥170 ppm. Anomalous |
| 2 | 70-170 ppm. Threshold |
| 1 | <70 ppm. Background |

DONNA MINES LTD.

INDEX MAP SHOWING LOCATION OF
GEOCHEMICAL SURVER REPORT OF
K. O. CHISHOLM P. ENG JAN. 20, 1971






DUCKLING CREEK

ST CLAIMS

PASSPORT MINES

ST CLAIMS

FORTUNE CHANNEL

| | | | | | |
|---|---|---|---|---|---|
| 6F | 5 | 4F | 3 | 1F | 2 |
| 6 | 5F | 4 | 3F | 1 | 2F |

12 DUCKLING CLAIMS
AREA COVERED
BY SOIL SAMPLING

DONNA MINES

22 MILES TO GERMANSEN LANDING
ROAD

HI CLAIMS

ALVIJA MINES

SCALE 1" = 3000'

3 MILES TO
OMENICA RIVER