## DRILLING

ASSESSMENT REPORT
ON THE
STAR \#100 MINERAL CLAIM
RECORD NO. 1099 (7)
CLAPPERTON CREEK-NICOLA LAKE AREA
NICOLA MINING DIVISION
MERRITT, BRITISH COLUMBIA
N. Lat. $50^{\circ} 12^{\prime}$
W. Long. $120^{\circ} 36^{\prime}$

92-I-2E
for


DANSTAR MINES LTD.
Suite 704-525 Seymour Street Vancouver, British Columbia
by
DONALD W. TULLE, P. ENG.

## TABLE OF CONTENTS

Page
INTRODUCTION ..... I
SUMMARY AND CONCLUSIONS ..... 1
PROPERTY - LOCATION, ACCESS, PHYSIOGRAPHY. ..... 3
CIAIMS ..... 3
HISTORY - PREVIOUS DEVELOPMENT ..... 4
REFERENCES ..... 6
GEOLOGICAL SETTING AND MINERALIZATION ..... 9
ASSAYS AND RESULTS OF DD HOLES D-1-81 AND D-5-82 ..... 17
RECOMMENDATIONS ..... 19
TIME-COST DISTRIBUTION ..... 20
CERTIFICATE ..... 21
MAPS
Figure 1 - Location Map. ..... - (Frontispiece)
Figure 2 - Topographic Map (after 92/I-2)..........(Follows page ..... 1)
Figure 3 - Claim Map (after BC M92/I-2E) ..... ;
Figure 4 - Property Geology
(after M.K.Lorimer, P.Eng.) (Follows page 8)
Figure 5 - Plan showing Location DD Hole D-l-8l, SOUTHEAST ZONE (Follows page I5)
Figure 6 - Plan showing Location DD Hole D-5-82, Turlight Shaft Area (after R.W. Phendier, P.Eng.) . (Follows page 16)
Figure 7 - Longitudinal Section in Plane of Turlight Shaft showing DD Hole D-5-82 intersection of Vein. (Follows page 17)
Figure 8 - Section Thru DD Hole D-l-8J ..... 18)
Figure 9 - Section Thru DD Hole D-5-82 . (Follows page ..... 19)
APPENDIX
Logs of DD Holes D-1-81, ..... D-5-82
Assay Certificates

$$
\begin{aligned}
& \frac{\#}{\pi} 8112-1055 \\
& \frac{H}{4} 8207-2352 \\
& \frac{\#}{\#} 8207-2950 \mathrm{~A} \\
& \# 8207-2950 \mathrm{~B}
\end{aligned}
$$



## INTRODUCTION

This assessment report was prepared at the request of the Directors of Danstar Mines Ltd., Suite 704, 525 Seymour Street, Vancouver, British Columbia.

The purpose of this report is to summarize the results of a program of diamond drill holes on the former Toluma Mining and Development property situated some twentyrtwo kilometres northeast of Merritt, British Columbia and assess the mine-making potential of STAR \#lOO Mineral Claim.

This report is based upon property and diamond drill core examinations in October and December, 1981 and June and July, 1982.

A further program of mineral exploration is recommended.

## SUMMARY AND CONCLUSIONS

The STAR \#100 claim comprises twenty claim units located about twenty-two kilometres northeast of Merritt, British Columbia.

Some sixty years ago, a copper-bearing quartz vein structure was discovered on the present Turlight claim (Lot 4841 shown on Figure 3). In 1949, a decline shaft had been sunk on this vein and by 1951 this shaft had been deepened in several stages to the 450-foot horizon and levels established at the 50, $100,200,240,325$ and 425 elevations.

In the 1948-1951 period, some 150-200 tons of five

percent copper content ore was shipped to the smelter at Tacoma. The mine property was then held by the Guichon Mine Limited. Western Copperado Mining Corporation took control in 1956 and later optioned the ground to Toluma Mining and Development Ltd. in 1960. Work programs on the property during the period 1960-1963 indicated encouraging results in copper and molybdenum in the designated Southeast Zone and copper in the Northwest Zone (Figure 4).

Further development work was done on this property in 1965-67 and again in 1973-1974.

Development work, which included six diamond drill holes on the Southeast Zone in l961-62, showed considerable low-grade copper-molybdenum-silver mineralization.

In 1973, M.K. Lorimer, P. Eng., outlined two blocks of values in the collar area (See Figure 7) of the TURLIGHT SHAFT above the l00-foot level, as follows:

|  | $\begin{gathered} \mathrm{Au} \\ \mathrm{OZS} / T \end{gathered}$ | $\begin{gathered} \mathrm{Ag} \\ \mathrm{OZS} / \mathrm{T} \\ \hline \end{gathered}$ | Copper |
| :---: | :---: | :---: | :---: |
| Block A - l,320 tons grading | Trace | 0.9 | 2.3 |
| Block B - 1,010 tons grading | 0.01 | 0.4 | 2.5 |

During the period November 24, 1981 through July 13, 1982, two $B Q$ core size diamond drill holes were drilled on the STAR \#100 mineral claim totalling 306.76 metres (1,006.2 feet). Copper values of interest were found in one of these drill holes.

It is concluded the STAR \#100 mineral claim is an excellent exploration bet in a favourable geological environment.


Further diamond drill exploration is recommended.

PROPERTY - LOCATION, ACCESS, PHYSIOGRAPHY

The STAR \#l00 mineral claim is easily accessible by motior vehicle from the Town of Nicola on the Merritt Kamloops Highway No. 5 via gravel and dirt roads. The former workings are situated about three kilometres north of Nicola Lake (Figure 2).

Elevations vary between 3,800 and 4,900 feet over the claim area.

The climate is dry with long pleasant summer periods. Average rainfall is light and the winters are generally moderate allowing round-the-year operations.

Hydro-electric power is available nearby.

Water for any immediate industrial needs may require transportation to the job site, depending upon weather conditions.

School, hospital and a supply-centre for modern conveniences are available at the Town of Merritt.

CLAIMS

The STAR \#IOO mineral claim contains twenty units located in the Nicola Mining Division. Information recorded with the British Columbia Ministry of Energy, Mines and Petroleum Resources at Merritt, British Columbia on July 6, 1982 was as follows:

| Claim Name | Units | Record No. | Expiry Date |  | Recorded Holder |
| :--- | :---: | :---: | :---: | :---: | :---: |
| STAR \#100 | $5 N \times 4 W=20$ | $1099(7)$ | July 20, 1982 | Danstar Mines Ltd. |  |

The STAR \#100 is a re-location of the DOUG $I$, TOM I-6 and the A-7; A-9, A-Il mineral claims, which were abandoned and re-staked as the STAR \#100 on July 17, 1981. Work has been filed pending approval.

The crown grant mineral claim 44841 lies within the confines of the STAR \#100 mineral claim (Figure 3) and is recorded in the name of Toluma Mining and Development Company Ltd.

The MIKE I-8 mineral claims, under option to Danstar Mines, appear to have been staked over the east sector of the STAR \#100 mineral claim (Figures 3 and 5).

A survey of the perimeter of the STAR \#100 and MIKE I-8 claim areas is recommended.

## HISTORY - PREVIOUS DEVELOPMENT

About the year 1920, a high-grade quartz-chalcopyrite vein was discovered north of Nicola Lake on ground that later became known as the TURLIGHT group of claims. The mineralized vein occupied a strong shear zone which was trenched and subsequently developed by a tunnel and later by a decline shaft to about sixty feet in the period 1928-1929. A small body of copper-gold-silver ore was indicated from this work.

Turlight Mines Ltd. held the property until 1947 when it was acquired by the Guichon Mine Limited.

Anaconda Copper Mining Company optioned the claims and did 2,578 feet of diamond drilling (Figure 5) before
relinquishing the ground in 1948. At this time, the property became known as the Copperado Mine when additional diamond drilling and deepening of the shaft to 270 feet, including lateral work on the 200-foot level, was done. In 1950-1951, the decline shaft had been sunk to the 450foot level with drifting and cross-cutting amounting to 615 feet done on the 100,325 and 425-foot levels. Some 150-200 tons of copper ore, reported to average five percent copper content per ton, was shipped at that time to the smelter at Tacoma, Washington.

Some geophysical surveying was done on the claims in 1951 and a company named Copperstar Mine Ltd. had acquired an interest in the property about this time.

By 1956, Western Copperado Mining Corporation had acquired control of the Guichon Mine property and dewatered the shaft. This company drilled some 2,000 feet of diamond drill holes on the 200-foot level and shipped about 45 tons of ore said to grade 6.91 per cent copper to the Tacoma smelter. In 1957, a geophysical survey was done over the property by Shield Mining Surveys Limited of Ottawa and twenty diamond drill holes totalling 9,962 feet were drilled to test several anomalous zones. About a mile north of the Turlight shaft a short adit was driven and several short holes were drilled in a mineralized zone.

Toluma Mining and Development Co. Ltd. optioned the property in 1960 and did extensive surface exploration work including induced polarization (McPhar) and geochemical surveys as well as bulldozer trenching of the resulting anomalous zones. A spontaneous polarization survey was carried out over the ground and developed two mineralized zones of interest in the northwest and southeast sectors of the property. The southeast area of the property was
given special attention and tested with six diamond drill holes and trenching.

Rio Tinto Canadian Exploration Limited did a magnetometer survey under an option agreement over the northwest and southeast zones in 1965.

Great Slave Mines Ltd. optioned the property in 1966 and did magnetometer, photogeological and geochemical studies of the ground in 1967. During this period a joint British Columbia-Federal Government aeromagnetic survey was done over the region.

In 1973, Danstar Mines Ltd. dewatered the Tur-• light shaft again and a program of surveying, geological mapping and sampling was carried out. Evidence on the property shows a program of percussion drilling was done at this time but the results of this work are not known to the writer.

## REFERENCES

The following publications and reports, available to the writer, are considered pertinent to the STAR \#l00 mineral claim and are as follows:
B.C. Reports of the Minister of Mines for the years

1929 - p. C246
1947 - p. 136
1948 - p. 120
1949 - pp. 115-120, I21-124
1950 - p. 112
1951 - p. 128
1952 - p. 119
1956 - po 47
1957 - p. 29
1961 - pp. 45-46

$$
\begin{array}{ll}
1962-\mathrm{p} \cdot & 56 \\
1963-\mathrm{p} \cdot & 54 \\
1964-\mathrm{p} \cdot & 96
\end{array}
$$

Geological Survey of Canada Memoir 249 - p. 130-131
Geological Survey of Canada Map 886A
Geological Survey of Canada Aeromagnetic Map 5209G
Notes prepared by M.M. Menzies, P.Eng., dated March 28, 1980 and supplied to the writer by Danstar Mines Ltd.

Reports on the Copperado Mine Property, Nicola Mining Division, for Danstar Mines Ltd., by-M.K. Lorimer, P.Eng., dated 18 December 1973 and 17 January 1974

Geological Report on the Turlight Property for Toluma M. \& Development Co. Ltd., by R. W. Phendlex, P.Eng., dated June 1973

Geological Report on the Turlight Property for Copper Ridge Mines Ltd. by R.W. Phendler, P.Eng., dated May 24, 1972

Report on the Copperado Property for Toluma M. \& Dev. Co. Ltd., by D. Calimente, dated October 19, 1965

Rio Tinto Canadian Explorations Ltd., map of Guichon Mine mineral claims and assembled data dated January 1965

Final Progress Report on the First Exploratory Stage on the Copperado Property for Great Slave Mines Itd., by N.C. Lenard, P.Eng., dated February 20, 1967

Soil Sampling - Molybdenum, map by W.B. Montgomery, P.Eng., dated September, 1963

Induced Polarization and Resistivity Survey Profiles by McPhar Geophysics Ltd., August 30, 1963

Report on the Toluma Mining and Development Property near Nicola, British Columbia, by Dr. A.C. Skerl, dated - April 2, 1963

Report on Induced Polarization and Resistivity Surveys on the Copperado Mine Property (McPhar Geophysics Ltd.) by D.B. Sutherland, M.A., dated July 18-19, 1963

Report on a Geochemical Survey on the Copperado Mine Property by W.B. Montgomery, P.Eng., dated August I, 1962
S.E. Anomalous Area - Map - Copperado Mine by W.B. Montgomery, P.Engo, dated June, 1962

Geochemical Survey - Map - Copperado Mine, Rubeanic Acid Test Reactions by TV.B. Montgomery, P.Eng., dated January, 1962

Surface Geology - Map - Copperado Mine, by A.R. Allen and W.B. Montgomery, dated January, 1962

Report on Geophysical and Geochemical Surveys for Toluma Mining \& Development Co. Ltd. by S.F. Kelly for Geophysical Explorations Ltd., dated February - July, 1961

Appraisal of Toluma Mines near Nicola, B.C., by W.G。Johnston, dated June 14, 1961

Self Potential Readings Map - Copperado Mine by Go Bernios (undated)

Geological Appraisal of The Guichon Mine Property by R.E. Renshaw dated December 16, 1960
A. Surface Contour Map - Southern Portion - Copperado Property by McElhanney Air Surveys Ltd., dated 1960

Report to the Shareholders - Guichon Mine Ltd., by W.B. Gilles, dated January 30, 1957

Preliminary Geological Report on the Underground Workings of the Copperado Property for Western Copperado Mining Corporation by W.L. Young, Ph.D., dated January 19, 1957

Diamond Drill Hole Cross-section by Shield Mining Surveys Ltd. (undated)

Investigation of the Copperado Property, Merritt, B.C., by Shield Mining Surveys Limited, Ottawa, May August, 1957, by W.L. Young

Sketch Map - Copperado Mine, part of a private report by B.W.W. McDougall, M.E., dated June 15, 1950

Surface Map - Copperado Mine - (Author unknown) dated March, 1948

Many of the above references are from the files of Mr. Sherwin F. Kelly, Consultant, Merritt, British Columbia.


## GEOLOGICAL SETTING AND MINERALIZATION

The STAR \#100 mineral claim is situated at the southern end of the Nicola Batholith (Figure 4). The batholith is composed of melanocratic and leucocratic contact-phases with metamorphosed remnants of the Nicola volcanics in the area of the property.

The general geology of the property is shown on Figure 4 after M.K. Lorimer, P.Eng.

A description of the geology and the mineralization of the surface vein zones (all of which have since been covered with dirt, debris and brush) is given by Dr. W.H. White on pages l2l-l24 of the Report of the Minister of Mines, British Columbia for the year 1949, in the following excerpts:
" No. l Vein: This vein is exposed intermittentIy on surface by several old open-cuts for a horizontal distance of about 200 feet. An adit a few feet below the outcrop follows the vein for 55 feet. The vein fracture is filled chiefly with crushed basalt containing sericitized stringers of quartz, feldspar, and calcite. The width, including veins, stringers, and intervening crushed rock, ranges from 3 to 41 inches.

No. 2 Vein: Several old open-cuts expose No. 2 vein at intervals for a horizontal distance of 160 feet. This vein is a breccia zone ranging in width from 3 to 24 inches; it contains quartz and calcite sparsely mineralized with bornite and chalcopyrite. A sample taken in an open-cut
" across 16 inches assayed: Gold, 0.24 oz. per ton; silver, 0.8 oz. per ton; copper, trace.

Four short adits have been driven in the bluffs a short distance below the outcrops a.t elevations of 2,454, 2,453, 2,497, and 2,527 feet. These workings explore several irregular, branching, northwesterly trending fault zones, some of which contain short, narrow veins or stringer lodes of sparsely mineralized quartz and calcite. None of the exposures underground can be correlated with certainty with the outcrops a few tens of feet above. In the adit at elevation 2,497 feet, two channel samples 5 feet apart were taken across a quartz lens 15 feet long and about 12 inches wide. The first assayed: Gold, 0.54 oz . per ton; silver, 2.0 oz . per ton; copper, 0.3 per cent. The second assayed: Gold, l.l4 oz. per ton; silvèr, 3.6 oz . per ton; copper, 0.98 percent. In the face of the adit at elevation 2,453 feet a channel sample taken across an 8-inch quartz vein assayed: Gold, trace; silver, 0.3 oz . per ton; copper, 1.2 per cent.

No. 3 Vein: This is an irregular, branching lode of quartz-calcite stringers partly exposed in one caved open-cut. It was not sampled.

No. 4 and No. 5 Veins: These veins outcrop about 30 feet apart at the top of a line of bluffs. There is a single open-cut on each vein. A sample was taken in the open-cut on No. 4 vein across 10 inches of glassy quartz containing shreds of chlorite and shiny flakes of specular hematite. This assayed: Gold, 0.42 oz . per ton; silver,
" 2.6 oz . per ton; copper, 0.15 per cent. A lo-inch sample taken across the quartz-calcite breccia of No. 5 vein contained no gold or silver.

Adits at elevations of 2,571 feet and 2,511 feet explore No. 4 and No. 5 veins at depths not more than 80 feet below the outcrops, but the structures underground cannot be correlated with those on the surface. The upper adit exposes several unmineralized, subparallel fault zones in brecciated and altered basalt. Four channel samples cut across the main breccia zone assayed: Gold, nil or trace; silver, trace to 0.3 oz . per ton. The lower adit has several crooked branches. From the portal it extends 160 feet in the direction north 30 degrees west, then turas northerly for 65 feet. A drift branches to the northwest 72 feet from the adit portal, and another drift $25^{\circ}$ feet long, branches to the northwest 180 feet from the portal. The main drift follows an irregular, branching fault zone which, for 80 feet, contains a quartz-calcite stringer lode ranging in width from 2 to 16 inches. The branch drifts explore very narrow quartz-calcite lodes.
" No. 6 Vein: This unmineralized vein and stringer lode outcrop on the face of a steep bluff and at two other points on a bench to the northwest, the length indicated being about 350 feet. The vein is parallel to and within a few feet of the feldspar porphyry dyke. Two samples, each about 2 inches wide, taken at the tor and base of the bluff, assayed either nil or trace in gold, silver, and copper.

No. 7 Vein: This is the only vein known east of the major fault. It is a lode containing glassy
" quartz stringers sparsely mineralized with grey copper. The vein outcrops or is exposed by opencuts intermittently for a horizontal distance of 200 feet. Both its attitude and width are variable. Two samples were taken in a pit near the southeast end of the showings. The sample from the northwest face of the pit, across the vein width of 3 inches, assayed: Gold, 0.13 oz . per ton; sịver, 0.5 oz . per ton; copper, trace. The second sample, taken 10 feet farther southeasterly across a width of 12 inches, assayed: Gold, 0.38 oz . per ton; silver, 1.3 oz . per ton; copper, 0.94 per cent. An outcrop of amygdaloidal porphyritic basalt 100 feet southwesterly from this vein contains minute flakes and grains of native copper. Under the microscope the copper appears in amygdules and in minute irregular fracture zones accorpanied by epidote and callcite.

No. 8 and No. 9 Veins: These veins not shown in Figure 10, are, respectively, 100 feet and 225 feet north of the northwest corner of the area shown in the figure. Both strike north 55 degrees west and dip steeply southwestward. Both range in midth from 4 to 12 inches. No. 8 vein has a total length of 90 feet between two zones of epidotized crushed basalt. No. 9 vein is exposed by outcrops and opencuts for 95 feet, and its maximum length, as shown by outcrops on the projected strike, is less than 170 feet. No. 9 vein is made up of narrow lenses and stringer zones of glassy quartz and pink feldspar containing sparsely disseminated specular hematite, pyrite, and chalcopyrite. As this vein was reported to have high gold values, three special
" samples were taken. Each sample was a composite of five channels taken at 2-foot intervals. The first sample, taken near the northwestern end of the exposures, average width 8 inches, assayed: Gold, 0.02 oz . per ton; silver, 0.2 oz . per ton; copper, trace. The second sample, average width 5 inches, taken in the main open-cut 40 feet southeasterly from the first, assayed: Gold, 0.01 oz . per ton; silver, 0.2 oz . per ton; copper, 0.25 per cent. The third sample, 8 inches wide, taken 25 feet southeasterly, assayed: Gold, 0.48 oz . per ton; silver, 0.4 oz . per ton; copper, 0.43 per cent. "

The following description of the geology and mineralization on the first two levels of the underground workings is taken from page All7 of the Report of the Minister of Mines for British Columbia for the year 1949:
> " Banded quartz, 2 to 5 feet wide and sparsely to moderately well mineralized with bornite, appears in the shaft from the collar to No. l level. Fault surfaces form both walls of the vein. At No. l level the hangingwall steepens and the quartz gradually narrows, pinching out in the shaft about 15 feet below the level. Thence to the bottom, the shaft is in dark-green biotite-chlorite schist that here and there contains lenticles of quartz and a few tinny stringers of bornite. Occasional flakes of native copper are found in and along the borders of the quartz lenticles. The shear zone is bounded by smooth fault surfaces about 5 feet apart.

On No. I level, in and northwesterly from the shaft,

[^0]" the footwall diverges from the hangingwall. In the wedge-shaped area between the two fault surfaces the quartz is well mineralized with irregular masses and veinlets of bornite and forms an orebody which, below the small stope, attains a maximum width of 8 feet. Thence followed northwesterly it gradually tapers and becomes less well mineralized. A short distance beyond the sump (Fig. 9, projection A-A) the quartz gives way to a narrowing zone of unmineralized biotite-chlorite schist that continues to the face. A vertical wedge-shaped aplite dyke, which shows marked foliation due to stress, forms the footwall of this narrow unmineralized part of the shear zone. What may prove to be the same dyke appears in the footwall of the shaft near the collar.

In the northwest drift of No. 2 level there appears to be a repetition of the structural conditions on No. I level. A footwall slip diverges from the continuous hangingwall and the wedge-shaped mass between them consists of quartz well mineralized with bornite. At the face the width of the orebody is 6 feet.

The exposures in No.l level and in the northwest end of No. 2 level indicate an orebody having a stopelength of 60 feet and a steep rake to the northwest. The approximate limits of this orebody are shown on the longitudinal projection in Figure 9.

Southeastward, from the shaft, No. 2 level follows a well-defined but unmineralized shear zone. At
50 feet from the shaft the persistent hangingwall fault swings slightly toward the east and splits into several branches. Quartz stringers appear along the footwall branch of the fault, and a.t the
" face these coalesce to form irregular masses of quartz containing some chalcopyrite and bornite.

Aeromagnetic map 5209G shows a north-south trend of isomagnetic contours over the property more or less parallel and conforming to the underlying topography. There is a small local "High" in the southeast sector of the STAR \#1OO claim area.

The writer noted the association of pyrite, chalcopyrite and bornite with attendant copper oxides in rock specimens on the dump at the shaft of the Turlight claim. Both the Northwest Zone and the Southeast Zone showed surface mineral specimens carrying abundant chalcopyrite with minor pyrite and malachite in a gneissic contact phase of the Nicola Batholith along a northnorthwesterly trend of shearing.

Dr. A.C. skerl, in his report of April 2, 1963, stated that from geochemical surveys the Southeast Zone was indicated to be some 2,500 feet long and some 2,000 feet wide with a tongue of leucocratic granite at each end and a central tongue that gave a strong copper anomaly. He also indicated north-south shear zones trending through this zone. The writer examined the ground indicated to be anomalous in copper by Skerl and also by Lorimer as shown on Figure 4, and found the soil cover in the anomalous area was quite shallow (2-10 cm) occurring on a southeast-facing slope with over $60 \%$ granodiorite rock outcrop exposed, all of which were essentially barren of mineralization except for scattered small quartz veinlets carrying fine sulphides.

Dr. Skerl discussed the diamond drill results

" Diamond Drilling*Results
A series of 6 diamond drill holes totalling l,432 feet showed that the pattern of the mineralization was quite complicated and probably not parallel to the foliation as was expected. A possible distribution of the mineralization is shown on the accompanying sections and a plan of the 4,400 foot elevation. This shows a main zone 20 to 30 feet wide strihing $N 30$ degrees $\mathbb{W}$ and dipping 70 degrees $E$ with subsidiary zones branching off into the footwall.

The hangingwall of the main zone meets the granite at about the 4,300 foot elevation where it is presumably cut off, but the structures further to the west will meet it at a much lower horizon.

Although the mineralization is often richer in association with quartz stringers, it is by no means confined to them.

The mineralization is now known over a length of 200 feet and at intervals over a width of 200 feet. Its lower limit is not known since the vertical hole No. 16 averaged $0.27 \%$ Cu for its full depth of 200 feet.

The indicated averaged grade is not commercial; although the copper ranges up to $0.53 \%$ over 24 feet and the molyrbdenum up to $0.16 \%$ over similar widths, the average grade is probably about $0.20 \% \mathrm{Cu}, 0.07 \%$ $\mathrm{MoS}_{2}$ and $0.50 \mathrm{oz} \mathrm{Ag} \mathrm{per} \mathrm{ton}$, nearly $\$ 4.00$ per ton. "


The writer examined the surface outcrops at the location of D.D. Hole $T M-16$ and found the structure trending slightly west of north. Most of the rock outcrops of granodiorite carry little to no sulphide mineralization in the general area of the SOUTHEAST ZONE. The numerous outcrops in this SOUTHEAST ZONE have been trenched during previous operations and show shearing and foliation trending north-northwesterly with scattered sulphide mineralization along shear planes. The sulphides appear on the surface outcrops in patches. associated with malachite copper stain. There is, in this writer's opinion, a preponderance of barren rock outcrop showing on surface in this SOUTHEAST ZONE. The structure dips very steeply to the west. D.D. Hole TM-16 is believed to have been drilled down the dip of a band of sulphides carrying pyrite, chalcopyrite and minor bornite in association with veinlets of quartz.

A study of the results of D.D. Holes TM - ll, 12, 13, 14 and 15 show widespread and albeit interesting intersections of low tenor copper-molybdenum intersections as shown on Figure 6.

ASSAYS AND RESULTS OF D.D. HOLES D-1-81 AND D-5-82

During the period November 24, 1981 and July 13, 1982, two BQ core size diamond drill holes were drilled on the STAR \#100 claim area totalling 306.76 metres (l,006.2 feet). These holes are numbered $D-1-81$ and D-5-82 and are located in the SOUTHEAST ZONE and the Turlight Shaft area respectively (Figures 5 and 6).

The drilling was done under contract to Turnex Exploration Services Ltd., Suite 704, 525 Seymour Street,


Block A - 1320 Tons-GOLD-Tr, SILVER-0.902/t, COPPER-2.3\%


FIGURE 7

## LONGITUDINAL SECTION

ASSAYS
TURLIGHT SHAFT
LOOKING NORTHEAST

Vancouver and Kevin Griffiths, Merritt, B.C.

The results were as follows:

| D.DH No. | Direction | Dip | $\frac{\text { Depth }}{\text { Metres }}$ | $\frac{\text { From }}{\text { Metres }} \frac{\text { To }}{\text { Metres }}$ | $\frac{\text { Width }}{\text { Metres }}$ | $\frac{\text { Gold }}{\text { ozs. }}$ | $\frac{\text { Silver }}{\text { ozs. }}$ | $\frac{\text { Copper }}{\%}$ | $\frac{\text { MoIy }}{\%}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D-1-81 | - | $90^{\circ}$ | 132.99 | 10.37 - 10.98 | 0.61 | - | - | 0.02 | 0.002 |
|  |  |  |  | 10.98-11.89 | 0.91 | - | - | 0.16 | $0.010^{\prime}$ |
|  |  |  |  | 11.98-1250 | 0.61 | - | - | 0.30 | 0.008 |
|  |  |  |  | 12.50-13.11 | 0.61 | - | - | 0.09 | 0.003 |
|  |  |  |  | 15.85-16.46 | 0.61 | - | - | 0.61 | 0.041 |
|  |  |  |  | 40.24-40.85 | 0.61 | - | - | 0.41 | 0.004 |
| D-5-82 | $240^{\circ}$ | $50^{\circ}$ | 175.00 | 16.46-17.07 | 0.61 | 0.002 | 0.10 | 0.36 | 0.001 |
|  |  |  |  | $87.20-87.50$ | 0.30 | 0.002 | Tr | 0.02 | 0.001 |
|  |  |  |  | 96.95-98.17 | 1.22 | 0.002 | Tr | 0.01 | 0.001 |
|  |  |  |  | 98.17 - 98.48 | 0.31 | 0.002 | 0.10 | 0.53 | 0.001 |
|  |  |  |  | 98.48-99.39 | 0.91 | 0.002 | 0.05 | 0.02 | 0.001 |
|  |  |  |  | $99.39-101.13$ | 1.74 | 0.002 | 0.05 | 0.05 | 0.001 |
|  |  |  |  | 101.13-102.66 | 1.53 | 0.003 | 0.25 | 0.49 | 0.001 |
|  |  |  |  | 119.21-102.43 | 1.22 | 0.002 | 0.05 | $0.05=$ | 0.001 |
|  |  |  |  | $130.18-131.10$ | 0.92 | 0.002 | Tr | 0.01 | 0.001 |
|  |  |  |  | $131.10-131.17$ | 0.61 | 0.002 | Tr | 0.01 | 0.001 |
|  |  |  |  | $131.17-132.32$ | 1.15 | 0.002 | 0.25 | 1.23 | 0.001 |
|  |  |  |  | $132.32-132.93$ | 0.61 | 0.002 | Tr | 0.03 | 0.001 |
|  |  |  |  | $132.98-133.84$ | 0.91 | 0.002 | Tr | 0.01 | 0.001 |

In D.D. Hole D-5-B2, the average result of the copper intersection was as follows: From To
$97.17 \mathrm{~m} \quad 98.48 \mathrm{~m}$ was $0.53 \%$ copper over 0.31 metres (I foot) Upper Plane (I) and
131.17m 132.32m was $1.23 \%$ copper over 1.15 metres ( 3.77 feet) Lower Plane (2)

The upper intersection in D.D. Hole D-5-82 is designated (1) on Figures 7 and 9. This zone of values is similar to the quartz-chalcopyrite vein zone on which the Turlight shaft was sunk. The lower intersection designated (2) appears to be a hitherto unknown body of quartz-chalcopyrite in the footwall and should be followed up by further diamond drilling.

## LEGEND

ASSAYS $\frac{\mathrm{ozs}}{\mathrm{Au}}, \frac{\mathrm{ozs}}{\mathrm{Ag}}, \frac{\%}{\mathrm{Cu}}, \frac{\%}{\mathrm{Mo}}, /$ WIDTH-METRES
$\longrightarrow$ SHEARING-FOLIATION ANGLE TO CORE
Mun FAULT ZONE
QUARTZ VEIN ZONE
$\square$ QUARTZ-FELDSPAR PORPHYRY DYKE
0000 ANDESITE - DIORITE DYKE
FIGURE 8

vVvov
GRANITE

| DANSTAR MINES LTD. |  |
| :---: | :---: |
| D. D.H. D-1-81 |  |
| SECTION <br> LOOKING EAST |  |
| SOUTHEAST ZONE |  |
| SCALE I: IO 00 |  |
| D.W.TULLY, P. Eng | August 5,1982 |

This latter zone does not appear to have been intersected in old drill holes numbered $A-3, A-6$ and $A-7$ (Anaconda) as shown on Figure 6.

## RECOMMENDATIONS

Further diamond drilling is recommended to trace the lateral and depth extent of the zone of values intersected in D.D. Hole D-5-82.

A survey of the perimeter of the claim area is also proposed.

August 5, 1982
Respectfully submitted,



ASSAYS $\frac{\text { ozs }}{\mathrm{Au}}, \frac{\mathrm{OZS}}{\mathrm{Ag}}, \frac{\%}{\mathrm{Cu}}, \frac{\%}{\mathrm{Mo}}, /$ WIDTH-METRES
$\cdots$ SHEARING -FOLIATION ANGLE TO CORE
Mun FAULT ZONE
FIGURE 9
QUARTZ VEIN ZONE


QUARTZ-FELDSPAR PORPHYRY DYKE
0000
ANDESITE - DIORITE DYKE
vovov
GRANITE
$+4+4$
granodiorite
Dowered. Well

| DANSTAR MINES LTD. |  |
| :---: | :---: |
| D. D.H. D-5-82 |  |
| SECTION <br> LOOKING NORTH |  |
| SOUTHEAST ZONE |  |
| SCALE I:IO00 |  |
| D.W. TULLY, P. Eng. | August 5, 1982 |

704-525 Seymour Sireel Vancouver. British Columbia Canada V6B 3H7 Telephone (604) 688-8245

INVOICE
August 3

|  | Danstar hines Limited, |
| :--- | :--- |
|  | $704-525$ Seymour Street, |
| in Account with $\quad$ Vancouver B.C. |  |

Terms

|  |  |  |  |  | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | STAR $\frac{n}{V} 100$ Mineral Claims |  |  |  |  |
|  | 4,000 feet 30 core diamond |  |  |  |  |
|  | drimling e $\$ 30.00 /$ foot. |  |  |  | $120,000.00$ |
| $\because$ |  |  |  |  |  |
|  |  |  |  |  |  |
|  | M. Stewart M/ T/TMer |  |  |  |  |
|  | $i_{1}+i_{1} l_{2}($ |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  | T | Otal | 120,00l0.00 |

## CERTIFICATE

I, DONALD WILLIAM TULLY, of the Corporation of West Vancouver, Province of British Columbia, hereby ertify as follows:

1) I am a consulting Geologist with an office at Suite l02, 2222 Bellevue Avenue, West Vancouver, B.C.
2) I am a registered Professional Engineer of the Provinces of British Columbia and Ontario,
3) I graduated with a degree of Bachelor of Science, Honours Geology, from McGill University in 1943.
4) I have practiced my profession for thirty-seven years.
5) I have no direct, indirect or contingent interest in the shares of Danstar Mines Ltd. or the STAR \#100 Mineral Claim or the MIKE $1-8$ mineral claim group nor do I intend to have any interest.
6) This report dated August 5, 1982 is based on field examinations I made on October 28 and December 8, 1981 and on June 8, 22, 30, July 6, 13 and 22, 1982 : and from information gathered from available maps and reports.
7) I have consulted on the SUE (Record No. 851) and the MIKE l-8 mineral claims that are located within ten kilometres of the STAR \#I OO during the past five years.
8) Written permission from the author is required to publish this report dated August 5, 1982 in any Prospectus or Statement of Material Facts.

DATED at Hest Vancouver, Province of British Columbia, this lith day of August, 1982.


COMPANY _ . _ DANSTAR MINES LTD.
DIAMOND DRILL CORE LOO - SAMPLE RICORD

HOLE DEPTH $131.76 \mathrm{m}.\left(432.2^{1}\right)$
CORE SIZE 36 mm . HOLE DIRECTION OOO dir 90 •

LOC'n Unit 4E-4N as shown on accompanyíng plan
collar eLEV. 4210 ft . raam mal df 2



Don Tully Engineering Ltd. SUITE 1O2-2222 bellevue avenue WEST VANCOUVER. BRITISH COLUMBIA V7V 1C7

HOLE No. D~5-82
HOLE DEPTH $175.00 \mathrm{~m}(574.0 \mathrm{ft}$.

COMPANY CLAIM STAR \#100

DIAMOND DRILL CORE LOO - SAMPLI RICORD
CORE SIZE 36 mm
HOLE DIRECTION $250^{\circ}$
mir 50 •
collar elev. 3770 ft . raam Nal of 3
morkwri As shown on the accompanying plan


C/A-CORE AXIS
Bx - BRECCIATED
NA-NOT ASSAYED
Olas.- DISSEMINATED
f.g.-Eine-grained
m.g.-med. grained
py - PYRITE
Mg - MAGNETITE
Pb - GALENA
Zn - Sphalemite
CORE Loogod by:.........W........ Tuldy, P. Eng.

HOLE STARTEG:
HOLE FINISHED: .. ...July..13;...1982...
PO- PYRRPGOTITE .
Cupy - Chalcopyrite


DIAMOND DRILL CORE LOG DANSTA
LOO

- SAMPLE RICORD

LOC'17 Near Turlight shaft
As shown on the accompanying plan
IN LENGTH

| HTOM | T0 |  |
| :---: | :---: | :---: |


| 113.11 | 114.02 | Fol |
| :--- | :--- | :--- |
|  | 118.60 | AB |

$-$

|  | 120.43 | Vein zone of white to vitreo |
| :--- | :--- | :--- |
|  | 130.18 | Granodiorite, sheared and hi |
|  | 131.10 | Granodiorite, chloritized w |
|  | 131.17 | White to vitreous quartz veine quartz veinlets with $15^{\circ} \mathrm{c} / \mathrm{a}$ |
|  | 132.32 | White to vitreous quartz v |

LEGEXD

C/A-CORE AXIS
日x - bRECCIATED
NA - NOT ASSAYED
`Dlas.- DISSEMNATED
F.g.-Eine-grained m.g.-med. grained

NOTE: CORE STORED AT COLLAR DF DRILL HOLE
py - PYRITE

- Mg - magnetite

Pb - GALENA
Zn - SPHALERITE
PO- PYRRTHOTITE

CORE SIZE 36 mm
HOLE DIRECTION $250^{\circ}$
dir 50 •
collar elev 3770 ft. raam na 3 bf 3


CORE Looged by:...D.W. ... Tullly, P.Eng. CORE Spllt by: ..... D.W. Tully, P. . Eng.
HOLE STARTED: . .July. ...7.....19.82......
HOLE FINISHEQ: ....July. 13,.... 198? ...

```
TO:
    DON TULIY ENGGINKKRRING LIPD.
    102 - 2222 Bellvue Avemue
    West Vancouver, B.C.
    V7V 107
```

    1001 EAST PENDER ST. VANCOUNER, BC. CANADA VEA IWZ
    PHONE (604) 254-1647 TEEX O4-507514 CABLE SUPERVISE
    CERTIFICATE OF ASSAY
No.: 8207-2950 a ${ }^{\text {DATE: Aug. } 4 / 82}$
We hereby certify that the following are the results of assays on:
DDC
 A Division of SGS Supervision Services Inc. 1001 EAST PENDER ST.. VANCOUNER. B.C. CANADA. VEA IW2

DON TUULY ENGINBERTNG ITD. 102 - 2222 Bellvae Averue West Vancouver, B.C. V7V 167

PHONE (604) 254-1547 TELEX 04-507514 CABLE SUPERVISE

## CERTIFICATE OF ASSAY

| No.: 8207-2950 B | DATE: Aug. 4/82 |
| :--- | :--- | :--- |

We hereby certity that the following are the results of assays on:
DDC


CERTIFICATE OF ASSAY

| No.: $8207-2352$ | DATE: Aug. 3/82 |
| :---: | :---: | :---: |

Ore


100I EAST PENDER ST VANCOUNER BC. CANADA VES IWZ PTONE (604) 25-1.1647 TEFX $04-507514$ CABLE SUPERNSE

CERTIFICATE OF ASSAY
No.: 8112-1055 DATE: Dec. 22/81
DANSTAR

We hereby centify that the following are the results of assays on: Ore



[^0]:    Don Tully Engineering Ltd. SUITE 102-2222 bellevue avenue WEST VANCOUVER. BRITISH COLUMBIA V7V:C7

