

DIAMOND DRILLING REPORT  
FOR  
BLACK GIANT MINES LTD. (N.P.L.)  
ON

THE NAVAJO MINERAL CLAIMS  
Whitehorse Mining Division  
Minto Area, Yukon Territory  
Mineral Claim Map 115 I - II  
Latitude 62 Degrees 40 Minutes North  
Longitude 137 Degrees 19 Minutes West

BY  
Robert W. Nusbaum  
Consulting Geologist  
October, 1974

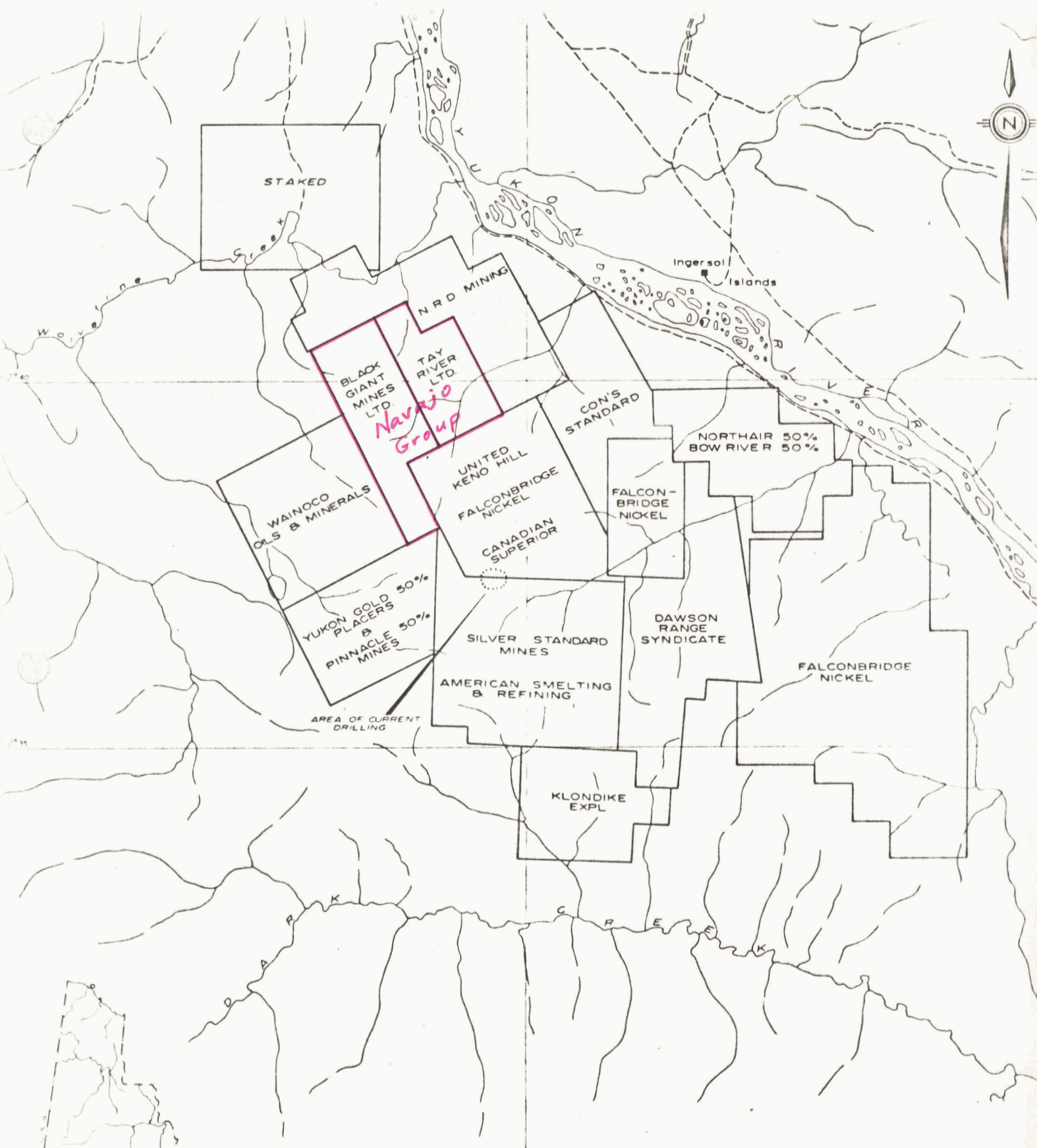


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STAKED



Ingersoll Islands

NRD MINING

BLACK GIANT MINES LTD.  
TAY RIVER LTD.  
*Navajo Group*

CON'S STANDARD

NORTHAIR 50%  
BOW RIVER 50%

WAINOCO OLS & MINERALS

UNITED KENO HILL

FALCONBRIDGE NICKEL

FALCON-BRIDGE NICKEL

YUKON GOLD PLACERS & PINNACLE MINES 50%

CANADIAN SUPERIOR

DAWSON RANGE SYNDICATE

FALCONBRIDGE NICKEL

AREA OF CURRENT DRILLING

SILVER STANDARD MINES

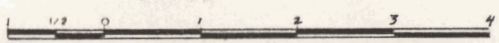
AMERICAN SMELTING & REFINING

KLONDIKE EXPL



**PROPERTY MAP  
OF  
MINTO AREA, YUKON TERRITORY**

SCALE: 1" = 1 MILE



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FOR  
BLACK GIANT MINES LTD. (N.P.L.)  
ON  
THE NAVAJO MINERAL CLAIMS  
Whitehorse Mining Division  
Minto Area, Yukon Territory

Summary

Black Giant Mines Ltd. (N.P.L.), acquired the Navajo claim group in August, 1973. A geochemical survey was conducted on the property in September, 1973 and several anomalous areas were outlined containing values ranging from 40 to 1400 ppm copper.

A magnetometer survey was conducted in June, 1974 which indicated a magnetic high coincident with a geochemical high. Detailed prospecting in this area revealed float of foliated biotite gneiss containing copper oxides for a distance of approximately 600 feet. Dozer trenching exposed bedrock under 1 to 6 feet of overburden. The rock consists of hornblende biotite granodiorite, coarse grained, porphyritic with phenocrysts of K-feldspar. Enclosed in the granodiorite are silicic biotite gneiss zones ranging from 1 to 30 feet wide, foliated, containing biotite, magnetite, epidote, quartz and garnets. Copper oxides of malachite and azurite were found on fractures and as specks disseminated along the foliation planes. The biotite gneiss zones may be traced by float and in trenches for at least one mile, however, copper oxides were found only in the initial discovery area. Five diamond drill holes ranging in depth from 466 to 638 feet were completed in the initial discovery area, these holes were drilled at angles of 60 to 70 degrees in a westerly direction in order to intercept the easterly dipping zone at depth. The biotite gneiss zones were cut by the drill holes but contain only negligible values in copper, gold and silver.

### Conclusions

The biotite gneiss zones found on the Navajo claims are the same rock type as those at the Silver Standard - United Keno copper discovery two miles to the southeast and are considered to contain excellent exploration potential. The current exploration program on the Navajo claims tested a small area, 1700 feet long, of the gneiss zones with negative results, however, the areas to the north projected along strike and down-dip toward the Silver Standard - United Keno discovery remain untested.

### Recommendations

An I.P. geophysical survey is recommended to test the biotite gneiss zones along strike to the north and down-dip to the east for evidence of sulfide mineralization. If significant anomalies are indicated then they should be followed up with a diamond drilling program.

### Location & Access

The property is located 15 air-miles northwest of Minto an abandoned village site on the Yukon River, 50 road-miles north of Carmacks and 150 road-miles north of Whitehorse, Yukon Territory.

Latitude 62 degrees 40 minutes north, Longitude 137 degrees 19 minutes west, Whitehorse Mining Division, Mineral Claim Map 115 I - 11.

Access is by way of the Alaska Highway or fixed wing aircraft to Minto then by helicopter to the property. During the 1974 season there were two helicopters based at the Minto airstrip.

A road is in the process of being constructed from Carmacks to the Silver Standard - United Keno discovery along the southwest side of the Yukon River but at the present time is suitable for winter travel only.

### Topography

The topography in the area consists of low rolling hills cut by shallow, intermittent streams. Overburden is generally shallow ranging from 1 to 36 feet deep consisting mainly of glacial

Topography cont.

gravel but at higher elevations on ridges and hillsides it consists of decomposed bedrock. There are frequent swamps in the area generally underlain by permafrost.

Vegetation consists of stunted spruce, birch and pine trees with surrounding brush of willows and alders in the bogs.

Diamond Drilling

A tent camp was set up on the property in June in preparation for the drilling program. Bids were requested from various companies and E. Caron Drilling Ltd., Whitehorse was selected as drilling contractor. A skid-mounted Longyear 38 with a hydraulic, steel mast was moved onto the property and set up for the first hole on August 2nd, 1974. A swamp dozer rented from J. E. Brown Contracting was used to move the drill rig to the property and from site to site, also for road building, trenching and site preparation.

Wireline drilling method was used with size BQ core. The rock was competent enough to permit excellent core recovery averaging over 95%, and generally fast drilling.

Water was obtained from a nearby creek and pumped to the drill site in a one stage lift.

Five holes were completed, all at angles of -60 to -73 degrees, ranging from 466 to 638 feet in depth. The drill rig was operated on a round the clock two shift basis and supplied and serviced by helicopter. The drill core is stored at the campsite heliport.

The last hole was completed on August 27th, 1974, the camp and drill rig demobilized on August 28th, 1974. Everything was removed from the property except the tent frames and drill core.

Personnel

Mike Brown	Dozer Operator
Terry Large	Dozer Operator
Bert Desmaries	Drill Foreman
Bob Trelenberg	Driller
Gordon Peterson	Driller

Personnel cont.

Alan Gaudet	Driller Helper
Jim Storie	Driller Helper
Gunter Baron	Cook
Victor Zachanko	Field Supervisor

Trenching

Six dozer trenches were dug across the strike of the mineralized zone found on the surface in order to expose bedrock for mapping and sampling.

Trench #1

Bearing 271 degrees, 310 feet long, located on the coincident geochemical magnetometer anomalies and mineralized float 7S, 10E Q-5 Grid, reached bedrock within 12 inches of the surface. Approximately thirty feet of strongly silicified biotite gneiss and hornblende granodiorite were exposed. The rocks contain copper oxides of malachite and azurite on fractures and as small disseminated specks along the solution planes. The biotite gneiss has a N-S strike and dips 65 degrees to the east. The west contact with hornblende biotite granodiorite is sharp, the east contact is vague. Assays of the mineralized and adjacent zones gave the following results:

<u>Sample No.</u>	<u>Width</u>	<u>Cu %</u>	<u>Au. oz/ton</u>	<u>Ag. oz/ton</u>
9532D	10'	0.01	Tr.	0.04
9533D	10'	0.13	0.003	0.16
9534D	10'	0.22	0.003	0.20
9535D	10'	0.04	0.003	0.18

Trench #2

Bearing 262 degrees, 210 feet long, located 300 feet south of trench one on the south end of the coincident geochemical magnetometer anomalies and copper-bearing float, 10S, 9E Q-5 Grid reached decomposed bedrock two feet below the surface. The rock consists of hornblende biotite granodiorite with a few narrow bands of

Trench #2 cont.

silicified biotite gneiss containing copper oxides of malachite and azurite on fractures. The zone containing the biotite gneiss bands is approximately 24 feet wide at this point with vague east and west contacts. Narrow pegmatite dikes consisting mainly of K-feldspar and biotite are frequent in this trench all consistently striking north 60 degrees west. Assays of the mineralized and adjacent zones gave the following results:

<u>Sample No.</u>	<u>Width</u>	<u>Cu %</u>	<u>Au. oz/ton</u>	<u>Ag. oz/ton</u>
9528D	10'	0.01	Tr.	0.16
9529D	10'	0.02	Tr.	0.09
9630D	7'	0.03	Tr.	0.16
9531D	7'	0.01	0.003	0.007

Trench #3

Bearing 268 degrees, 200 feet long, located 400 feet north of trench one on the north end of the coincident geochemical magnetometer anomalies and copper bearing float, 2S 12E Q-5 Grid reached bedrock three feet below the surface. The silicified biotite gneiss zone is about two feet wide with vague contacts striking in a northeasterly direction. Thin films and occasional specks of malachite were found on fractures. Assays of the mineralized zone gave the following results:

<u>Sample No.</u>	<u>Width</u>	<u>Cu %</u>	<u>Au. oz/ton</u>	<u>Ag. oz/ton</u>
9537D	2'	0.21	0.005	0.28

Trench #4

Bearing 270 degrees, 130 feet long located 3,400 feet south of trench one, on the Q-5 grid baseline at coordinate 39 S. The target for the trench was a southerly projection of the biotite gneiss zone found at the coincident geochemical magnetometer anomalies. The biotite gneiss zone was intercepted 2 feet below the

Trench #4 cont.

surface but contained no copper oxides. The biotite gneiss zone at this point is 15 feet wide, not as strongly silicified but containing abundant garnets, epidote and magnetite.

<u>Sample No.</u>	<u>Width</u>	<u>Cu %</u>	<u>Au. oz/ton</u>	<u>Ag. oz/ton</u>
Q5 - 13	15'	0.01	Tr.	Tr.

Trench #5

Bearing 252 degrees, 175 feet long, located 150 feet south of trench two 11S, 9E Q-5 Grid was dug to test for a southern extension of the biotite gneiss found in trench two. Bedrock was reached about 3 feet below the surface and consists of hornblende biotite granodiorite with several narrow, silicified bands of biotite gneiss containing specks of malachite along fractures. The zone with the biotite gneiss bands is approximately 4 feet wide with vague contacts. Assay results of the mineralized and adjacent zones gave the following results.

<u>Sample No.</u>	<u>Width</u>	<u>Cu. %</u>	<u>Au. oz/ton</u>	<u>Ag. oz/ton</u>
9526D	9'	0.05	0.003	0.10
9527D	9'	0.06	0.003	0.18

Trench #6

Bearing 270 degrees, 450 feet long located 300 feet north of trench three was dug to test for the northern extension of the silicified biotite gneiss found in trench three. Bedrock was reached two feet below surface. The biotite gneiss zone at this point is approximately 50 feet wide with vague contacts. No copper oxides were seen but the gneiss contains abundant garnets, epidote and magnetite. Assay results of a grab sample across the gneiss gave the following results:

<u>Sample No.</u>	<u>Width</u>	<u>Cu. %</u>	<u>Au. oz/ton</u>	<u>Ag. oz/ton</u>
9536D	50'	0.06	Tr.	0.01

### Magnetometer Survey

Magnetite was reported to be associated with copper mineralization in some zones on the nearby Silver Standard - United Keno discovery so a magnetometer survey was recommended for the Navajo claim group. The survey was completed on the southern one-third of the claim group using the geochemical baseline and grid for control. The grid has lines at 400 foot intervals and stations at 200 foot spacings. Instrument used was a McPhar, Fluxgate, M-700 magnetometer. The loop-method of surveying was used with base stations established along the baseline to determine the diurnal variation, if any. Diurnal variation during the survey was noted at less than 50 gammas. No corrections were made on the results for diurnal variation as a bear invaded the tent and the field books among other things were lost during the ensuing destruction. The instrument was zeroed at the base camp at the beginning of the survey and all other readings are in relation to the zero base. A constant factor of plus 400 gammas was added to all readings at the conclusion of the survey in order to eliminate the minus readings in the results.

Average background value for the survey area is 466 gammas. An anomalous reading of 1150 gammas was found at station 8S 10E Q-r Grid which coincides with a high geochemical soil sample of 1440 ppm copper. Prospecting in this area revealed the presence of small cobbles of biotite gneiss float containing magnetite and copper oxides. Two anomalously low readings were recorded at stations 14S 2E and 14S 4E Q-5 Grid. These values are minus 1750 gammas and 850 gammas respectively. They could be caused by a fault zone in that area as it is adjacent to a swamp, or the opposite magnetic pole affect of the high magnetic reading found at station 8S 10E Q-5 Grid.

An area of values in the range of 700 to 840 gammas was found on the Q-4 grid along lines 16 W to 32 W, these high background values are attributed to the mass affect caused by the presence of bedrock at or near the surface with little or no overburden. The rock in this particular area is hornblende biotite granodiorite, porphyritic (K-feldspar) coarse grained and containing disseminated blebs of magnetite. No other strongly anomalous readings were found.

## Geology and Mineralization

General geology of the area consists of Triassic Hornblende Granodiorite as indicated in Geological Survey of Canada Open File Report No. 200, April, 1974.

Outcrops constitute less than 10% of the area and are found on high ridges and occasionally in the very bottom of some creeks. All of the outcrops seen on the property consist of hornblende biotite granodiorite, coarse-grained, porphyritic with K-feldspar phenocrysts up to 1½ inches long. The rock is grey-weathering and generally contains disseminated blebs and grains of epidote and magnetite.

Core from the drill holes shows gradational variations from biotite granodiorite to hornblende granodiorite, all being coarse grained and porphyritic (K-feldspar).

The mafic minerals are commonly altered to chlorite, and epidote, probably an alteration product, is found in abundance as disseminated grains, blebs, stringers and veins. The epidote is found to be strongest in the vicinity of pegmatite dikes which are very common and range from a hairline stringer up to 5 feet thick.

The pegmatite dikes consist mainly of pink and pale grey K-feldspar, very coarse grained and containing large flakes of biotite, sometimes altered to chlorite. No sulfide minerals were found associated with the pegmatite dikes. Some sections of the rock over lengths of 10 to 15 feet appear to have been flooded by K-feldspar leaving the rock a distinct pink and green color and consisting mainly of clay, K-feldspar, epidote and chlorite.

The foliated biotite gneiss zones found on the surface and in the drill holes appear to have been silicified and contain abundant disseminated grains of epidote, garnets, and magnetite and a few specks of malachite. The biotite gneiss zones range from one inch to 50 feet wide with generally sharp contact with the granodiorite but occasionally gradational. A few small grains of what appeared to be pyrite and chalcopyrite were seen in a few of the more siliceous zones, however, they were too small to be positively identified. Assay results of mineralized float found in

Geology and Mineralization cont.

the geochemical magnetometer anomaly area collected along the hillside for a distance of 600 feet are as follows:

<u>Sample No.</u>	<u>Cu %</u>	<u>Au. oz/ton</u>	<u>Ag. oz/ton</u>
Q5 - 7	0.74	0.020	0.16
Q5 - 8	0.67	0.057	0.29
Q5 - 9	0.14	0.011	0.09
Q5 - 10	0.11	0.003	0.07

The biotite gneiss zones were found to strike north-south and dip steeply east at angles of 60 to 75 degrees. The zones have a strong continuity along strike and may be traced along the surface in trenches and by float for over a mile. Down dip the gneiss zones appear to have less continuity and are faulted and displaced or pinch and swell.

Discussions with the Geological Survey of Canada geologists, and examinations of drill core from other properties in the area confirms that the foliated biotite gneiss zones encountered on the surface in the drill holes on the Navajo claims are the same rock type in which copper sulfides were found on the Silver Standard - United Keno properties, however, no such similar mineralization was found. Assay results from the mineralized sections of drill core range from a trace to 0.2% copper; trace to 0.02 oz/ton gold; trace to 0.38 oz/ton silver over lengths of 1 to 10 feet.

The biotite gneiss zone can be traced along strike to the south for approximately 3000 feet by float and one dozer trench. The zone is about fifty feet wide in the dozer trench, there is not an abundance of biotite gneiss float on the hillside so the zone is probably no wider.

Geochemical soil samples collected along the zone gave results of 116 and 146 ppm copper, indicating that there is copper present in the zone but not in any great concentration.

The biotite gneiss zone projected along strike to the north disappears under a large bog. The hornblende biotite granodiorite on the nearest outcrop past this bog shows pronounced

Geology and Mineralization cont.

foliation striking north 25 west and dipping 25 degrees to the northeast, this is a much flatter dip than that at the discovery area and might indicate that the gneiss zone is flattening to the northeast.

This bog area to the north of the discovery zone is considered to contain excellent exploration potential for copper mineralization similar to that found by Silver Standard and United Keno Hill 2 miles to the southeast.

An exploration program is recommended for this bog area consisting of an I.P. survey with follow up diamond drilling of any significant anomalies.

Vancouver, B. C.

October 15, 1974

  
Robert W. Nusbaum,

Geologist

BLACK GIANT MINES LTD. (N.P.L.)  
NAVAJO MINERAL CLAIMS  
MINTO AREA, YUKON TERRITORY  
Diamond Drill Log Hole No. 1

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Location: 8 S 12 E Q-5 Grid  
Elevation: 2700'  
Total Depth: 491'  
Bearing: 270°  
Angle: -60°  
Started: August 2nd, 1974  
Completed: August 6th, 1974  
Core Recovery: 97.7%  
Contractor: E. Caron Drilling Ltd.  
Exploration Manager: Robert W. Nusbaum

OBJECTIVE OF HOLE

Test sulfide zone of coincident geochemical, magnetometer anomalies and copper oxides found in anomaly area.

SUMMARY

0 to 23'	Overburden
23 to 124'	Hornblende biotite granodiorite.
124 to 147'	Biotite gneiss with copper oxides, <i>malachite</i> .
147 to 491'	Hornblende biotite granodiorite.

Core split and sampled 124 to 164', negligible values.

Diamond Drill Hole Number I  
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- 0 - 23' Overburden
- 23 - 25' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) pale grey to green, frequent blebs of epidote and magnetite, occasional flakes of biotite, rock is strongly fractured with iron oxides on all fractures.
- 25 - 29' Pegmatite dike, pale pink and grey, consisting mainly of K-feldspar and biotite, both very coarse grained.
- 29 - 43' Hornblende biotite granodiorite as above.
- 43 - 44' Pegmatite dike as above.
- 44 - 67' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) frequent disseminated blebs of epidote and magnetite. Phenocrysts of K-feldspar are well formed and up to one and one half inches long.
- 67 - 69' Pegmatite dike as above.
- 69 - 124' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), pale grey to green, disseminated biotite, epidote and magnetite, rock is strongly fractured 60 to 90 to core axis.  
97.5' Pegmatite dike 5 inches wide.  
120' Pegmatite dike 6 inches wide.  
Gradual increase in biotite content, occasional vague foliation.

Diamond Drill Log Hole Number I Cont'd

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124 - 147' Biotite gneiss, foliation 30 to 75 to core axis. Rock consists mainly of biotite flakes aligned along planes of foliation, disseminated epidote, magnetite, quartz and garnets. Copper oxides of malachite and azurite found on fractures and as grains along foliation planes, and in more siliceous zones. Gneiss bands interspersed with zones to 12 inches wide rich in hornblende showing vague foliation. Sharp contacts.

147 - 149' Pegmatite dike, pale pink and grey, consisting mainly of K-feldspar and biotite, both very coarse grained.

149 - 164' Biotite granodiorite, coarse grained, porphyritic, showing weak foliation and a gradual increase in hornblende, strong iron oxides, frequent disseminated grains of epidote and magnetite rock is very crumbly.

<u>Samples</u>		Cu%	Au oz/ton	Ag oz/ton
N - 1	124 - 134'	.04	.01	Trace
N - 2	134 - 144'	.10	.02	.04
N - 3	144 - 154'	.02	Trace	.06
N - 4	154 - 164'	.005	.01	.14

164 - 165' Pegmatite dike as above.

165 - 169' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), with occasional small zones rich in biotite but with very vague to no foliation. Strong iron oxides on all fractures, core is very broken.

Diamond Drill Hole Number I Cont'd

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- 169 - 191' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), frequent pegmatite dikes 1 to 4 inches wide, vague foliation, fractures 45 to 90 to core axis. Occasional slickensides 45 to core axis.
- 191 - 193' Pegmatite dike as above.
- 193 - 195' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), frequent pegmatite dikes 1 to 4 inches wide. Occasional patches strong in biotite but not foliated. 243' band of biotite  $\frac{1}{2}$  inch wide. 265 - 287' increase in biotite, frequent disseminated blebs of magnetite and epidote. Gradual increase in chlorite, decrease in epidote, vague foliation 45 to core axis. 318.5' band of biotite  $\frac{1}{2}$  inch wide.
- 320 - 338' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), with patches of biotite but not foliated, most mafic minerals altered to chlorite, rock has a distinct green color, frequent pegmatite dikes 1 to 4 inches wide. Rock is soft and crumbly; pegmatite dikes are very hard.
- 338 - 342.5' Pegmatite dike, pale pink and grey consisting mainly of K-feldspar and biotite, both coarse grained.
- 342.5 - 345' Hornblende biotite granodiorite.
- 345 - 346' Pegmatite dike
- 346 - 352' Hornblende biotite granodiorite.
- 352 - 362' Pegmatite dike.

Diamond Drill Hole Number I

- 362 - 366'                    Hornblende biotite granodiorite.
- 366 - 369'                    Pegmatite dike.
- 369 - 408'                    Hornblende biotite granodiorite coarse grained, porphyritic (K-feldspar) with frequent pegmatite dikes 1 to 4 inches wide. 404' Biotite band 3 inches wide.
- 408 - 411'                    Band of very fine grained biotite, no foliation.
- 411 - 420'                    Hornblende biotite granodiorite.
- 420 - 423'                    Pegmatite dike with 1 inch band of very fine grained biotite.
- 423 - 433'                    Hornblende biotite granodiorite.
- 433 - 436'                    Pegmatite dike.
- 436 - 491'                    Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) pale grey to green color, abundant epidote and chlorite, occasional patches of biotite frequent iron oxides on fractures.

Hole bottomed 491' August 6th, 1974

All rods and casing removed from hole.

Core is stored beside campsite heliport.

*R. W. Nusbaum*  
Robert W. Nusbaum

Geologist

BLACK GIANT MINES LTD. (N.P.L.)  
NAVAJO MINERAL CLAIMS  
MINTO AREA, YUKON TERRITORY  
Diamond Drill Log Hole No. 2

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Location: 6 S 1450 E Q-5 Grid  
Total Depth: 466'  
Elevation: 2650'  
Bearing: 270°  
Angle: -60°  
Size: B.Q.  
Started: August 7th, 1974  
Completed: August 10th, 1974  
Core Recovery: 95.3%  
Contractor: E. Caron Drilling Ltd.  
Exploration Manager: R.W. Nusbaum

OBJECTIVE OF HOLE

Test sulfide zone of coincident geochemical, magnetometer anomalies and copper oxide float found in anomaly area.

SUMMARY DIAMOND DRILL HOLE NUMBER 2

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0 - 11'	Overburden
11 - 213'	Hornblende biotite granodiorite.
213 - 312'	Hornblende biotite granodiorite with occasional narrow bands of biotite gneiss containing copper oxides, <i>malachite</i> .
312 - 466'	Hornblende biotite granodiorite

Biotite gneiss zones split and assayed containing only negligible values.

Diamond Drill Hole Number 2

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0 - 11' Overburden

11 - 40' Hornblende biotite, granodiorite, coarse grained, porphyritic (K-feldspar), pale grey to green color, strong iron oxides on all fractures, rock very crumbly.

40 - 41' Pegmatite dike consisting mainly of K-feldspar and biotite, both very coarse grained.

41 - 71' Biotite granodiorite, coarse grained, mafic minerals consist mainly of biotite, occasional hornblende, vague foliation 50 to 60 to core axis, abundant disseminated epidote and magnetite, occasional garnets, general pale grey mottled appearance, weak iron oxides on most fractures.

71 - 213' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), occasional pegmatite disseminated epidote and magnetite weak iron oxides on most fractures. 158' Biotite band 1 inch wide 70 to core axis.

213 - 235' Hornblende biotite granodiorite with occasional small 1 to 2 inch bands of biotite gneiss containing specks of malachite (223' to 225') foliation 45 to core axis frequent disseminated epidote, garnets and magnetite, rock between bands appears to be hard, fresh granodiorite.

<u>Samples</u>	Cu %	Au oz/ton	Ag oz/ton
N - 5      213 - 223'	< 0.01	0.01	0.34
N - 6      223 - 233'	0.01	0.003	0.30
N - 7      233 - 235'	< 0.01	Tr.	0.22

Diamond Drill Hole Number 2 Cont'd

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243 - 278'                      Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) with occasional pegmatite dikes 1 to 4 inches wide.

278 - 288'                      Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), with occasional foliated bands of biotite gneiss 1 to 4 inches wide containing abundant disseminated epidote, magnetite and garnets.

<u>Sample</u>	Cu %	Au oz/ton	Ag oz/ton
N. - 8    278 - 288'	< 0.01	Tr	0.08

288 - 302'                      Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) with occasional small, 1 to 4 inches wide, pegmatite dikes.

302 - 312'                      Hornblende biotite granodiorite with occasional narrow bands of biotite gneiss 1 to 3 inches wide, very fine grained with occasional very small specks of malachite on fractures, frequent epidote, garnets and magnetite.

<u>Sample</u>	Cu %	Au oz/ton	Ag oz/ton
N - 9    302 - 312'	< 0.01	Tr	0.09

312 - 426'                      Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) with occasional patches strong in biotite, frequent epidote associated with mafic minerals, weak iron oxides on fractures, rock is hard and competent, pale grey. Fractures generally 45 to 90 to core axis. Biotite rich zones 387', 397' and 404' to 406', strong iron oxides, most mafic minerals altered to chlorite.

Diamond Drill Hole Number 2 Cont'd

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- 426 - 432' Breccia and gouge zone, rock is pale green, all mafic minerals altered to chlorite, rock is extremely crumbly.
- 432 - 451' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) frequent epidote, most mafics altered to chlorite, occasional iron oxides on fractures.
- 451 - 466' Hornblende biotite granordiorite, coarse grained, porphyritic (K-feldspar), fresher appearing, very little chlorite, frequent epidote mainly as grains adjacent to mafic minerals.

Bottom 466' August 10th, 1974

All rods and casing removed from holes.

Core stored at campsite heliport.

*R. W. Nusbaum*  
Robert W. Nusbaum  
Geologist

BLACK GIANT MINES LTD. (N.P.L.)  
NAVAJO MINERAL CLAIMS  
MINTO AREA, YUKON TERRITORY  
Diamond Drill Log Hole No. 3

---

Location: 14 S 11 E Q-5 Grid  
Total Depth: 551'  
Elevation: 2575'  
Bearing: 270°  
Angle: -70°  
Size: B.Q.  
Started: August 10th, 1974  
Completed: August 16th, 1974  
Core Recovery: 91.2%  
Contractor: E. Caron Drilling Ltd.  
Exploration Manager: Robert W. Nusbaum

OBJECTIVE OF HOLE

Test sulfide zone of coincident geochemical, magnetometer anomalies and copper oxide float found in anomaly area.

SUMMARY DIAMOND DRILL HOLD NUMBER 3

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0 - 36'	Overburden
36 - 182'	Hornblende biotite granodiorite
182 - 183'	Biotite gneiss with weak copper oxides, <i>malachite</i> .
183 - 551'	Hornblende biotite granodiorite with numerous pegmatite dikes and gouge zones.

Biotite gneiss zones split and assayed, contain negligible values.

Diamond Drill Hole Number 3  
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- 0 - 36' Overburden
- 36 - 127' Hornblende biotite granodiorite, coarse grained, porphyritic (K - feldspar) abundant disseminated magnetite and epidote, most mafics altered to chlorite, frequent small pegmatite dikes 1 to 4 inches wide consisting mainly of K-feldspar and biotite, both very coarse grained. Rock is extremely crumbly, pale pink or grey colored. Numerous crushed zones to 12 inches wide which are pink and green colored consisting mainly of chlorite, K-feldspar and epidote, all mafic minerals altered to chlorite.
- 127 - 131' Pegmatite dike consisting mainly of K-feldspar and chlorite.
- 131 - 134' Hornblende biotite granodiorite crushed to very small fragments.
- 134 - 182' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), rock is more competent, sharp increase in hornblende, occasional section to 6 inches wide consisting of 50% hornblende with a porphyritic mottled appearance. Rock is generally pale green to grey with most mafic minerals altered to chlorite. 179' biotite gneiss band 2 inches wide, 45 to core axis containing abundant garnets, epidote and magnetite.

<u>Sample</u>	Cu %	Au oz/ton	Ag oz/ton
N - 10 178' - 179.5'	0.01	Tr.	0.03

- 182 - 183' Biotite gneiss band 45 to core axis, sharp contacts, abundant disseminated epidote, magnetite and garnets, occasional small specks of malachite, zone appears

Diamond Drill Hole Number 3 Cont'd

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182 - 183'                      crushed and vuggy.

<u>Sample</u>	Cu %	Au oz/ton	Ag oz/ton
N - 11 182 - 183'	0.26	.003	0.16

183 - 248.<sup>5</sup>'                      Hornblende biotite granodiorite, coarse grained, porphyritic (K-Feldspar) most mafies altered to chlorite, frequent disseminated blebs of magnetite and epidote, iron oxides on most fractures, occasional slickensides, occasional small pegmatite dikes 1 to 4 inches wide, weak foliation at 207 feet 45 to core axis.

245.<sup>5</sup> - 250'                      Andesite dike, dark green, very fine grained, hard and dense.

250 - 266'                      Hornblende biotite granodiorite, coarse grained, occasional epidote veinlets associated with pegmatite dikes. Rock appears saturated with pink K-feldspar in some sections.

266 - 268'                      Pegmatite dike consisting mainly of K-feldspar and biotite and/or chlorite, both very coarse grained.

268 - 308'                      Hornblende biotite granodiorite, strongly fractured 45 to core axis, iron oxides on most fractures.

308 - 310'                      Pegmatite dike as above.

310 - 312'                      Hornblende biotite granodiorite.

312 - 319'                      Pegmatite dike.

319 - 330'                      Hornblende biotite granodiorite, dark grey fresh appearing, occasional blebs of epidote, occasional

Diamond Drill Hole Number 3 Cont'd

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~~319-330'~~  
~~330-370'~~

stringers of chlorite and K-feldspar

330 - 370'

Hornblende biotite granodiorite, coarse grained, pale grey to green, most mafic minerals altered to chlorite, strongly fractured, occasional crushed gouge zones, abundant blebs and stringers of epidote, weak iron oxides on fractures.

370 - 403'

Hornblende biotite granodiorite, coarse grained, pale green color, all mafic minerals altered to chlorite, abundant blebs of epidote, rock is soft but competent, weak iron oxides on fractures. Fractures generally 45 to 80 to core axis, occasional pegmatite dikes 4 to 12 inches wide.

403 - 428'

Gouge zone, pronounced green color, consisting mainly of chlorite, epidote, clay and fragments of K-feldspar

428 - 433'

Hornblende biotite granodiorite, coarse grained, rock is hard and competent, abundant chlorite and epidote with occasional epidote veinlets.

433 - 442'

Gouge zone, rock is pronounced green color with pink fragments of K-feldspar.

442 - 443'

Pegmatite dike consisting mainly of K-feldspar and chlorite.

443 - 508'

Hornblende biotite granodiorite, coarse grained, most mafic minerals altered to chlorite, rock is soft, pronounced green color with large phenocrysts of pink K-feldspar. Frequent crushed zones to 18 inches wide, abundant epidote blebs and stringers.

Diamond Drill Hole Number 3 Cont'd

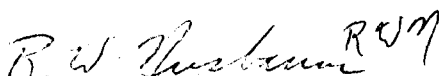
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- 508 - 522'                      Hornblende biotite granodiorite crushed to a mass of chlorite, clay, epidote and K-feldspar fragments.
- 522 - 551'                      Hornblende biotite granodiorite, coarse grained, porphyrite (K-feldspar), rock is soft but more competent than above, generally pale green to grey colored with most mafic minerals altered to chlorite. Occasional pegmatite dike 1 to 4 inches wide, frequent epidote and magnetite blebs, occasional patches of biotite, vague foliation 25 to 45 to core axis.

Bottom 551' August 16th, 1974

All rods and casing removed from hole.

Core stored at campsite heliport.

  
Robert W. Nusbaum  
Geologist

BLACK GIANT MINES LTD. (N.P.L.)  
NAVAJO MINERAL CLAIMS  
MINTO AREA, YUKON TERRITORY  
Diamond Drill Log Hole No. 4

---

Location: 7 + 80 S 14 + 65 E Q-5 Grid  
Total Depth: 539'  
Elevation: 2625'  
Bearing: 270°  
Angle: -73°  
Size: B.Q.  
Started: August 16th, 1974  
Completed: August 21st, 1974  
Core Recovery: 97%  
Contractor: E. Caron Drilling Ltd.  
Exploration Manager: Robert W. Nusbaum

OBJECTIVE OF HOLE

Test sulfide zone of coincident geochemical, magnetometer anomalies and copper oxide float found in anomaly area.

SUMMARY DIAMOND DRILL HOLE NUMBER 4

---

0 - 10'

Overburden

10 - 539'

Hornblende biotite granodiorite, coarse grained, porphyrite (K-feldspar) with occasional pegmatite dikes and narrow (1 inch) bands of biotite gneiss. No mineralized sections.

Diamond Drill Hole Number 4 Cont'd

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- 0 - 10' Overburden.
- 10 - 286' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) hard, fresh appearing, occasional chlorite, abundant disseminated epidote, occasional pegmatite dikes 1 to 4 inches wide every  $\pm$  25 feet, iron oxides on most fractures, rock is pale grey with pink K-feldspar phenocrysts to 1 inch long.
- 32' Biotite band 1 inch wide, very fine grained, 30 to core axis.
- 36' Biotite band 1 inch wide very fine grained, 80 to core axis.
- 76' Biotite band 2 inches wide 45 to core axis.
- 135' One inch patch of coarse grained biotite with large K-feldspar phenocrysts.
- 160' Twelve inch gouge zone with strong iron oxides.
- 193' Vague foliation 45 to core axis.
- 214' Biotite band  $\frac{1}{2}$  inch wide.
- ~~248 - 300'~~ <sup>248'-252'</sup> Pegmatite dike consisting mainly of pink and grey K-feldspar and biotite.
- 286 - 300' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) gradual increase in biotite, decrease in hornblende, vague foliation 45 to core axis.

Diamond Drill Hole Number 4 Cont'd

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- 300 - 302' Biotite gneiss bands, very narrow, 60 to core axis, abundant disseminated epidote, magnetite and garnets, weak iron oxides on fractures.
- 302 - 329' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), frequent disseminated epidote and magnetite.
- 329 - 334' Hornblende biotite granodiorite, very fine grained, dense, massive pale grey speckled, very fine grained disseminated epidote, weak iron oxides on fractures.
- 334 - 361' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) occasional patches of biotite, vague foliation 45 to core axis, strong iron oxides on fractures.
- 361 - 386' Hornblende biotite granodiorite crushed to a mass of chlorite, clay, epidote and K-feldspar fragments, occasional sections to 18 inches wide of more competent rock, all mafic minerals altered to chlorite, rock is pale green with pink fragments of K-feldspar.
- 386 - 449' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) rock is more competent with occasional crushed zones to 12 inches wide, most mafic minerals altered to chlorite, abundant disseminated epidote.
- 407 - 408' Pegmatite dike mainly K-feldspar and chlorite.
- 423 - 424' Gouge zone of clay, chlorite, epidote and K-feldspar fragments.

Diamond Drill Hole Number 4 Cont'd

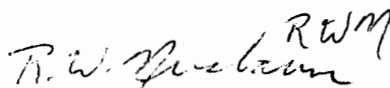
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- 449 - 453'                    Hornblende biotite granodiorite, fine grained, dense, pale grey speckled appearance, vague foliation 60 to core axis, iron oxides on fractures.
- 453 - 539'                    Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) pale grey with pink phenocrysts, dense, hard, fresh appearing with occasional crushed zones to 18 inches wide. Frequent disseminated epidote blebs and grains and occasional stringers 50 to core axis. Occasional pegmatite dikes 45 to core axis, 1 to 12 inches wide consisting of K-feldspar and biotite.

Bottom 539' August 21st, 1974

Removed all rods and casing from hole.

Core is stored at the campsite at heliport

  
Robert W. Nusbaum  
Geologist

BLACK GIANT MINES LTD. (N.P.L.)  
NAVAJO MINERAL CLAIMS  
MINTO AREA, YUKON TERRITORY  
Diamond Drill Log Hole No. 5

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Location: 51 W, 14 S, Q-4 Grid  
Total Depth: 638'  
Elevation: 2550'  
Bearing: 270°  
Angle: -70°  
Size: B.Q.  
Started: August 22nd, 1974  
Completed: August 27th, 1974  
Core Recovery: 94.6%  
Contractor: E. Caron Drilling Ltd.  
Exploration Manager: Robert W. Nusbaum

OBJECTIVE OF HOLE

Test northern extension of biotite gneiss found in trench Number 6 for sulfide mineralization.

SUMMARY DIAMOND DRILL HOLE NUMBER 5

---

0 - 18'

Overburden

18 - 638'

Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), abundant disseminated epidote and magnetite, rock is pale grey, hard, frequent pegmatite dikes 1 to 4 inches wide consisting mainly of K-feldspar and biotite.

No mineralized sections.

Diamond Drill Hole Number 5 Cont'd

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- 0 - 18' Overburden
- 18 - 102' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) abundant disseminated epidote, frequent chlorite and blebs of magnetite, rock is pale grey, hard, with occasional petmatite dikes 1 to 4 inches wide every  $\pm$  25 feet consisting mainly of K-feldspar and biotite.
- 102 - 104' Crushed zone, mainly clay, epidote, chlorite and K-feldspar fragments, pronounced pink color.
- 104 - 107' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar).
- 107 - 112' Hornblende biotite granodiorite, fine grained, pale grey speckled, hard, massive.
- 112 - 240' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) vague foliation 45 to core axis, abundant chlorite, epidote and magnetite, occasional slickensides.
- 151 - 154' Gouge, clay, chlorite, epidote with K-feldspar fragments.
- 157 - 159' Pegmatite dike, mainly K-feldspar and biotite.
- 160 - 164' Fine grained hornblende granodiorite.
- 240 - 290' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) rock appears to be flooded with pink K-feldspar, abundant epidote in blebs and stringers, most mafic minerals altered to chlorite.

Diamond Drill Hole Number 5 Cont'd

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- 290 - 355' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar), increase in biotite with occasional vague foliation 40 to core axis, abundant disseminated epidote, most mafics altered to chlorite, rock is grey to dark green.
- 348 - 349' Pegmatite dike mainly K-feldspar and biotite.
- 386' Patch of coarse grained magnetite 1 by 1½ inch.
- 355 - 446' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar) occasional epidote stringers, rock is harder and fresher appearing.
- 413 - 414' Pegmatite dike as above.
- 446 - 451' Pegmatite dike consisting mainly of K-feldspar and biotite.
- 451 - 468' Hornblende biotite granodiorite.
- 468 - 481' Pegmatite dike.
- 481 - 486' Hornblende biotite granodiorite.
- 486 - 490' Pegmatite dike
- 490 - 507' Hornblende biotite granodiorite.
- 507 - 512' Pegmatite dike.
- 512 - 638' Hornblende biotite granodiorite, coarse grained, porphyritic (K-feldspar)
- 518' Increase in biotite, vague foliation 70 to core axis.

Diamond Drill Hole Number 5 Cont'd

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558', 585' and 631'      Abundant epidote grains and stringers in zones  
8 to 12 inches wide.

Bottom 638'    August 27th, 1974

All casing and rods removed from hole.

Core stored at campsite at heliport.

*R. W. Nusbamm* <sup>RWM</sup>  
Robert W. Nusbamm  
Geologist

CERTIFICATE OF QUALIFICATIONS

---

I, Robert Wilson Nusbaum, do hereby certify:

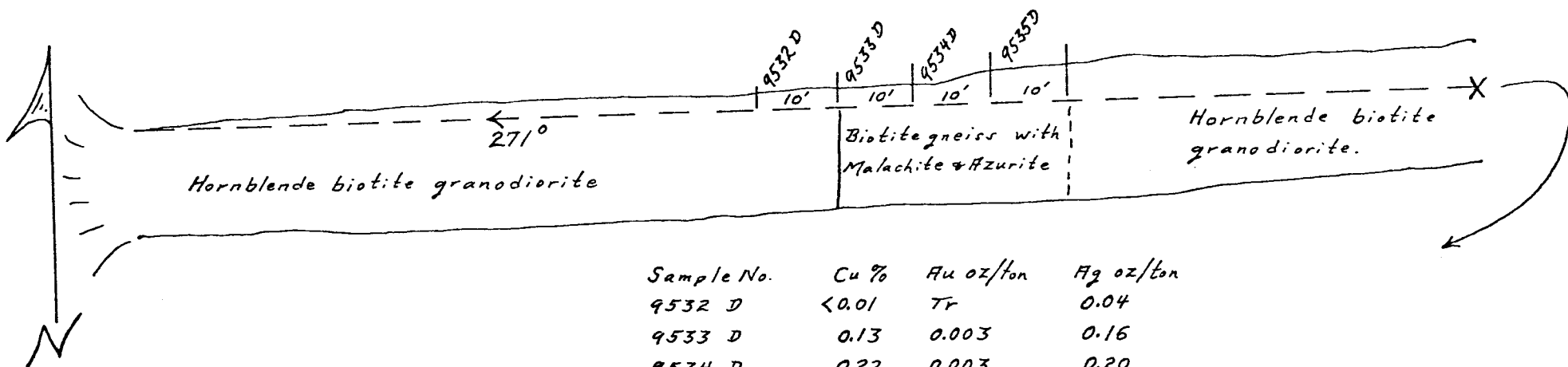
1. I am a practising Consulting Geologist with residence at 660 Chatsworth Road, Richmond, B. C.
2. I am a graduate of the University of Idaho with a Bachelor of Science Degree in Geology.
3. I have been practising my profession since 1959 and have extensive exploration experience in Alaska, Canada, United States, Central and South America.
4. The accompanying report is based on mapping and core logging by the author and information from government publications.
5. I have no interest in the property nor securities of Black Giant Mines Ltd. (N.P.L.), nor do I expect to receive any.

Vancouver, B. C.

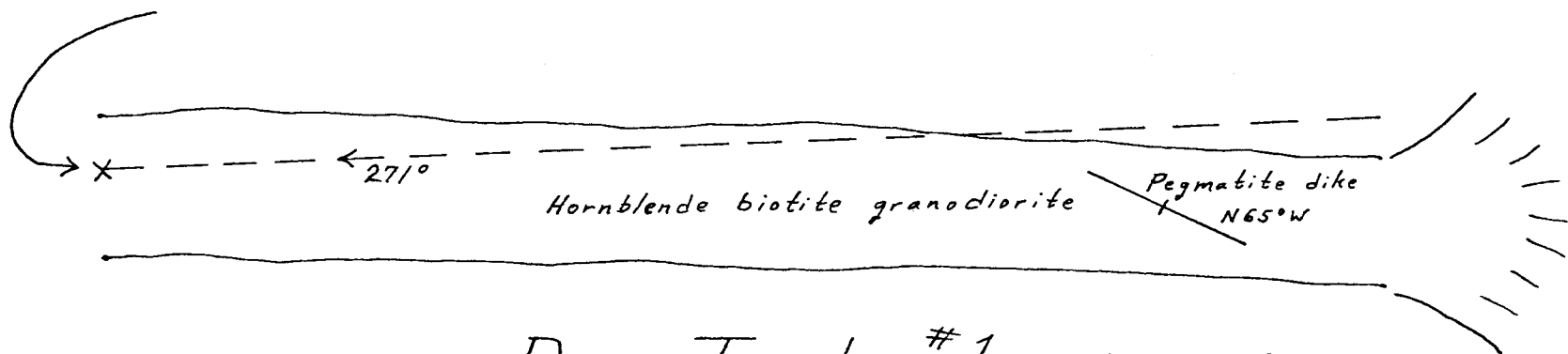
October 17, 1974

*R. W. Nusbaum*  
Robert W. Nusbaum

Consulting Geologist



Sample No.	Cu %	Au oz/ton	Hg oz/ton
9532 D	<0.01	Tr	0.04
9533 D	0.13	0.003	0.16
9534 D	0.22	0.003	0.20
9535 D	0.09	0.003	0.18



Length 310'  
Width 14'  
Volume 450 yds.<sup>3</sup>

Dozer Trench #1

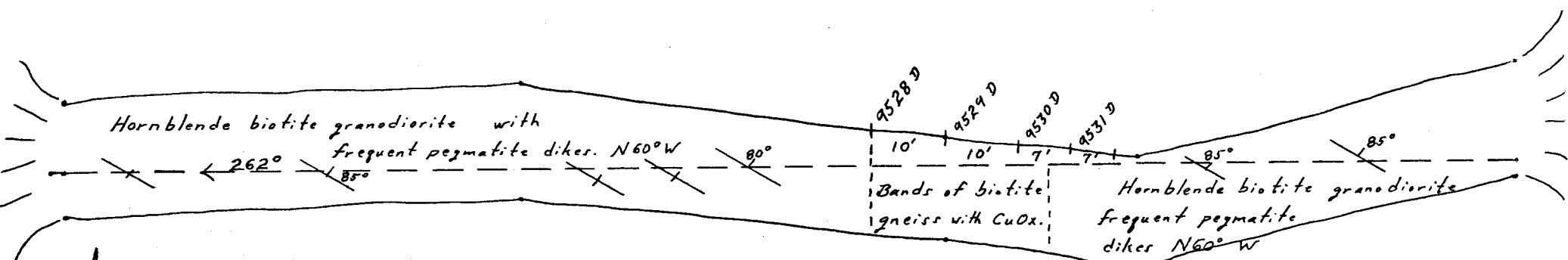
7 S, 10 E  
Q-5 Grid

Scale 1 inch to 20 feet



BLACK GIANT MINES LTD.

Navajo Mineral Claims  
Minto Area, Yukon Territory  
October, 1974 R.W. Nusbaum



Sample No.	Cu %	Au oz/ton	Ag oz/ton
9528 D	0.01	Tr.	0.16
9529 D	0.02	Tr.	0.09
9530 D	0.03	Tr.	0.16
9531 D	<0.01	0.003	0.07



10 S, 9 E  
Q-5 Grid

### Dozer Trench #2

Scale 1 inch to 20 feet



Length 210'  
Width 14'  
Volume 405 yds.<sup>3</sup>

## BLACK GIANT MINES LTD.

Navajo Mineral Claims

Minto Area, Yukon Territory

October, 1974 R.W. Nusbaum

Hornblende biotite granodiorite

← 268°

9537 D

Biotite gneiss with  
Malachite + Azurite

Sample No.	Cu %	Au oz/ton	Ag oz/ton
9537 D	0.21	0.005	0.28

1 S, 13 E  
Q-5 Grid

Dozer Trench #3  
Scale 1 inch to 20 feet

Length 200'

Width 14'

Volume 290 yds.<sup>3</sup>

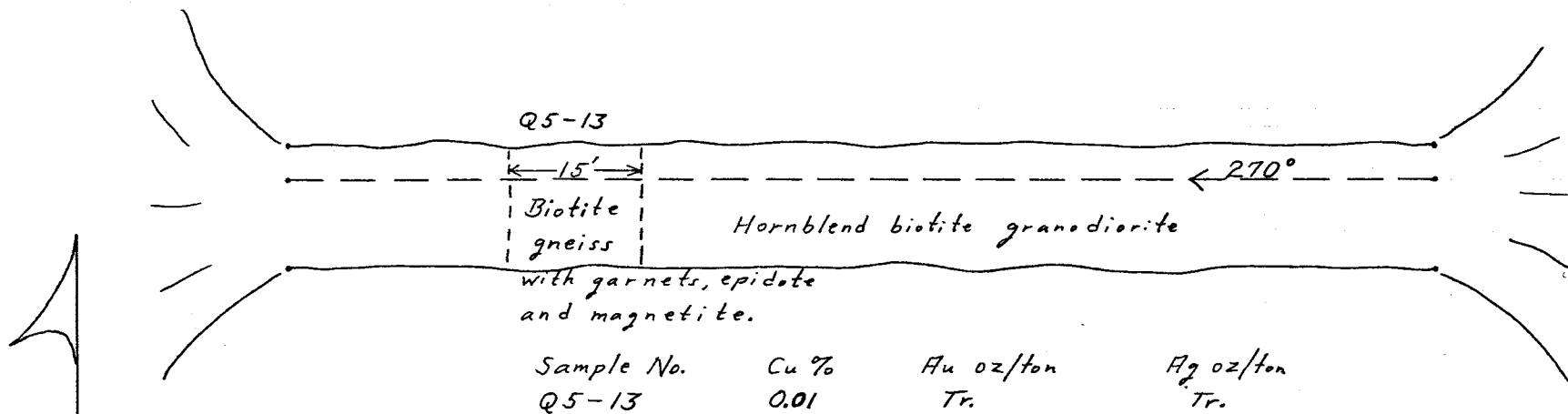


BLACK GIANT MINES LTD.

Navajo Mineral Claims

Minto Area, Yukon Territory

October, 1974 R.W. Nusbaum



B.L., 39 S  
Q-5 Grid

Dozer Trench # 4

Scale 1 inch to 20 feet

Length 130'

Width 14'

Volume 157 yds.<sup>3</sup>

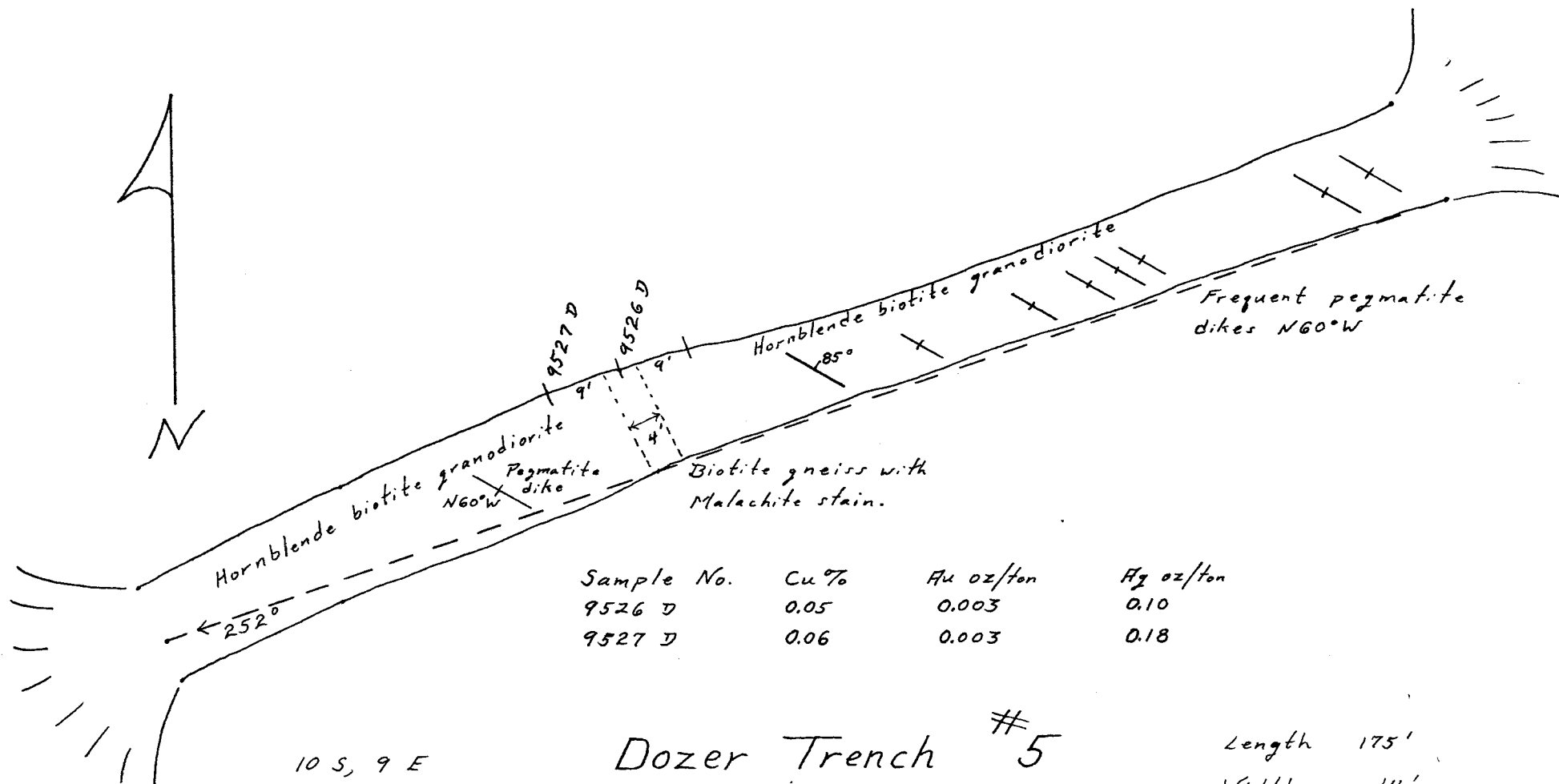


BLACK GIANT MINES LTD.

Navajo Mineral Claims

Minto Area, Yukon Territory

October, 1974, R.W. Nusbaum



10 S, 9 E  
Q-5 Grid

Sample No.	Cu %	Au oz/ton	Ag oz/ton
9526 D	0.05	0.003	0.10
9527 D	0.06	0.003	0.18

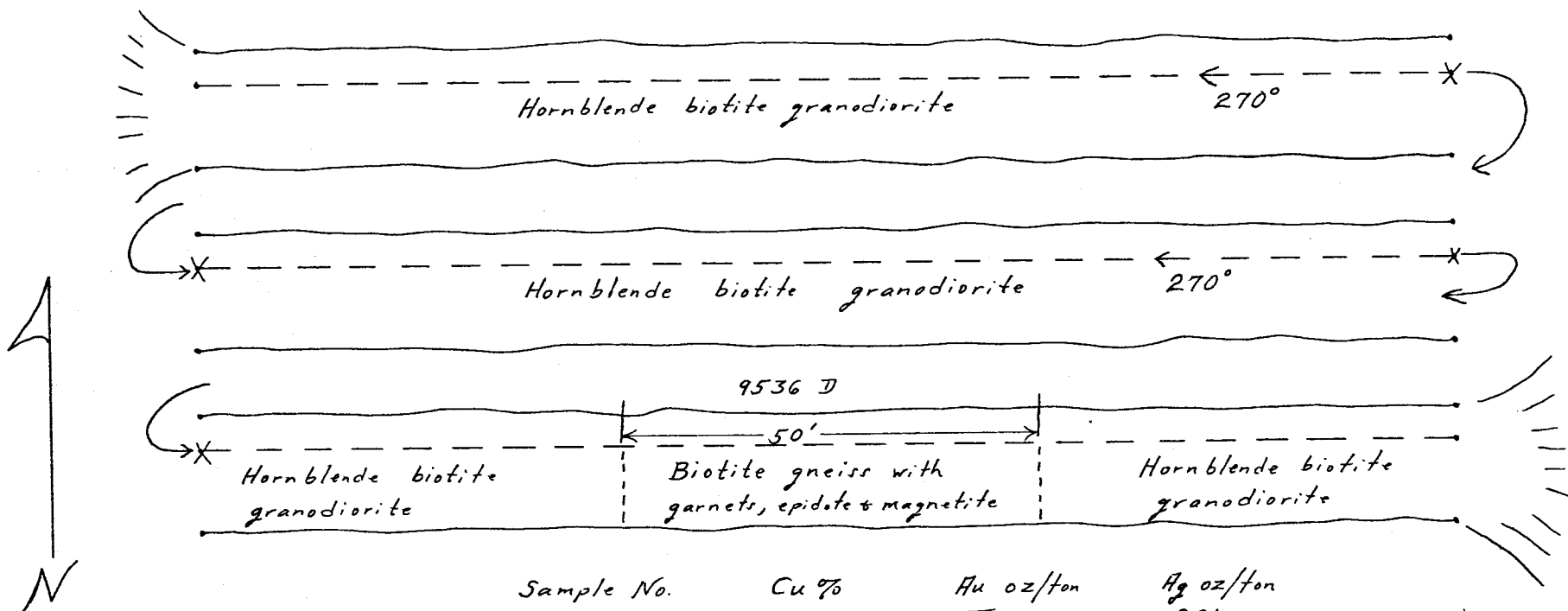
### Dozer Trench #5

Scale 1 inch to 20 feet



Length 175'  
Width 14'  
Volume 253 yds.<sup>3</sup>

Black Giant Mines Ltd.  
Navajo Mineral Claims  
Minto Area, Yukon Territory  
October, 1974 R.W. Nusbaum



Sample No.	Cu %	Au oz/ton	Ag oz/ton
9536 D	0.06	Tr.	0.01

13 S, 58 W  
Q-4 Grid

Dozer Trench # 6

Length 450'  
Width 14'

Volume 543 yds.<sup>3</sup>

BLACK GIANT MINES LTD.

Navajo Mineral Claims

Minto Area, Yukon Territory

October, 1974 R.W. Nusbaum

Scale 1 inch to 20 feet



The exploration and drilling program conducted on the Navajo claim group was under the direction of Mr. A. Koffman registered professional engineer in the provinces of Manitoba and B. C.

Approved by *A. Koffman nov 7/74*

A. Koffman, P. Eng.



SUMMARY OF EXPENSES  
TAY RIVER MINES  
NAVAJO MINERAL CLAIMS

Helicopter	\$ 1,478.40
Drilling Contractor	12,801.43
Dozer Contractor	1,618.00
Travel Expenses	1,384.38
Consulting Fees	1,650.00
Equipment Rental	283.20
Administration	200.00
Assaying	200.14
	<hr/>
	\$ 19,615.55

A handwritten signature in cursive script, appearing to read "J. C. L. Black".

J. C. L. Black,  
President