



GEOLOGICAL REPORT ON  
THE TC AND ALGAL CLAIM GROUP  
BONNET PLUME RIVER AREA, YUKON TERRITORY  
SHEET 106-C-10  
LAT. 64°37'N      LONG. 132°30'W

For

DUNE MINERAL CORPORATION

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

*Not recommended*

*D.B. Craig*

Resident Geologist or

Resident Mining Engineer

*Considered under*  
Considered as representation work under  
Section 53 (4) Yukon Quartz Mining Act.

EDWARD O. CHISHOLM, P. ENG.  
Vancouver, B.C.

*for* Commissioner of Yukon Territory

March 15, 1975



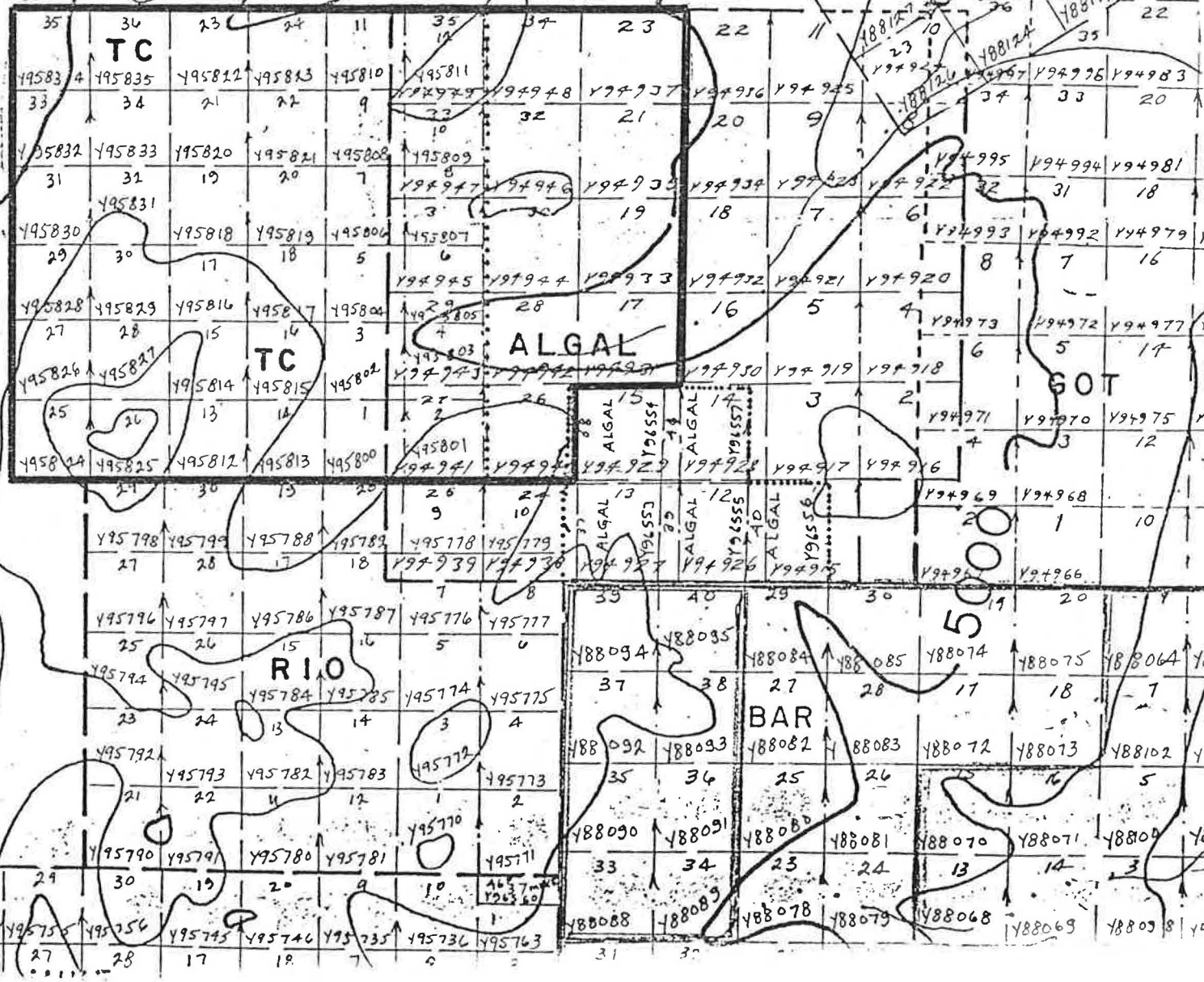
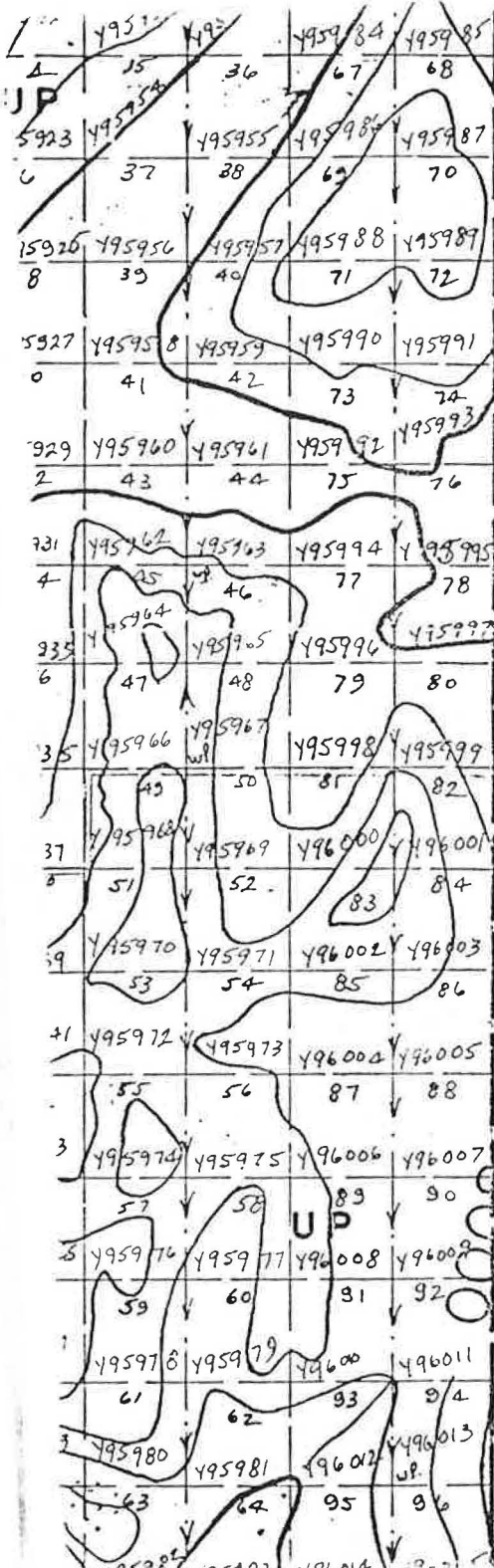
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CLAIM MAP

TC & ALGAL Claims Dune Mineral Corporation, Mayo District, Y.T.  
 Part of Sheet 106-C-10  
 Scale 1 in. to half mi.



35	36	23	24	11	35	34	23	22	11
TC	TC								
49583	495835	495812	495813	495810	495811	495812	495813	495814	495815
33	34	21	22	9	10	32	21	20	9
495832	495833	495820	495821	495806	495809	495810	495811	495812	495813
31	31	19	20	7	8	30	19	18	7
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29	30	17	18	5	6	29	18	17	5
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27	28	15	16	3	4	27	16	15	3
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495798	495799	495788	495789	495778	495779	495780	495781	495782	495783
27	28	17	18	7	8	27	16	15	7
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25	26	15	16	5	6	25	14	13	5
495794	495795	495784	495785	495774	495775	495776	495777	495778	495779
23	24	13	14	3	4	23	12	11	3
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495700	495701	495690	495691	495680	495681	495682	495683	495684	495685
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495698	495699	495688	495689	495678	495679	495680	495681	495682	495683
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495696	495697	495686	495687	495676					



SUMMARY

The 50 claim TC/Algal group is located ten miles north of a new major zinc discovery in the Bonnet Plume area of the Yukon Territory, made in the summer of 1973 by Barrier Reef Resources Ltd. of Vancouver.

It is classified as a partially explored prospect underlain by Mid-Devonian dolostone containing recently discovered stratabound zinc-lead deposits. It is recommended that a staged exploration programme be carried out with a total expenditure of \$50,000.00.

INTRODUCTION

This report is based on information gathered by the writer from available government and private reports on the area and personal examination of the property. It was prepared at the request of Dune Mineral Corporation, #8 - 784 Thurlow Street, Vancouver, B.C., owners of the claims. The claims were examined July 28 - 30, 1974. Their location on the attached plan is approximately correct.

PROPERTY

The TC/Algal property comprises a rectangular block of 50 located mining claims two miles long by  $1\frac{1}{2}$  miles wide. They were staked on 8th August, 1974 and recorded at Mayo, Yukon Territory. Due dates are July 22nd and August 9th, 1975. Several parts were examined and found to be staked in accordance with the Yukon Quartz Mining Act.

<u>Name of Claims</u>	<u>Grant Numbers</u>	<u>Due Dates</u>
TC 1 - 36	Y95800 - Y95835	August 9, 1975
Algal 17	Y94931	July 22, 1975
19	Y94933	do.
21	Y94935	do.
23	Y94937	do.
26-35	Y94940 - Y94949	do.

LOCATION AND ACCESS

The claims are located approximately 135 miles NE of Mayo, Y.T. near the Snake River. Approximate coordinates are as follows:

LAT.  $64^{\circ}35'$  North; LONG.  $132^{\circ}30'$  W, NTS Sheet 106-C-10

Access to the property is by helicopter. Fixed-wing aircraft can land on Goz Lake or Goz Creek approximately eight miles southeast of the property.

Barrier Reef Resources is constructing a winter airstrip in the Creek Valley, about ten miles south of the property. An all-weather strip suitable for DC-3 aircraft is being planned which will greatly improve operating cost in the area. A winter tote road is also planned to the area from Mayo.

The Mayo-Elsa, all-weather highway ends at Keno City, 80 miles south-west of the property. A winter caterpillar road, extends from the end of the Mayo Highway a distance of 40 miles to Kathleen Lake, about 50 miles west of the property.

TOPOGRAPHY

The claim group is located ten miles north of the Goz Creek at elevations from 3,000 to 5,000 feet. The topography is a moderately sloping upland plateau incised by two canyons.

The water supply in the nearby creeks is suitable for all purposes.

HISTORY

The geology of the area was first mapped by Dr. J. O. Wheeler of the Geological Survey of Canada in 1952 (Preliminary Map 53 - 7), at a scale of four miles to the inch and covers the claims group. A more detailed map has recently been completed by S.L. Blusson for release this winter. As early as 1950 lead-zinc occurrences were discovered in dolomite-breccia, similar in many respects to the present finds, by the K.J. Springer interests. In recent years these were further explored by Gordon Dickson, prospector and founder of Rackla River Mines. Further exploration to the east along the belt of Palaeozoic sedimentary rocks, led to the discovery of the Hudson Bay Mining and Smelting stratiform, lead-zinc deposit known as the TOM Property located at McMillan Pass on the Canol Road 160 miles to the south east. Other large stratiform lead-zinc deposits were found by Prospector Airways Co. Ltd. under my direction at Vangorda Creek in the 1950's; and later by Kerr Addison in the 1960's at Swim Lake nearby. The most significant of these was discovered by A, Kulan. It became the ANVIL MINE of Cyprus Mining Corp. and Dynasty Exploration Ltd. and is currently in production at a rate of 7,500 tons per day from a 60 million ton ore body of 10 percent combined Pb-Zn. The Vangorda Swim and Anvil deposits are stratiform lenses in Middle-Upper Cambrian phyllite host rocks. Also discovered during this period was the FORTIN LAKE deposit of Dynasty. It is a 3 mile long zone of zinc mineralization in Silurian dolomitic argillites. Preliminary drilling was done under my direction and later my Mitsui Mining and Smelting Corporation. During the period 1965 to 1972 low metal prices discouraged exploration in this remote area. Then a major find aroused new interest in the belt when CANEX PLACER LTD. discovered a 25 mile long belt of lead-zinc mineralization in tightly folded graphitic argillites Ordovician age. A large staking rush developed in the area and intensive drilling was carried out in 1973, with indications of a possible producer.

Also in 1972 important base metal discoveries were made by Welcome North Mines Ltd. in the Godlin Lakes area in the Northwest Territories, 100 miles to the north of Summit Lake. Numerous major companies conducted work in 1973, such as Cominco, Bethlehem Copper, Conwest and Dynasty. Dr. Clyde L. Smith, a prominent Yukon geologist, who was associated with the development of several of the Yukon deposits reports that the recognition of the GODLIN deposits as excellent examples of the world renowned, MISSISSIPPI VALLEY type deposits, has spurred activity over a 300 mile length, within a belt of open-folded and faulted Lower Palaeozoic carbonate rocks known as the MACKENZIE fold-belt. This laterly resulted in the significant finds in the Bonnet Plume region by Barrier Reef Mines Ltd.

It is believed that the Yukon and adjacent Northwest Territories is entering a period of new and highly active base metal exploration.

The significant find of Barrier Reef, near the confluence of GOZ and DUO Creeks, lies ten miles to the south of the Bar property. The news of this discovery precipitated a staking rush that resulted in the location of over 2,000 contiguous claims in a belt 35 miles long and up to five miles wide. Another significant find has been made by CYPRESS RESOURCES LTD. ten miles to the west of Barrier Reef. Some twelve separate occurrences of zinc-lead mineralization have been reported in the area to date at widely separated areas within the Bonnet Plume staking belt. Six additional occurrences of sphalerite mineralization in flat lying mid-Devonian dolostone and limestone have recently been found on the Bar claims.

GENERAL GEOLOGY

The area of the recent staking along the Bonnet Plume River is underlain by closely folded rocks of probable Cambrian or earlier age. Recent mapping places them as Proterozoic in age. The most widespread and believed to be the oldest formation, is composed of reddish-brown weathering dolomite and sandy dolomite, with minor amounts of grey limestone, dark grey slate, and quartzite. The sandy, cherty or argillaceous facies stand out in relief over the dolomite facies, to produce a very rough surface. The rock is composed mostly of fine-grained, dolomite. The dolomite does not react to hydrochloric acid. Some bands contain considerable proportions of dark clay, minerals and local chert nodules. There are numerous quartz veinlets 2 to 3 inches wide.

Most rocks show irregular banding. They have a rough, sandy texture. Concretions are common.

A distinctive feature is the presence of concentric, banded, circular forms 4 to 6 inches across and up to 14 inches. Some are columnar. These are believed to be algal structures, and they appear in great numbers suggesting colonies that form bioherms.

These structures are believed to be important from the standpoint of mineral deposition and sphalerite often replaces them locally.

Within the dolomitic formation are a few beds of grey limestone, bluish grey, platy, pyritic slates, and quartzites. A banded pale-green, chloritic, limestone overlies the algal bearing dolomites in places and elsewhere a grey weathering pale grey limestone occurs. Also dark grey and black slates, associated with varying amounts of grey and white quartzite, overlie the dolomite conformably at many localities.

The thickness of this sequence of dolomites, grey limestone and slates is not known. Smith (15) states the principal lead-zinc deposits of the larger sedimentary belt known as the Selwyn Basin and Mackenzie Fold Belt fall within two distinct classes: stratiform types of marine-volcanic association (ANVIL, TOM, HOWARD PASS, FORTIN); and MISSISSIPPI VALLEY TYPE (BARRIER REEF, GODLIN, NAHANNI).

Preliminary mapping of the Barrier Reef Property Bonnet Plume area, has outlined a breccia zone of high grade Zn-Pb averaging about 20% combined metal having a strike length of greater than 1,800 feet and a width of 30-40 feet. More detailed sampling, and diamond drilling is required to assign tonnage and grade to the deposit. Extensive outcrops, containing zinc sulphides in bedded carbonate rocks, have been found elsewhere on the claims by preliminary prospecting. These outcrops represent a mineralized "belt" about  $5\frac{1}{2}$  miles in length according to company reports.

#### MINERALIZATION

Mineralization on the Barrier Reef and other properties in the area generally is comprised of light buff-colored, to reddish-brown, sphalerite in porous dolostone, with aggregates and irregular patches of galena and minor quantities of possibly Jamesonite mineralization, are reported in higher grade zones.

Most of the high-grade mineralization is associated with breccia zones, but some occurs parallel to bedding planes with very little associated quartz.

GENERAL DISCUSSION OF GEOLOGY ON TC AND ALGAL CLAIMS

The TC and Algal claims are underlain by a flat-lying pile of Middle Devonian limestone and dolomite sediments. Their age has been definitely determined by the identification of the presence of mid-Devonian brachiopod fossils in dark grey limestone beds overlying a bioherm algal deposit in which the sphalerite replacement occurs. The unit is quite regular to the south and east but shows thrust faulting and attitude change to the north.

The unit is overlain by black to brown shale, locally well shattered. It forms rounded hummocks up to 500 feet or so in height. It may be Upper Devonian in age. The sequence of Devonian limestone and dolomites, overlain by black shales, resembles the Upper Devonian shale/mid-Devonian limestone/unit of the Pine Point area, well known for the prolific lead-zinc deposits within the Presqu'ile sediments.

The presence of algal reef fragments replaced by massive sphalerite in colliform structures, also characteristic of the Pine Point deposits, supports this view.

The claim group is located on a gently sloping upland, plateau for the most part, on which rounded hills of upper black shale provide the principal topographic relief.

The plateau is incised at the edges by creek canyons that lead into the main north-south tributary of the Snake River

that borders the plateau on the east. The mineralized showings found to date, are on the gently sloping limestone shelf within a few feet of surface. Since there are large areas of flat-lying limestone bare of overburden, the prospecting is easier than normal. These provide a unique situation for exploration and future development.

The mineralization so far encountered in the area occurs in two principal modes:

- 1] Massive light-brown resinous sphalerite often in colliform masses up to two inches in thickness, replacing fragments of algae from a bioherm reef.
- 2] Veinlets and intergrowths of resinous sphalerite and white, coarse grained calcite in brecciated zones. Sphalerite often makes up to 50 percent of the zone. Galena is sparingly present but no pyrite.

In the discovery zone on claims ten miles southeast both types of occurrence are present. These modes of occurrence resemble the main deposit at the Barrier Reef property ten miles to the south although they occur there in dolostones of Proterozoic age stratigraphically much lower than the TC/Algal group.

In many respects the occurrences resemble those of such well known lead-zinc fields as the Tristate deposits in the Mississippi Valley, Pine Point, and elsewhere; and warrant careful detailed exploration.

A possible explanation for the formation of this type

of occurrence in carbonate basins has been recently proposed by A. R. Renfro in an article in ECONOMIC GEOLOGY, Vol. 59, 1974, pp. 33-45. As an aid to identification of similar conditions, it is quoted as follows:

" GENESIS OF EVAPORITE-ASSOCIATED STRATIFORM METALLIFEROUS  
DEPOSITS - A SABKHA PROCESS

A. R. Renfro

Abstract

Stratiform metalliferous deposits underlain by continental red beds or other oxidized strata and overlain by evaporites account for approximately thirty percent of the world's copper production. The origin of such deposits, including those in the Kupferschiefer of Germany and the Roan of Zambia and Rhodesia, long has been a controversy that defies explanation by traditional means. Recently discovered sedimentary and geochemical processes of coastal sabkhas provide the foundation for a hypothesis that successfully explains the genesis of these deposits.

Coastal sabkhas are evaporite flats that form along the subaerial landward margins of regressive seas. Because of their unique position, coastal sabkhas are nourished by subsurface flow of landward migrating, low Eh-high pH sea water and by seaward-migrating, high Eh-low pH terrestrial water. Commonly they are bordered on the seaward by intertidal mudflats and lagoons that are carpeted by leather-like mats of sediment-binding, blue-green algae. Fetid ooze consisting of interbedded decaying algae and detrital sediment occurs immediately beneath the living algal mat. On the landward side, the coastal sabkhas give way to, and initially rest on, sterile, oxygenated desert sediments.

Coastal sabkhas and their related evaporite facies prograde seaward across adjacent algal-mat facies. Upon burial the algal-mat facies become saturated with hydrogen sulfide generated by anaerobic bacteria. Concurrently, the trailing, landward edges of coastal sabkhas are buried by prograding terrigenous clastics of the desert. As sabkhas migrate basinward, terrestrial-formation water

" eventually must pass upward through the buried, strongly reducing algal mat in order to reach the surface of evaporation.

Terrestrial-formation water initially has low pH and high Eh and thus can mobilize and transport trace amounts of such elements as copper, silver, lead, and zinc. As terrestrial-formation water passes through the hydrogen sulfide-charged algal mat, its load of solute metals is reduced and precipitated interstitially as sulfides. Resulting metal deposits generally are conformable to the geometry of hydrogen sulfide-bearing host strata. Such deposits contain suites of metals that are zoned from landward to seaward according to their relative solubilities in the presence of hydrogen sulfide. These deposits are underlain by oxidized continental strata and are overlain by dolomite, gypsum, anhydrite, and/or halite. Grade and size of the deposits are dependent upon:

[1] quantity of available reductant, [2] duration of the sabkha process, and [3] quantity and chemistry of the metal-bearing, terrestrial water. "

Identification of the reef structures themselves in the sedimentary sequences is a requisite for further exploration and once it has been identified, careful prospecting within it for sphalerite replacements should follow. This is greatly facilitated by equipping prospectors with the new dithizone sprays that immediately identify zinc-oxide coatings on the rocks. Since pyrite is absent, gossans in the dolostones are rare, and the sphalerite is difficult to identify by eye. It has remained undetected in this area until the modern geochemical methods were used. Placing the field geochemical sprays in the hands of the prospecting personnel themselves; and guiding them to the correct geological environment will continue to turn up many new deposits of zinc in the vast carbonate basin sequence of the Bonnet Plume River and surrounding areas.

The flatness of the limestone beds on the TC/Algal group do not indicate as a whole any apparent structural disturbances of

the beds. However, the large thrust fault on the north side of the group may have caused pressure on the block and subjected it to compressive stresses that opened up later tensional fracturing which provided channel ways for ore solutions. The overlying black shales may be the source beds from which percolating surface water brought the zinc ions into the reef areas where they were precipitated by sulphides generated from algal decomposition, in which case the contact between the shales and the underlying limestone would be good areas to search in detail.

Although the massive sphalerite itself is a poor conductor, there is locally enough galena present to warrant the use of the induced polarization geophysical method in the search for ore deposits. Frequency tests were carried out on a well mineralized specimen of sphalerite from the area containing less than 1% galena and no pyrite. A rating of 100 units was obtained. This compares with 300 units on a similar test of good conductive rock from another area. The I.P. method could thus be of value in searching for ore deposits.

#### CONCLUSIONS & RECOMMENDATIONS

The limestone pile may contain a series of sphalerite bearing strata as flat-lying exposures at various locations over a 4,500 foot horizontal distance. Careful topographic and geological mapping is needed to evaluate the claims. Judging from the extensive lateral and vertical spread of individual high grade showings on the Bar Group to the east it is apparent that significant strataform zinc deposits occur in the area in favorable Middle Devonian limestone-dolomite sediments. The most important of these on the Bar group to the east is a zinc bearing bed in a hackly surfaced grey dolomitic limestone that is flat-lying or dips gently east. This horizon contains collapse breccia zones and bioherm reef structures that have replacements

of heavy calcite containing light brown sphalerite with minor galena. Local concentrations of economic grade material averaging 15 to 20% zinc are present. The mineralized beds vary from 12 to 25 feet in thickness and lengths up to 500 feet have been indicated. Continuity between various showings has not yet been established. The possibility of finding a substantial strata-band lead-zinc deposit on the TC/Algal property is considered excellent and a detailed exploration program including topographic, geological, geochemical and geophysical survey followed by trenching and diamond drilling is recommended. The cost is estimated at \$50,000.00. The programme could be completed this season in two months.

#### ESTIMATED COST

An initial exploration programme is warranted on the claims, totalling \$25,000.00 as follows:

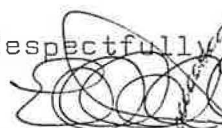
#### Phase I:

Line cutting - 40 miles	\$ 4,000.00
Geological Survey	2,500.00
Geochemical Survey	2,000.00
Prospecting and Trenching	2,000.00
Helicopter - 10 hours @ \$200	2,000.00
Fixed Wing	2,000.00
Camp and Supplies	2,000.00
Assay	2,000.00
Supervision and Consulting	2,500.00
Contingencies	<u>4,000.00</u>
Total Phase I	\$25,000.00

#### Phase II:

Diamond Drilling	
1,000 feet @ \$25.00/foot	<u>25,000.00</u>
Total Phases I & II	<u>\$50,000.00</u>

Respectfully submitted,

  
 E. O. Chisholm, M.A., P. Eng.  
 Vancouver, B.C., March 15, 1975

CONSULTING GEOLOGIST

COLUMBIA  
 ENGINEER

APPENDIX NO. 1

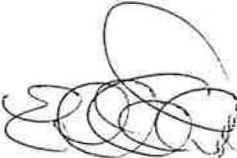
1. J.O. Wheeler - GSC Paper 53-7  
A Geological Reconnaissance of the Northern  
Selwyn Mountains.
2. GSC Report of Activities 1969-1970.
3. Mineral Industry Report 1969-1970 Vol. 1
4. S.L. Blusson GSC Paper 71-22  
Sekwi Mountain Map Area, Yukon Territory and  
District of McKenzie.
5. 1972 Composite Geological Map of the Yukon Territory.
6. Statement of Material Facts. Barrier Reef  
Resources Ltd. July 24, 1973.
7. Barrier Reef Resources Ltd. (N.P.L.) Report to  
Shareholders Nov. 23, 1973.
8. E.O. Chisholm P.Eng. Private Report Rackla River Mines  
Ltd., Yukon Territory dated March 30, 1968.
9. P.W. Sevensma P.Eng. Report Rackla River Mines Ltd.  
dated Sept. 13, 1969.
10. R.E. Chaplin P.Eng. Report on Barrier Reef Mines Ltd.  
Bonnet Plume lead-zinc property dated Aug. 15, 1973.
11. R.E. Chaplin P.Eng. Report of HELI Claims Godlin  
Lakes Area N.W.T. dated March 15, 1973.
12. John S. Brock V.P. Welcome North Mines Ltd.,  
Exploration Progress Report dated Aug. 29, 1973.
13. R.E. Chaplin P.Eng. Report on PAL (1-51)  
Mineral claims, Bonnet Plume-Goz Creek Area,  
Yukon Territory dated Aug. 15, 1973.
14. R.E. Chaplin P.Eng. Report on Ann 1-64 Mineral Claims  
Bonnet Plume - Goz Creek Area dated Aug. 15, 1973.
15. G.C. Gutrath P.Eng. Report on CYPRESS Resources property  
Bonnet Plume zinc-lead property dated Sept. 1973.
16. Clyde L. Smith Ph.D P.Eng. Report on Ogilvie Joint  
Venture dated Dec. 1973.
17. A Harman, Harman Management Ltd. Personal Communications.

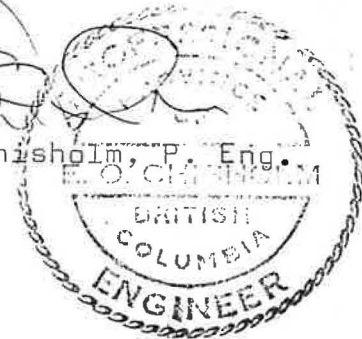
CERTIFICATE

I, Edward O. Chisholm of the City of Vancouver, in the Province of British Columbia, hereby certify that:

- 1] I am a geologist with offices at #821 - 602 West Hastings Street, Vancouver 2, British Columbia.
- 2] I am a graduate of the University of Toronto, Ontario, Master of Arts, 1945.
- 3] I am a member of the Professional Engineers of Ontario and British Columbia.
- 4] I have no direct or indirect interest in the TC/Algal group of claims of Dune Mineral Corporation in the Bonnet Plume Area, Yukon Territory, nor in the securities of Dune Mineral Corporation.
- 5] Permission is granted for submission of the report to the Vancouver Stock Exchange and for printing of it in the company's prospectus.
- 6] This report is based on my personal visits to the Yukon Area and published geological literature.

DATED at Vancouver, British Columbia this 15th day of March, 1975.

  
Edward O. Chisholm, P. Eng.



APPENDIX II

RESULTS OF GEOCHEMICAL SURVEY CARRIED OUT IN JUNE 1975 ON  
CLAIMS TC 1-36, DUNE MINERALS CORPORATION

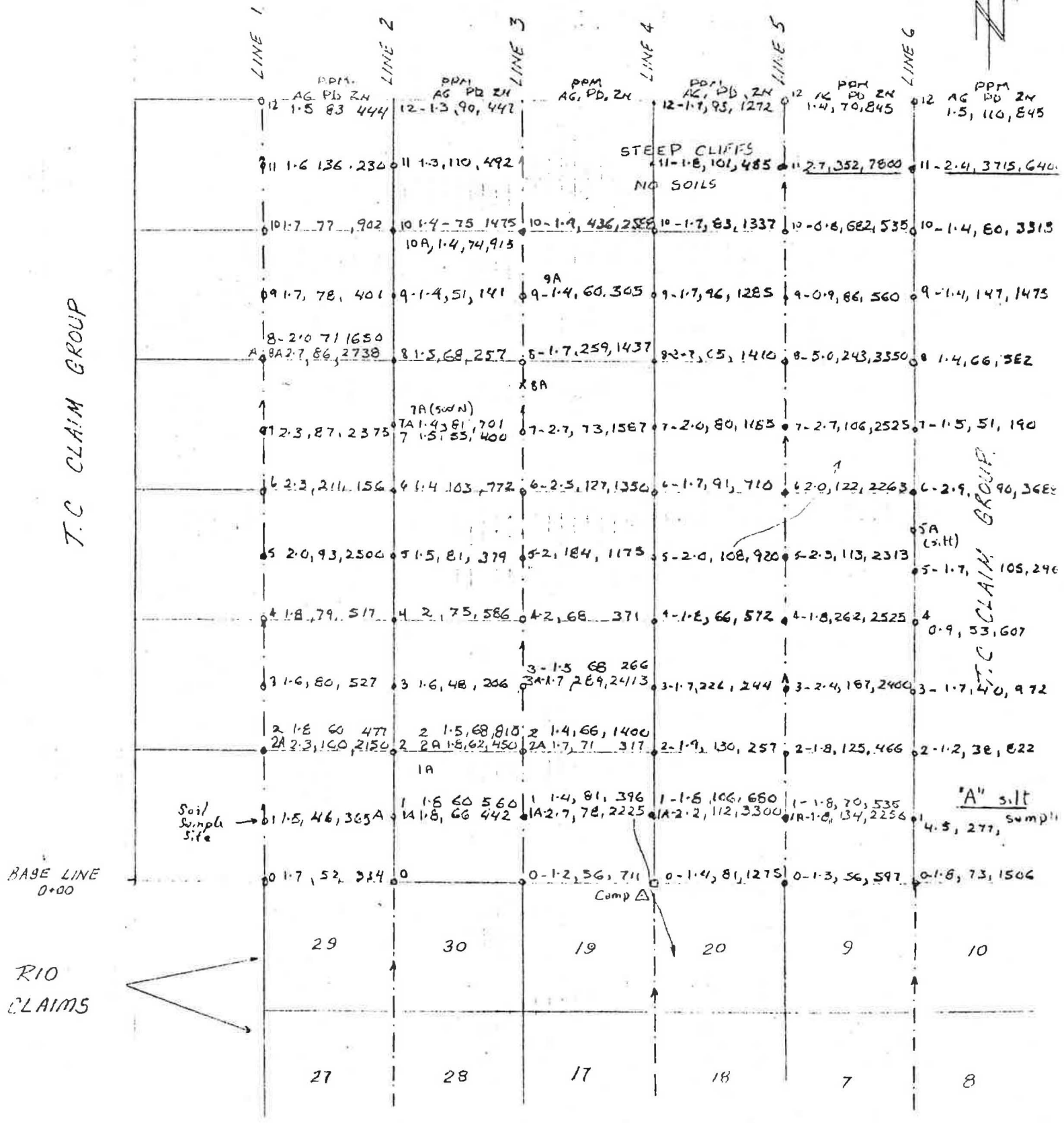
Soil samples were taken at 500 foot intervals along claim boundaries at a depth of 6 inches and placed in paper bags. These were later dried, screened to 80 mesh on stainless steel screens, and digested in a mixture of nitric and hydrochloric acid. The samples were then assayed on the atomic absorption spectrograph for silver, lead and zinc elements. Some silt samples were taken along stream channels.

Results:

Background for the elements across the claim group were generally higher than normal and in the order of 1.5 parts per million in silver, 80 ppm in lead and 500 ppm in zinc. Values 3 to 4 times background are considered anomalous. These were found at widely dispersed intervals throughout the entire claim block and two unusually high values in zinc and lead were found on claims TC 11 and 12. These reported at 352 ppm lead and 7.800 ppm zinc; and 3715 ppm Pb and 6400 ppm zinc respectively; i.e. over 10 times background for zinc.

Due to the wide spacing of the samples anomalous zones could not be outlined in detail and a detailed survey on grid lines 200 feet apart and 100 foot stations in the areas of high background values should be carried out. The survey indicates a high potential for lead-zinc occurrences.

# DUNE MINERAL CORP.



N.T.S NO 106 C-10	CLAIM NOS. TC #1-36 TAG NO. 3 495801-495835	SOIL SAMP. SURVEY T.C. C. VIMS	DATE: JULY 9, 10 1975 SCALE: 1" = 1500'	DRAWN BY: W. SKELWALD
----------------------	--	-----------------------------------	--	--------------------------

SUMMARY OF THE RESULTS OF PROSPECTING ARRIVED AT ON  
THE TC ALGAL GROUP IN JULY 1975

T.C. Claims:

An examination of the showings on the TC was carried out on July 9th as well as a soil sample survey [see map].

The major part of the mineralization is situated on a long NE-SW ridge approximately two miles NNE of the camp area. The mineralization consisted of galena and sphalerite in fossiliferous limestone just 150 - 300' below [vertically] the shale-limestone contact. The mineralization was seldom of high grade and was quite sporadically located in the talus slope.

The mineralization could be traced for approximately 2,000' around the NE end of the ridge. [Two small Zn occurrences were found at the south end of the ridge, however these two were located in the talus slope and had a low grade.]

Maps enclosed:

1 airphoto showing geology and mineral occurrences on the Mike and TC claims [1" = 800'].

## STATEMENT OF COSTS

For 144 Mineral Claims as follows:

Mike 1 - 43  
 Rio 1 - 30  
 T.C. 1 - 36  
 Algal 1 - 35

1) Wages 30 Man Days

(John Toporowski/Mike Brodribb/  
 Kevin Milledge)

\$ 900.00

Supervision 3 man days

300.00

\$ 1,200.00

2) Supervision 3 Man Days

300.00

3) Camp Costs

330.00

4) Field Equipment Expense

231.00

5) Recording Fees

1,400.00

6) Staker's Fees

450.00

7) Claim Post Cost

315.00

8) Helicopter Flying

July 27 - August 7:

275605

218.90

275606

278.60

275609

278.60

275610

457.75

275613

378.10

275616

199.00

275614

159.20

1,970.15

- Flying	\$ 870.00	
- Fuel	394.20	\$ 1,264.20

9) Fixed Wing Flying:

Yukon Air		
2583	457.00	
108 Mile Airways		
# 870	1,118.40	
867	643.20	
859	<u>1,082.40</u>	3,301.00

10) Pro Rata General Expenses

144/700 (\$8,438.00)		<u>2,000.00</u>
----------------------	--	-----------------

TOTAL ON ACCOUNT

12,761.35

# EWING TRANSPORT

Mayo, Y. T. ..... 19.....

**To** Herman Management  
 921 - 602 West Hastings  
 VANCOUVER, B. C.

Jul 11	B/L No. 11 12 pcs 2" x 4" x 16" slts	138.00 U.S. tax @ 11.84%	213.16 1.52	
20	B/L No. 17 300 pcs 2" x 2" x 4"	@ 90¢	270.00	
22	B/L No. 18 100 pcs 4" x 4" x 4"	@ 1.75	175.00	
23	B/L No. 20 80 pcs 4" x 4" x 4"	@ 1.75	140.00	613.80
<i>Terms: 30 Days . . . Nominal interest charged thereafter</i>				





R.R. 1, 100 MILE HOUSE, B.C.

Charter Air Service



DOUG McARTHUR  
LIZ  
(604) 395-2121

TICKET No 859

DATE July 22 PILOT Ambrrose AIRCRAFT ZTZ  
CHARTERED BY AND/OR FOR: HARMAN Ex.

CUSTOMER'S CHARTER RECORD

F-1

FROM	NO. OF PASS.	WAITING TIME	FLYING TIME	REVENUE MILES	MILEAGE \$
Goz LK	1			128	\$1.20
TO Mayo				128	
TO Goz LK	1	1650		128	
TO Mountain LK	2	1300		70	
TO Norman Wells	1			136	
TO Mountain LK		1600		136	
TO Mayo		165		176	
TO Goz LK		1650		128	
TO					
TO					
TO					
CASH	CHARGE	CHEQUE	TOTALS		
	✓			902	\$1082.40

Passengers acceptance of Charter and Conditions of Carriage as shown on the reverse side of Passenger's Copy of this Charter Ticket.

1. STANIS TO MTN 3. \_\_\_\_\_  
2. CART TOPBROSKY 4. Ambrrose

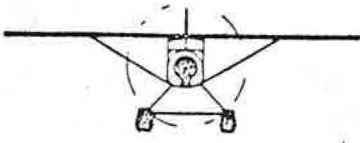
PILOT'S LOG OF TRIP

FROM	ACTUAL FLIGHT TIMES			AIRCRAFT MILES
	UP	DOWN	A/C TIME	
TO				
TO				
TO				
TO				
TO				
TO				
TO				
TO				
TO				
TO				
TOTALS A/C				
REMARKS:				
PILOT'S W/T MILES				
PILOT'S TOTAL MILES				

FLIGHT TICKET

CERTIFIED CORRECT: PILOT'S SIGNATURE Ambrrose





# 108 MILE AIRWAYS LTD.

R.R. 1, 100 MILE HOUSE, B.C.

*Charter Air Service*

DOUG McARTHUR  
LIZ  
(604) 395-2121

TICKET No 870

DATE JULY 28 PILOT ANDRUE AIRCRAFT CF-212  
 CHARTERED BY AND/OR FOR: HARMAN

CUSTOMER'S CHARTER RECORD

FROM	NO. OF PASS.	WAITING TIME	FLYING TIME	REVENUE MILES	MILEAGE \$
ROSS RIVER	8			150	1118 40
GOZ LA	8			150	
ROSS RIVER	8			68	
SHIELDON LA				68	
ROSS RIVER		300		120	
GOZ LA		1100		128	
MAVO				128	
GOZ LA		1500			
CASH				932	TOTAL CHARGE \$ 1118 40
CHARGE				/	
CHEQUE					
TOTALS					

Passengers acceptance of Charter and Conditions of Carriage as shown on the reverse side of Passenger's Copy of this Charter Ticket.

- STARRS TO GOZ 3. NO FUEL AT SHIELDON
- H DR 1-130 TO GOZ 2. DR 1-130 MAVO STARRS + GROSS GOZ

PILOT'S LOG OF TRIP

FROM	ACTUAL FLIGHT TIMES			AIRCRAFT MILES
	UP	DOWN	A/C TIME	
TO				
TO				
TO				
TO				
TO				
TO				
TO				
TO				
TO				
TO				
TOTALS A/C				
REMARKS:				
PILOT'S W/T MILES				
PILOT'S TOTAL MILES				

FLIGHT TICKET CERTIFIED CORRECT: PILOT'S SIGNATURE *Andrue*

# YUKON AIR LTD.

BOX 2244  
WHITEHORSE, YUKON  
PHONE: 668-2355

No. B 2583

FLIGHT REPORT No.:

CHARTER No.:

DATE: July 27 1974 A/C: Cessna 185 WTD

NAME: HARMAN MANGT LTD.

ADDRESS: Box 4509 WHITE HORSE

	Miles	RATE	TOTAL	FREIGHT OR PASSENGER
	Hours			
FROM: <u>FARO</u> <u>JOHNSON LK</u>				
TO: <u>FOZ LK.</u>	170	80	136 <sup>00</sup>	4 STAKERS.
TO: <u>JOHNSON LK</u>	170	85	144 <sup>00</sup>	
TO: <u>ROSS RIVER</u>	35	80	28 <sup>00</sup>	1 LINK CUTTER
TO: <u>FOZ LK.</u>	185	80	148 <sup>00</sup>	
WAITING TIME				
OTHER CHARGES			456 <sup>00</sup>	PILOT <u>[Signature]</u>
DISCOUNT				CHARTERER
TOTAL			456 <sup>00</sup>	REMARKS:
			457.00	

# OLYMPIC HELICOPTERS LTD.

P.O. BOX 622  
MONTREAL 379, P.Q.

PHONE 514-334 2332

## FILGHT REPORT

HELICOPTER: *BELL 47B-3* CF-*YUC*  
PILOT: *DRZYMALA*  
BASE: *PALMER LAKE*

DATE	TIME OFF	TIME DOWN	HOURS	CUSTOMER
<i>28 July 74</i>				ADDRESS
	<i>Post transport and positioning.</i>			CHARGE TO <i>HARMAN MANAGEMENT</i> ADDRESS <i>Box 4509,</i> <i>WHITEHORSE, YUKON</i>
	<i>H.M.M. Contract job.</i>			
			<i>6.0</i>	AUTHORIZED
				FLIGHT FROM TO
				FROM TO
				FROM TO
TOTAL HOURS FLOWN			<i>6.0</i>	GAS & OIL SUPPLIED COMP. <input type="checkbox"/>
STANDBY-TIME				CUST. <input checked="" type="checkbox"/>
SPECIAL INSTRUCTIONS & REMARKS				

*Harman fuel*

OLYMPIC HELICOPTERS LTD.

INVOICE

No 1106

P.O. BOX 622  
MONTREAL 379, P.Q.

Harman Management Ltd.  
Box 4509  
WHITEHORSE, Y. T.

DATE: August 9, 1974

Please mail cheque to:  
Yukon Business Services Ltd.  
205-205A Main St.  
WHITEHORSE, Y. T.

Rate: \$145.00 per hour

Flight report July 28/74

6.0 hours

\$870.00

(Report attached)

Terms: Net Cash on receipt of invoice.



Indian and Northern Affairs Affaires indiennes et du Nord

GENERAL RECEIPT

RÉCÉPISSÉ GÉNÉRAL

B 300685

Branch  
Direction

Date 9 Aug 74	Nature and No. of Remittance - Forme et n° de la remise CHEQUE	Invoice No. - Facture n°	Location - Endroit MAYO, Y.T.
Received the Sum of - Reçu la somme de THREE HUNDRED		00 / 100 DOLLARS \$300. <sup>50</sup> / <sub>100</sub>	

From - De

(  
 \_\_\_\_\_  
 HARMAN MANAGEMENT  
 \_\_\_\_\_  
 BOX 4509  
 \_\_\_\_\_  
 WHITEHORSE, Y.T.  
 \_\_\_\_\_  
 )

For - Pour 30-Qtz. REC. FEES  
 \_\_\_\_\_  
 RIO # 1-30 - 106-C-10  
 \_\_\_\_\_  
 GOZ LAKE AREA  
 \_\_\_\_\_

*Jim Wood*  
 \_\_\_\_\_  
 Authorized Officer - Fonctionnaire autorisé

1 AND 10-38 (3-72) 7530-21-023-4068

# GENERAL TESTING LABORATORIES

DIVISION SUPERINTENDENCE COMPANY (CANADA) LTD

1001 EAST PENDER ST., VANCOUVER, B.C., CANADA V6A 1T1

PHONE (604) 254-1647 TELEX 04-507514 CABLE SUPERVISI



TO:  
**DUNE MINERALS CORP.**  
 #8 - 784 Thurlow St.,  
 Vancouver, B.C. V6E 1V9

## CERTIFICATE OF ASSAY

No.: 7507-1651      DATE: July 22/75

We hereby certify that the following are the results of assays on:

Soils for Geochemical Analysis

MARKED	SOILS	SILVER	Silver Ag (ppm)	Lead Pb (ppm)	Zinc Zn (ppm)	XXX	XXX	XXX
	OZ/ST GR/MT	OZ/ST GR/MT						
L-1	8A Silt		2.7	86	2738			
	2 + 40		2.3	100	2150			
L-2	1A		1.8	66	442			
	2A		1.8	62	450			
	7A		1.4	81	701			
	10A		1.4	74	915			
L-3	1		2.7	78	2225			
	2		1.7	71	317			
	3		1.7	289	2413			
L-4	1		2.2	112	3300			
L-6	1		1.8	134	2256			
L-1	0 Soil		1.7	52	334			
	1		1.5	46	365			
	2		1.8	60	477			
	3		1.6	80	527			
	4		1.8	79	517			
	5		2.0	93	2500			
	6		2.3	211	156			
	7		2.3	87	2375			
	8		2.0	71	1650			
	9		1.7	78	401			
	10		1.7	77	902			
	11		1.6	136	230			
	12		1.5	83	444			
L-2	1		1.8	60	560			
	2		1.5	68	810			
	3		1.6	48	206			
	4		2.0	75	586			
	5		1.5	81	379			
	6		1.4	103	772			
LW/wk						continued	.....	Page 2

NOTE: REJECTS RETAINED ONE MONTH. PULPS RETAINED THREE MONTHS. ON REQUEST PULPS AND REJECTS WILL BE STORED FOR A MAXIMUM OF ONE YEAR.

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*B. Given* 23.7  
 22.7.75  
**B. GIVEN** PROVINCIAL ASSAYER

Analytical and Consulting Chemists, Bulk Cargo Specialists, Surveyors, Inspectors, Samplers, Weighers

MEMBER American Society For Testing Materials • The American Oil Chemists' Society • Canadian Testing Association  
 REFEREE AND OR OFFICIAL CHEMISTS FOR Vancouver Merchants Exchange • National Institute Of Oilseed Products • The American Oil Chemists' Society  
 OFFICIAL WEIGHMASTERS FOR Vancouver Board Of Trade • Vancouver Merchants Exchange



# GENERAL TESTING LABORATORIES

DIVISION SUPERINTENDENCE COMPANY (CANADA) LTD

1001 EAST PENDER ST., VANCOUVER, B.C., CANADA, V6A 1W7  
 PHONE (604) 254-1647 TELEX 04-507514 CABLE SUPERVISE

TO:  
**DUNE MINERALS CORP.**  
 #8 - 784 Thurlow St.,  
 Vancouver, B.C. V6E 1V9

## CERTIFICATE OF ASSAY

No.: 7507-1651      DATE: July 22/75

We hereby certify that the following are the results of assays on:      **Soils**      ..... Page 2

MARKED	<del>XXXXXX</del>	<del>XXXXXX</del>	Silver	Lead	Zinc	XXXX	XXXXXX	XXXX
	OZ/ST GR/MT	OZ/ST GR/MT	Ag (ppm)	Pb (ppm)	Zn (ppm)			
L-2 7			1.5	55	400			
8			1.5	68	257			
9			1.4	51	141			
10			1.4	75	1475			
11			1.3	110	492			
12			1.3	90	447			
L-3 0			1.2	56	711			
1			1.4	81	396			
2			1.4	66	1400			
3			1.5	68	266			
4			2.0	68	371			
5			2.0	184	1175			
6			2.5	127	1350			
7			2.7	73	1587			
8			1.7	259	1437			
9			1.4	60	305			
10			1.4	436	2588			
L-4 0			1.4	81	1275			
1			1.8	106	680			
2			1.9	130	257			
3			1.7	226	244			
4			1.8	66	572			
5			2.0	108	920			
6			1.7	91	710			
7			2.0	80	1185			
8			2.7	65	1410			
9			1.7	96	1285			
10			1.7	83	1337			
11			1.8	101	485			
12			1.7	93	1272			
LW/wk								

continued ..... Page 3

NOTE: REJECTS RETAINED ONE MONTH, PULPS RETAINED THREE MONTHS. ON REQUEST PULPS AND REJECTS WILL BE STORED FOR A MAXIMUM OF ONE YEAR.

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*B. Given*  
**B. GIVEN**      PROVINCIAL ASSAYER

# GENERAL TESTING LABORATORIES

DIVISION SUPERINTENDENCE COMPANY (CANADA) LTD.

1001 EAST PENDER ST., VANCOUVER, B.C., CANADA, V6A 1W2  
 PHONE (604) 254-1647 TELEX 04-507514 CABLE SUPERVISE



TO:

DUNE MINERALS CORP.

#8 - 784 Thurlow St.,

Vancouver, B.C. V6E 1V9

## CERTIFICATE OF ASSAY

No.: 7507-1651

DATE: July 22/75

We hereby certify that the following are the results of assays on: Soils ..... Page 3

MARKED	<del>XXXXX</del>		Silver Ag (ppm)	Lead Pb (ppm)	Zinc Zn (ppm)	xxx	xxx	xxx
	OZ/ST GR/MT	<del>XXXXX</del> OZ/ST GR/MT						
L-5	0		1.3	56	597			
	1		1.8	70	535			
	2		1.8	125	466			
	3		2.4	187	2400			
	4		1.8	262	2525			
	5		2.3	113	2313			
	6		2.0	122	2263			
	7		2.7	106	2525			
	8		5.0	243	3350			
	9		0.9	86	560			
	10		0.8	682	535			
	11		2.7	352	7800			
L-6	12		1.4	70	845			
	0		1.8	73	1506			
	1		4.5	277	3313			
	2		1.2	38	822			
	3		1.7	40	972			
	4		0.9	53	607			
	5		1.7	105	2963			
	6		2.9	90	3688			
	7		1.5	51	190			
	8		1.4	66	582			
	9		1.4	147	1475			
	10		1.4	80	3313			
	11		2.4	3715	6400			
	12		1.5	110	845			
			Procedure:	Decomposition with Hot HNO <sub>3</sub> + HClO <sub>4</sub>		- AA		

IW/wk

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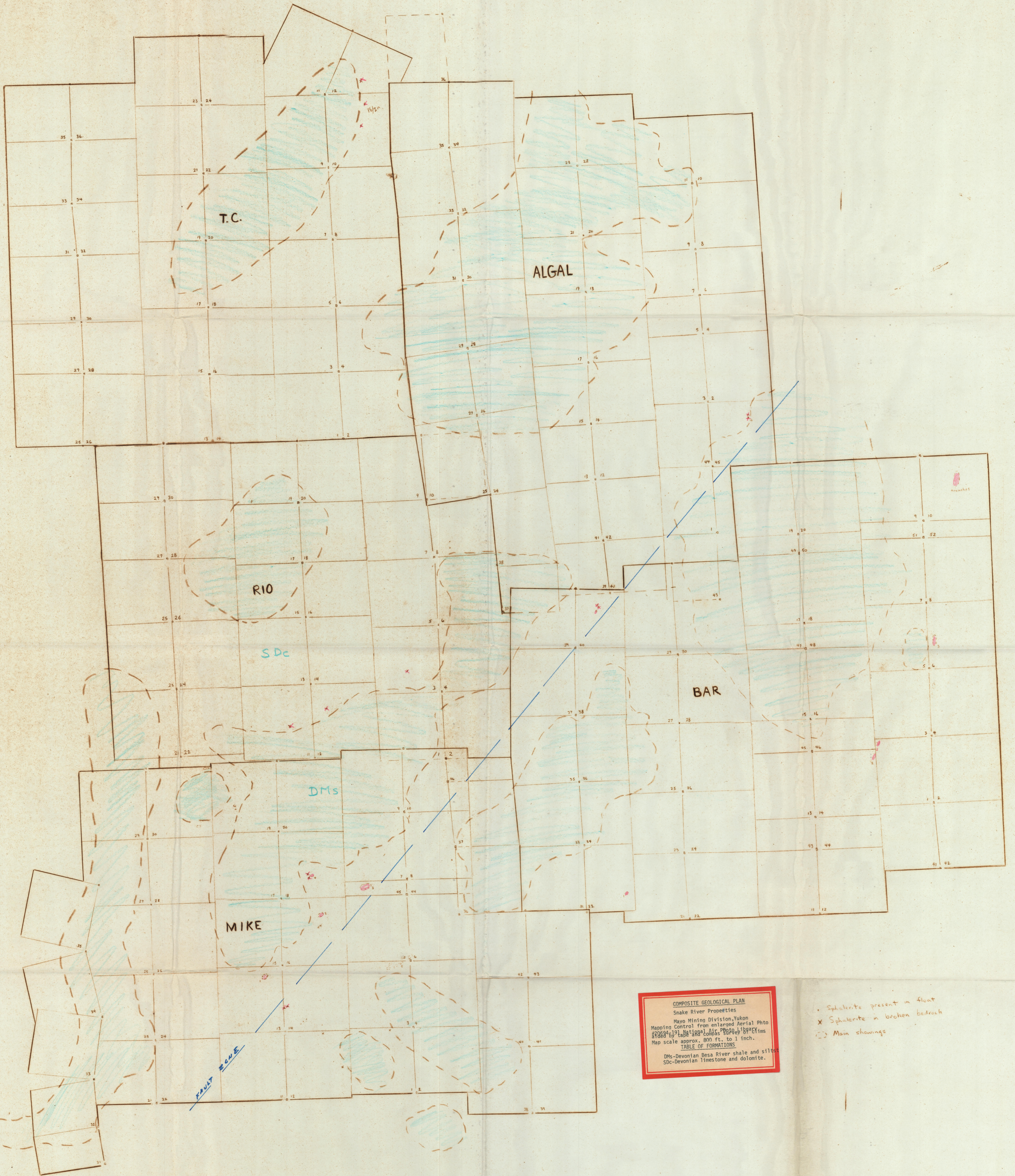
*B. Given*

B. GIVEN

PROVINCIAL ASSAYER

Analytical and Consulting Chemists, Bulk Cargo Specialists, Surveyors, Inspectors, Samplers, Weighers

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 OFFICIAL WEIGHMASTERS FOR Vancouver Board Of Trade • Vancouver Merchants Exchange



COMPOSITE GEOLOGICAL PLAN  
 Snake River Properties  
 Mayo Mining Division, Yukon  
 Mapping Control from enlarged Aerial Photo  
 1968 by J. B. BIRD, J. S. BIRD, J. B. BIRD  
 Map scale approx. 800 ft. to 1 inch.  
 TABLE OF FORMATIONS  
 DMS-Devonian Base River shale and siltstone  
 SDC-Devonian limestone and dolomite.

• Sphalerite present in float  
 X Sphalerite in broken bedrock  
 ○ Main showings