

LOG NO:	FEB 01 1993	RD.
ACTION:		
FILE NO:		

**REPORT ON GEOLOGY
AND GEOCHEMISTRY
of the
DUN 7 CLAIM**

Latitude: 54° 23' N
Longitude: 130° 43' E
NTS: 103J 7E/W
Mining Division: Skeena

Owners:
Pamicon Developments Ltd.
711-675 West Hastings St.
Vancouver, B.C.
V6B 1N4

Operators:
Kennecott Canada Inc.
#138 - 200 Granville Street
Granville Square
Vancouver, B.C.
V6C 1S4

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

22,765

Prepared by: K.M. Curtis

SUB-RECORDER RECEIVED JAN 19 1993 M.R.# \$ Vancouver, B.C.

November, 1992

ARIS SUMMARY SHEET

District Geologist, Smithers

Off Confidential: 93.10.15

ASSESSMENT REPORT 22765

MINING DIVISION: Skeena

PROPERTY: Dun
LOCATION: LAT 54 22 22 LONG 130 42 52
UTM 09 6026148 388629
NTS 103J07E
CLAIM(S): Dun 7
OPERATOR(S): Kennecott Can.
AUTHOR(S): Curtis, K.M.
REPORT YEAR: 1992, 22 Pages
COMMODITIES
SEARCHED FOR: Copper, Lead, Zinc, Silver, Gold
KEYWORDS: Alexander Terrane, Felsic volcanics
WORK
DONE: Prospecting
PROS 50.0 ha

**REPORT ON GEOLOGY AND GEOCHEMISTRY
of the
DUN 7 CLAIM**

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**REPORT ON GEOLOGY AND GEOCHEMISTRY
of the
DUN 7 CLAIM**

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1.0 INTRODUCTION

This report presents geological and geochemical data collected on the Dun 7 claim located in the Skeena Mining Division, during July 4, 1992.

Working from a temporary camp located on the south end of Dunira Island, the 1992 program focused on reconnaissance mapping and geochemistry to evaluate the claim for volcanogenic massive sulphide potential. The Dun 7 claim is located on the northeast portion of Melville Island, which is itself approximately 30 kilometers west of Prince Rupert, B.C. Access to the claim was assisted by the use of an inflatable boat from a base camp established on Dunira Island, some 5 kilometers to the northwest.

A total of 3 lithogeochemical samples and 1 trace element sample were collected during the course of reconnaissance mapping on the claim. Mapping and sampling was performed by Kennecott geologists (K.Curtis, H.Smit, D.Kelsh).

2.0 LOCATION, ACCESS AND PHYSIOGRAPHY (Figures 1 and 2)

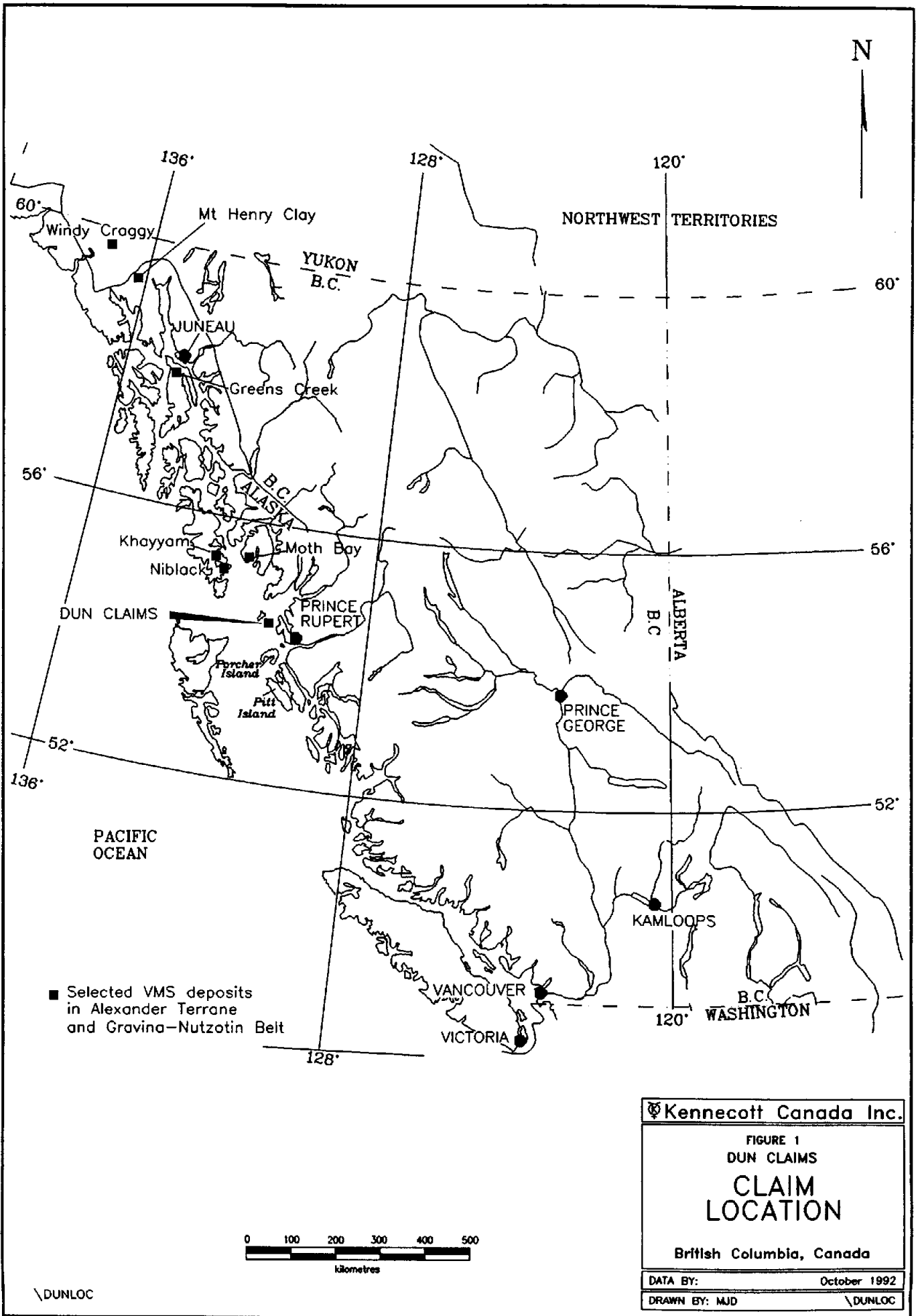
The Dun 7 claim is situated on Melville Island some 30 km west of the community of Prince Rupert. Access to the area was provided by chartered boat from Prince Rupert to Dunira Island where a base camp was established for a regional work program. The total round trip approximated 7 hrs from Prince Rupert to Dunira Island. A zodiac inflatable boat was used to access the Dun 7 claim from this location.

Alternate access from Prince Rupert via float plane or helicopter is also possible. Tides of up to 25 feet in variation are common in the area. Annual precipitation on the island is excessive, however, potable water is not available due to the swampy nature of local lowlands.

Topography on the island is generally subdued with thick scrubby bush and cedar groves predominating. Rock exposure is excellent along the shoreline of the island at low tide, and reduced to 10 to 15 percent inland.

3.0 CLAIM DATA

The Dun 7 claim is comprised of 6 units. The claim falls under the jurisdiction of the Skeena Mining Division.



The following is a table of pertinent data regarding the claim.

<u>Claim</u>	<u>Record No.</u>	<u>Units</u>	<u>Expiry</u>
Dun -7	308295	6	March 18, 1995

Mr. Al Montgomery of Vancouver B.C. is the registered owner of the claim.

4.0 PROPERTY HISTORY

The early exploration history of the area is poorly documented. Evidence of early development activity is supported by the existence of an old adit on the northeast side of Dunira Island, some 5.0 km north of the claim.

During 1983 Billiton Canada Ltd., interested in the volcanogenic massive sulphide potential of the area, carried out airborne geophysical surveys over the eastern and southern portions of Melville Island. This was followed by ground Max-Min EM and VLF-MAG surveys over areas of interest generated by the airborne survey which included the area now covered by the Dun 7 claim. In addition a program of soil and rock geochemistry was initiated over coincident areas.

The Dun 7 claim was staked in March of 1992 by Pamicon Developments Ltd. under agreement with Kennecott Canada.

5.0 REGIONAL GEOLOGY (Figure 2)

The Dun 7 claim is situated within the Insular morphogeological belt of the Cordilleran orogen.

The Insular Belt is dominated by allocthonous rocks of both upper Paleozoic and Jurassic age overlain by autochthonous clastic basins of cretaceous age. The Insular Belt is comprises several terranes, the largest of which are Alexander Terrane and Wrangellia. The former is contained largely within the St. Elias Mountains and is believed to extend beneath Tertiary sediments and volcanics of the northwestern Queen Charlotte Islands and northern Hecate Strait. Wrangellia forms the remainder of the belt (Gabielse, H. et al, 1991). Dunira, Melville and Randall Islands are underlain by plutonic, volcanic and sedimentary rocks assigned to PreCambrian to Cretaceous Alexander Terrane.

Deformed and metamorphosed intrusive, with lesser augite porphyry, and sedimentary rocks underlie the western part of Dunira and Melville Islands. The eastern parts of the islands (including Randall Island) consist of a homoclinal panel of carbonates, phyllites, bimodal volcanics, and lesser siltstones. Regionally, stratigraphy strikes to the northwest and dips steeply northeast.

West directed thrusting may repeat the units, but more mapping is required to confirm this (Heah, 1992).

Late Triassic volcanic rocks of the Alexander Terrane are host to several large volcanogenic massive sulphide deposits which include the cupiferrous Windy Craggy deposit and the silver enriched Greens Creek deposit of Alaska. Several volcanogenic massive sulphide occurrences are documented to the north of Dunira Island within the Alaskan Panhandle.

6.0 PROPERTY GEOLOGY (Figure 3)

Reconnaissance mapping on the Dun 8 claim was performed at a 1:5,000 scale. The goal of the project was to identify and evaluate all felsic volcanic stratigraphy and associated hangingwall strata and isolate prospective time-stratigraphy.

Exposure on the interior of the island is limited to approximately 10-15% outcrop due to extensive swamp and moss cover. At low tide shoreline exposures offer the best exposure.

All stratigraphy observed on the Dun 7 claim is easterly dipping at approximately 30 degrees to the east with a north-south directed strike.

Lithologies encountered on the claim include, from the structural footwall, mafic tuffs and flows with interbedded cherts, felsic tuffs and flows and in the highest structural level graphitic and cherty argillites with minor carbonate clasts. Stratigraphic tops indicators were not observed.

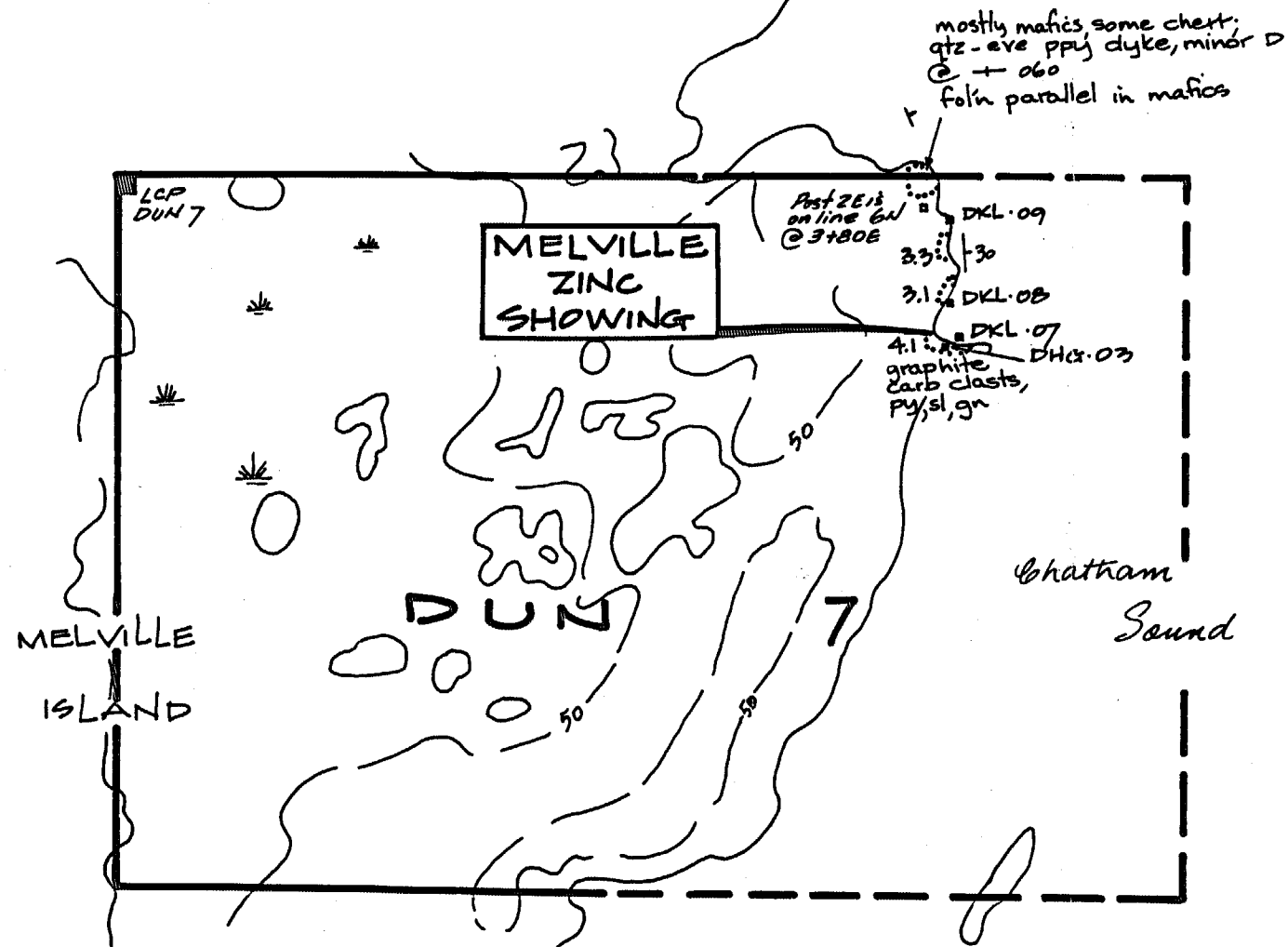
Alteration within this package consists of intense pyritization, and moderate sericitization over appreciable widths on the northeast corner of the claim. Most of this alteration is restricted to the felsic volcanic units. Minor hematitic cherts or exhalites were also noted.

The Melville Zinc occurrence is located close to this altered zone. Mineralization consisting of quartz vein-hosted pyrite, sphalerite and galena is hosted in fracture fillings within graphitic sedimentary units. This mineralization is only accessible at low tide.

7.0 LITHOGEOCHEMISTRY

Lithogeochemical sampling was initiated during the course of the program with the goal of outlining protolith composition and chemical alteration trends within felsic volcanic rocks.

A total of 3 lithogeochemical samples were analyzed by whole rock methods for the major oxides (SiO_2 , TiO_2 , Al_2O_3 , Na_2O , K_2O , CaO , MgO , MnO_2 , Fe_2O_3 ,



EXPLANATION

LITHOLOGY ~

- 3 FELSIC VOLCANICS:
 - 3.1 flows
 - 3.3 tuffs
- 4 SEDIMENTS:
 - 4.1 Argillite

- Outcrop
- └ Bedding
- Soil sample
- └ Claim line
- └ Legal corner post

LITHOGEOCHEMISTRY

Sample	SiO ₂	TiO ₂	Na ₂ O	K ₂ O	CaO
DKL.07	74.35	.95	1.74	2.36	9.03
DKL.08	82.72	.22	.45	1.02	2.67
DKL.09	68.57	.41	.32	2.37	4.34

Sample	SiO ₂	TiO ₂	Na ₂ O	K ₂ O	CaO
DKL.07	54.35	.95	1.74	2.36	9.03
.08	82.72	.22	.45	1.02	2.67
.09	68.57	.41	.32	2.37	4.34

TRACE ELEMENTS

Sample	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
DKL.07	4	.6	117	10	191
DKL.08	9	.5	216	15	6040
DKL.09	3	1.1	256	19	1168
DHG.03	10	0.5	220	496	1742

Sample	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
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.08	9	.5	216	15	6040
.09	3	1.1	256	19	1168
DHG.03	10	0.5	220	496	1742



K Kennecott Canada Inc.
138 - 200 Granville Street, Vancouver, B.C. V6C 1S4

DUN 7 CLAIM GEOLOGY and GEOCHEMISTRY

SICEENIA M.D. P.C.
COMPILED BY: K. Curtis / v. holdings D.T.E. Oct. 92
SCALE: 1:10 000 NTS 1035/7W MAP NO.

LOI) and barium oxide. Selected analytical results and sample locations are provided on Figure 3.

Analysis was conducted by Min-En Labs of North Vancouver. For comparative purposes these samples were also analyzed for trace elements, the results of which are discussed in the following section. Analytical procedures are outlined in appendices.

SiO₂

Silica values from the three samples taken on the Dun 7 claim range from 54.25 to 82.72 percent. Sample DKL-07, taken from the wallrock surrounding the Mineral Grief showing returned the lowest silica content. This is consistent with the graphitic argillite protolith applied to sample in the field. Sample DKL-09 returned a silica content of 68.57 consistent with the felsic protolith applied in the field. Sample DKL-08 yielded 82.72 percent silica and likely represents a volcanic chert or exhalative.

TiO₂

Titanium oxide values from all samples are consistent with the protoliths determined in the field.

Na₂O

Sodium is commonly used as a measure of alteration proximal to a hydrothermal mineralizing event. The depletion of sodium (due to low temperature destruction of sodium feldspars) with a subsequent enrichment in K₂O is common in felsic associated volcanogenic massive sulphide mineralizing systems and is often used to identify footwall alteration zones. In general felsic rocks with less than 0.5% Na₂O are considered strongly depleted in this oxide.

Sample DKL-009 returned 0.32 percent Na₂O which is considered strongly depleted. Sample DKL-008 also contained low sodium content however its higher percentage of silica indicates a probable original low soda content.

K₂O

Potash content in hydrothermally altered felsic rocks commonly display strong enrichment trends coincident with sodium depletion.

In this case both samples of felsic volcanics returned relatively low potash values (1.02 and 2.37 percent).

7.1 Discussion

Lithogeochemical sampling on the Dun 7 claim identified moderate chemical alteration signatures possibly related to a low temperature hydrothermal event.

7.2 Trace Element Geochemistry

Coincident with the standard oxide analytical suite a 32 element ICP package was also performed on both lithogeochemical samples. Sample analysis was conducted by Min-En Labs of Vancouver B.C. Complete sample results and analytical procedures are provided in appendices and selected sample results are shown on figure 3.

7.2.1 Discussion

All lithogeochemical samples displayed weak to moderately anomalous amounts of copper (117 to 256 ppm) and zinc (191 to 6040) with associated chemical alteration. Sample DKG-003 was taken as a representative sample from the Melville Zinc showing. The grab sample returned anomalous yet sub-economic amounts of copper (220 ppm), lead (496ppm) and zinc (1742 ppm).

Trace element geochemistry indicates the presence of a dispersed, low level base metal halo in the immediate area of the samples.

8.0 SUMMARY AND CONCLUSIONS

The Dun 7 claim is underlain by regionally favourable stratigraphy belonging to the Alexander Terrane, host to some of the worlds largest and most enriched volcanogenic massive sulphide deposits.

Results from mapping and rock geochemistry returned moderately encouraging results and warrant further detailed sampling and geological interpretation.

REFERENCES

- Best, M.G. (1982). *Igneous and Metamorphic Petrology*. W. and H. Freeman and Company, San Francisco, U.S.A.
- Carr, M.S. (1984) *Geophysical, Geochemical and Geological report on the Mel, Dun, Bar Groups of Mineral Claims*. B.C Assessment Report #12777.
- Duke, J.L. (1987). *Report on Field Activities on the Kathleen and Grant Claims for St. Edwards Minerals Ltd*. B.C. Assessment Report # 16036.
- Franzen, J.P. (1984). *Dighem III Airborne Geophysical Survey Report on Mel 1-5, Mel 8, MOF 1-6, Ran 1, Bar 1-2, Dun 1-10, Dun 21 and Mineral Grief*. B.C. Assessment Report # 12197.
- Gabrielse, H. and Campbell, R.B. (1991). *Upper Proterozoic Assemblages, Chapter 6 in Geology of the Cordilleran Orogen in Canada*, H. Gabrielse and C.J. Yorath (ed.); Geological Survey of Canada, *Geology of Canada*, no.4, p.125-150.
- Heah, T. (1992). *Proposal for Work on Dunira, Melville and Randall Islands*. Private Internal Report, Kennecott Canada Inc.


STATEMENT OF QUALIFICATIONS

KERRY M. CURTIS, Geologist

I, KERRY M. CURTIS, of 203 - 1012 Richelieu Avenue, Vancouver, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Geologist in the employment of Kennecott Canada Inc., of Suite 138, 200 Granville Street, Vancouver, British Columbia, V6C 1S4.
2. THAT I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Geology.
3. THAT my primary employment since 1985 has been in the field of mineral exploration.
4. THAT my experience has encompassed a wide range of geologic environments and has allowed considerable familiarization with prospecting, geophysical, geochemical and exploration drilling techniques.
5. THAT this report is based on field work, conducted by myself, and field data compiled myself, during June and July, 1992.
6. THAT I have no interest in the property described herein, nor in securities of any company associated with the property, nor do I expect to receive any such interest.

DATED at Vancouver, B.C., this 31st day of December, 1992.


Kerry M. Curtis, Geologist

APPENDIX 1 - STATEMENT OF EXPENDITURES

ITEMIZED COST STATEMENT

PROJECT: Dunira
CLAIM GROUP: Dun 7
DATE OF FIELD WORK: June, 1992

GEOLOGY:

K. Curtis	Project Geologist (1 days @ \$210)	
H. Smit	Geologist (1 days @ \$255)	\$255
D. Kelsh	Geologist (1 days @ \$160)	160
M. Blusson	Assistant (1 days @ \$150)	150

GEOCHEMISTRY (Min-En Labs, Vancouver, B.C.):

Rock Samples (32 Element I.C.P.)	1 samples @ \$17	17
Lithochemical (Major Oxides plus I.C.P.)	3 samples @ \$35	105

EQUIPMENT	Tents, Expendables, Survival suits Zodiac Boat	125
-----------	---	-----

RENTALS	Outboard engine (Smithers Expediting)	25
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FOOD

TRANSPORT	Charter Boat (EZ Duz It, Prince Rupert) Cessna Flight (Trans Provincial Airways)	
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ACCOMODATION

AIR PHOTOS

MAPS AND REPRODUCTION

VEHICLE RENTAL	Commercial Van (Cana Rentals, Vancouver) - Company vehicle	
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DRAFTING

REPORT	(K. Curtis, 1 days @ \$210)	210
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TOTAL PROGRAM COSTS		<u>\$999</u>
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APPENDIX 2 - ANALYTICAL PROCEDURES



**MINERAL
ENVIRONMENTS
LABORATORIES**
(DIVISION OF ASSAYERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 986-4524
FAX (604) 980-8821

SMITHERS LAB.:
3178 DATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

PROCEDURE FOR 31 ELEMENT TRACE ICP

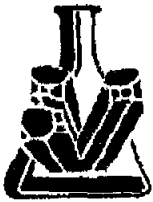
Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cu,
Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb,
Sr, Th, Ti, V, Zn, Ga, Sn, W, Cr

Samples are processed by Min-En Laboratories, at 705 West 15th Street, North Vancouver, employing the following procedures.

After drying the samples at 95 C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer or ring mill pulverizer.

0.5 gram of the sample is digested for 2 hours with an aqua regia mixture.

After cooling samples are diluted to standard volume. The solutions are analysed by computer operated Jarrell Ash 9000 ICAP or Jobin Yvon 70 Type II Inductively Coupled Plasma Spectrometers. Reports are formatted and printed using a laser printer.



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• ENVIRONMENTS
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SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3006

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

**-----
PROCEDURE FOR WHOLE ROCK ANALYSIS
=====**

SiO₂, TiO₂, Al₂O₃, MnO₂, MgO, Fe₂O₃, CaO, Na₂O, K₂O, P₂O₅,
Ba, & Sr

Samples are dried @ 95 C and when dry are crushed on a jaw crusher. The 1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to - 15 mesh. The whole samples is then riffled on a Jones Riffle down to a statistically representative 300 gram sub-sample (in accordance with Gy's statistical rules.) This sub-sample is then pulverized on a ring pulverizer to 95% - 120 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

Samples are weighed and fused at 1000 C with lithium metaborate prior to being dissolved in nitric acid. The resulting solutions are analyzed by ICP. The CANMENT standards are employed as check standard with each set of 24 samples. Reports are formatted and printed using a laser printer.

APPENDIX 3 - ANALYTICAL RESULTS

Geochemical Analysis Certificate

2S-0094-RG2

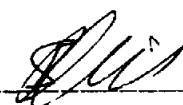
Company: **KENNECOTT CANADA**
Project: **DUNIRA**
Attn: **KERRY CURTIS/HANS SMIT**

Date: **JUN-24-92**
Copy 1. KENNECOTT CANADA, VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 17 ROCK samples submitted JUN-08-92 by K. CURTIS.

Sample Number	BA PPM
DHL-03	663
DHL-04	685
DHL-05	1450
DHL-06	1265
DKL-01	858
DKL-02	1205
DKL-03	1195
DKL-04	1310
DKL-05	1550
DKL-06	362
DKL-07	2385
DKL-08	822
DKL-09	2360
DKL-10	1240
DKL-11	5770
DKL-12	553
DKL-13	554

Certified by _____



COMP: KENNECOTT CANADA

PROJ: DUNIRA

ATTN: KERRY CURTIS/HANS SMIT

MIN-EN LABS — ICP REPORT
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 2S-0094-RJ1+2

DATE: 92/06/24

* ROCK * (ACT:F31)

Table with columns: SAMPLE NUMBER, AG, AL, AS, B, BA, BE, BI, CA, CD, CO, CU, FE, K, LI, MG, MN, MO, NA, NI, P, PB, SB, SR, TH, TI, V, ZN, GA, SN, W, CR, AU-FIRE, PPB. Rows include sample IDs like DDH-01, DDL-02, DHG-03, etc., with corresponding numerical data for each element.