# **Lornex** Mining Corporation Ltd.

1:0. box 10335, Pacific Centre, Suite 1650, 609 Granville Street, Vancouver, B.C. V7Y 1G5 (604) 688-3646 Telex: C4-54651

GEOLOGY AND DIAMOND DRILLING REPORT ON THE TAN 1, 2, 3 AND DANE 1 CLAIMS, NEW WESTMINISTER MINING DIVISION. (NTS 92H/4W) Latitude: 49°01'N Longitude: 121°47'W

FOR OWNER AND OPERATOR

LORNEX MINING CORPORATION LTD. P.O. Box 10335, Pacific Centre, 1650-609 Granville Street, Vancouver, B.C. V7Y 1G5

BY PETER A. CHRISTOPHER PETER CHRISTOPHER AND ASSOCIATES INC. AND

ART D. CLENDENAN

LORNEX MINING CORPORATION LTD.

DECEMBER 16, 1981

.

827957

TABLE OF CONTENTS

.

Ę

INTRODUCTION	1		
HISTORY	1,4		
1981 MAPPING AND DRILLING PROGRAM	4		
DESCRIPTION OF CLAIMS	4-5		
REGIONAL GEOLOGIC SETTING	5		
LOCAL GEOLOGY	5-7		
DIAMOND DRILL LOGGING	7		
MINERALIZATION	7,10		
DRILL RESULTS	10-11		
CONCLUSIONS AND RECOMMENDATIONS	11		
REFERENCES	12-13		
ASSESSMENT DETAILS	14-15		
STATEMENT OF COSTS	16-18		
STATEMENTS OF QUALIFICATIONS	19-20		
FIGURES			
FIGURE 1 General Location Map 1:250,000	2		
FIGURE 2 Claim Location Map 1:50,000	3		
FIGURE 3 Section L5S	8		
FIGURE 4 Section Through DDH 1,2 and 3	9		
FIGURE 5 Property Geology	In Pocket		
FIGURE 6 Grid Map	In Pocket		
APPENDIX A LEGEND	A-1		
DRILL CORE LOGS	A-2 - A-21		
APPENDIX B CERTIFICATES OF ANALYSIS	001-004		

.

#### INTRODUCTION

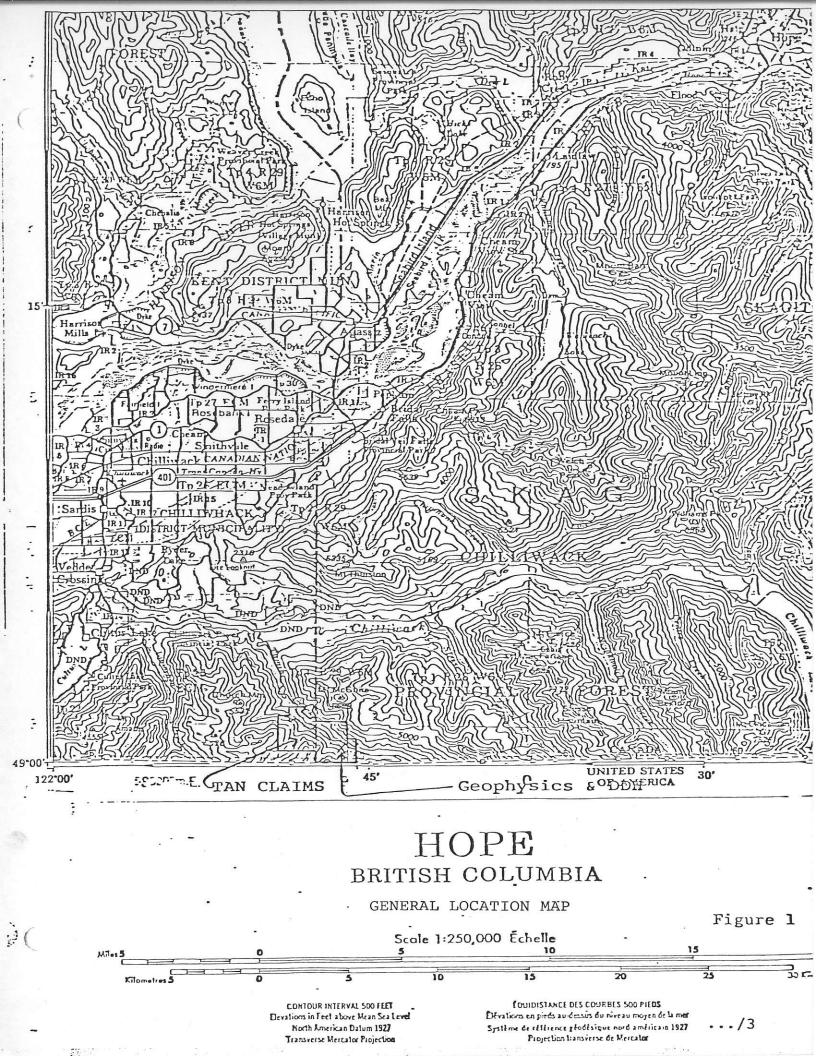
The Tan Claim group, consisting of 52 units (1300 hectares) is situated along Tamihi Creek about 19 Kilometres (12 miles) southsoutheast of Chilliwack. The property is centred at about latitude 49°01'N and longitude 121°47'W in N.T.S. map area 92H-4W in the New Westminister Mining Division (Figure 1;2). Access is via the Tamihi Creek Road for about 9 kilometres (5 miles) from the Tamihi Creek Forest Service camp on the Chilliwack River Road.

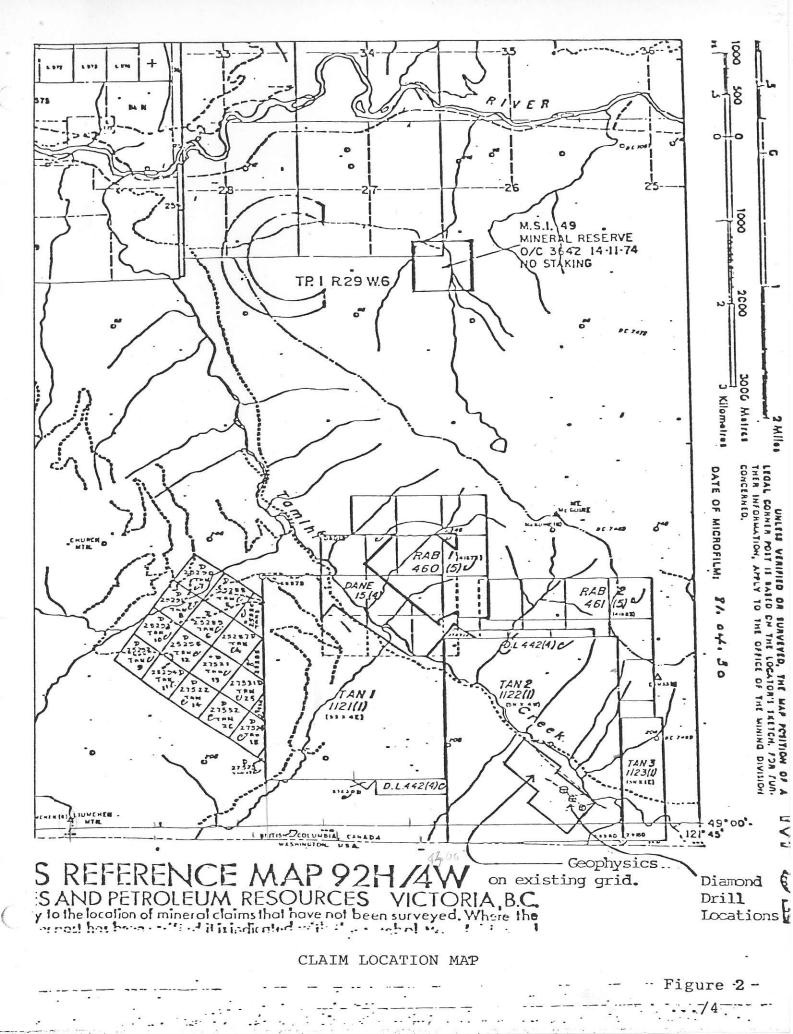
The property is situated in the Cascade Physiographic subdivision of the Coast Mountain Physiographic province. The topography is rugged with elevations ranging from 366 metres (1200 feet) in Tamihi Creek to over 1402 metres (4600 feet). The property is timbered with mature cedar at lower elevations and alpine vegetation above about 1,370 metres. Part of the property is logged and has access roads but access to other areas requires logging of timber for the forest service. Road building on the steep hillsides is expensive and often requires rock blasting.

#### HISTORY

The property was acquired by local prospectors M. McClaren, G. Stapley and W.A. Bell after prospecting located two showings with zinc and copper mineralization. After limited stripping and trenching, the property was optioned to Cominco in 1972. Cominco carried out geological mapping and stream silt and soil sampling between August and November of 1972. Cominco's,1973 program included an induced polarization survey and road building. Their option was terminated at the end of 1973.

Great Plains Development Company of Canada Ltd. obtained the property in June 1974 and during 1975 their programs included soil and stream silt sampling, geological mapping and an orientation





- 3 -

electromagnetic survey. During 1976 Great Plains program included geological mapping, soil testing, trenching, induced polarization surveying, electromagnetic surveying, linecutting, diamond drilling, road building and clearing. In 1977 an airborne magnetometer and HEM survey was flown.

By 1980 the property had been returned to the prospectors who conducted an induced polarization survey, road building and a diamond drilling program which included 140 feet (60 metres) of NQ diamond drilling and about 71 feet (21.7 metres) of X-ray diamond drilling. A strong induced polarization anomaly was outlined.

In 1981, Lornex Mining Corporation Ltd. acquired the property to test the area of strong chargeability response. VLF-EM and total field magnetometer survey were conducted. This report covers diamond drilling and geological mapping.

#### 1981 MAPPING AND DRILLING PROGRAM

Geological mapping of the Tan property grid area (Figure 5) was conducted on September 9th - 12th, 14th and 29th. The diamond drilling program was supervised by A.D. Clendenan with drill sites located and constructed during September and drilling carried out between October 1st and 7th, 1981. Logging of 1980 and 1981 diamond drill core was carried out in Vancouver during October. The grids (Figure 6) were recut, flagged, and marked with pickets at 25 foot intervals to provide stations for geological mapping and geophysical surveys.

#### DESCRIPTION OF CLAIMS

The Tan Claim group is owned and operated by Lornex Mining Corporation Ltd. and consist of the following claims:

TABLE I	. Tan	Claim Group	Data	-	
Claim	Units	Hectares	Record No.	Date Recorded	Expiry Date
Tan l	20	500	1121 (1)	6 Jan. 1981	6 Jan. 1983
Tan 2	20	500	1122 (1)	6 Jan. 1981	6 Jan. 1983
Tan 3	3	75	1123 (1)	6 Jan. 1981	6 Jan. 1983
Dane l	9	225	15 (4)	25 April 197	5 25 April 1982
	52	1300			

í

#### REGIONAL GEOLOGIC SETTING

The Tan Property is situated within Coast Plutonic Complex of the southern Canadian Cordillera in a northwest trending belt of rocks referred to as the Chilliwack Group. The Chilliwack Group is part of a eugeoclinal assemblage of marine-clastic and volcanic rocks which formed from probable Middle Devonian through Middle Cretaceous time (McTaggart, 1970). In southern British Columbia this group ranges in age from Lower Pennsylvanian to Lower Permian and ranges in composition from weakly metamorphosed pelite, sandstone, conglomerate and limestone to acid through basic volcanic and volcaniclastic rocks. Monger (1970) has divided the Chilliwack Group into five statigraphic and lithologic divisions. The uppermost (division 5) consisting of acid to basic flows, pyroclastics and minor chert both conformably overlies and is equivalent to the Lower Permian limestone of Monger's division 4. Showings that occur in division 5 appear to be in a thrust sheet that over-rides a slice of Cultas Formation (Mesozoic) and in turn is over-ridden by a thrust slice of Lower Pennsylvanian limestone.

#### LOCAL GEOLOGY (Figure 5)

Locally Garratt et al (1975), have divided Monger's division five into an upper and lower sequence. The current program was conducted in intermediate to acidic volcanic rocks, volcaniclastic rocks and chert of the lower sequence of division 5. Three units

- 5 -

mapped on surface were mainly based on composition. An upper dacitic or andesitic unit, a thin central pyritic cherty tuff unit and lower rhyolitic unit appear mappable in the north-west grid area, but only fault blocks of the dacitic material were mappable in the south-east grid area. Overall bedding appears to indicate a gentle easterly dip in the order of 10° but local fault rotated blocks have steep NW dips (L8S).

#### DACITE UNIT

Consists of flows and pyroclastics with fragments ranging from dust to block size in the pyroclastic sections. The distinguishing feature of this unit is the higher colour index associated with increase in chlorite content. Chlorite replacement of mafic minerals has produced a black spotted rock. The dacitic units are softer than either the cherty pyritic or rhyolitic unit. This unit has variable pyrite content that ranges from trace to several percent.

#### PYRITIC CHERTY TUFF

The pyritic cherty tuff unit is best exposed along the access road in the area of X ray drill holes 1 to 5. The unit has cherty characteristics and has narrow zones (to 30 cm) of nearly massive sulphide. In the north-western part of the property this unit appears to separate the upper dacitic from the lower rhyolitic sequence. The 1981 drilling indicates several pyritic cherty or siliceous tuff horizons within the rhyolitic sequence.

#### RHYOLITE AND CHERTY RHYOLITE

The rhyolite and cherty rhyolite unit was identified by hardness, lighter colour and lack of chlorite spotting. This unit appears to be overlain by the dacitic unit in the northwest but mixed by faulting with the dacitic unit in the southeast. In general

- 6 -

the rhyolitic unit contains more silica flooding and higher pyrite content. Pyrite occurs as both fracture controlled and disseminated mineralization. The fracture controlled pyrite mineralization enhances the chargeability anomaly and appears to influence IP response more than absolute pyrite content.

#### DIAMOND DRILL LOGGING

Logging of diamond drill core allowed some division of the three basic map units. The intermediate volcanics were sub-divided into a brownish andesitic or dacitic unit (4) without chlorite blebs and a chlorite spotted unit (3) where chlorite blebs probably represent replacement of mafic phenocrysts in a porphyritic dactie or andesite. Detailed logging of drill core also allowed for some recognition of tuffaceous units based on size and nature of fragments. The variable nature of acid pyroclastic volcanic piles makes it difficult to correlate distinctive lithologies between holes. Faulting, especially along NE trends, disrupts continuity in the area drilled and also makes correlation of units difficult. Drill holes 80-1 and 80-2 were drilled from the same site and allowed some correlation that generally indicated a gentle easterly dip for a rhyolitic tuff layer (Figures 3 and 4).

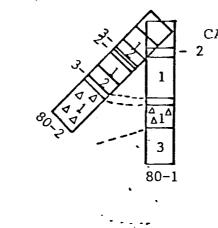
#### MINERALIZATION

Sulphide mineralization as pyrite is nearly ubiquitous within the grid area and ranges from trace amount to 8-10% with narrow zones (to 30 cm) of over 50% pyrite. Pyrite occurs as euhedral crystals, blebs of fragmental pyrite, vein fillings and fracture coatings. Sulphide content appears to increase near contacts, and over 50% of the sulphide is fracture controlled. No examples of bedded sulphides were seen. Bedded barite has been reported in the Chilliwack Group but was not identified in either drill core or outcrops on the Tan property.

- 7 -

.../8

Ft. M 2300' (701.0) 2250' (685.8) 2200' (670.5)



Scale 1" = 50'



#### LEGEND

- 4. Brown Dacite or Andesite Tuff
- 3. Porphyritic Dacite or Andesite Flows or Pyroclastics (Spotted)
- 2. Chert or Cherty Pyritic Tuff
- 1. Rhyolite and Rhyolitic Pyroclastics

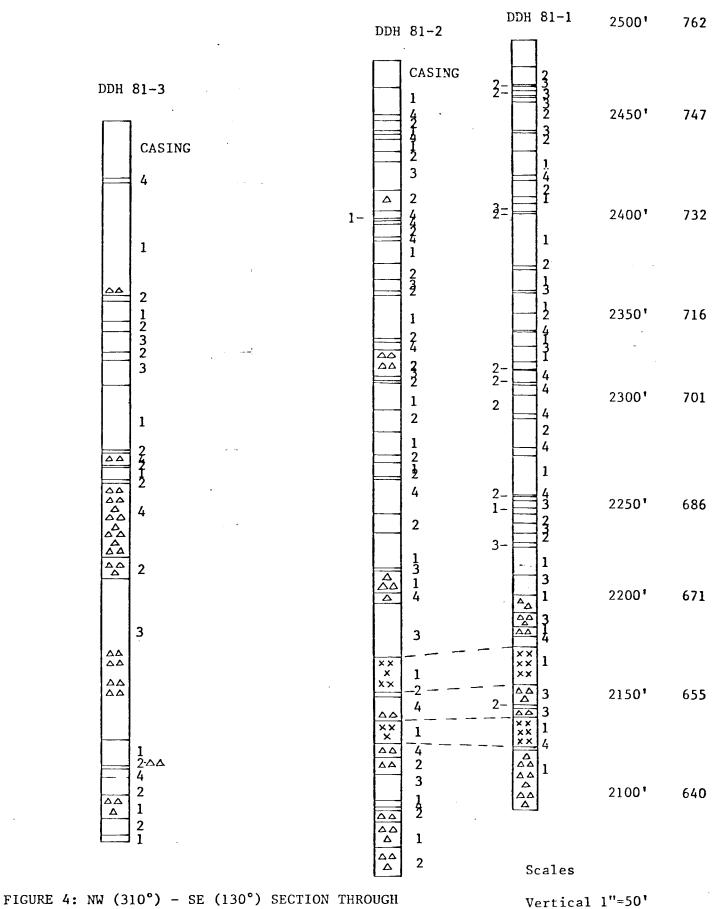
SE

- - Contact
- $\Delta \Delta \Delta$  Breccia
- x x x Feldspar Crystals

Fig. 3. SW (225°) - NE (45°) SECTION L5S: DDH 80-1 & 2

1

(



DDH 1,2, & 3. (See Fig. 3 for Legend)

Horizontal 1'' = 200'

Diamond drill hole 80-1 contains a short massive sulphide (MS) section with over 50% chalcopyrite and pyrite over 30 cm, but none of the 1981 drilling intersected MS with significant chalcopyrite. Chalcopyrite also occurs in veinlets with pyrite and/or sphalerite, and as disseminated blebs to 2 mm. Sphalerite occurs as yellow-brown vein filling and blebs to 2 mm. Maximum copper and zinc values from 1981 drilling were 1250 ppm (81-2: 80-90') and 1750 ppm (81-3: 100-110') respectively. The best intersection included the cupriferous MS section described above with 7500 ppm copper from 40 to 50 feet (12 to 15 metres in DDH80-1. Drill core was analyzed for precious metals to check the possibility of a "no seeum" deposit but no significant values were obtained. Zinc and copper values were plotted graphically for 1981 holes but the plots do not show significant zonal trends and therefore are not included in this report. Amplitude and variability of lead, silver and gold values are too low for use in zonation studies.

Several vein types were identified, but except for late stage carbaonate veins and at least two periods of quartz veining, the age relationship of veins was not defined. The following vein types were noted:

1. Calcite

l

- 2. Quartz ± calcite
- 3. Pyrite ± quartz, ± carbonate, ± sphalerite and/or chalcopyrite.
- 4. Black veinlets probably chlorite ± quartz, ± carbonate.
- 5. Epidote, quartz and carbonate.

#### DRILL RESULTS

The 1981 drill core was split and analyzed using rock geochem procedures by Chemex Labs Ltd. of North Vancouver. Sample intervals were 3 metres (10 feet) and samples were analyzed for Cu, Zn, Pb, Ag and Au. Geochem results were plotted on drill logs and along with certificates of analyses are included in the appendix. The 1980 NQ core was also analyzed in 3 metre (10 foot) intervals but analysis intervals for the short x ray holes were selected on the basis of recovery, rock type and mineral content. Since economically significant intersections were not indicated by rock geochem, pulps were not submitted for assay.

#### CONCLUSIONS AND RECOMMENDATIONS

The 1981 diamond drilling program has encountered sufficient sulphide mineralization to explain the chargeability anomaly. The strong fracture control of mainly pyrite mineralization suggests that other strong induced polarization (chargeability) anomalies could be obtained along the strike of the unit without indicating Unless significant anomalous geochemical expression for base MS. metals is associated with chargeability anomalies, fracture controlled pyrite mineralization is too widespread to warrant drill testing of chargeability anomalies. Futher exploration of the mineralized horizon might be considered with the use of metal zoning of both rock and soil geochemical values.

Signed at Vancouver, B.C. this / day of December 1981.

Peter A. Christopher



Signed at Vancouver, B.C. this  $h_{1}^{(j)}$  day of December 1981.

A. CLENSENAN

Clendenan, B.Sc, P. Geol. (Alta)

#### REFERENCES.

Di Spirito, F. and Cartwright, P.A., 1981. Report on the VLF-EM and total field magnetometer surveys on the Tan claims, Chilliwack area, New Westminister Mining Division, British Columbia for Lornex Mining Corporation Ltd.

Garratt, G.L., 1978. Helicopter borne geophysical survey on the Tan Property, British Columbia for Great Plains Development Company of Canada, Ltd. B.C. Gov. As. Rept. 6673.

Garratt, G.L., McClaren, M., and McInnis, M.D., 1975. Year end report Tan Claims, British Columbia for Great Plains Development Company of Canada Ltd. B.C. Gov. As. Rept. 5732

Garratt, G.L. and McInnis, M.D., 1976. Geological, Geophysical, Geochemical, and Diamond Drilling Report on the Tan, AX, So, and Dane claims, British Columbia for Great Plains Developement Company of Canada Ltd. B.C. Gov. As. Rept. 6113.

Gill, F.D. and Heddle, D.W., 1972. Geological and geochemical report on the SO 1, SO 3, SO 7, SO 9, SO 9 Fr, AX 1 - AX 4, AX 6, Tan 20, Tan 22 - Tan 24, Tan 27 - Tan 29, Tan 31 - Tan 34, Tan 36, Tan 39 - Tan 50 claims situated in the Tamihi Creek area, New Westminister Mining Division for Cominco Ltd. B.C. Gov. As Rept. 4085.

McTaggart, K.C., 1970. Tectonic history of the Northern Cascade Mountains, Geol. Assn. Can., Sp. Paper No. 6, pp. 137 - 148.

Monger, J.W.H., 1970. Hope Map-Area, West Half, British Columbia, Geol. Surv., Canada, Paper 69-47, 75 pp.

.../13

References contin.

(

Smitheringale, W.G., 1979. Economic possibilites of the Tan property, near Chilliwack, B.C., for M. McClaren and G. Stapley.

#### ASSESSMENT DETAILS

MINING DIVISION: New Westminister **PROPERTY** : Tan Claims LOCATION: Chilliwack area, near headwaters Tamihi Creek. LATITUDE: 49°01'N LONGITUDE: 121°47'W NTS: 92H 4W OWNED ANS OPERATED BY: Lornex Mining Corporation Ltd. PROGRAM: 1. Re-establish 1980 IP grid, 15,000 ft. (4572 metres). 2. Magnetometer and VLF-EM survey. (Separate report by Phoenix Geophysics Ltd.) 3. Geological Mapping of grid area 1'' = 200' (1:2400). 4. Drill access road and drill site preparation. 5. Diamond drilling 1,167 feet (355.8 meters) of B.Q.W.L. in 3 holes. 6. Split and analyze 1981 B.Q.W.L. core, 1980 N.Q.W.L. core, 1980 X-ray core, 139 samples in total. 7. Report Preparation. DATE COMPLETED: 16 December 1981 DATE STARTED: 19 June 1981 **OPERATING MAN DAYS: 97** EQUIVALENT 8 hr. MAN DAYS: 120 **REPORT PREPARATION MAN DAYS: 13** TOTAL EQUIVALENT 8 HOUR MAN DAYS: 133 PERSONNEL AND CONTRACTOR INFORMATION - Lornex Mining Corporation Ltd, Vancouver A.D. Clendenan, 903 Wentworth Ave., North Vancouver, B.C. L. Sorbara, 1650-609 Granville St., Vancouver, B.C. - Contractors •T. Mackenzie, 1914 Ashgrove St., Victoria P. Mackenzie, 1914 Ashgrove St., Victoria •Peter Christopher and Assoc. Inc. P.A. Christopher, 3707 West 34th Ave., Vancouver ·J. Stroleny, 1600-1055 Dunsmuir St., Vancouver •Phoenix Geophysics Ltd., (Drafting) R. Wakaluk, 214-744 W. Hastings St., Vancouver - Tolsons Heavy Hauling Ltd. J. Tolmie, R.R. 3, Sardis, B.C. M. Tolmie, R.R. 3, Sardis, B.C. ASC

- 14 -

.../15

#### Assessment Details (continued)

Ŧ

ţ

CONTRACTORS (continued)
 D.W. Coates Enterprises Ltd.
 Diamond Drilling Contractors
 2560 A Simpson Road, Richmond, B.C.
 .G.W. Lyons, B. Lyons,
 .W. Burwash, G. Robinson

Lornex Mining Co A.D. Clender (Alta) Senior Explor

Dated: December 16, 1981

STATEMENT OF COSTS

LORNEX MINING CORPORATION LTD. Tan 1,2,3, Dane 1. New Westminister Mining Division British Columbia		
Period of Field Work 19 June 1981 to 26 October 1981		
Planning		
<ul> <li>A.D. Clendenan, 19/6, 3/8, 12/8, 3 days x \$200 =</li> <li>Vehicle 1-3/8, 12/8, 4 days x \$40=</li> <li>Mileage 500 Km x \$.14 =</li> <li>Fuel =</li> </ul>	600 160 70 41 \$ 871	\$ 871
Grid Re-establishment		
<ul> <li>8,9,10 August, 1981; 15,000 ft. (4572 m) @ 25 foot</li> <li>Wages: T. Mackenzie 3 days @ 150/day =</li> <li>P. Mackenzie 3 days @ 150/day =</li> <li>Room &amp; Board</li> </ul>	stations 450 450	
6 man days - Truck and Fuel	239	
3 days	112	
- Lathe and flagging	40 1,291	\$ 1,291
Road Building, Drill site Preparation and Drill Moves by Tolsons Heavy Hauling, Sardis, B.C. - D8 Caterpillar		
Sept. 11,12 14-18,21,23; 54 hr x \$105 - Skidder	5,670	
Oct. 3,5,8; 18 hr x \$60 = - Supervision	1,080	
A.D. Clendenan 14/8,22/8, 2 days x \$200	400	
- Truck Rental - 14/8,22/8,23/8; 3 days x \$40 Mileage 700 Km x \$.14 =	160 98	
Fuel	<u> </u>	\$ 7,465
	7,405	y ,,,,05
Geological Mapping	194	
- Base Map Preparation Peter Christopher & Assoc. Inc.	194	
<ul> <li>9 to 12 Sept., 14 Sept, 29 Sept, Invoices 81914, 81106</li> <li>P.A. Christopher 6 days x \$200</li> <li>Truck Rental 5 days x \$30</li> <li>Mileage 750 Km x \$.15</li> <li>Camp gear, trailer, power saw, survey equipment 4 day x \$32</li> <li>Board 5 days x \$25</li> </ul>	1,200 150 112 128 125 1,909	\$ 1,909 C
	()	

.../17

- 16 -

.

Ę

Statement of Costs (continued)

Supervision A.D. Clendenan 9/11, 20/11; 1 day

{

Core Boxes and Hole Markers 86 boxes with lids, 200 BQ blocks. \$ 660 3 drill hole markers 8 668 \$ 668 Diamond Drilling Sept. 29 - Oct. 9, 1981 -- Coates Diamond Drilling Ltd. Contractor - 3 holes B.Q.W.L. totalling 1167 ft (355.7 m) @ \$29.14/foot or \$95.60/meter total cost = 34,005 - Supervision - A.D. Clendenan Wages 29/9. 30/9, 2,3,5,7, 9, 29 Oct. 8 days x \$200 = 1,600 Room and Board 29, 30 Sept. 2,3,5,7, 8 Oct = 162 Truck Rental - 29 Sept to 20 Nov, 12 days \$45 540 Truck Fuel 181 36,488 \$36,488 Core Logging A.D. Clendenan 24/10, 26/10; 2 days x 200 400 P.A. Christopher & Associates Inc. Between 5 Oct. and 26 Oct, Invoice 811029 P.A. Christopher 7 days x \$200 1,400 Board .5 day x \$25 =12.50 Truck Rental 1 day x \$30 30 Mileage 330 Km x \$.15 49.50 Taxi 5 1,497 \$1,497 Core Splitting and Analysis Chemex Labs Ltd. Oct 24 to Nov. 23, 1981 Core splitting - 56 hours x \$12.50 700 Rock Geochem analysis 139 samples x \$12.31 ea.

1,710 200 2,610 \$ 2,610

/bc

.../18

Statement of Costs (continued)

# Report Preparation

-

1

- A.D. Clendenan 9,10,11,15,16 Dec; 5 days x \$200 - Drafting, J. Stroleny 3 Sept, 1 Oct; R. Wakaluk	1,000	
9 Dec, 6.4 hours x $$15 =$	96	
- Map Printing, Xeroxing	280	
- Typing, L. Sorbara 8, 15 Dec. 2 days x \$105	210	
- Conversion of Drill logs to meters		
L. Sorbara 9,10, Dec, 2 days x \$105	210	
- Peter Christopher & Assoc. Inc. 24-27 Nov, 9 Dec. 1981		
Invoice 811210; P.A. Christopher 5 days x \$200	1,000	
Film and Processing	10	
Drafting 1 hr x \$10	10	
	2,716	2,716
		\$ 55,515

ΕO G Lornex Mining Corne 07 A.D.Clendenan, Senior Exploration

Dated: 16 December 1981

#### STATEMENT OF QUALIFICATIONS

The mapping and core logging for this report was carried out by Peter A. Christopher whose qualifications are outlined below.

Peter A. Christopher, P. Eng., Ph.D., Exploration Manager for Peter A. Christopher and Assoc. Inc., Vancouver, British Columbia.

Completed his B. Sc. at the State University of New York at Fredonia in 1966, M.A. at Dartmouth College in 1968, and Ph.D. at the University of British Columbia in 1973. He has worked for several mining companies on porphyry, massive sulphide, uranium, and precious metal deposits in the western United States and Canada. He served as exploration geologist for Newmont Mining Corporation, in 1973 and 1974, as project geologist with the British Columbia Ministry of Energy, Mines and Petroleum Resources, from 1974 to 1980 and as senior geologist for Utah Mines from June 1980 to July 1981. In July, 1980 he assumed his present position.

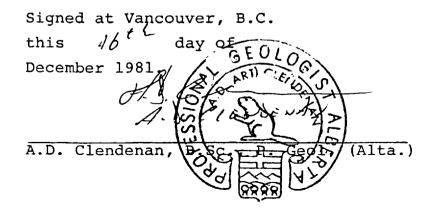
Pite A. Christopher, Ph.D., P. Eng.

Signed at Vancouver, B.C. this Aday of December 1981. - 20 -

## CERTIFICATE

I, Art D. Clendenan, with a business address of 1650-609 Granville Street, in the City of Vancouver, Province of British Columbia, do hereby certify that:

- I graduated from the University of Alberta, Edmonton 1973 with a B.Sc in Geology.
- I am a Professional Geologist registered in the Province of Alberta.
- 3. I have been engaged in mineral exploration for 11 years.
- 4. I am employed by Lornex Mining Corporation Ltd. as Senior Exploration Geologist.
- 5. The statements made in this report are based on a study of published and private geological and geophysical reports.
- 6. I personally supervised the re-establishment of the grid, the preparation of the drill roads and drillsites, the diamond drilling, logging and splitting the drill core and the preparation of the maps and report.
- 7. Permission is granted to use this report in whole or in part for assessment and qualification requirements but not for advertising or promotional purposes.



# A P P E N D I X A

١

1

Legend and Drill Core Logs.

.

### LEGEND

- 4. Brown Dacite or Andesite Tuff.
- Porphyritic Dacite or Andesite Flows or Pyroclastics (Spotted).
- 2. Chert or Cherty Pyritic Tuff.
- 1. Rhyolite and Rhyolitic Pyroclastics

NOTE: Core is presently being stored by Chemex Labs Ltd. in North Vancouver, but will be returned to the prospectors in Sardis for permanent storage.