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**GEOLOGICAL REPORT**  
**ON THE**  
**PACIFIC EASTERN GOLD PROPERTY**

**Bridge River District**  
**Lillooet Mining Division**  
**British Columbia**

**FOR**  
**PALMER INDUSTRIES LTD.**

**BY**  
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**October 12, 1993**

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**SUMMARY AND RECOMMENDATIONS**

Palmer Industries Ltd. proposes to purchase the Pacific Eastern gold property in the Bridge River district of southwestern British Columbia from Urban West Developments Ltd. The proposed purchase price for a 100% interest in the property, which consists of 81 full and fractional Crown granted mineral claims, is \$300,000 payable in equal instalments over a 10 year period.

The Pacific Eastern property is immediately southeast of the formerly producing Bralorne and Pioneer mines and lithologies and structures which host gold mineralization on these two properties extend through the Pacific Eastern ground. A review by the writer of previous work done since the mid-1930's indicates that the property has a demonstrated potential for extending zones of previously identified gold mineralization at depth in the northern claims area.

Investigation of this potential will require either deep diamond drilling from surface and/or dewatering of the existing underground workings followed by underground drilling. Either program would involve significant expenditures and in view of this, the writer is of the opinion that the proposed property transaction is reasonable.

## **INTRODUCTION**

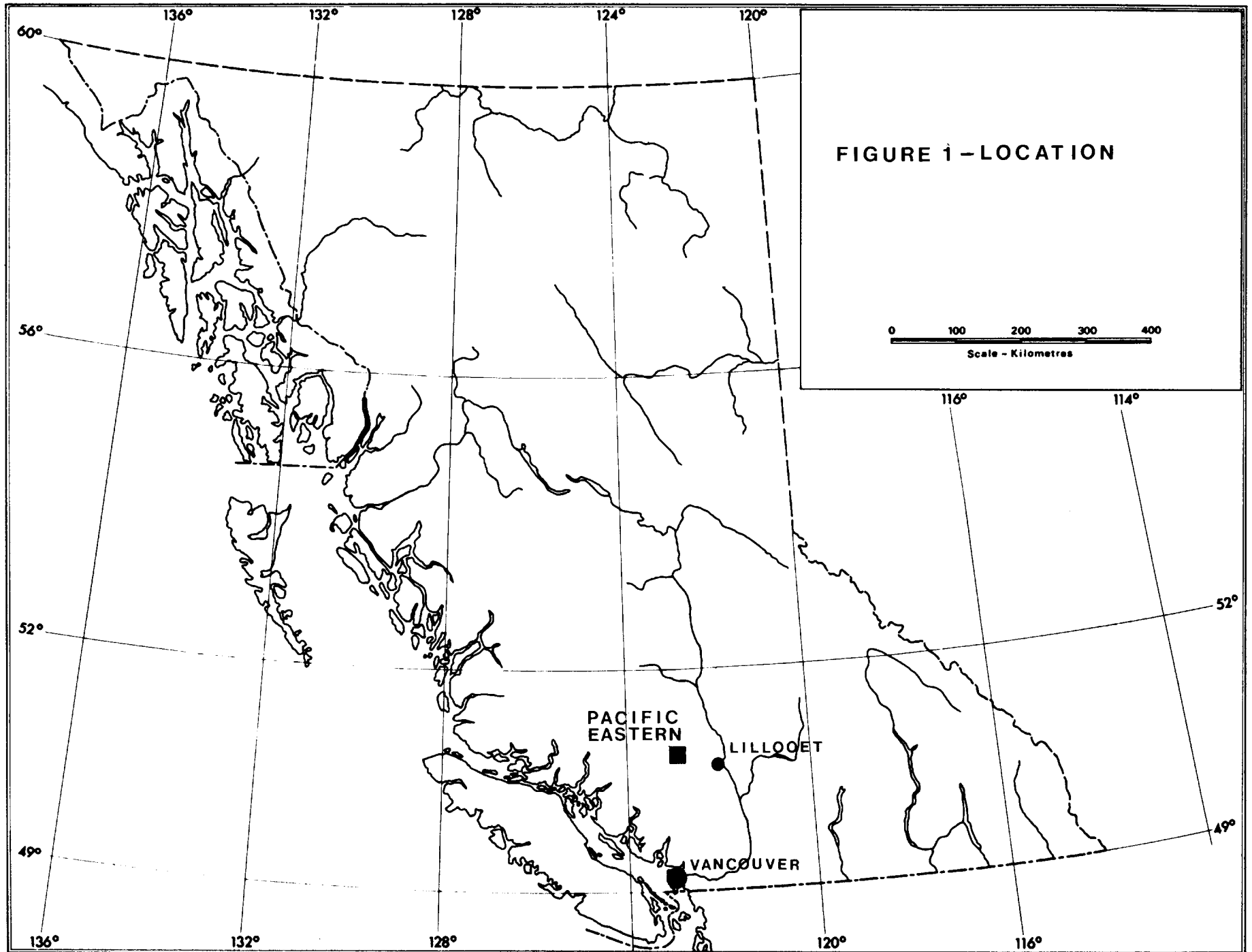
At the request of Sharon Johnson, president of Palmer Industries Ltd., the writer has reviewed data pertaining to results of exploration programs on the Pacific Eastern gold property carried out between the mid-1930's and 1986.

This report is based principally on a 1983 review report with recommendations for further work by W.G. Stevenson, P.Eng. and on reports of 1985 and 1986 exploration programs conducted by Normine Resources Ltd., most particularly a report by G.W. Norman, FGAC, dated December, 1986. Further, the writer prepared several summary reports in 1986 and visited the subject property in September of that year during which time the 1986 exploration program was in progress.

## **LOCATION AND ACCESS**

The Pacific Eastern property, contiguous with and southeast of the formerly producing Bralorne and Pioneer gold mines, is situated in the Bridge River district of southwestern British Columbia (Figure 1).

The property is 160 km north of Vancouver and access to the western part of the claims area is by 120 km of road northwest from Lillooet.



**MINERAL PROPERTY**

The Pacific Eastern property consists of 54 full and 27 fractional Crown granted mineral claims located in the Lillooet Mining Division. The claims are shown on Figure 2 and a full listing is contained in Appendix "A".

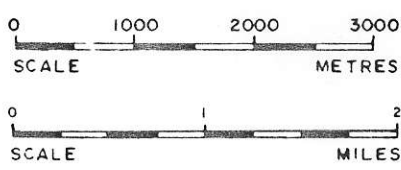
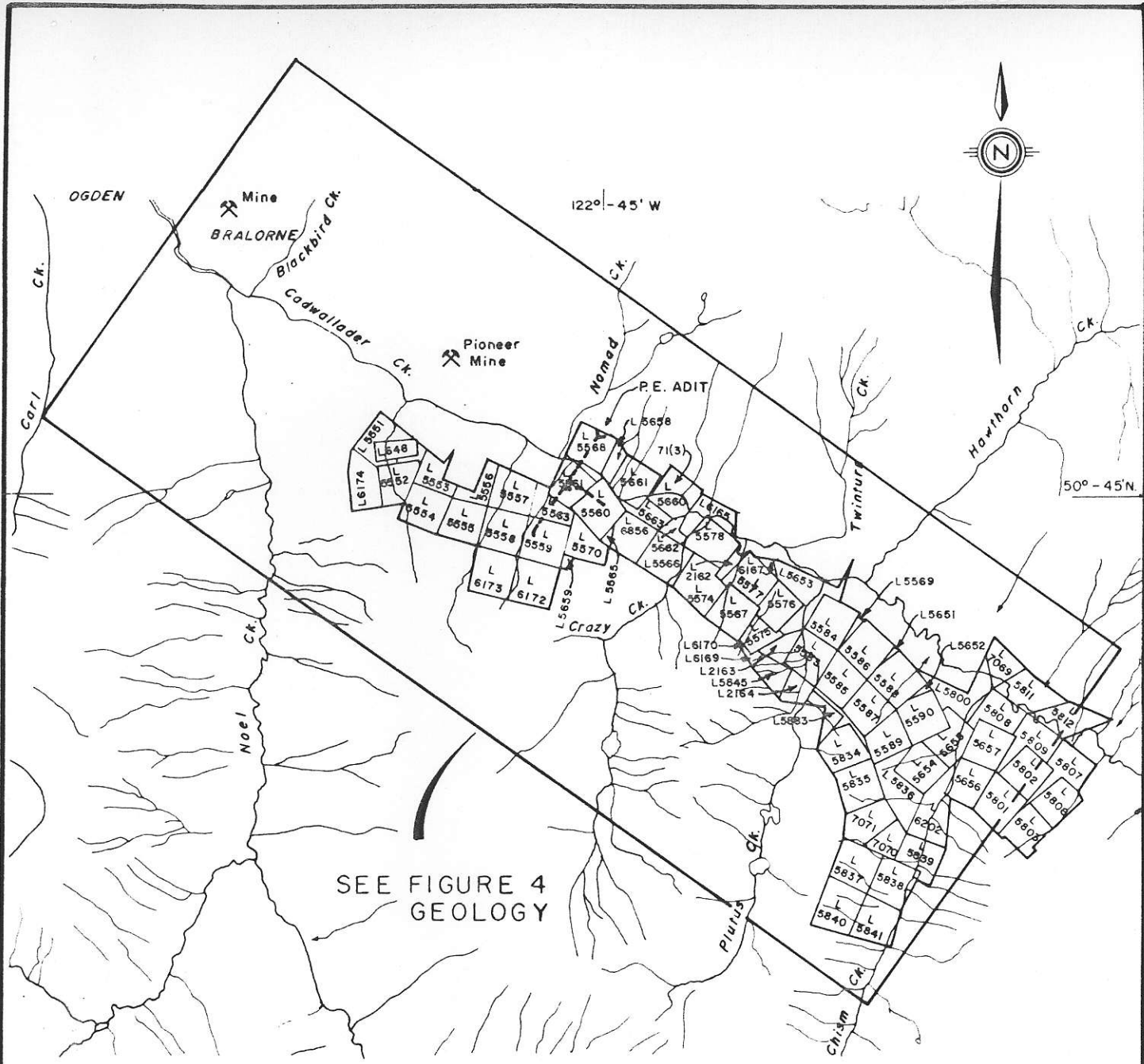
**PREVIOUS WORK**

Most work to date has been directed to the northern part of the Pacific Eastern property immediately adjacent to the formerly producing Pioneer mine. Some 2800 metres of underground cross-cutting and drifting was undertaken from an adit and an internal shaft between 1936 and 1947. Surface and underground diamond drilling programs were also carried out during this period.

Normine Resources Ltd. acquired an option on the property in 1983, compiled previous exploratory data and completed four deep, inclined diamond drill holes in the northern property area in 1985 and 1986. A soil geochemical survey was also undertaken in 1986.

**REGIONAL GEOLOGICAL SETTING**

The Bridge River district is the most prolific gold camp in the Canadian Cordillera. Virtually all of the 4.18 million ounces of gold produced between 1900 and 1978 was from the



SOURCE : NTS: 1:250,000  
92 / J / 10  
92 / J / 15

PACIFIC EASTERN PROJECT	
PACIFIC EASTERN CROWN GRANTS	
DATE: 83-05-25	JOB NO. 83-16
APPROVED BY	FIG NO. 2

combined Bralorne-Pioneer operations at an average recovered grade of 0.524 oz/ton.

Gold mineralization in the Bridge River district is associated with 1 - 2 metre wide quartz veins hosted by Mesozoic volcanics and sediments and a variety of intrusive rocks. Triassic and Jurassic greenstones and sediments are tightly folded into two west-northwest trending anticlines which are separated by the Cadwallader Fault of similar trend and dipping steeply southwest. Much of this fault zone is occupied by serpentinized ultramafic rocks.

The Fergusson thrust fault, which also strikes west-northwest and dips steeply northeast, forms the north boundary of the prospective Triassic-Jurassic sequences and juxtaposes Paleozoic sedimentary rocks against the younger rocks.

Gold-bearing quartz veins on the Bralorne and Pioneer properties are contained within the northern anticline between the two major fault structures (Figure 3). The most productive of these were east-west striking veins oblique to, and dipping away (northerly) from the Cadwallader Fault. Favourable vein host rocks were the more brittle varieties, principally greenstones at Pioneer and diorites of similar age at Bralorne. Most veins have a spatial and probable genetic relationship to "soda" granites and associated felsic



dykes marginal to the Cadwallader Fault.

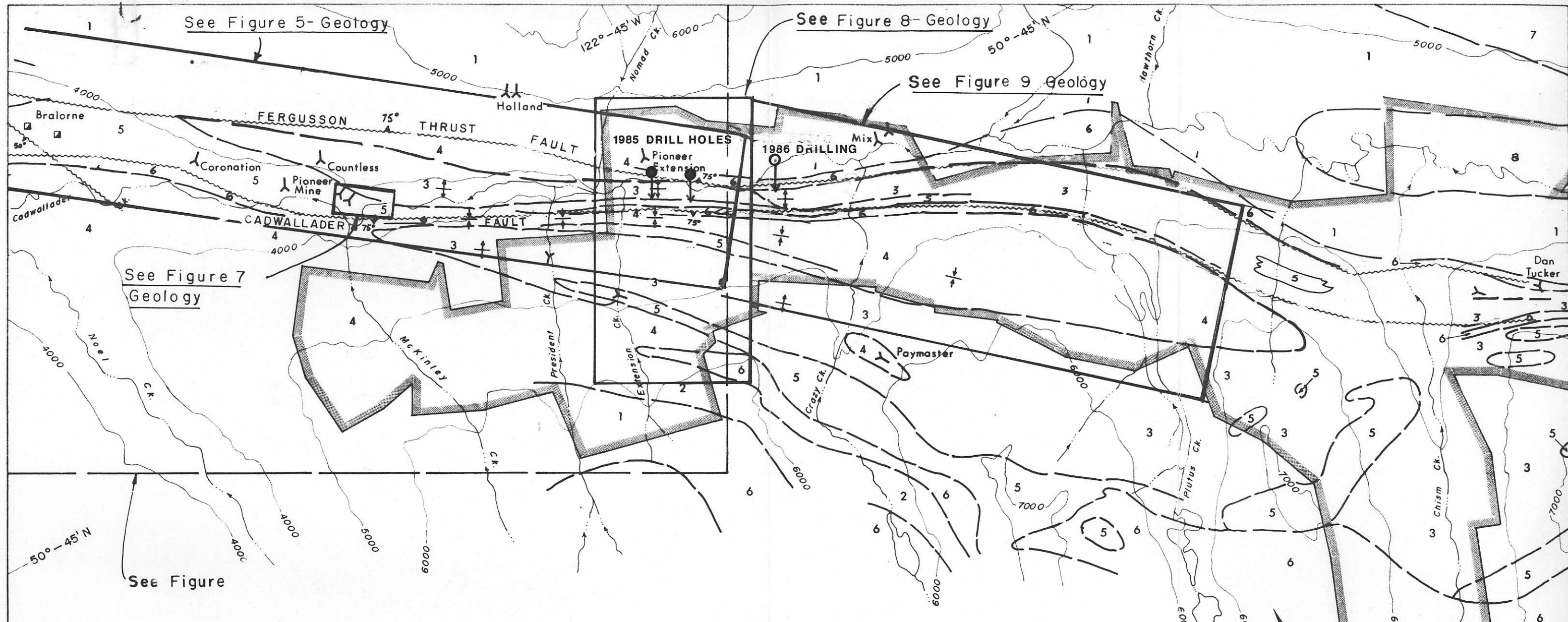
Vein strike lengths are as much as 1000 metres but ore shoots within them are generally less than 250 metres in length. Persistence to depth of the ore shoots is a characteristic of the Bridge River district and mining at Bralorne-Pioneer took place to depths of about 2000 metres.

Mineralized quartz veins contain 1-3% disseminated pyrite and lesser arsenopyrite. Productive veins feature a pronounced banding or ribbon structure parallel to vein walls and finely disseminated gold occurs within these septa.

Extensive hydrothermal alteration envelopes, 10 - 70 metres wide, occur marginal to most veins. Wallrocks within these alteration zones have been converted to a mixture of quartz-chlorite-carbonate-sericite-biotite with pyrite, pyrrhotite and arsenopyrite.

#### **PROPERTY GEOLOGY AND MINERALIZATION**

The northern part of the Pacific Eastern property covers the southeastern extension of the same structures and stratigraphic sections that host the Bralorne and Pioneer deposits (Figure 3). These include the northern anticline developed in Pioneer greenstone and bounded on the north and south by the Fergusson thrust fault and the serpentized Cadwallader fault zone respectively. Diorite and "soda"



See Figure 7  
Geology

See Figure 5- Geology

See Figure 8- Geology

See Figure 9 Geology

See Figure

GEOLOGY BY:  
 J. S. STEVENSON CORRESPONDENCE, 1983  
 G. NORDIN, BEMA INDUSTRIES, 1983  
 C. E. CAIRNES, GSC MEMOIR 213, 1933, 1934  
 F. R. JOUBIN, 1948, STRUCTURE OF CANADIAN ORE DEPOSITS, C.I. M. M. JUBILEE VOLUME  
 J. S. STEVENSON, 1983

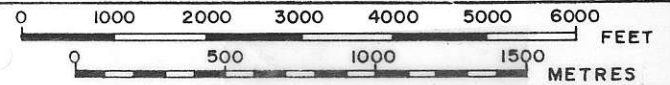
WITH MODIFICATIONS BY W.G. STEVENSON, P. ENG.

**LEGEND**

- ANTICLINE AXIS
- SYNCLINE AXIS
- ADIT
- GEOLOGICAL CONTACT
- CREEK
- CLAIM BOUNDARY
- CONTOURS (IN FEET)

- CENOZOIC**
- 8** PLEISTOCENE to RECENT
- CRETACEOUS
- BENDOR INTRUSIVES
- 7** Hornblende - biotite quartz diorite
- PRESIDENT
- 6** Peridotite, dunite, serpentine
- JURASSIC
- BRALORNE INTRUSIVE
- 5** Soda granite, augite diorite, gabbro

- JURASSIC - TRIASSIC**
- 4** HURLEY FORMATION - argillaceous - tuffaceous sediments, minor limestone, conglomerate
- 3** PIONEER FORMATION - andesite, greenstone, tuff, breccia
- 2** NOEL FORMATION - argillaceous - tuffaceous sediments, conglomerate, tuff breccia
- PERMIAN**
- FERGUSSON SERIES
- 1** Basalt, andesite, thin bedded chert, argillite.



NORMINE RESOURCES LTD.  
 PACIFIC EASTERN PROJECT

**DISTRICT GEOLOGY**

DATE: 83-11-03 JOB NO.: 83-16  
 APPROVED BY: FIG NO.: 3

BEMA INDUSTRIES LTD.

granite dykes occur in the south limb of the anticline marginal to the Cadwallader fault zone.

Previous underground work on the Pacific Eastern property succeeded in defining several east-west striking, northerly dipping quartz veins situated about midway between the Fergusson and Cadwallader faults which on the main (520) level are between 80 and 200 metres apart. The vein systems are hosted by Pioneer greenstones immediately north of dyke-like masses of "soda" granite and diorite marginal to the Cadwallader fault zone. The veins are reportedly narrow and contain erratic gold values, features similar to veins encountered in the upper workings of Pioneer mine. The Pioneer veins became more continuous and contained correspondingly better gold grades with depth.

One of the more significant vein structures on the Pacific Eastern property, discovered 100 metres east of the main crosscut (Figure 2) and explored by a decline and sublevel drifting, assayed 0.20 oz/ton gold over extended sections and included grades of up to 0.50 oz/ton. This area of the underground workings was tested to depth by two inclined drill holes in 1985, the first of which intersected two 1 to 1.5 metres wide quartz veins 230 metres vertically below the underground workings. Both veins contained disseminated pyrite, pyrrhotite and rare arsenopyrite and

assayed trace to 0.08 oz/ton gold. The two veins are central to an 80 metre wide zone of intense carbonate-biotite alteration developed in Pioneer greenstone. The second completed hole, 250 metres southeast of the first hole, intersected two 3 to 4 metre wide quartz stringer zones containing disseminated sphalerite, chalcopyrite, pyrite and galena and trace gold values.

Both 1985 drill holes confirmed the anticipated geological setting and the widening of the northern anticlinal structure at depth between the Fergusson and Cadwallader faults. The 1986 drilling program was designed to test the northern anticlinal structure further to the southeast in the area of the easternmost underground workings some 750 metres east of the shaft (Figure 2). 1940's surface drilling in this area intersected two 1 - 1.5 metres wide quartz veins 50 metres vertically below the underground workings. Although free gold was reported, only partial assays in the 0.10 oz/ton range were available for the reported 15 metre wide alteration zone hosting the veins in Pioneer greenstone adjacent to a diorite intrusion. The first 1986 drill hole, intended to test the area 200 metres vertically below the 1940's intersection, did not encounter any significant quartz veining possibly due in part to faulting which displaces the prospective horizon. The second

hole, collared several hundred metres to the southeast (Figure 3), intersected several banded quartz veins in diorite which locally exhibits strong carbonate-sulphide alteration, an environment similar to Bralorne mine. Only weakly anomalous gold values were obtained from the veins and alteration zones.

#### **PROPERTY POTENTIAL**

Work to date confirms that the prospective structural/stratigraphic setting of the formerly producing Pioneer mine extends southeasterly into the northern part of the Pacific Eastern property. Results from work in this area indicate some locally good gold values but it should be borne in mind that effective underground and drill testing has been carried out to depths of less than 500 metres. Better and more consistent gold values at the Bralorne and Pioneer mines were found at depths exceeding 500 metres.

Two targets have been identified for further investigation in the northern property area. The first and most obvious of these is within and below the existing underground workings near the mutual boundary with Pioneer mine. Drilling and underground work to date has only partially tested the the upper portion of the gold-bearing system and bearing in mind that better gold values in the

district are contained in shoots within the vein structures, it is possible that drill holes completed to date have intersected lower grade sections adjacent to better mineralized shoots. The most expeditious way to further investigate this area would be by way of underground drilling which would necessarily involve dewatering and rehabilitation of the underground workings.

The second target is several hundred metres to the southeast in the area of the last drill hole completed in 1986. This hole intersected intensely altered diorite, similar to the Bralorne mine environment and may indicate a second mineralized system on the property. Further testing of this area would require surface drilling with hole depths in the 1000 metre range.

**REFERENCES**

- Carter, N.C.(1986): Pacific Eastern Gold Prospect, Lillooet Mining Division, British Columbia; private report to the Directors, Normine Resources Ltd. dated May 27.
- \_\_\_\_\_ (1986): Normine Resources Ltd., Pacific Eastern Gold Project; letter report prepared for First Exploration Fund 1986 and Company Limited Partnership, dated September 11.
- \_\_\_\_\_ (1986) Normine Resources Ltd., Goosly Lake Project, Pacific Eastern Project; letter report prepared for First Exploration Fund 1986 and Company Limited Partnership, dated October 29.
- Norman, G. (1986): Diamond Drilling and Geochemical Report on the Pacific Eastern Property, Lillooet Mining Division, NTS 92J/10,15, Normine Resources Ltd., B.C. Ministry of Energy Mines and Petroleum Resources, Assessment Report 15730.
- Stevenson, W.G.(1983): Geological Report on the Pacific Eastern Property in the Lillooet Mining Division, British Columbia for Normine Resources Ltd., Normine Resources Ltd. Statement of Material Facts, July 31, 1985.

**CERTIFICATE**

I, NICHOLAS C. CARTER, of 1410 Wende Road, Victoria, British Columbia, do hereby certify that:

1. I am a Consulting Geologist registered with the Association of Professional Engineers and Geoscientists of British Columbia since 1966.
2. I am a graduate of the University of New Brunswick with B.Sc.(1960), Michigan Technological University with M.S.(1962) and the University of British Columbia with Ph.D.(1974).
3. I have practised my profession in eastern and western Canada and in parts of the United States for more than 30 years.
4. The foregoing report is based on various reports dealing with results of previous exploration programs conducted on the Pacific Eastern property, some of which have been prepared by the writer, and on a personal examination of the property carried out in 1986.
5. I hold no interest, directly or indirectly, in the mineral claims comprising the Pacific Eastern property or in the securities of Palmer Industries Ltd. or Urban West Developments Ltd.
6. Permission is hereby granted to Palmer Industries Ltd. to use this report, as presented, in support of any necessary filings with the Vancouver Stock Exchange and the British Columbia Securities Commission.

N.C. Carter, Ph.D. P.Eng.

Victoria, B.C.  
October 12, 1993



**APPENDIX "A"**

**MINERAL CLAIMS - PACIFIC EASTERN PROPERTY**

APPENDIX "A"

TABULATION OF CLAIM DATA

<u>Mining Division and Land District</u>	<u>Folio</u>	<u>Lot No.</u>	<u>Claim Description</u>	<u>Kamloops L.R.O. C. of T.</u>
Lillooet	32395	5659	Besance	68605F
Lillooet	32395	5658	Mac Fraction	68606F
Lillooet	32328	6169	Diorite	68619F
Lillooet	32328	6174	Jackson Fraction	68593F
Lillooet	32328	6170	Augite	68596F
Lillooet	32328	6167	Last Fraction	68597F
Lillooet	32328	5652	Six Eight Fraction	68391F
Lillooet	32328	5651	Foursix Fraction	68855F
Lillooet	32131	5569	Twofour Fraction	68856F
Lillooet	32131	5565	Justrite	66354F
Lillooet	32131	5566	Docrine	66355F
Lillooet	32131	5567	Jackrite	66356F
Lillooet	32131	5665	Pioneer Extension No. 2	68615F
Lillooet	32131	5551	Hoover Fraction	67671F
Lillooet	32131	5590	Plutus No. 8	68390F
Lillooet	32069	5589	Plutus No. 7	68843F
Lillooet	32069	5584	Plutus No. 2	68839F
Lillooet	32069	5586	Plutus No. 4	68841F
Lillooet	32069	5587	Plutus No. 5	68607F
Lillooet	32069	5585	Plutus No. 3	68608F
Lillooet	32069	5583	Plutus No. 1	68609F
Lillooet	31992	5578	Undershot No. 3	68610F
Lillooet	31992	5577	Undershot No. 2	68611F
Lillooet	31992	5576	Undershot No. 1	68612F
Lillooet	31992	5575	Full Measure Fr.	68613F
Lillooet	31909	5554	Jefferson	67669F

<u>Mining Division and Land District</u>	<u>Folio</u>	<u>Lot No.</u>	<u>Claim Description</u>	<u>Kamloops L.R.O. C. of T.</u>
Lillooet	31992	5572	Adams Fraction	67666F
Lillooet	31992	5574	Overdraft Fraction	66357F
Lillooet	31992	5552	Roosevelt	67672F
Lillooet	31950	5568	Pioneer Extension No. 1	68614F
Lillooet	31909	5560	Pioneer Extension	66353F
Lillooet	31909	5559	Bess	61693F
Lillooet	31909	5570	Pioneer Extension No. 3	61693F
Lillooet	31909	5557	Lincoln	68618F
Lillooet	31909	5558	Bryan	68617F
Lillooet	31909	5556	Cleveland	67667F
Lillooet	31909	5553	Garfield	67670F
Lillooet	31909	5555	Washington	67668F
Lillooet	31909	5561	Pioneer Extension Fraction	68616F
Lillooet	32328	6165	Mix No. 1	70946F
Lillooet	32069	5588	Plutus No. 6	68842F
Lillooet	32700	5807	Dan Tucker No. 7	68398F
Lillooet	32735	5845	East	68598F
Lillooet	33359	6172	Alta	68595F
Lillooet	33359	6173	Zenith	68594F
Lillooet	33359	6202	Chism A Fraction	68850F
Lillooet	33359	2162	A1 Fraction	68857F
Lillooet	32735	5837	EPU No. 4	68849F
Lillooet	32700	5836	EUP No. 3 Fraction	68848F
Lillooet	32603	5801	Dan Tucker No. 3	68847F
Lillooet	33359	2164	Don Fraction	68840F
Lillooet	33359	2163	Hyatt Fraction	68838F

<u>Mining Division and Land District</u>	<u>Folio</u>	<u>Lot No.</u>	<u>Claim Description</u>	<u>Kamloops L.R.O. C. of T.</u>
Lillooet	33359	648	McKinley	60587F
Lillooet	32735	5835	EPU No. 2	68403F
Lillooet	32735	5838	EPU No. 5	68404F
Lillooet	32735	5840	Rex	68405F
Lillooet	32735	5839	EPU No. 6	68406F
Lillooet	32735	5841	EPU No. 7	68407F
Lillooet	32700	5662	Undershot Fraction	68603F
Lillooet	32700	5663	Mix Fraction	68602F
Lillooet	32700	5664	Odd Fraction	67601F
Lillooet	32700	5833	EPU	68600F
Lillooet	32700	5834	EPU No. 1	68599F
Lillooet	32638	5806	Dan Tucker No.6	68397F
Lillooet	32638	5808	Dan Tucker No. 8	68399F
Lillooet	32638	5809	Dan Tucker Fraction	68400F
Lillooet	32638	5811	Close Fraction	68401F
Lillooet	32638	5812	Close A Fraction	68402F
Lillooet	32638	5802	Dan Tucker No. 4	68395F
Lillooet	32638	5803	Dan Tucker No. 5	68396F
Lillooet	32603	5800	Chism Fraction	68846F
Lillooet	32603	7069	Extra Fraction	68851F
Lillooet	32603	7070	PEG No.1 Fraction	68852F
Lillooet	32603	7071	PEG Fraction	68853F
Lillooet	32603	5661	Gold Field Deep No. 2A	68854F
Lillooet	32395	5654	Skull	68392F
Lillooet	32395	5655	Cross Bones	68393F
Lillooet	32395	5657	Dan Tucker No. 2	68394F
Lillooet	32395	5653	Plutus Fraction	68844F
Lillooet	32395	5656	Dan Tucker No. 1	68845F
Lillooet	32603	5600	Nomad No. 5	68604F

(exc. Pl.

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