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THE UNIVERSITY OF BRITISH COLUMBIA
6339 STORES ROAD
VANCOUVER, B.C. CANADA
V6T 2B4

DEPARTMENT OF
GEOLOGICAL SCIENCES

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Dr. W.J. McMillan
B.C. Ministry of Energy, Mines,
& Petroleum Resources
Geological Survey Branch
300-756 Fort Street
VICTORIA, B.C. V8W 3A3

Hole 2010

Dear Bill: re: 2 samples from Highland Valley

The palynological analyses of samples DH-86-2010, sample 1 at 63.25-63.75 ft.; and sample 2 at 82.5-83 ft. are now completed, and the list of palynomorphs is shown in Table 1 attached.

As I indicated to you on the 'phone, these assemblages correlate closely with those of the Fraser Bend Formation as defined by Rouse and Mathews (1979) and again by Mathews and Rouse (1984) from the Gang Ranch area along the Fraser River. As such, your rock unit is Middle Miocene in age, estimated at 17-13.5 Ma, or Barstovian on the mammalian scale.

Middle Miocene

Sample 1 is more like the *Quercus-Fagus* palynofacies of the Fraser Bend, whereas sample 2 is closer to the *Tsuga-Cedrus* palynofacies (Rouse and Mathews, 1979, Table 6, p.435). The climate is estimated to have been warm temperate, with annual precipitation between 1000 and 1300 mm, and the mean annual temperature about 12-16°C.

I trust this is enough, but if you need more, please let me know.

Best regards

Glenn

Glenn E. Rouse
Professor

GER/c
Encl.

LOG NO:	<i>Feb 6</i>	GEO 4
ACTION:	<i>Copy to Robert Lo, Glenn Leonoff, Vancouver</i>	
FILE NO:		

*sent Feb 6/87
please*

TABLE 1

Distribution of palynomorphs
in samples 1 and 2 from Highland Valley

Palynomorphs	Sample 1 DH86-2010 63.25-63.75	Sample 2 DH86-2010 82.5-83'
Fern spores		
<i>Osmundasporites irregulites</i>	X	X
<i>Deltoidospora diaphana</i>		X
<i>Polypodiisporites favus</i>		X
Conifer pollen		
<i>Tsuga heterophyllites</i>	X	X
<i>Cedrus perialata</i>	X	X
<i>Picea grandivescipites</i>	X	X
P.- 2 (KMP)	X	X
<i>Pinus</i> -4 (KMP)	X	
<i>Pinus haploxyton</i>		X
<i>Metasequoia papillapollenites</i>		X
<i>Tsuga mertensiana</i>	X	
cf. <i>Keteleeria</i> sp.		
Angiosperm pollen		
<i>Fraxinoipollenites variabilis</i>	X	X
<i>Quercus shiabensis</i>	X	X
<i>Fagus granulata</i>	X	X
<i>Tricolporate</i> - E (KMP)		X
<i>Monocolpollenites tranquilus</i>	X	
<i>Myricipites dubius</i>	X	
<i>Juglans nigripites</i>	X	
<i>Alnus verus</i>	X	
<i>Liquidambar</i> sp.1 (KMP)	X	

Rouse, G.E. & Mathews, W.H. 1979. Tertiary geology and palynology of the Quesnel area, British Columbia. Bulletin Canadian Petroleum Geology, 27:418-445.