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896371

Highland  
Valley

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October 16, 1990

Dr. W. J. McMillan  
Manager, Mineral Deposits and  
Regional Mapping  
B.C. Ministry of Energy,  
Mines, & Petroleum Resources  
Geological Survey Branch  
300 - 756 Fort Street  
VICTORIA, B.C. V8V 1X4

Dear Bill: re: 3 samples from Hole 90 - 06 for palynological analysis

Received the 3 samples, and have finished processing them. The results for all 3 are listed on p.2, as one list, as the 3 appear to be from the same-aged deposit.

As you can see, these are from beds correlative with the Australian Creek Formation originally described by Rouse and Mathews (1979, p. 427 seq.) of Oligocene age. Hence, they are essentially correlative to those described by Hopkins from GSC locality C-9906, just to the north, as you described in your letter. These sediments appear to be older than the mid Miocene sediments I identified for you a couple of years ago from Highland Valley.

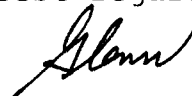
This would appear to support your interpretation of the quartz monzonite being a land slide block on the sediments.

The beds appear to have been formed in ponds or shallow lakes, with a fair amount of woody material converted to sub-bituminous coal.

Please feel free to call me at 228-3352 if you wish additional information. I'm enclosing an invoice for the analyses.

Thanks for sending me the samples - it adds to my repertoire of Tertiary palynoassemblages from the Interior.

Best regards,



GER/cr  
encls.

Dr.W.J.McMillan  
GSC  
300-756 Fort St.  
VICTORIA,B.C.  
10/16/90, p.2

Palynomorphs recovered from the 3 samples: 90-06, sample 249.9  
" 281.75  
" 310.5

ABUNDANCE CATEGORIES: 1 - 5: - A  
5 - 30: - B  
30: - C

Fern spores *Osmunda heterophyllites*, C  
*O. cinnamomites* A  
*Deltoidospora diaphana* C  
*Laevigatosporites ovatus* B

Conifer pollen *Picea grandivescipites* C  
*Pinus haploxylon* - type, B  
*Tsuga heterophyllites* B  
*Cedrus perialata* B

Angiosperm pollen *Myrica annulites* A  
*Quercoidites microhenrici* A-B  
*Quercus shiabensis* A  
*Alnus vera* A  
*Fraxinopollenites variabilis* A  
*Gothanipollis* sp.A, A  
G.sp. B, A  
*Boisduvalia clavatites* A-B  
*Cupaneidites "diaphana"* A  
*Ericipites redbluffensis* A  
Tricolpate - A, A

Fungal spores *Didymoporisporomites normalis* A  
*Lacrimasporonites laevis* A  
*Multicellaesporites* spp. (12 & 13) A

Algal cysts *Lejeunia diaphana* A  
*Schizosporis laevigata* A

AGE AND ENVIRONMENT: This assemblage correlates with those obtained from the *Osmunda heterophyllites* palynofacies of the Australian Creek Formation (Rouse & Mathews, 1979, pp.427-433, Table 5, p.433). This is associated with the lignitic clay lithofacies, apparently formed by periodic flooding of peaty swamps, and is early Oligocene in age, approximately 32-34Ma.