

0183613-B.
92 G/4 #40

E. LIVINGSTON, P. Eng.
A. BADRY

PACIFIC HYDROLOGY CONSULTANTS LTD.

CONSULTING GROUNDWATER GEOLOGISTS

July 15, 1991

204 - 1929 WEST BROADWAY
VANCOUVER, B.C. V6J 1Z3
TELEPHONE: (604) 738-9232



B.C. Ministry of Environment
Water Management Branch
Parliament Buildings
VICTORIA, B.C. V8V 1X5

Attention: Mr. Alan Kohut, P. Eng.
Head, Groundwater Section

Subject: Observation Well in the Cassidy Aquifer

Dear Sir:

We have been requested by O.C.I. Boat Harbour Inc., who are planning a golf course/housing development at Boat Harbour on Vancouver Island, to write to Water Management Branch about taking over an observation well which O.C.I. Boat Harbour has constructed in the Cassidy Aquifer near Haslam Creek. We have discussed this briefly with Mr. Hodge of your staff on July 11.

To obtain a water supply for their planned development, O.C.I. Boat Harbour purchased a parcel of land near the Island Highway bridge over Haslam Creek and constructed a production well which was pump tested in November 1990 at a steady rate of 70.0 L/sec (1110 USgpm).

At the same time, as the production well was constructed, a 150 mm (6") diameter screened observation well was constructed near Haslam Creek for use during the test, but mainly with the objective of providing a permanent observation well. The log of the well is as follows:

- 0 - 6.1 m (0 - 20 ft) silt and gravel
- 6.1 - 23.8 m (20 - 78 ft) sand and gravel.

M. ZUBER

Would this well fulfill your recommendation under the Nanaimo Basin plan?

...12

ADK GWNTS File 92 G/4

Yps. J.
91-07-19

B.C. Ministry of Environment
Water Management Branch
Observation Well in the Cassidy Aquifer
July 15, 1991 - Page 2

The well is completed with 1.2 m (4 ft) of 3.05 mm (0.120") slot screen with the bottom at 23.2 m (76 ft). The static water level was 3.15 m (10.33 ft) below the top of the casing at the time of the pump test on November 8, 1990. The casing extends about 0.8 m (2.6 ft) above ground. The well is located 71 m (233 ft) from the 300 mm (12") diameter production well and about 200 m (656 ft) from Harmac Collector A, which is on the opposite side of Haslam Creek. Locations are shown on the plan attached to this letter.

During the pumping test of the Production Well, drawdown in the observation well was negligible. When the pumping of Harmac Collector A was started, about 350 minutes into the test, the observation well drew down about 0.55 m (1.80 ft) and, if the data plot is projected beyond the 24 hour period of the test, the drawdown would probably reach about 0.6 m (2 ft). The Collector was being pumped at a rate about 259 L/sec (4100 USgpm).

We believe that the subject observation well would be a valuable addition to the Provincial Network. The Cassidy Aquifer is one of the most important aquifers on Vancouver Island at this time and withdrawals of water are likely to increase in future, in spite of the fact that water consumption is being reduced at the Harmac Mill. Information from the proposed observation well would supplement information from Observation Well No. 228 west of the Airport, and would give information on fluctuations in that part of the Aquifer which is presently most utilized, as the proposed observation well is much closer to the area of withdrawal by the high capacity Harmac Collectors and Wells. We suggest that a continuous recorder be installed on the well for at least one year, in order to determine the pattern of fluctuation due to pumping and precipitation in that area.

The Well Owners (O.C.I. Boat Harbour Inc.) are certainly prepared to cooperate with the Ministry in any way in order to expedite the inclusion of this well in the Provincial Network.

B.C. Ministry of Environment
Water Management Branch
Observation Well in the Cassidy Aquifer
July 15, 1991 - Page 3

Please call if you wish to discuss any aspect of the contents of this letter or if we can expedite this matter in any way.

Yours truly,

PACIFIC HYDROLOGY CONSULTANTS LTD.

A handwritten signature in cursive script that reads "E. Livingston". The signature is written in black ink and is positioned above the typed name.

E. Livingston, P. Eng.

c.c. O.C.I. Boat Harbour Inc.