

MEMORANDUM

TO: Mr. V. Raudsepp
 Chief Engineer
 Water Investigations Branch

FROM: E. Livingston, Chief
 Groundwater Division

April 20th 1967

SUBJECT: Well Interference in Campbell River Lowland

OUR FILE: 0239016

YOUR FILE:

On March 7th, Mr. D.O. Jones of 17007 - 8th Avenue (Campbell River Road) in South Surrey wrote to the Water Rights Branch pointing out that the flow of his well and those of several neighbours had decreased considerably since the drilling of a new flowing artesian well nearby. He said that much of the water from the new well was running to waste and that the owners had declined to reduce the flow.

Enclosed is a map showing the area where all these wells are located. The various wells mentioned below are designated by the owners' names.

This lowland area is underlain by a very thick section of silt, silty sand and sand all under artesian pressure which increases downward. This could best be described as a leaky artesian system. Most of the wells in this area were drilled many years ago using the wash boring method with two inch open-end casings. The casing was washed down until it encountered a lens of sand (or rarely gravel) of sufficient permeability to supply water to the well at a rate which was usually not more than three gallons per minute. In time, the wells tended to become plugged with sand or silt but they could usually be restored by washing or bailing.

The wells involved in the well interference problem are listed below with all the information which we have on hand.

D.O. Jones 17007 Campbell River Road	2" wash bored, 1945 to depth 329' obtained originally 3 gallons per minute from fine sand
J.H. Holms	2" wash bored 1946 to depth 249 1/2' obtained 2 gallons per minute (?) from sand.
D. Gray	2" wash bored to 250' (no data in well record file) Gray states flow rate formerly 3 gallons per minute.
A. Jeffery	Mr. Jeffery does not even know the location of his well which is in use. No data on well record file.
J.H. Holzle 17453 Campbell River Road	2" wash bored to 345' (?) no other data. (I could not contact Mr. Holzle)

Border Cattle Co. 17256 Campbell River Road, for- merly Fraser Valley Fibro Flax Co-op	Old 2" wash bored well of unknown depth finally gave out in 1966. New well 6" open-end casing drilled Dec. 1966 to 328'. Flows about 40 gallons per minute.
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0 - 8 8 - 160 160 - 265 265 - 312 312 - 318 318 - 323 323 - 325 325 - 328	Brown clay Blue silt Sandy blue silt with pebbles. Silty fine compact sand. Fine silty sand with water Till Fine to coarse sand, water Fine to coarse sand and gravel
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I spoke to each of the well owners except Mr. Holzle who was not at home. Messrs Jones, Grey and Jeffery said that their wells each flowed at a lower rate as soon as the new Border Cattle Company well was completed. Mr. Holms said that he thought that his well flowed at a decreased rate but that since he still had ample water he had not checked the rate of flow. All said that Mr. Holzle's well which had been only barely adequate, stopped flowing at this time. Mr. Jones had cleaned out his well and had cut the casing off at a lower elevation and had been able to restore the flow enough to meet his needs. Mr. Jeffery who does not know where his well is located, is barely able to get by at present. All are worried about the summer months when artesian pressure is lower than in winter.

The Border Cattle Co. is a feed-lot operation with up to 2,000 cattle on hand at one time. It is run by Mr. J. Baird of 5802 East River Road, Richmond. An employee, Mr. Kammerer, lives on the property and looks after the operation of the feed lot. The feed lot is on property formerly Fraser Valley Fibro Flax Co-op. The concrete retting tanks of the former flax processing operation are used for water storage; the new well runs directly into these. Water consumption at the feed lot never approaches 40 gallons per minute so most of the water runs to waste.

All of the flowing artesian wells in this area are allowed to flow freely because of the fear that shutting them off or controlling the flow will cause the well to become plugged with silt and sand. With such primitive well construction this is probably a real hazard where the wells end in fine-grained material. I do not think that this is likely to happen when the casing ends in gravel as is the case with the Border Cattle Company well.

I discussed the situation with Mr. Baird in Vancouver. He does not deny that the small wells flowed at a decreased rate when the new well was drilled. He also says that he is interested in taking action to restore the flow of the old wells as long as it will not jeopardize the new well. I pointed out that there would be no problem in controlling the flow of the new well if it were constructed with a screen and that it is probably unlikely that controlling the flow of the well as it now exists would impair its capacity. I said that if controlling the flow reduced the capacity it would be a relatively inexpensive job to install a screen in the well, but I suggested that he discuss this with

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the driller. I think Border Cattle Co. will probably control the well flow to reduce waste by installing a simple valve or a float controlled valve in the near future.

All the people I contacted in this situation were most helpful and discussed the situation in a reasonable manner.

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

E. Livingston, Chief
Groundwater Division

EL/l
attach.

