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October 30 74

Scott Point Water Works District
Groundwater Supply Problems

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I visited the Scott Point area on Thursday, October 17, and Friday, October 18, in order to undertake a short investigation of the groundwater supply problems that the Soott Point Water Works District is presently experiencing and to attempt to make further recommendations for test well drilling. The investigation was requested by Mr. A.K. Sutherland, Deputy Comptroller of Water Rights, and authorized by the Director of the Water Investigations Branch.

1. Well records and well location maps for the area were studied prior to the field trip.

2. Two samples of water were taken for laboratory analysis, one from the Scott Point Waterworks well and one from the Scott Point Marina well. Two additional samples were collected for isotope analyses and will be sent to Waterloo University. The electrical conductivity of the Scott Point W.W. well is high - 4,250 micro mhos per cm. indicating a very high figure for the total dissolved solids in this sample.

3. I discussed with Mr. Chase, a trustee, and with Mr. Gilbert Humphries of Saltspring Lands, and a Scott Point resident, the results of the previous test hole located at Site "A" on the attached map. The log of this hole is as follows:

0	- 5	feet red clay
5	- 14	feet broken shale (overburden)
14	- 15	gravel
15	- 20	blue clay
20	- 41	gravel
41	- 325	black shale, soft drilling no water.

The casing was set in bedrock at 50 feet.

Mr. Humphries was of the opinion that the upper overburden layers, especially the 20-41 feet gravel zone should be tested for drawdown and yield. The driller, at time of writing, was not available for a discussion on this point but I will be in touch with him on his return to Victoria.

Mr. Chase also mentioned another "drawback" to developing a well in the overburden at Site "A". It appears the local Highways' Inspector will only make a site available to the District on the condition that the supply from nearby Mouat well is not interfered with by pumping in the District's well.

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4. Alternatively, a new shallow well could be sited further out into the valley on the overburden adjacent to the highway. Tests for quantity and quality should be made at the above-mentioned sites before more expensive alternatives are considered. The Groundwater Division is prepared to give technical advice on screen design and testing and have an observer present during part of the pump test periods.

5. The writer made a rapid reconnaissance of the Scott Point coastline and the nearby coastline adjacent to the Old Scott Point subdivision. Mr. Chase kindly allowed his boat to be used for this purpose. The coastline inspection took two hours. Bedrock fracture patterns, possible faults, and rock types were mapped and tied in with previous geological mapping in the area.

An inspection was made of the air photos for the area and from these studies there appears, in the writer's opinion, evidence of a lineation between X and Y as shown on the map. Seepages, a swamp, and a higher-yield well are located on this lineation.

Recommendations

1. The possibilities of a groundwater supply for the Scott Point area from overburden gravels in the valley adjacent to Site A should be more fully explored

(a) by running tests in the previously drilled test hole. This can be done by withdrawing the casing and setting a small screen in the lower gravels;
(b) by drilling a second shallow overburden hole nearer the valley center and adjacent to the highway near Site B.

It would be important to carry out adequate testing program for both water quality and quantity available at these sites. The Groundwater Division is prepared to give technical advice and have an observer present during part of the test period.

2. I would recommend that NO further test well drilling be undertaken on Scott Point peninsula by the waterworks district. The chances of finding an adequate potable source are not good.

3. Because of the very high sodium and chloride levels in the present Scott Point Waterworks District well, I would suggest that some thought be given to the curtailment of further property development on Scott Point until an adequate potable water source has been obtained for the area. At present, further housing development is underway on the point.

4. I have shaded an area in blue on the attached map. The feasibility of this whole blue area being formed into one waterworks district might be explored. The previously-mentioned lineation and possible fault line along X-Y could be explored by more intense ground reconnaissance and possibly a geophysical survey.

The Department of Highways has equipment and personnel that could, I believe, be made available for the work - particularly as the Ferry Terminal may require additional potable supply for its operations in the future. If there are indications of a fault line along X-Y, then one test hole could be drilled say at Site C, and possibly along a second lineation at D. I believe, priorities permitting, that the Groundwater Division staff could give technical assistance on such a project.

5. If, on the completion of this program, no adequate potable source can be found for future needs, then it may be necessary to consider only allowing further housing development within the subdivision on the basis of an adequate potable domestic supply being proved up on the individual lot in question by the property owner prior to the issuance of a building permit. There are many subdivisions on Vancouver Island and elsewhere where potable groundwater can only be obtained from small shallow low-yield rock wells sufficient for small domestic requirements only.

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