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MEMORANDUM

TO A. P. Kohut
Senior Geological Engineer
Groundwater Section
Hydrology Division
Water Investigations Branch

FROM W. S. Hodge
Engineering Assistant
Groundwater Section

July 13 1976

SUBJECT Groundwater Investigations for the South Lakeside Area - Williams Lake

OUR FILE 0239014-B

YOUR FILE

Please find attached memorandum report titled "Geohydrological Study of the South Lakeside area of Williams Lake."

Following is a summary of the hydrogeological information on the immediate area under study for future development for domestic and light industrial use.

The average thickness of drift overlying bedrock in the general area has been approximated as 22' with bedrock outcrops prominent along the northwestern margin of Region E. The major contributing aquifer, along Esler Road and to the south, appears to be shattered rock with reported groundwater yields ranging between 3 and 12 gpm. The potential for groundwater development in this area may be there, providing severe boundary conditions limiting long term withdrawal and creating eventual mining of the aquifer, does not exist. A test drilling program initiated in the area would enable vital characteristics of this aquifer to be known, and establishment of safe, long term yields from this aquifer, can then be estimated. Gravelly and sandy glaciofluvial deposits are noted along the northern margin of Region D, the area surrounding Bond Lake, and extending in a north and northwesterly direction. Favorable groundwater prospects may exist in this area, although thickness and uniformity of these deposits are presently unknown. Again, a planned test drilling program, concentrated in this area would assist in determining whether groundwater potential is favourable, and if so, to what extent, allowing predictions of safe long term withdrawals to be made. Thick formations of moderate to excellent water bearing sands and gravels, are reported to the north at lower elevations in this outwash material. Similar conditions may be anticipated within the sands and gravels upslope but is probably dependent on the configuration of the underlying bedrock. The topography and permeability of materials in this region suggest groundwater movement may be significant. Care must therefore be taken in selection of test drill sites to avoid a potential depletion of yields downslope to the north.

Quality of groundwater in the immediate study area is presently unknown. Bond Lake is the only source previously sampled, and

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shown to be extremely hard yet highly mineralized. A groundwater quality sampling program of wells to the west located in shattered rock, and wells downslope and to the north of Bond Lake located in sands and gravels would be advisable, thus acquiring representative water qualities throughout the area.

W. S. Hodge.

W. S. Hodge

WSH/dmc