



To: E. H. Tradewell
Senior Technician
Groundwater Section
Hydrology Division

Date: September 6, 1978

File: 92 F/8

0183613-B✓

Re: Coombs Field Trip, August 22-24, 1978

Introduction

Coombs is a small community situated approximately 6 miles west of Parksville on Vancouver Island.

Water is supplied from domestic wells with the majority of wells being low to moderate yielding shallow dug wells.

The area is generally underlain by a thin cover of hardpan or till. Dug well logs have no information on depth to bedrock or thickness of till, however drilled well logs and field investigations have shown thickness of till to range from a few feet to around 30 feet. This till is in turn underlain by shale.

Purpose of Study

The purpose of this study was to obtain a general knowledge of groundwater quality in the Coombs area and to attempt to locate a suitable observation well for long term monitoring of the shallow surficial aquifer.

Groundwater Quality

Investigations have shown groundwater quality in dug wells to vary locally. Hach analysis were conducted on twenty-one wells in the Coombs area, showing water quality in dug wells to vary from a low mineralized sodium bicarbonate type groundwater to a moderately mineralized calcium bicarbonate type groundwater.

This may be explained in that some of the more highly mineralized groundwaters may flow from a deeper system through the fractured bedrock underlying the till rather than along the contact zone between till and bedrock. Many of the dug wells in the area have been constructed in the bedrock.

Drilled wells are generally much more highly mineralized and all sampled have shown evidence of methane or coal gas odour.

All Hach analysis results have been placed on well cards and new cards have been made up where wells sampled were not on file.

A major concern along Station Road in the Coombs area is sewage disposal. Station Road slopes downward in the direction of #4 Highway and many people are concerned that their dug wells may be receiving sewage pollution from their neighbours septic fields. As mentioned previously the area has only a thin cover

of till overlying bedrock making it very undesirable for septic field disposal.

Observation Wells

Three wells were located in the Coombs area that could possible be utilized as long term observation wells (Figure 1).

The most reliable well of the three for obtaining water level data would be the dug well located on Lot 12, Plan 1115, owned by Mr. West (Figure 1). This well would be ideal for monitoring the shallow water table in the area and should be free from any neighbouring interference from other wells in the area. The other two wells are deeper 4" diameter drilled wells and would be good for monitoring only the deeper bedrock flow system, which is not of particular concern at this time.

Mr. West has requested that I contact him again this week regarding using the dug well for monitoring purposes. At that time he will inform us if we can or cannot use this well. He had to discuss this subject with his son to see if he would take weekly manual readings on a regular basis. At the time of visiting Mr. West he was quite busy and could not commit himself at that time. If he is willing to offer his services and read the well regularly a memo will be written following this on well construction, etc.

W.S. Hodge
W. S. Hodge
Technician
Groundwater Section

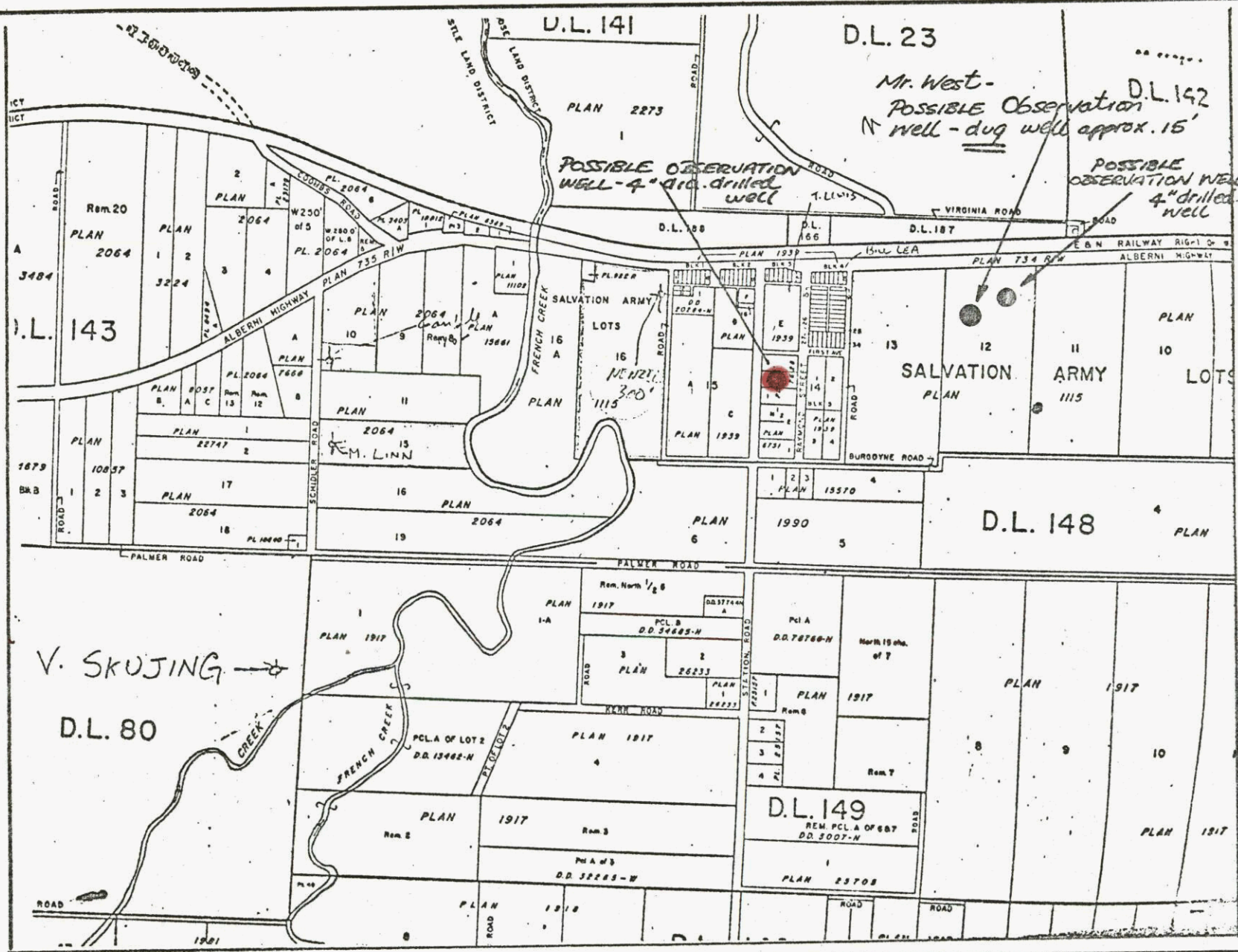
WSH/dmc

Attach.

my 18 Sept 77

*Mr. Hodge telephoned Mr. West Sept 11/77 Mr. West agreed to let us use well. Letter of agreement to be made by W. Hodge + signed by Mr. West soon. *ms**

*Sept. 19 - Mr. Hodge travelled to Coombs with agreement - Mr. West declined - would not let us use well. *ms**



W. Hodge

BRITISH COLUMBIA
 MINISTRY OF THE ENVIRONMENT
 ENVIRONMENTAL AND ENGINEERING SERVICES
 WATER INVESTIGATIONS BRANCH

TO ACCOMPANY REPORT ON
Coombs Field Trip
Aug 22-24, 1978

SCALE: VERT. 1" = 1000'
 HOR. 1" = 1000'

DATE
Sept. 5/78

ENGINEER

FILE No. _____ DWG. No. **Figure 1**