A PRELIMINARY GEOHYDROLOGICAL STUDY OF SALTSPRING ISLAND

W. S. Hodge
Groundwater Section
Hydrology Division
Water Investigations Branch
Ministry of the Environment

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1. INTRODUCTION

In recent years, much information has been obtained on groundwater resources throughout Saltspring Island. Collection and interpretation of this information has been done for the purpose of updating groundwater records on a continuing basis to establish a clear understanding of groundwater origin, aquifer characteristics, groundwater quality, as well as natural flow patterns in relation to topography and geology. Studies are further warranted where groundwater in an area or specific aquifer is being depleted. The aims of this study were as follows: (1) to compile, organize and tabulate all hydrogeological and hydrochemical data obtained to date for presentation in a format for referral and (2) to examine in depth all groundwater information available, make interpretation where possible, discuss methods and rates of extraction in conjunction with effective recharge to groundwater supplies and finally, (3) to review and discuss water quality problem areas. Natural groundwater quality and quantity are emphasized in this report and pollution aspects apart from natural sources such as sea-water, for example, have not been analyzed.

All available groundwater information on file has been reviewed. A total of 657 water well records have been reviewed with data tabulated, summarized and discussed on wells and springs sited within each groundwater region (Table 1). A map has been prepared showing location of these wells and springs in relation to designated groundwater regions (Figure 1). All groundwater chemistry on file has been tabulated, reviewed and maps prepared with discussions on the location and extent of total dissolved solids present in water samples collected throughout the Island (Figures 2, 3, 4). Maps have also been prepared showing distribution of wells with standard chemical analyses performed on water samples obtained from these wells (Figures 5, 6) as well as a map showing specific wells with high chloride contents, areas of sea water intrusion and local brine areas (Figure 7). Emphasis has been placed on areas of quality concern. Estimated present groundwater usage versus available groundwater in storage was calculated (Table 2) with relationships shown diagramatically in Figure 8. All bedrock, surficial geology and topographic maps have been reviewed and supplemented by a study of aerial photographs on file.

2. PRECIPITATION AND EVAPORATION

The average annual precipitation for the Gulf Islands has been determined as 33 inches (Halstead, 1967). The average annual precipitation over a 12-year period (1963-1974) for Vesuvius, on Saltspring Island, has been determined as 40.5 inches (B.C. Department of Agriculture - Climate of British Columbia (1963-1974). The amount of precipitation falling on Saltspring Island does vary; for example, Vesuvius in 1969 recorded 29.19 inches at an elevation of 25 feet, whereas Ganges, to the southeast, reported a total of 37.79 inches at an elevation of 240 feet above sea level.

The average evapotranspiration is determined as 16 inches (Chapman and Brown, 1966), leaving 24.5 inches for runoff and groundwater recharge. Runoff would be significantly large leaving only limited quantities of water for groundwater recharge.

3. BEDROCK GEOLOGY

Saltspring Island is comprised of sedimentary rocks belonging to the Upper Cretaceous (Nanaimo Group) and Carboniferous volcanic rocks (Sicker Volcanics), the latter of possible Devonian age (Muller, 1971). Conglomerates, shales, and sandstones, characterized by low porosity and permeability, occur north of Ganges Harbour and Booth Bay. The highlands are comprised of more resistant and less fractured sandstones, shales, and conglomerates, while the valley regions, particularly the Ganges Harbour-Booth Bay areas are underlain by less resistant shale beds. Poor water quality in various locations throughout the northern portion of the island can be attributed in part to the marine origin of the sedimentary rocks.

The southern portion of the island is made up of older Pre-cretaceous igneous rock. This igneous rock, having significantly more open fractures, has allowed more frequent flushing and renewal of groundwater in storage. From present knowledge, groundwater throughout the southern portion of the island is generally of superior quality compared to that of the northern portion.

4. SURFICIAL GEOLOGY

The last major glaciation which overrode the Gulf Islands is the Fraser Glaciation. The main ice lobe in the Strait of Georgia covered the Gulf Islands and continued southward (Halstead, 1967). Glacio-marine deposits of silt, clay and stoney clay filled the lowland and bay areas. Overburden thickness is generally less than 20 feet, resulting generally in a thin veneer of clays and sands and gravels over bedrock. The greatest recorded thickness of overburden is 103 feet shown on a well log near Fulford Harbour.

5. GROUNDWATER REGIONS

Saltspring Island has been divided for convenience into eighteen groundwater regions (Figure 1). Boundaries between these regions generally represent the topographic divides between natural basins, and in most instances the regions correspond with surface drainage watersheds. The regions may include, however, more than one or portions of a surface drainage watershed. The largest groundwater region, for example, is the Musgrave watershed covering 7974 acres.

An estimate of the annual groundwater use in each region (Table 2) was made based on the number of wells in each region utilizing a figure of 500 gallons per day for each well over a period of 100 days of little or no recharge. These figures were then compared to the probable groundwater available in storage for use on an annual basis over the same 100 day no recharge period. Under natural recharge conditions this quantity of water would be replenished annually from precipitation during the winter months. Potential recharge from precipitation (Foweraker, 1974) has been estimated at 1 inch per year. Actual recharge, however, appears to be limited by the available storage. This method of estimating the demand/storage percentage of each region (Figure 8) was adapted from Foweraker (1974), but differs in that groundwater use is based on the number of wells rather than the number of residents using groundwater. Since one well may [illegible]vice more than one residence and not all wells may be used, the demand/storage figures may be somewhat low. Figures approaching 75 percent may, therefore, be considered critical, for example, as in the Scott Point Region.

Following is an example of the calculations used in determination of the demand/storage percentage for the Scott Point Watershed.

Example:

(1.)	Area of Region X	Total thickness of Rock to bottom of potable water-bearing zone.		= Total Volume of Rock (acre-feet)
	(76.93 acres)	(assume 200 feet)		= (15,386 acre-feet)

(2.)	Total Volume of Rock X Storage Factor			= Total potable groundwater in storage (acre-feet)
	(15,386 acre-feet)	(0.0001)		= (1.54 acre-feet)

(3.)	No. of wells X in region	Daily use X per well	period of little or no recharge from precipitation	= Estimated groundwater usage
	(8 wells	(500 gpd)	(100 days)	= (400,000 gallons)

(4.) $\frac{\text{Estimated groundwater usage}}{\text{Total potable groundwater in storage in U.S. gallons}}$ X 100 = demand/storage percentage

$\frac{400,000}{501,843}$ X 100 = 79.7%

The demand/storage figures should be used with reservation as they are based on a simplified model which may be amended when more groundwater data becomes available. The figures do, however, identify problem areas where groundwater use may be exceeding natural recharge.

Following is a brief discussion on the hydrogeological and hydrochemical information obtained within each groundwater region.

Amended 16/2/78

5.1 Musgrave Region

Area	- 12.46 sq.mi.
Drilled wells	- 2
Dug wells	- 1
Springs	- 2

Of the few well and spring records available within this region, the majority are situated near the coast. This is due mainly to the rapid and extreme change in topography from coastal areas, prohibiting groundwater development inland. This watershed would be subject to very rapid runoff; however, depending on depth and permeability of material overlying bedrock, recharge to groundwater supplies could be significant. It is noted that one well north of Musgrave Landing, drilled to a depth of 165 feet, reported an excellent potential yield of 40 gpm, with the principal aquifer reported as bedrock fractures between 150 and 165 feet. This suggests that good groundwater potential does exist along the coastal areas, although the possibility of sea water intrusion could occur in deeper wells. The quality of groundwater in domestic wells throughout the southern portion of the island should be good; however, no hydrochemical data is available from drilled wells at this time within the boundaries of this region.

5.2 West Fulford Harbour Region

Area	- 3.04 sq.mi.
Drilled wells	- 14
Dug wells	- 8
Springs	- 9

The major source of domestic water supply throughout this region is from springs and shallow dug wells. Spring discharge is seen in a line of springs at elevations of between 100 and 200 feet along the west coast of Fulford Harbour. The development of aquifers along stream courses, which appear abundant in this region, is not limited to precipitation in a restricted area, as in most groundwater reservoirs. Most of the year the streams are influent, while during the seasons of low discharge the streams may be effluent, that is, receiving water from groundwater in storage and contributing to the depletion or drying up of supplies during this time of year.

Drill logs indicate that adequate domestic yields may be encountered at drilled depths of between 100 and 150 feet from surface elevations of between 250 and 350 feet, possibly intercepting the movement of water through the fracture systems prior to spring discharge downslope. Shale and granodiorite are reported to be the major fractured aquifers throughout this region. Sea water intrusion would appear unlikely in wells drilled to this depth along Isabella Point Road. Wells sited near Isabella Point, to the south, where well completion is below sea level, may tend to induce sea water intrusion depending on pattern and extent of fracturing and rate and duration of local pumping.

5.3 Burgoyne Bay Region

Area	- 4.19 sq.mi.
Springs	- 3

Groundwater resources throughout this region are relatively undeveloped. This is due primarily to mountainous terrain, where cliffs reaching almost vertically along the coastline are common, excluding the Burgoyne Bay area. The few springs on record feed local creeks which are in turn utilized as water supplies. During the winter months discharge would reach a maximum and runoff in the mountainous reaches would be high, depending on percentage of precipitation falling as snow and being temporarily retained in snowfields. One complete chemical analysis is available showing water quality to be moderately hard and low in dissolved solids.

5.4 Fulford Harbour Region

Area	- 9.64 sq.mi.
Drilled wells	- 5
Dug wells	- 23
Springs	- 19

At present approximately 90% of groundwater usage is extracted from shallow dug wells or spring discharge either from unconsolidated deposits or fractured bedrock. A line of springs along the south side of an outcrop of granodiorite north of Fulford Harbour provides for flow of Fulford Creek during the drier summer months. Numerous minor creeks are spring-fed and in turn, these creeks are used for both domestic and irrigation purposes. Information on drilled wells is scarce, as only 5 drill logs are presently available and these are lacking detail. One well drilled to a depth of 310 feet reports a yield of ½ gpm from fractured shale, while another, relatively shallow drilled well has no log available, but can be assumed to be bottomed in unconsolidated material. Fourteen complete water chemistry analysis are available; however, all chemistry is from shallow dug wells and springs, except one shallow drilled well. All the samples analysed show a good quality groundwater, most being calcium bicarbonate waters, varying in hardness from soft (31-60 ppm) to medium-hard (61-120 ppm) and relatively low in total dissolved solids (40-220 ppm).

5.5 Stowell and Weston Lakes Region

Area	- 4.71 sq.mi.
Drilled wells	- 31
Dug wells	- 8
Springs	- 6

Bedrock at the surface or near surface is common in this watershed. All drilled wells report fractured granite or granodiorite as the principal water-bearing material with numerous moderate domestic yields reported. Water quality is generally moderately hard and low in total dissolved solids. One well, drilled to a depth of 190 feet, reports hardness and T.D.S. readings of 200 and 221 respectively, which are significantly higher values than those from shallow wells. This deviation may be attributed to the water coming from a deeper flow system. Present knowledge of water quality from drilled wells is unknown along coastal areas.

5.6 King Road Region

Area	- 1.40 sq.mi.
Drilled wells	- 13
Dug wells	- 4
Springs	- 5

The majority of drilled wells are sited to the south in low lying areas along the south coast. Moderate domestic yields are reported from well-fractured granite underlying a thin veneer of clay and rocks. Two chemical analyses are available showing moderately soft water, low in dissolved solids in a sample from a spring, while higher values are recorded in a drilled bedrock well. A number of drilled wells are bottomed below sea level in well-fractured granite, subjecting wells to possible intrusion of sea water, should overpumping occur. No water chemistry analyses from these wells are presently available.

5.7 Eleanor Point Region

Area	- 1.27 sq.mi.
Drilled wells	- 11
Dug wells	- 2
Springs	- 1

Shallow depths to bedrock are again indicative of this watershed, with some excellent domestic yields reported from drilled wells. The principal aquifer is well-fractured granite, and intrusion of sea water could occur depending on development. One complete chemistry analysis is presently available showing a hard (192 ppm) water, relatively low in T.D.S. (216). This well is drilled to a depth of 130 feet and situated south of Beaver Point Road, at an elevation of between 75 and 100 feet above sea level. The analysis shows no appreciable chlorides were present in the sample at time of sampling.

5.8 Cusheon Cove Region

Area	- 1.33 sq.mi.
Drilled wells	- 5
Dug wells	- 2
Springs	- 2

Of the few well and spring logs on file, only a few are descriptive and these show shallow depths to bedrock, fractured granite being the principal bedrock aquifer. The drilled wells on record show moderate domestic yields and are located inland at higher elevations making sea water intrusion remote. Two wells of interest are artesian flowing wells located northeast of Lake Weston, drilled to depths of 130 and 140 feet, from an elevation of +400 feet and reported to supply adequate requirements for the YWCA. Recharge to these wells is probably supplied from higher elevations to the northwest with the wells intercepting a flow system prior to discharge downslope. Unfortunately, no well log information is available for either of these wells at this time. Field chemistry shows the conductivity to range between 300 and 315 micromhos/cm, indicating a low mineralization (total dissolved solids). Only one complete chemical analysis is available showing the water to be moderately hard, and low in T.D.S. No other hydrochemical data is presently available other than an occasional report of a hydrogen sulphide smell, noted in a few shallow dug wells.

5.9 Beaver Point Region

Area	- 1.20 sq.mi.
Drilled wells	- 3
Dug wells	- 1
Springs	- 1

Of the few wells presently on file, all are centered around Beaver Point Road. Drill logs show shallow depths to bedrock. Moderate domestic yields are extracted from well-fractured granite aquifers. Hydrochemical data shows a moderately hard (149-167 ppm) water low in total dissolved solids (181-198 ppm).

5.10 Lake Maxwell Region

Area	- 4.20 sq.mi.
Drilled wells	- 5
Dug wells	- 3
Springs	- 2

This watershed is relatively undeveloped due mainly to mountainous terrain prohibiting extensive development of groundwater resources. Extensive well and chemistry tests have, however, been conducted on a well situated approximately 20 feet from the ocean at the base of a steep hill. This well was drilled to a depth of 180 feet and pumped for a scheduled time. Tests showed sea water intrusion occurred while pumping and the pumping rate was therefore reduced significantly. This well was eventually abandoned and capped. Chemical analysis of the spring water inland has shown water to be of good quality, low in both hardness and T.D.S. Bedrock is near surface, well-fractured and consisting of shales, sandstones and granites.

5.11 Cusheon Lake Region

Area	- 4.36 sq.mi.
Drilled wells	- 8
Dug wells	- 3
Springs	- 2

Groundwater development is restricted to topograhically low regions with the majority of drilled wells reporting yields of between 1 and 4 gpm. Some shallow dug wells situated at higher elevations, and reporting very adequate yields, intersect surficial flow systems prior to discharge at lower elevations. Deeper drilled wells at lower elevations report moderate domestic yields. Bedrock is near surface and consisting of shales, sandstones, and granite. Four chemistry analyses show groundwater to be moderately hard and relatively low in T.D.S.

5.12 Booth Bay Region

Area	- 3.43 sq.mi.
Drilled wells	- 32
Dug wells	- 12
Springs	- 5

Groundwater development at present appears to be confined to low lying areas around and to the north of Booth Inlet. The principal aquifer along coastal and areas north of Booth Bay is fractured and broken shale overlain by a thin veneer of clay or hardpan. Some good domestic artesian flowing wells are sited in the vicinity of lower Ganges Road from unconsolidated deposits. The potential of this aquifer may be limited; however, as the aquifer is well-mixed with clays and hardpan, it does not appear to be extensive. A good representation of groundwater quality is available within this watershed, as 14 chemical analyses are available from drilled and shallow dug wells. The majority of analysis show a soft to medium-hard water relatively low in T.D.S.; however, one well, drilled to a depth of 150 feet and sited quite far inland south of Rainbow Road, reported very high T.D.S. (3189.81) and chloride (1433.00) values. A field test was also performed on this well in July, 1973 and reported a conductivity of 6000 micromhos/cm. As previously stated, this may be due to possible extension of saline groundwaters that occur south of St. Mary Lake, rather than as a result of sea water intrusion. Drilled wells sited around and to the north of Booth Inlet have also reported some high field conductivities, while examination of water quality from the shallow dug wells shows the water to be of good quality and quite suitable for domestic use.

5.13 Ganges Harbour Region

Area	- 7.14 sq.mi.
Drilled wells	- 156
Dug wells	- 39
Springs	- 8

A large percentage of the total well logs plotted to date are sited within the boundaries of the Ganges Harbour Region. From Table 2, it is noted that the percentage of actual groundwater usage versus potential recharge to groundwater supplies is 24 percent. Although moderate use of groundwater in this area is suggested by the number of wells, some of the wells have been abandoned locally following implementation of a water supply system based on a surface water source.

While occasional overburden thickness in excess of 40 feet has been recorded, overburden thickness is generally less than 15 feet. The maximum overburden thickness is recorded as 96 feet east of Walter Bay near the coast and consists of fine sand underlying clay and hardpan.

Groundwater yields range from 10 gallons per hour to 20 gallons per minute with the majority of drilled wells situated around coastal areas surrounding Captain Passage and Ganges Harbour. The principal aquifer is well-fractured shale or sandstone underlying clay and till, while a few wells report moderate domestic yields from fine sands at shallow depths. From the 13 complete chemical analyses available to date, water quality is generally medium-hard and moderately high in dissolved solids. Very high dissolved solids have, however, been recorded from a number of wells along Long Harbour-Vesuvius Bay Road towards Welbury Point. Considerable groundwater development has occurred throughout this area increasing the probability of sea water encroachment with time from drilled wells bottomed below sea level.

5.14 Scott Point Region

Area	- 0.12 sq.mi.
Drilled wells	- 8
Dug wells	- -
Springs	- -

A review of drill logs on file show bedrock to be at or near surface and comprised principally of closely packed and well-cemented sandstone with some shale interbeds. These formations are characterized by low porosity and permeability with movement of groundwater restricted to secondary structures such as bedding planes, joints, faults and fractures. Well records show the producing wells to encounter one or more minor fracture zones at no common depth. The average drilled depth of wells on record in the Scott Point Peninsula is 150 feet. Depths range from 79 to 245 feet and all are apparently bottomed near or below sea level. Reported groundwater yields range between 1 and 10 gpm.

Sea water intrusion is very evident throughout the Scott Point Peninsula, particularly near the southeast end of the point where high chloride levels have been recorded. This chloride concentration indicates a limited fresh water supply is available while fresh water recharge appears limited to the catchment area available on the Peninsula. From Table 2, it can be noted that the percentage of actual groundwater usage versus estimated available groundwater in storage is a significantly high 79.7 percent.

5.15 St. Mary Lake Region

Area	- 4.44 sq.mi.
Drilled wells	- 32
Dug wells	- 5
Springs	- 4

A review of drill logs on file has shown the average depth of clays and gravelly clays overlying bedrock to be 11.5 feet with the maximum recorded depth of overburden as 36 feet. Bedrock is comprised principally of sandstone and shales. Total depths of drilled wells range between 28 and 265 feet and estimated yields range from 7 gph to 12 gpm. Groundwater usage appears largely confined to areas adjacent to Lang's Road to the north and along North End Road on the east side of St. Mary Lake.

Sea water intrusion is apparent near Parameter Point to the west of St. Mary Lake as well as in areas along North End Road. The high salinity noted in some wells along North End Road may, however, be directly attributed to the distribution of saline groundwater directly north of St. Mary Lake, one mile west of Fernwood Point. Springs at this locality discharge salty water at the rate of approximately 2 gpm through near vertical dipping shaley sandstones that appear to occupy a major transverse fault (Halstead, 1967).

Of the 13 complete chemistry analyses obtained to date, the majority of samples submitted have been from wells located between St. Mary Lake and North End Road. A review of these chemical analyses has shown water quality to be considerably good with the majority of samples having T.D.S. values under 300. Distinct changes in water quality have been noted in some wells; however, this may be attributed to rate of local pumping. Many previous well users are now drawing water from St. Mary Lake. One well of interest drilled in 1970 and tested in January, 1971 reported a chloride content of 1,500 ppm. This well was again sampled in July, 1973 and August, 1975 reporting T.D.S. readings of 695 and 281 respectively, with very low chloride values noted for the August, 1975 sampling. Water quality has improved dramatically in this well and varies directly with rate of pumping.

5.16 Long Harbour Region

Area	- 2.47 sq.mi.
Drilled wells	- 16
Dug wells	- 6
Springs	- 2

This region is again typical of shallow overburden consisting of clays and hardpan averaging 12½ feet in thickness overlying bedrock. The principal aquifer is reported as broken or fractured sandstone and shales. A few drilled wells are sited inland, possibly intercepting groundwater movement from an abundance of spring activity in the area. The majority of groundwater development is, however, confined to areas surrounding the Long Harbour coast and deeper wells are subject to sea water intrusion. One well (X7-Y11 #7) situated very near the Long Harbour coast and drilled in 1953 reported a potential yield of 50 gpm. This yield is, however, very questionable and not typical of the average reported yield. Unfortunately, the current status of this well is not known and no water chemistry is available at this time. Drilled wells range in depth between 30 and 300 feet with the majority of wells reporting moderate domestic yields between 1 and 2 gpm.

Water quality is generally soft to moderately hard and moderately low in T.D.S. Only 8 complete chemistry analyses are available and samples were unfortunately taken from all shallow wells. Water quality may be distinctly different in deep wells near the coastline which are completed below sea level.

5.17 Trincomali Region

Area	- 5 sq.mi.
Drilled wells	- 70
Dug wells	- 18
Springs	- 10

This region is extensive and includes the total northern coastline of Saltspring Island with the majority of groundwater usage confined to areas northwest of Walker Hook. No information is currently available on groundwater resources southeast of Walker Hook; however, runoff would be significantly great along this region. Overburden depth varies considerably throughout this watershed from very shallow to in excess of 100 feet in the Fernwood Springs area. The principal aquifer is reported as broken or fractured sandstone with shale interbeds. A large majority of wells report domestic yields of between 1 and 3 gpm with a few potential yields reported between 5 and 15 gpm.

A good representation of water quality is available with 28 wells sampled for complete water chemistry analysis. These cover a good cross section of wells and springs varying in location and depth. The Fernwood Springs and seeps are located on farm property owned by the Harkema family at the northeastern end of Saltspring Island. These seeps appear to be migrating locally, as the seeps, discharging highly concentrated brines, tend to flow for a number of years, then the vents appear to plug up from a buildup of precipitated salts with subsequent ceasing of flow. The hydraulic pressure then builds up to start another seep in a new location.

5.18 Houston Region

Area	- 2.22 sq.mi.
Drilled wells	- 34
Dug wells	- 2
Springs	- 2

The average thickness of overburden has been determined as 9½ feet consisting of clays and hardpan overlying bedrock. Bedrock consists of sandstone with shale interbeds and some conglomerate present. These formations are highly indurated exhibiting few fractures. Groundwater usage is confined to coastal areas west of Sunset Drive, with most wells reporting yields of between 1 and 2 gpm, and a few reporting yields of up to 12 gpm. Most of these wells appear to be bottomed near or below sea level elevation and may be subject to sea water intrusion in time. Numerous wells previously utilized as water supplies are now abandoned for one reason or another. Some dry holes have also been encountered. Some flowing artesian wells are noted along the northern portion of this watershed towards Southey Bay reporting flows of up to 12 gpm. Unfortunately, no water chemistry is currently available from these wells. Sea water intrusion is apparent in relatively shallow wells adjacent to Southey Bay and north of the flowing artesian wells.

6. HYDROCHEMICAL DATA

At present the Groundwater Section has on file approximately 130 complete chemical analyses collected from wells and springs throughout the island. Water quality is generally of a benign quality throughout the island, except in specific regions in the northern portion of the island where sea water encroachment has occurred (Scott Point, Southey Point and Erksine Point) or where local saline springs (southeast of St. Mary Lake, and the Fernwood area) have affected water quality (Figure 7).

A discussion on the extent and wide range of total dissolved solids (T.D.S.) in groundwater throughout Saltspring Island is shown in Figures 2, 3 and 4. Qualitative studies were conducted by groundwater personnel during the summer of 1973 and T.D.S. values have been obtained either from complete water chemistry analysis or from field tests. These were later tabulated, mapped and discussed by Mr. Heisterman of the Groundwater Section in 1973. Presentation here is in part direct extractions from his notes on this study.

T.D.S. values have been mapped for three separate depth zones (0-50 feet, 50-150 feet, 150-300 feet) and a discussion on findings for each zone is as follows:

Figure 2 (0- to 50-foot depth zone)

T.D.S. values in this zone range from 48 to 77,200 ppm, with the majority of samples taken showing values below 400 ppm. Areas of higher saline concentration occur southeast of St. Mary Lake and in the Fernwood area. Due to elevation differences, these waters are not believed to be a result of sea water encroachment, but rather a result of local geology, where faults and fractures, perhaps acting as conduits, carry non-potable brines from deep bedrock sources. Water quality is generally good at this shallow depth zone in the Scott Point and Long Harbour areas. Sea water encroachment is, however, a problem in these regions with water quality varying from day to day, indicating movement of sea water through the aquifers and controlled by local pumping rates and local recharge. In most cases, T.D.S. values throughout the southern portion of the island are reported less than 200 ppm. This may be attributed, in part, to the geologic environment with an abundance of igneous rock in this region, in contrast to the sedimentary rocks noted to the north. Waters at higher elevation generally have lower T.D.S. values than those in valley regions.

Figure 3 (50- to 150-foot depth zone)

Generally, water quality at this depth zone is benign except in the two saline spring regions (Fernwood area and southeast of St. Mary Lake) and in the Ganges-Booth Bay area. Slightly more fresh water may be found in the Fernwood area at this depth, but quality would still be poor. South of St. Mary Lake, T.D.S. values are found to be slightly greater than in the shallow depth zone. Because of relatively low elevation and surrounding hills, promoting considerable upward groundwater movement, the Ganges-Booth Bay areas report T.D.S. values in excess of 800 ppm. The Scott Point-Long Harbour areas have generally low T.D.S. values except those wells subject to sea water encroachment in coastal regions. T.D.S. values are generally low in the southern portion of the island, the lowest values again found in areas of higher elevation.

Figure 4 (150- to 300-foot depth zone)

As expected, T.D.S. values in this depth zone are slightly higher than those of shallow depths. There are, however, not many deep wells on the island and data is therefore limited to interpretation. East of St. Mary Lake high T.D.S. values are encountered, perhaps directly influenced by deep saline groundwaters which are moving to the surface along faults, fractures or bedding plan The area south of St. Mary Lake is similar to the 50- to 150-foot depth zone, the major difference being the apparent spreading of the saline zone from the Ganges-Booth Bay area towards the southern saline spring located southeast of St. Mary Lake. It is assumed that high T.D.S. values could be encountered at this depth zone in the Scott Point-Long Harbour areas, especially along coastal regions where sea water encroachment is a problem. The Fulford Harbour area appears to have high T.D.S. values and sea water encroachment is apparent in the Beaver Point area in deeper wells.

During the summer of 1973, the Ecology Division of the Water Investigations Branch was assisted by the Groundwater Section in a sampling program of St. Mary, Cusheon, Weston and Maxwell Lakes as part of groundwater investigations on Saltspring Island. Approximately 40 samples were obtained from these lakes and submitted for complete chemical analysis. The Pollution Control Branch are currently monitoring the major lakes on Saltspring Island and reports on their findings are available.

7. CONCLUSIONS

(a) Groundwater throughout Saltspring Island is generally of a benign nature excepting in areas lying in proximity to the two saline spring regions and where groundwater development near some coastal areas has resulted in sea water intrusion.

(b) Present knowledge has shown groundwater to be of superior quality throughout the southern portion of Saltspring Island.

(c) Observation of water quality changes in some wells has shown the fractured and broken nature of some bedrocks prohibit development of groundwater near many coastal regions.

(d) Areas where sea water intrusion has occurred are Scott Point, Southey Point, Beaver Point and Erskine Point.

(e) The majority of water wells on the island report moderate domestic yields of between 1 and 5 gpm with the highest recorded yield reported as 50 gpm.

(f) Approximately 60 percent of groundwater utilized is from drilled wells with the principal aquifer reported as fractured shales and sandstones.

(g) Bedrock wells range in depth from near surface to 500 feet.

8. RECOMMENDATIONS

Where placement of a well near the coast has become necessary because of accessibility, local topography and effective recharge to the aquifer, careful consideration should be given prior to construction to the nature of the fractures in the region, and the effects of long-term pumping.

No observation wells are presently located on Saltspring Island, and some attempts should be made to locate suitable wells in strategic locations where detailed drill logs are available and where wells have been abandoned due to poor water quality. Water level fluctuations could therefore be monitored on a regular daily basis to observe and correlate rate and pattern of water level fluctuation with precipitation, adjacent pumping, etc.

There are numerous potential observation wells sites situated throughout the Ganges Watershed. These wells have been either abandoned (not in use) or may be abandoned due to poor water quality. The wells are all drilled and completed into bedrock ranging in depth from 75 feet to 320 feet. The majority of these wells have very detailed drill log information and could be easily located in the field.

Due to the limited catchment area and available freshwater recharge to the Scott Point Peninsula and numerous reports of sea water intrusion, further groundwater development in this area is not recommended.

Although extensive water sampling has been done on Saltspring Island, a large percentage of samples collected have been obtained from shallow dug wells subject to surface runoff. In the future, a more selective sampling program should be undertaken concentrating on sampling of the deeper drilled wells throughout Saltspring Island, and especially those wells subject to quality change. Consideration might be given to some natural isotope analyses of the saline springs at Fernwood and area southeast of St. Mary Lake to delineate the nature of groundwater movement in these areas. This information would be of value in understanding groundwater flow systems in the Gulf Islands.

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W. S. Hodge.

W. S. Hodge
Engineering Assistant
Groundwater Section
Hydrology Division
Water Investigations Branch
Ministry of the Environment

SALTSPRING ISLAND

he [illegible] owing groundwater information is one file for Saltspring sl[illegible]:

1. Aerial photograph mosaics prepared in October 1972 by T. Quin using photo flight numbers B.C. 5261 air photo numbers 206-217, 251-261, B.C. 5262 air photo numbers 1-31, 65-129. Scale 1 inch = 1320 feet. Available in three sheets.

2. Contoured maps of Saltspring Island showing watershed boundaries. Contour interval 25 feet. Scale 1 inch to 2000 feet. Based on photogrametric mapping carried out by the Survey and Mapping Branch, Lands Service. Available in two sheets.

3. Population distribution maps of Saltspring Island (1972) showing locations of permanent and summer residences based on information obtained from the Capital Regional District and the B.C. Telephone Company. Scale 1 inch to 2000 feet. Available in two sheets.

4. Well location maps of Saltspring Island. Map Numbers 2, 3, 4, 22-32 Cowichan Land District 15.

5. Report and four maps: Cretaceous Geology of Saltspring Islands. (North half) by R.V. Best, Judi Wensby and others. Scale of maps 1 inch = 2000 feet.

6. Work Sheets: Locations of selected wells are given for Saltspring Island in which water samples have been taken for analyses. Values are given for well depth and total dissolved solids.

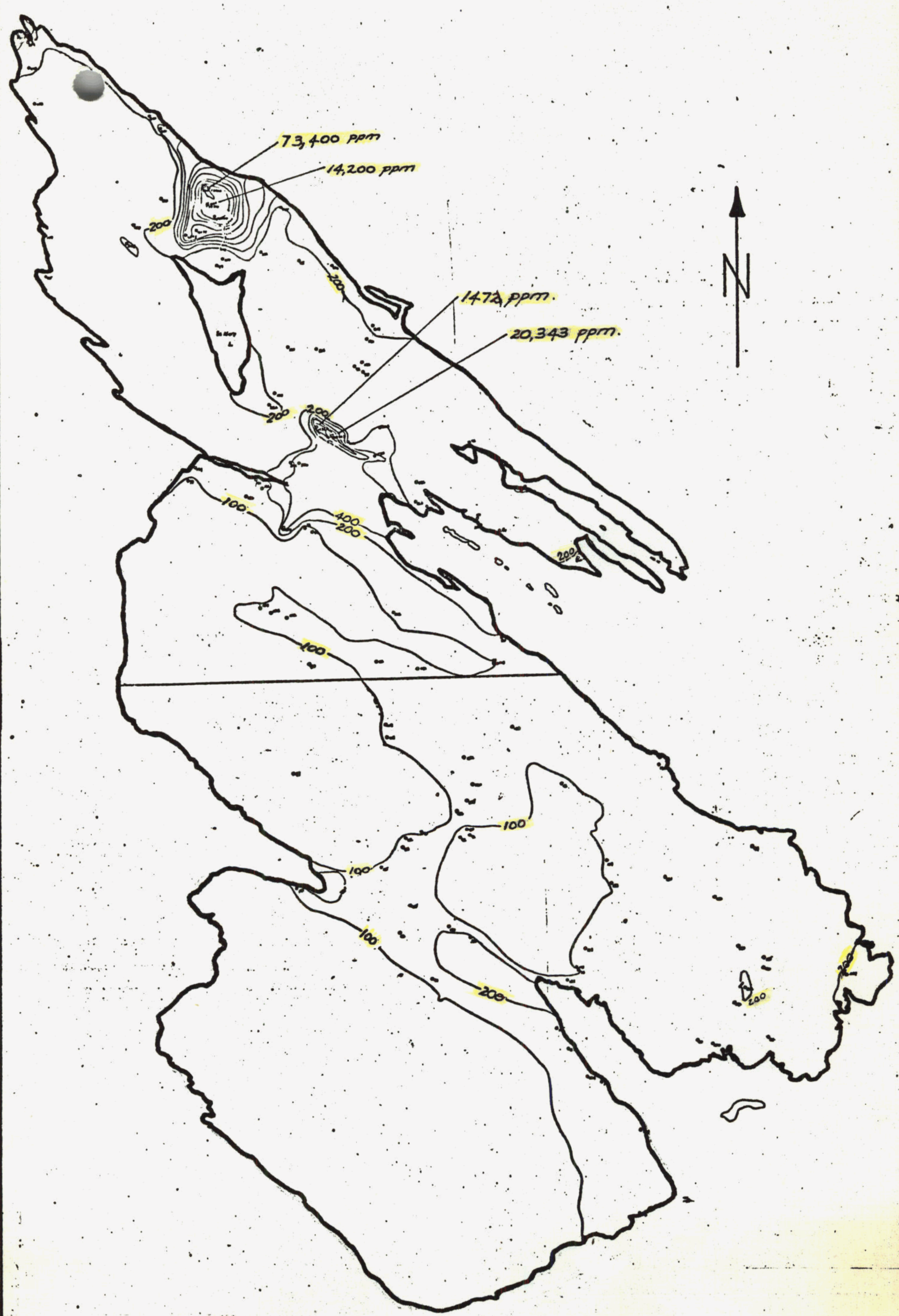
7. Work sheets: Highly interpretive contour maps of total dissolved solids in three depth zones on Saltspring Island namely 0-50 feet, 50-150 feet, 150-300 feet.

8. Approximately 657 well record cards are on file for Saltspring Island. An additional 200 well record cards are on file but are presently unlocated and unplotted.

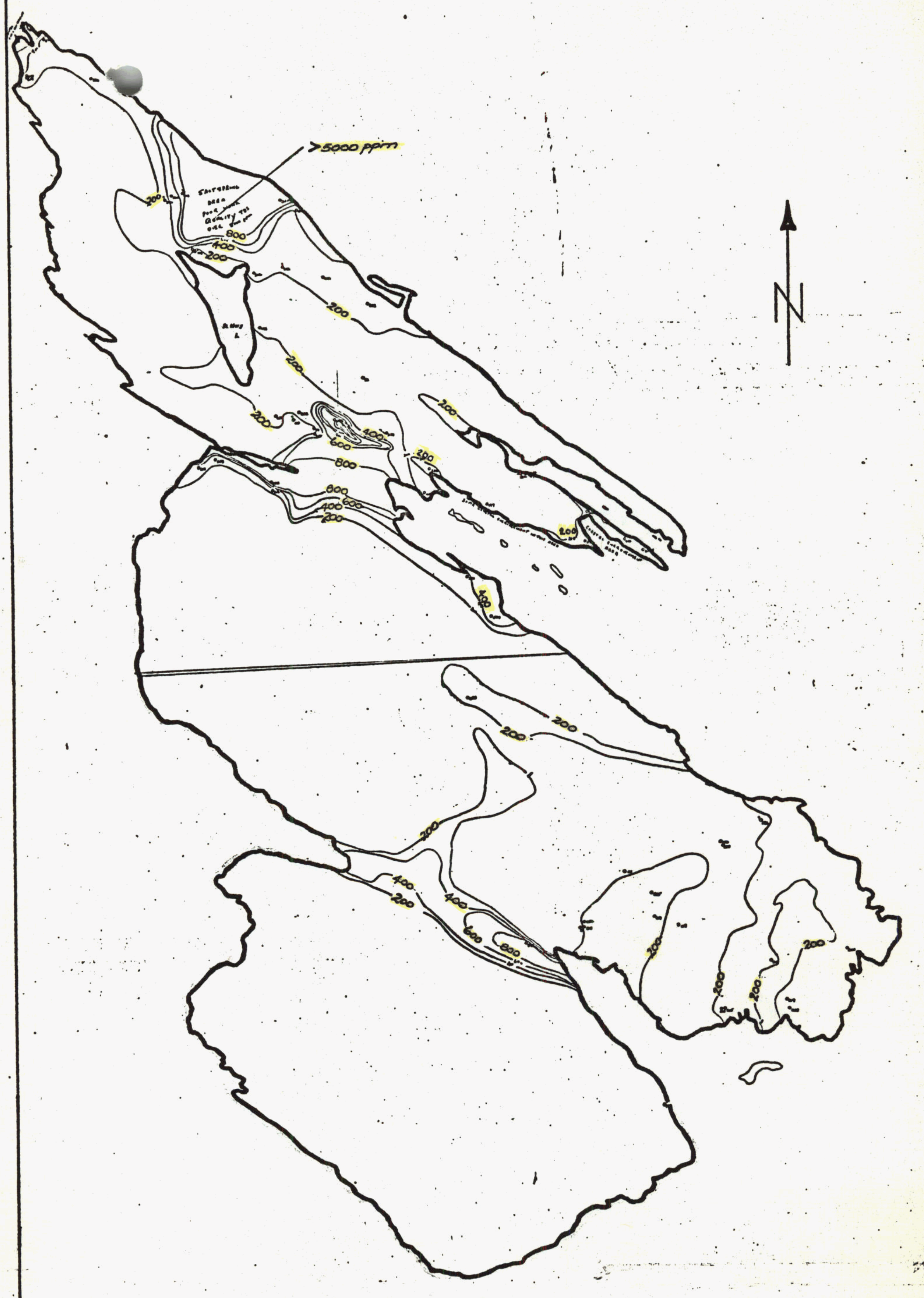
9. About 130 samples have been taken and analysed for major chemical constituents. These analyses have been tabulated and presented in order. Another 40 samples have been taken from the main lakes as well.

10. An additional 70 samples have been taken and analysed using the Hach DREL engineers field laboratory kit for major chemical constituents excluding potassium and solium, however an approximation was obtained for these two constituents by means of an ionic balance, with the other major ions analysed.

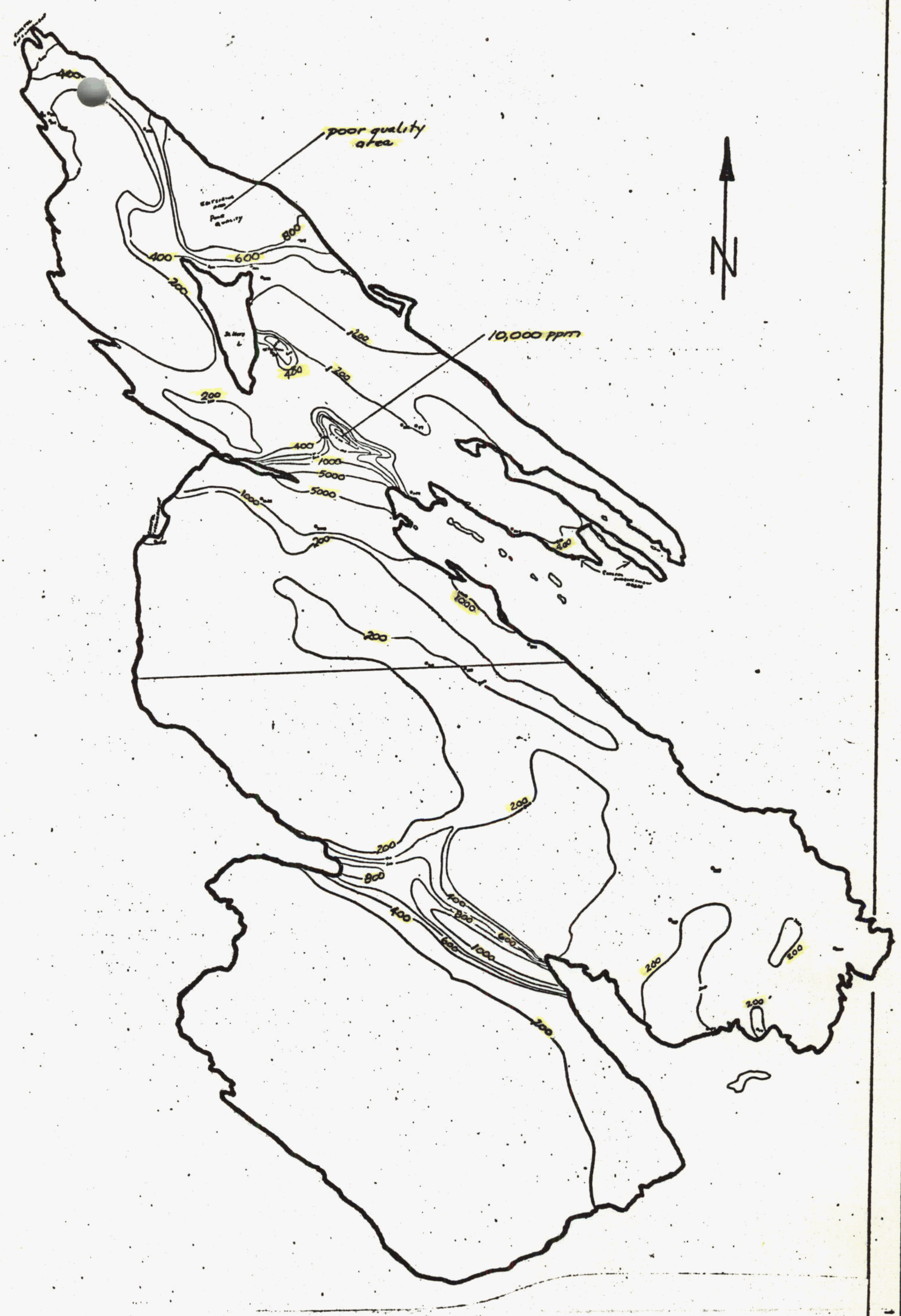
11. Miscellaneous internal memoranda, notes, reports dealing with groundwater problems in specific areas of Saltspring Island are on file in this office.



MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH HYDROLOGY DIVISION GROUNDWATER SECTION	SALTSPRING ISLAND Total Dissolved Solids (T.D.S.) in p.p.m. (0-50' depth zone)
ENGINEER.	FILE NO. 0239013 FIG. NO. 2



MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH HYDROLOGY DIVISION GROUNDWATER SECTION	SALTSPRING ISLAND Total Dissolved Solids (T.D.S.) in p.p.m. (50-150' depth zone)
ENGINEER. ______	FILE NO. 0239013 FIG. NO. 3



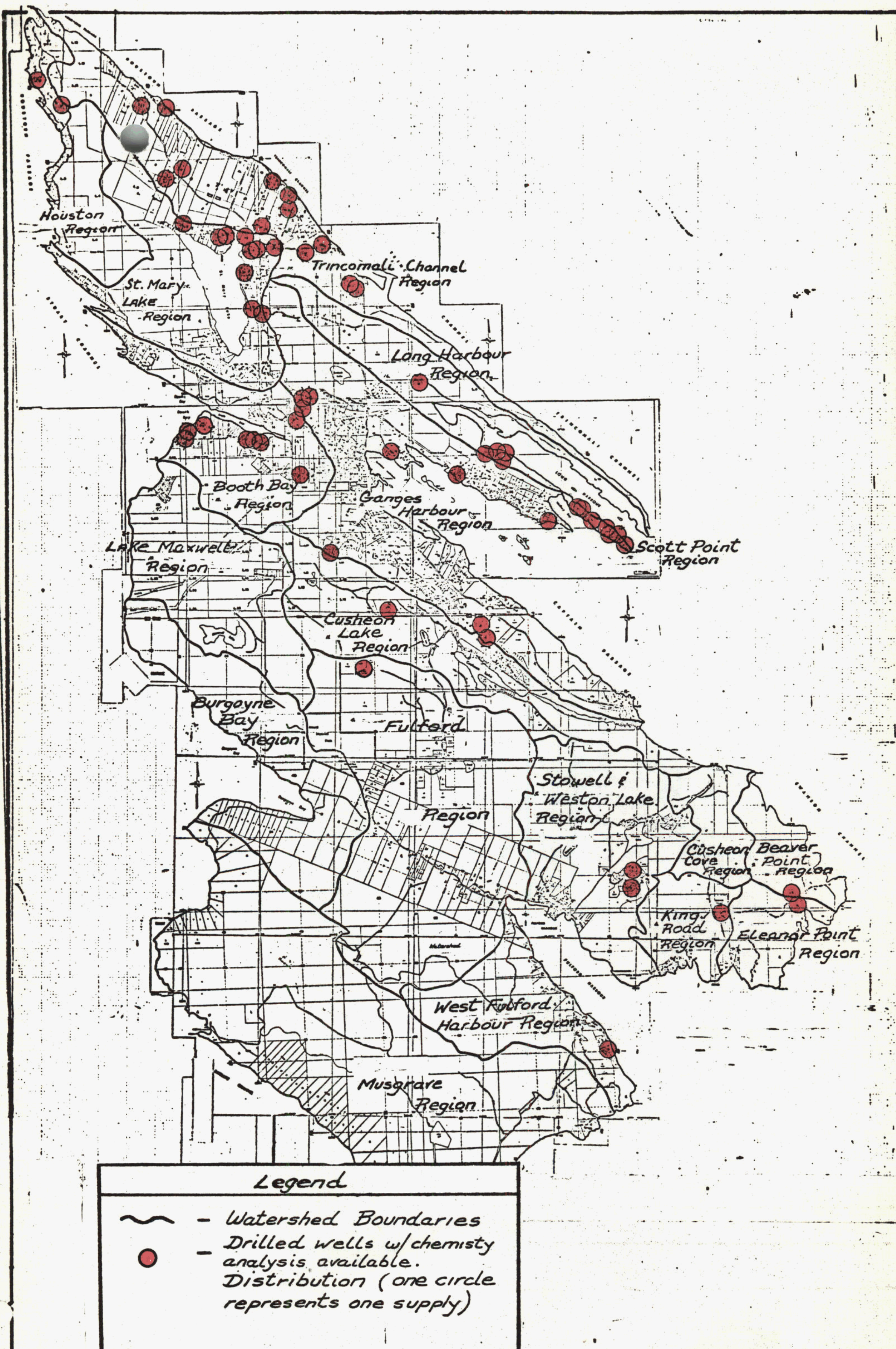
MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH HYDROLOGY DIVISION GROUNDWATER SECTION	SALTSPRING ISLAND Total Dissolved Solids (T.D.S.) in p.p.m. (150-300' depth zone)
ENGINEER.	FILE NO. 0239013 FIG. NO. 4

Legend

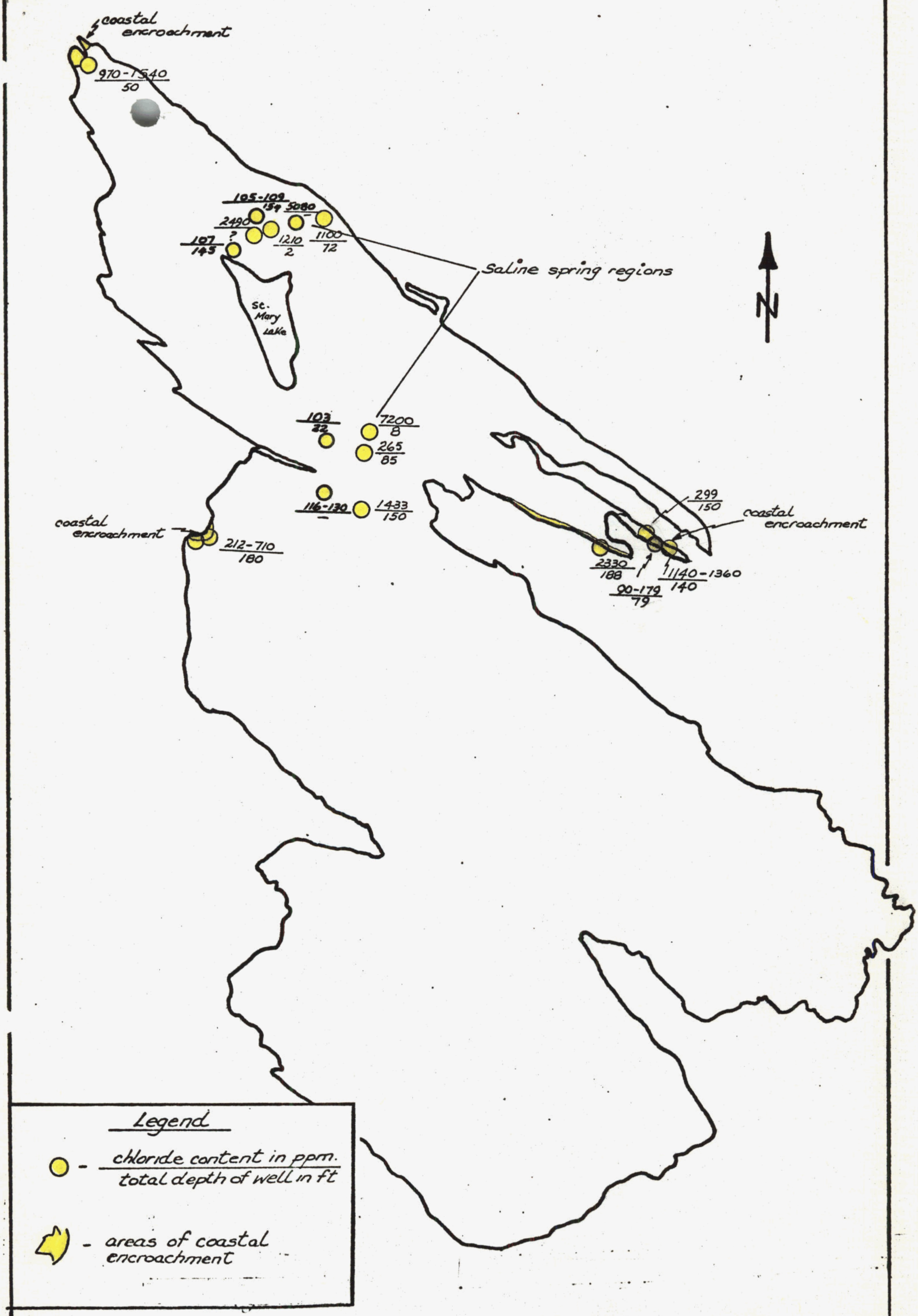
- Watershed Boundaries

● – Springs & dug wells w/ chemistry available
Distribution (one circle represents one supply)

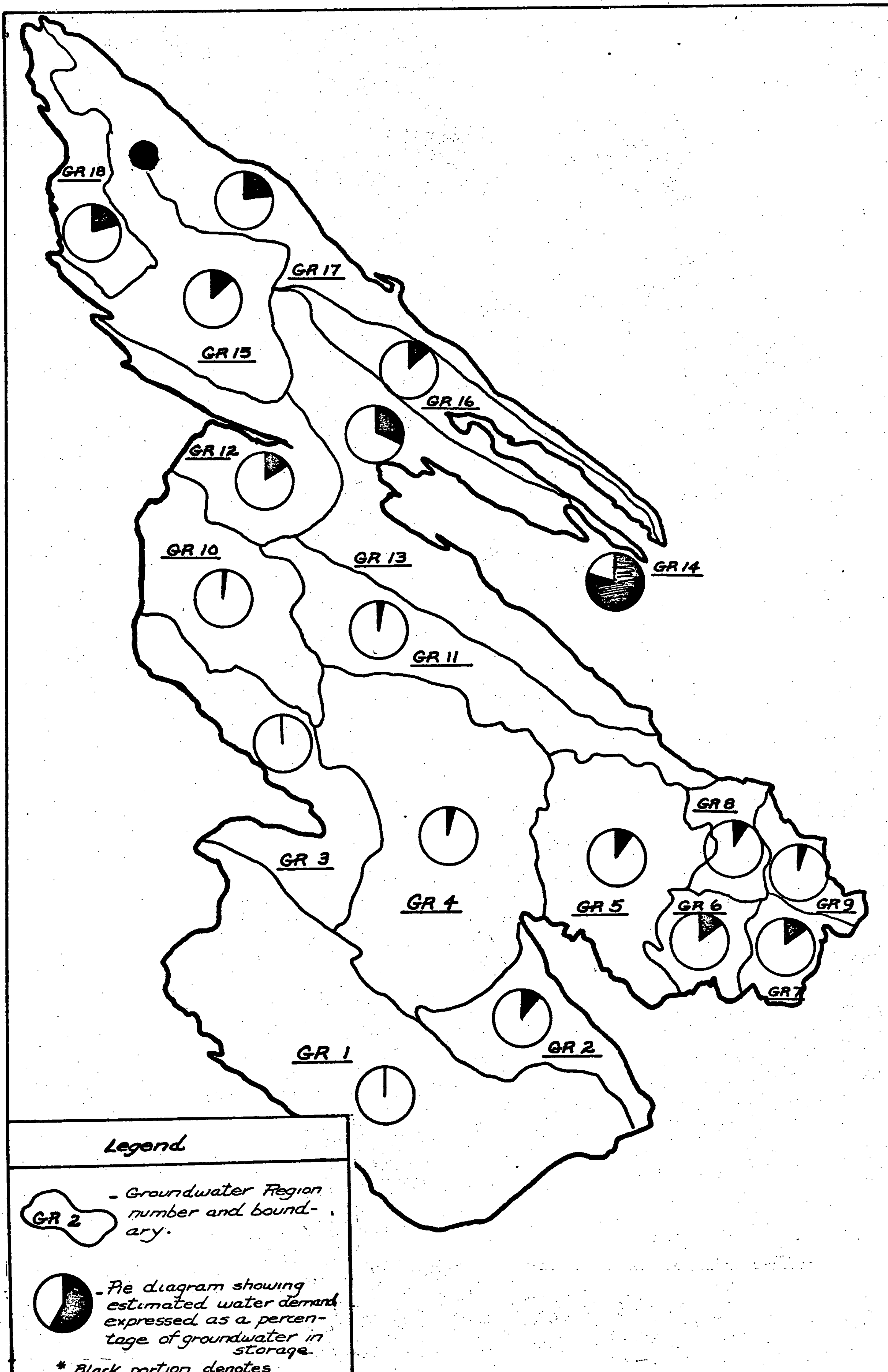
MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH HYDROLOGY DIVISION GROUNDWATER SECTION	SALTSPRING ISLAND Springs and Dug wells with Chemical Analysis Available
ENGINEER.	FILE NO. 0239013 FIG. NO. 5



MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH HYDROLOGY DIVISION GROUNDWATER SECTION	SALTSPRING ISLAND Drilled Wells with Chemical Analysis Available
ENGINEER.	FILE NO. 0239013 FIG. NO. 6



MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH HYDROLOGY DIVISION GROUNDWATER SECTION	SALTSPRING ISLAND Wells and Springs with Chloride Values in Excess of 100 p.p.m.
ENGINEER.	FILE NO. 0239013 FIG. NO. 7



MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH HYDROLOGY DIVISION GROUNDWATER SECTION	SALTSPRING ISLAND Demand-Storage Percentages
ENGINEER.	FILE NO. 0239013 FIG. NO. 8

TABLE 2 - QUANTATIVE ESTIMATES OF PRESENT GROUNDWATER USE BASED ON AVAILABLE STORAGE

Note: Table based on number of wells within Groundwater Region

Groundwater Region	Area in Acres	Estimated groundwater in storage recov. by mining (200 ft. aquifer depth)	Wells in Groundwater Region	Estimated yield in gpm usage (500 gpd. per well)	Est. groundwater usage in gallons based on 500 gpd per well (100 days pumping)	Estimated available recharge to groundwater from precip. USgal	Groundwater usage vs available recharge (%)	Actual usage vs. groundwater in storage (%)
1. Musgrave	7974.46	159.49	5	1.74	2.5×10^5	216.5×10^6	.1	.5
2. W. Fulford Harbour	1947.71	38.95	31	10.75	1.5×10^6	52.8×10^6	2	11.80
3. Burgoyne Bay	2683.52	53.67	3	1.04	1.5×10^5	72.8×10^6	.3	.85
4. Fulford Harbour	6168.13	123.36	47	16.32	2.35×10^6	167.5×10^6	1	5.8
5. Stowell & Weston Lake	3013.76	60.28	45	15.62	2.25×10^6	81.8×10^6	3	11.4
6. King Road	897.28	17.95	22	7.64	1.1×10^6	24.4×10^6	4	17
7. Eleanor Point	811.84	16.24	14	4.86	7×10^5	22.0×10^6	3	13.2
8. Cusheon Cove	848.96	16.98	9	3.12	4.5×10^5	23.0×10^6	2	8.13
9. Beaver Point	768.00	15.36	5	1.74	2.5×10^5	20.8×10^6	.1	5.0
10. Lake Maxwell	2688.00	53.76	8	2.78	4×10^5	72.9×10^6	.5	2.3
11. Cusheon Lake	2792.70	55.85	14	11.86	7×10^5	75.8×10^6	.9	3.8
12. Booth Bay	2195.20	43.90	45	15.62	2.25×10^6	59.6×10^6	4	15.7
13. Ganges Harbour	1580.74	91.39	203	70.49	10.15×10^6	42.9×10^6	24	34.1
14. Scott Point	76.93	1.54	8	2.78	4×10^5	2.08×10^6	19	79.7
15. St. Mary Lake	2841.47	56.83	41	14.27	2.1×10^6	77.1×10^6	3	11.3
16. Long Harbour	1580.74	31.61	25	8.68	1.25×10^6	39.7×10^6	3	12.1
17. Trincomali Channel	3200.00	64.00	96	33.3	5×10^6	86.9×10^6	6	23.9
18. Houston	1420.93	28.42	36	12.5	1.8×10^6	38.6×10^6	5	19.4

Saltspring Island
Well card Inventory

Sept 13, 1976

Watershed 13. GANGES HARBOUR

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer: Sand & Grav.	Aquifer: Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	Remarks
2	X4 Y9	DRILL	230'						3'	2 1/2 GPM	1968	#1400653	Fe 0.1 COND. 275 Ph 6.5 NO LITHOLOGY
5	X4 Y9	DUG	10'						6'			#1400526	Fe 0.25 Ph 6.75 COND. 200
1	X4 Y11	DRILL	33'	GRAVEL						3 GPM	1959	#1400110	FLOWS AT 1/2 GPM. Fe 1.75 ph 8.5 COND. 480
6	X4 Y11	DRILL	60'	GRAVEL					45'	8 GPM	1962	#1400421	Fe 0.25 Ph 7.5 COND. 350
7	X4 Y11	DUG & S.P.	50'	SAND									
8	X4 Y11	DRILL	85'	BLUE SAND					59'			#1400115	LOTS OF WATER Fe 0.2 Ph 7.25 COND. 260
9	X4 Y11	CABLE TOOL	158'	SHALEY SANDSTONE →	✓		✓		52'	3 GPM ?	1969	#1400113	Fe 0.1 Ph 8 COND. 600
10	X4 Y11	"	51'	✓					39'	5 GPM	1968	#1400114	Fe 0.75 COND. 360
12	X4 Y11	DRILL	63'	SAND						20 GPH			NO LONGER KNOWN OF OR USED
12a	X4 Y11	"	92'								BEFORE 1964		SULPHUR (?) Fe 2.5 Ph 6.75 COND. 350
14	X4 Y11	DRILL	100'? 92'	SANDSTONE →	✓		✓			2 GPM	1972		Fe 0.2 Ph 7.7 COND. 1500
15	X4 Y11	DRILL	95'	" →	✓		✓			20 GPH	1960		
16	X4 Y11	SPRING											Fe 0.1 Ph 6.25 COND. 2000
17	X4 Y11	8' SPRING										#1400578	Fe 3.5 Ph 6.75 COND. 8000 BROWN, DIRTY, HYDROGEN SULPHIDE
18	X4 Y11	DRILL	140'	SHALEY SANDSTONE →					49'	3 GPM	1973		Fe 0.2 Ph 9 COND. 340 SILT SUSPENSION PROBLEM
21	X4 Y11	CISTERN & SPRING											Fe 0.1 Ph 7.0 COND. 255 SUPPLIES 2 FAMILIES - IRRIGATION
22	X4 Y11	DRILL	250'	SHALE SANDSTONE →							1974		
24	X4 Y11	DRILL	250'	SANDSTONE →						400-500 GPD			Fe 0 Ph 6 COND. 160
2a	X4 Y12	SPRING	8'										Fe 0.5 Ph 6 COND. 155
2b	X4 Y12	SPRING	6'										
4	X4 Y12	DRILL	27'	SHALE →	✓		✓		8'	1/2 GPM	1962		FILLED IN - 1973
9	X4 Y12	DRILL	232'		✓		✓			15 GPH	1971		
10	X4 Y12	DUG?	30'										IRON TASTE
17	X4 Y12	DRILL	194'						20'				Fe 1.0 Ph 7 COND. 625
18	X4 Y12	DRILL	195'	SHALE →	✓		✓			1/2 GPM	1972		
19	X4 Y12	DRILL	107'	SHALE →	✓		✓		10'	1/2 GPM	1971		
1	X5 Y9	DRILL	225'							2 GPM	1967		NOT BEING USED
2a	X5 Y9	DRILL	125'	GRAVEL CONGLOMERATE →	ROCK SOME SHALE ✓		✓		20'	2 GPM	1967	#1400579	Fe >5 Ph 7 COND. 290 NOT BEING USED (1973)
2b	X5 Y9	CREEK											
3	X5 Y9	DRILL	150'	SANDSTONE →	CONGLOMERATE ROCK ✓		✓			2 1/2 GPM	1967		
4	X5 Y9	"	96'							4 GPM	1968		
5	X5 Y9	"	145'		CONGLOMERATE ✓		✓			1 GPM	1968		
6	X5 Y9	DRILL	125'	SHALE SANDSTONE →	✓		✓			2 1/2 GPM	1967		
7	X5 Y9	DRILL	50'	SANDSTONE →	✓		✓			4 GPM	?		
8	X5 Y9	"	140'		CONGLOMERATE ✓		✓		126'	2 1/2 GPM			
1	X5 Y10	SPRING		SANDY TILL									
2	X5 Y10	DRILL	40'	SHALEY SANDSTONE →	✓		✓		2' OVER		1962		
3a	X5 Y10	SPRING	6'	GRAVEL + SANDSTONE →							1923	Fe 0.1 Ph 6.5 COND. 245	SEE CARD - DEPRESSION W.T. GOOD - YEAR ROUND? W.B. SAND
3b	X5 Y10	DRILL	135'							1 1/2 GPM		Fe 0.25 Ph 7 COND. 400	GOOD YEAR ROUND
4	X5 Y10	DRILL	65'	SHALE →	✓		✓			4 GPM	1971		
5	X5 Y10	DRILL	130'		CONGLOMERATE ✓		✓			6 GPM	1972		
6	X5 Y10	DRILL	50'	SANDSTONE →	✓		✓			1 GPM	1970		
7	X5 Y10	DRILL	95'	BLACK SHALE →	✓		✓			2 GPM	1972		
8	X5 Y10	DRILL	123'	GREY SANDSTONE →	✓		✓		38'	1 1/2 GPM	1971		
9	X5 Y10	DUG	21'						16'				Fe 0.1 Ph 6.5 COND. 250
10	X5 Y10	DRILL	123'	SANDSTONE →	✓		✓			3 GPM	?		
11	X5 Y10	"	125'	SANDSTONE →	✓		✓			1/2 GPM	1973		
1	X5 Y11	DRILL	90'	SHALE →	✓		✓		5'	20 GPH	1960		
2	X5 Y11	"	150'							5-6 GPM	1965		
3a	X5 Y11	DRILL	320'	SHALE + SANDSTONE →	✓ } SAME WELL		✓			5 GPM	1971	#1400521	NOT IN USE
3b	X5 Y11	DRILL											
4	X5 Y11	DRILL	170'	SANDSTONE →	✓		✓		25'	1 GPM	1959		
5	X5 Y11	DUG	12'	SAND					3'				
6	X5 Y11	DRILL	64'						31'	3/4 GPM	1969		
7	X5 Y11	DRILL	65'	SANDSTONE →	✓		✓		20'	10 GPM	1954		
8	X5 Y11	DRILL	155'	SANDSTONE →	✓		✓			75 GPH	1950		
9	X5 Y11	DRILL	32'	COARSE SAND FINE GRAVEL					20'	2 GPM	1957		
10	X5 Y11	"	141'		✓		✓		5' WINTER	50 GPH	1950	Fe 0 Ph 7.25 CON. 590	
11a	X5 Y11	DRILL	81'	SANDSTONE →	✓		✓		10'	2 GPM	1947?		GEOLOGICAL LOG AVAILABLE ON FILM NO. 8 G.S.C.
11b	X5 Y11	DUG	25'									Fe 0.25 COND. Ph 6.25 340	ABANDONED
11c	X5 Y11	DRILL	205'		✓		✓				PRE 1968		SEE CARD

Saltspring Island

Well card Inventory

Sept 13, 1976

13.
Watershed GANGES HARBOUR

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
12	X5 Y11	DRILL	60'	SHALE →	✓		✓			2 GPM	1970		
13a	X5 Y11	DRILL	135'	SANDSTONE →	✓		✓			20 GPM	1970		SEE CARD
13b	X5 Y11	"	300'						5'	1/4 GPM	1968	Fe 0.1 Ph 5.75 COND 130	NOT BEING USED NEARLY DRY
13c	X5 Y11	"	205'							APPROX 2 GPM	1968	Fe 0.5 Ph 7.0 COND 460	
14	X5 Y11	DUG	14'	SAND								Fe 0 Ph 7.25 COND. 325	
15a	X5 Y11	DRILL	180'	BLACK SHALE →	✓		✓		19'	1 GPM	1961		
15b	X5 Y11	"	70'	SHALE OVER SANDSTONE →	✓		✓				1973	#1400577	Fe 0.2 Ph 7.75 COND. 410
16	X5 Y11	"	250'	SHALE + SANDSTONE →	✓		✓			1 GPM	1971		
17	X5 Y11	DRILL	190'	SHALEY SANDSTONE →	✓		✓		52'	1 GPM	1969		
18	X5 Y11	"	90'						18'	2 1/2 GPM	1970		
19	X5 Y11												SEE X5 Y11 #13c (?)
20	X5 Y11												" "
21	X5 Y11	DRILL	255'	SANDSTONE →	✓		✓			1/2 GPM	1974		
2	X6 Y8	DUG	6'	GRAVEL								Fe 1.4 Ph 6.25 COND 180	YELLOWISH COLOUR
5	X6 Y8	DR.	100'	GRANITE →	✓		✓			2 GPM	1973	#1400670	Fe .25 Ph 6.7 COND 285
6	X6 Y8	"	100'	SANDSTONE →	✓		✓			3 1/2 GPM	1973	#1400669	
7	X6 Y8	"	95'	SANDSTONE →	✓		✓			12 GPM	1973		
8	X6 Y8	"	170'	SANDSTONE →	✓		✓			2 1/2 GPM	1973		
9	X6 Y8	"	95'	SANDSTONE →	✓		✓			2 GPM	1973		
10	X6 Y8	"	175'	SANDSTONE →	✓		✓			2 GPM	1973		
13	X6 Y8	"	95'		GRANITE CONGLOMERATE ROCK ✓		✓			5 GPM	1973		
14	X6 Y8	"	145		GRANITE ✓		✓			2 1/2 GPM	1973		
1	X6 Y9	DRILL	163'	SHALE →	✓		✓			5 GPM	1959		FAULT
2	X6 Y9	DUG	7'	CLAY?									
3	X6 Y9	DRILL	222	SANDSTONE →	✓		✓		1/4'	2 1/2 GPM	1959		NOT BEING USED
4	X6 Y9	DUG	12'	TILL									
5	X6 Y9	DRILL	96'	FINE SAND		✓			26'		1959	Fe 3.88 Ph 6.6	
6a	X6 Y9	DUG	20'	CLAY ?									DRY IN SUMMER
6b	X6 Y9	DUG	*	SAND									
7	X6 Y9	DUG	12'	TILL					10'				
8	X6 Y9	DRILL	115'	CLAY ?					20'				
9	X6 Y9	"	175'	SHALE →	✓		✓			1 1/2 GPM	1967		
10a	X6 Y9	DUG	25'	GRAVEL									
10b	X6 Y9	DR	185 ?							1 GPM	1971		
11a	X6 Y9	DRILL	112'	SANDSTONE →	✓		✓		7'	1/2 GPM	1962		
11b	X6 Y9	DUG	12'						8'			Fe 3.5 Ph 6.5 COND 300	
11c	X6 Y9	DRILL	150'								1965		SUPPLIES 2 RESIDENCES
12	X6 Y9	DRILL	95'							15 GPH	1939		
13	X6 Y9	DRILL	84'		ROCK ✓		✓		FLOWS	2 GPM	1963		
14	X6 Y9	DRILL	310'	BLACK SHALE →	✓		✓			20 GPH	1965		
15	X6 Y9	DRILL	190'		✓		✓			2 GPM	?		
16	X6 Y9	DRILL	138'							2 1/2 GPM	1968	Fe 0.1 Ph 8.0 COND 1000	
17 a & b	X6 Y9	SPRING	10' 20'	FOSSIL-BEARING SHALE →	✓		✓		SURFACE			#1400524	10' - SMELLS OF SULPHUR IN AUGUST
18	X6 Y9	DR.	120'							3 GPM	1971		
19	X6 Y9	"	70'							4 GPM	1972	#1400650	"VERY HARD" IRRIGATION
20	X6 Y9	"	200'	BLACK SHALE FRACTURE →	✓		✓			2 GPM	1974		
1	X6 Y10	DRILL	97'	SANDSTONE →	✓		✓		2'	0.4 GPM	1958		
2a	X6 Y10	DRILL	100'	SHALE SANDSTONE →	✓		✓		32"	2 GPM	1957	Fe 1.25 Ph 6.0 COND. 310	WATER QUALITY VARIES DAY TO DAY
2b	X6 Y10	"	30'									Fe 2.0 Ph 7 COND. 230	
3	X6 Y10	DRILL	125'	SANDSTONE →	✓		✓		16'	1 GPM	1959		
4	X6 Y10	DRILL	98'	SANDSTONE →	✓		✓		23'	10 GPM	1958		
5	X6 Y10	"	85'	SHALE →	✓		✓			1/6 GPM	1967		SALTY - NOT USED
6	X6 Y10	DRILL	150'							10 GPH	1950		
7	X6 Y10	DRILL	108'	SHALEY SANDSTONE →	✓		✓		35'	1/2 GPM	1965		SALTY
8	X6 Y10	DRILL	30'						14'	220 GPH	1950	Fe 0.6 Ph 6.0 COND. 325	
9	X6 Y10	"	70'										
10	X6 Y10		30'										
11	X6 Y10		35'		✓					?	1954		
12	X6 Y10	DRILL	60'	SANDSTONE →	✓		✓		FLOWING	5 GPM	1960		
13	X6 Y10	DRILL	60'								≈ 1950		
14	X6 Y10	DRILL	40'							75 GPH	1941		

Saltspring Island
Well card Inventory

Sept 13, 1976
13.
Watershed GANGES HARBOUR

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
15	X6 Y10	DRILL	200'	SANDSTONE →	✓		✓		10'	1/2 GPM	1947		
16	X6 Y10	DRILL	160'	SHALEY SANDSTONE →	✓		✓		20'	2 GPM	1971		
17	X6 Y10	DRILL	62'	SANDSTONE →	✓		✓		20'	1 GPM	1947		
18	X6 Y10	DUG	13'						9'			Ph 6.75 COND. 280	
19	X6 Y10	DR	148'	SANDSTONE →	✓		✓			2 GPM			
20	X6 Y10	DRILL	61'	SHALEY SANDSTONE →	✓		✓		FLOWING	6 GPM	1973		
21	X6 Y10	DRILL	121'	"					45'	5 GPM	1974		
1	X6 Y11	"	110'								≈ 1950		
3	X6 Y11		14'										
4	X6 Y11		20'									#1400576	Fe 5.0 COND. 130 Ph 6
1	X7 Y8		SPRING										
2	X7 Y8	DUG	? 12'										
1	X7 Y9	DRILL	200'	SANDSTONE →	✓		✓		38'	1.5 GPM	1959		
2	X7 Y9	DUG	12'										SEE X7 Y9 #10
3	X7 Y9	DR	165'	SHALE →	✓		✓			1 GPM	1965	Fe 2.0 Ph 7 Cond 350	
4 a/b	X7 X9	DUG / DUG	35 / 10							2 GPM			
5	X7 Y9	DUG	40	S & G						2 GPM	1971		
6	X7 Y9	DRILL	75'							7 GPM	1971		NOT BEING USED
7	X7 Y9	DRILL	65'	SHALE →	✓		✓		12'	1 GPM	1967		
8	X7 Y9	DRILL	40'	S & G						1.5 GPM	1971		
9	X7 Y9	DRILL	56'	SHALE →	✓		✓		18'	1 GPM	1959		
10	X7 Y9	DUG	14'										
11	X7 Y9	DUG	12'										
12	X7 Y9	SPRING	4'										FLOWING FOR 25 YEARS
13	X7 Y9		40'						3'	1.5 GPM	1971		
14	X7 Y9	DRILL	145'	SHALE SANDSTONE →	✓		✓		5'	5 GPM	1973		
1	X7 Y10	DRILL	65'	SANDSTONE →	✓		✓		6'	1 GPM	1958		
2	X7 Y10	DRILL	50'	~~BEDROCK~~	BEDROCK ✓		✓			3 GPM			
3	X7 Y10	DRILL	115'	SANDSTONE →	✓		✓		9'	5 GPM	1959		
4	X7 Y10	DRILL	132'	SANDSTONE →	✓		✓		23'	20 GPH	1963		
5	X7 Y10	DRILL	96'	" →	✓		✓		11'	3 GPM	1958		
6	X7 Y10	DUG	11 1/2'						18"				
7	X7 Y10	DRILL	105'	D	BEDROCK ✓		✓			140 GPH	1941		
~~8~~	~~X7 Y10~~	~~DRILL~~	~~30'~~							100 GPH	1950		
9	X7 Y10	DRILL	65'		✓				55'	4.5 GPM	1964		M & R WATERWORKS
10	X7 Y10	DRILL	80'	SANDSTONE →	✓		✓			2 GPM	1966		
11	X7 Y10	DRILL	24'	SHALE →	✓		✓		7' →	15 GPM	1963	Fe 3.5 Ph 6.5 COND. 350	LARGE FAULT AT 17'
12	X7 Y10	DRILL	70'	GREY SANDSTONE →	✓		✓		32'	14 GPM	1965		
13	X7 Y10	DRILL	55'	GREY SANDSTONE →	✓		✓		10'	2 1/2 GPM	1965		
14	X7 Y10	"	130'	SHALEY SANDSTONE →	✓		✓		89'	5 GPM	1967		
15	X7 Y10	"	253'	SHALE & SANDSTONE →	✓		✓		65'	1 1/4 GPM	1968		SALTY HARD
16	X7 Y10	DRILL	120							120 GPH	1941		
17	X7 Y10	DRILL	100'							100 GPH	1934		
18	X7 Y10	DRILL	105'	SANDSTONE →	✓		✓		8'	2 GPM	1958		
19	X7 Y10	DRILL	121'	SANDSTONE →	✓		✓		40'	3 GPM	1947		
20	X7 Y10	DRILL	234'	BLACK SHALE →	✓		✓		18'	1/3 GPM	1954		
21	X7 Y10	DRILL	94'	SANDSTONE →	✓		✓		12'	2 GPM to 4-5 GPM	1954		
24	X7 Y10	DUG	14'						8' Summer 4' Winter				
25	X7 Y10	DRILL	80'						30'	13 GPM	1970		
26	X7 Y10	"	185'							20 GPM	1962		SALTY HARD
27a	X7 Y10	"	188'	? SANDSTONE →	✓		✓		55'	1 1/3 GPM	1968	#1400582	COND. 8000 Fe 0.1 Ph 7.75 QUALITY CHANGES DAILY
27b	X7 Y10						AS	ABOVE					
28	X7 Y10	"	77'	SANDSTONE →	✓		✓		10'	20 GPM	1969		
30	X7 Y10	DRILL	170'	SHALE GRANITE →	✓		✓		22-25'	4 GPM	1972		
31	X7 Y10	DRILL	155'	SANDSTONE SEAM OF SHALE →	✓		✓			10 GPM	1972		
32	X7 Y10	DRILL	120'	" →	✓		✓			6 GPM	1972	Fe 0.5 Ph 7.75 Cond. 580	
33	X7 Y10	DRILL	50'	BLACK SHALE →	✓		✓			8 GPM	1972		
35	X7 Y10	DRILL	70'	" →	✓		✓		10'	1 1/2 GPM	1972		
37	X7 Y10	"	170'		✓		✓		16'	1 GPM		Fe 0.5 Cond. 600 Ph 6.5	
38	X7 Y10	"	115'						5'	7 GPM	1963	Fe 0.1 Cond. Ph 6.9 475	
39	X7 Y10	"	325'	BLACK SHALE →	✓		✓				1974		DRY HOLE

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Saltspring Island
Well card Inventory

Sept 15, 1976

Watershed 13. GANGES HARBOUR

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
41	X7 Y10	DRILL	120'		SHALE		✓		18'	1/2 GPM	1974		
42	X7 Y10	DRILL	70'		SHALEY SANDSTONE		✓		6'	5 GPM	1973		
43	X7 Y10	DRILL	120'		SHALEY SANDSTONE		✓		46'	2 GPM	1974		
44	X7 Y10	DRILL	60'		SANDSTONE		✓		14'	5 GPM	1974		
45	X7 Y10	"	125'		SHALE SANDSTONE		✓			8 GPM	1974		
46	X7 Y10	DUG	30'	✓					22'				FILLED IN
47	X7 Y10	DRILL	70'		SANDSTONE		✓		22'	10 GPM	1966		
48	X7 Y10	"	62'		SANDSTONE		✓		12'	10 GPM	1966		
49	X7 Y10	"	63'		SANDSTONE		✓		3'	4 GPM	1966		
1	X8 Y7		SPRING										
2%	X8 Y7	DUG	14' 10'										
3	X8 Y7	DRILL	140'		SHALE		✓			5 GPM	1969		
4	X8 Y7	DRILL	100'								1966		
5	X8 Y7	BACK-HOE	11'	✓							1973	Fe 0.1 Ph 7 Cond. 275	
6	X8 Y7	DRILL	50'		SHALE		✓			3/4 GPM	1974		
1	X8 Y9	DRILL	140'		✓		✓		98'		1964	#1400581	Fe 0.4 Ph 7.9 Cond 4250
2	X8 Y9	"	115'		SANDSTONE		✓			4 GPM	1975	#1400111	Fe 1.25 COND. 1200
3	X8 Y9	"	175'		SANDSTONE		✓			1 1/4 GPM	1975	#1400119	Fe 5.0
4	X8 Y9	"	190'		SANDSTONE		✓			1 1/2 GPM	1975		
5	X8 Y9	"	245'		SANDSTONE		✓			4 1/2 GPM	1975		FRACTURE AT 70'

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– Scott Point Watershed

Total • 203 well logs

Saltspring Island
Well card Inventory

Sept 13, 1976

15. Watershed St MARY LAKE

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
13	X4 Y11	Dr.	195		✓–						July 1947		DRY HOLE
2	X1 Y13	Dug	18'				Conc. 6X6'				?	Fe. 2.25 COND. 150 Ph 6	
4	X2 Y15	DR.	52'								July 1963		DRY TO 52'
1	X1 Y13	DR.	135'		✓					2gpm @122'	SEPT 1946		abandoned ?
19	X4 Y11	DR.	?		✓					12gpm @ 90'	?	Fe .1 COND. 180 Ph 7.25	no log.
1	X4 Y12	Dug.	18'		✓		5' STONE			Flowing. ?	?	Fe .1 Ph 6 COND 180	#1400416
3	X4 Y12	DR.	75'		✓		✓		19'	2gpm	JUNE 1963		
5	X4 Y12	DR	30'		✓		✓		8'	1.5gpm @25'	NOV 1959	–	
6	X4 Y12	DR.	150		✓		✓		16'	½gpm @135'	SEPT 1966		
7	X4 Y12	DR.	28'	HARDPAN ? ✓	✓		✓		5'	90gph (1.5gpm)	SEPT 1963	Fe .5 Ph 7.25 COND 325	
1	X2 Y13	DR.	?							Flowing. very good yield			2 additional wells on property (spring fed) no log.
11	X4 Y12	DR.	95'		✓		✓			2gpm @ 88'	July 1970		
12	X4 Y12	DR.	265'		✓		✓			7gph @75' 13gph @260'		#1400404	COND. 460 11°C Fe. .75
13	X4 Y12	DR.	157'		✓		✓		6'8"	12gph @140'		#1400405	Fe .5. COND. 900 Ph 9.25
14	X4 Y12	DR	173'		✓		✓		24'6"	+ 19pm	July 1970		COND 580 Ph 7.0 Fe .75
15	X4 Y12	DR.	108'		✓		✓		15'	¾gpm @29'	Aug. 1971		
1	X3 Y12	Dug.	17'	✓			✓		8'		?		—
2	X3 Y12	SPRING	–		✓								~~no log~~
3	X3 Y12	DR.	100'		✓		✓			3gph @26' 3gpm @81'	MAY 1972		
4	X3 Y12	DR.	140'		✓				4gpm	4gpm			
5	X3 Y12	DR.	93'		✓		✓			?	1950		salty water.-filled in.
6	X3 Y12	DR.	245'		✓		✓			4gpm	Aug. 1973		
5	X4 Y13	DR	+100'		✓		✓			300gph		#1400411	Fe 1.3 COND 390 Ph 6.75
1	X3 Y13	DR.	40		✓		✓			25gph		#1400410	Fe. 1.3 COND 300 Ph 6.75
2	X3 Y13	DR.	73		✓		✓			5gpm @73' (FLOWS)	APR. 1969	#1400407	Fe .3 Ph 7.75 COND 510
3	X3 Y13	DR.	125		✓		✓		33'	.2gpm @106'	Aug. 1971		
4	X3 Y13	DR.	54		✓		✓		17'	50gph @45'	SEPT 1963		well not used
5	X3 Y13	DR.	72'		✓		✓			8gpm @60'	?	#1400403	Fe .75 Ph 6.5 COND. 240
6	X3 Y13	DR.	200'		✓		✓			2gpm @170'	JUNE 1967	#1400406	Fe .1 Ph 7.25 COND. 480
7	X3 Y13	Dug	30'	✓			3x8' CONC.		10'	?	?	#1400412	Fe .25 Ph 6.5 COND. 160 no log.
8	X3 Y13	DR.	40'		✓		✓		13'	5gpm @34'	1962 NOV.		—
9	X3 Y13	DR	220		✓		✓		18'	[illegible] @34'	1968	#1400569	Fe. 5+ COND. 475 Ph 8.75 (SALTY ?)
10	X3 Y13	DUG	14'				5' CONC.			?	1966	#1400417	Fe .1 Ph 6.75 COND. 270
11	X3 Y13	DR.	150'		✓		✓		10'	1.5gpm @60'	SEPT 1971		
12	X3 Y13	DR	60'		✓		✓		2'	.75gpm @32'	DEC 1966		
5A	X3 Y14	DR.	86'		✓		✓		5'6" (20:)	?	NOV 1971		Fe 3.0 Ph 6.0 COND. 150 SULFUR SMELL ? no log
5B	X3 Y14	DR.	145		✓		✓		50'	2gpm @133	Aug. 1972	#1400413	
7	X3 Y14	DR.	135'		✓		✓			16gph @135'	MAR 1973		
1a	X2 Y14	SPRING	–		✓								
16	X2 Y14	SPRING	–									#1400648	Fe .5 Ph 6 COND 275
10	X2 Y14	SPRING	–									#1400645	Fe .2 Ph 7.25 COND 400
													41
												Watershed – 10.	Lake Maxwell
1	X2 Y10	DR.	250'							4½gpm @250'	JAN 1970		
2	X2 Y10	DR.	180'		✓		✓			*80gpm @170'	JAN. 1970	extensive chemistry performed.	5gpm @95' 10gpm @160 15gpm @170'
3	X2 Y10	DR.	150'		✓		✓			2gpm @80 8gpm @96'	DEC. 1973		
1	X3 Y9	DUG	18'				✓		10'		?		Large bldrs bottom well
2	X3 Y9	SPRING ?	8'						2'				CLAY ?
3	X3 Y9	DUG	12'						11'6"		APR 1973.		TO SHALLOW TO SAMPLE
5	X3 Y9	DR.	300'							½gpm @300'	OCT 1974		
4	X4 Y9	SPRING	9'							garden 2 [illegible]	1972 1974	#1400655	Fe 1.0 Ph 7.0 COND 150
* some well logs missing													8

Saltspring Island
Well card Inventory

Sept 13, 1976

Watershed #6 - King Road

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
1	X9 Y4	SPRING	—		✓						?		Water pumped from spring into a 4000 gal. reservoir
2	X9 Y4	Dug	12'				conc. 5'			Adequate supply	?		Fe .1 no log. Ph 7.6
3	X9 Y4	SPRING	20'		✓					?			RANDY MAY 1973 needs sotener
4	X9 Y4	DR.	80'						12'	½ gpm			aquifer @ 50' no log. Ph 7.25 COND. 360
5	X9 Y4	Dr.	175'		✓		✓			½ gpm @ 25' ½ " @ 140' 2 " @ 160'	July 1967		Bedrock all the way
6	X9 Y4	Dr.	148'		✓		✓			*3 gpm @ 135'	1966		*½ gpm @ 60' 2 gpm @ 125' ½ gpm @ 100'
7	X9 Y4	Dr.	145'		✓		✓			1 gpm @ 130'	July 1968		no log.
8	X9 Y4	Dr	300'							¾ gpm	1969		no log.
9	X9 Y4	Dr.	60'		?					Flowing (even in summer)	1969		COND. 300 SOFT. Ph 7.25 no log.
10	X9 Y4	Dug	14.5	✓			✓			good SUPPLY	1966		SOME SMELL IN SUMMER
11	X9 Y4	Dr.	145		✓ ?		✓			3.5-4 gpm	1969		no log.
12	X9 Y4	Dr.	145							½ gpm @ 30'	1965		no log.
13	X9 Y4	Dr.	70'		✓		✓			Trace @ 20' ¾ gpm @ 38' 2 gpm @ 55'	July 1972.		
15	X9 Y4	SPRING	—							?	?		Ph. 6.25 COND. 190
16	X9 Y4	Dr.	180'						5'	10 gpm	1970		SOME sediment no log.
17	X9 Y4	Dug	14'							good SUPPLY	?		COND. 275
18	X9 Y4	Dug	?						10'	—	?		abandoned TILL TO bedrock @ ?
19	X9 Y4	Dr.	250		✓		✓			1 gpm	OCT 1974		Trace @ 47', 75', 180' ½ gpm @ 215'
20	X9 Y4	Dr.	250		✓		✓			2 gpm	MAR 74.		Trace @ 50', " 180' 2 gpm @ 235
6	X9 Y5	SPRING	10'				wood 4x4		3'		1961	#1400386	Fe .5 Cond. 210 Ph 6.75
7	X9 Y5	SPRING	8'				Conc. 4x4		6'		?		Ph. 7 cond 290 Fe .3
6	X10 Y4	DR.	100'		✓					*3 gpm		Fe .1 Ph 7 Cond. 390 (#1400381)	never dries up! *½ gpm @ 30' 2½ @ 80' 1 gpm @ 65'

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Summary — Total supply sources = 22
including — 5 springs
4 dug wells
13 drilled wells

11. Watershed - Cusheon Lake

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
1	X7 Y7	SPRING	6'							7 houses		#1400483	Fe .1 COND 70 Ph 6.25 no log.
3	X7 Y8	Dr	110'		✓		✓			2 gpm	MAY 73		26' - Trace 75' - ½ gpm 100 - 1½ gpm
4	X7 Y8	Dr.	95'		✓		✓			?	July 73		Trace 15' ¾ gpm - 50' 10 gpm - 80'
1	X6 Y8	Dr.	220		✓		✓		20'	Supplys 5 cabins garden + house	1963	Fe .2 Cond 275 Ph 6.3	water @ 60'
3	X6 Y8	Dr.	135'		✓		✓			2 gpm @ 120'	Sept 1969	Fe .5 COND. 450 Ph 8.5	SOME water @ 100' 2 gpm @ 120'
11	X6 Y8	Dr.	350'		✓		✓			1½ gpm	MAY 1973		Trace @ 70' ½ gpm @ 220' 1 gpm @ 300'
12	X6 Y8	Dr	125		✓		✓			1¾ gpm	MAY 1973		Trace @ 27' 1¾ gpm @ 125'
9	X5 Y9	Dug	12'	✓					6'	?	?		no log
10	X5 Y9	SPRING	3'	✓								#1400387	Creek (not used) flows across property
11	X5 Y9	Dr.	170'		✓		✓			4 gpm	June 1972	#1400388	Trace @ 20' 3 gpm @ 130' Fe .5 Ph 7 COND. 320
12	X5 Y9	Dug	20'	✓						?	?		no log, COND. 170 Fe .1 Ph 6.5
1	X4 Y9	Dug	6'	✓							?		~~no log~~
3	X4 Y9	Dug	25'										Fe. 1.25 Ph 6 COND. 125
4	X3 Y9	Dug	18'	✓ ?						SUPPLIES 2 HOUSES		#1400527	Fe .1 Ph 6.5 COND. 125

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Saltspring Island
Well card Inventory

Sept 13, 1976

Watershed 2. West Fulford harbour

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
1	X8 Y2	SPRING	4'	✓						?	?		
3A	X8 Y2	DR.	137'		✓		✓			8gpm @132'	JULY 1969		
3b	X8 Y2	DR.	?								1973		no log
5	X8 Y2	DR.	220'		✓		✓			2.5gpm	SEPT. 1973		
6	X8 Y2	DR.	143'		✓		✓			2.5gpm	Sept 1973		TRACE @20' 2gpm @ 132' 2.5gpm @ 143'
1	X8 Y3	DUG	14'	✓			✓				?		
2	X8 Y3	DUG	6'	✓			✓			Flows most of year	?		
3	X8 Y3	DR	103'	✓	✓	✓?	✓		15-20'	5-8gpm @140'	July 1968	#1400450	Fe .25 Ph 7.5 cond. 300
4	X8 Y3	DR.	145		✓		✓			4gpm	JULY 1969		
5	X8 Y3	DR	120'		✓		✓			8gpm @ 115'	July 1969		
6	X8 Y3	DR.	68'		✓		✓			2.5gpm @ 63'	July 1969		
7	X8 Y3	SPRING	6'	✓			✓			—	?		
8	X8 Y3	DR.	60'	✓							July 1969		DRY HOLE
8	X8 Y3	DR.	295'	✓	✓		✓		205'		July 1973		¼gpm @ 180' 1gpm @ 270'
9	X8 Y3	SPRING	6'			36"D. CONC.			4'8"		?	#1400451	COND. 190' no log.
10	X8 Y3	DR.	101		✓		✓		91	3-3½gpm	1968		
11	X8 Y3	DUG	14	✓		✓			10'		?		
12	X8 Y3	DR.	65'								?		complete chem. analysis avail. - no SITE #.
13	X8 Y3	Dug	12'	✓			✓		4'		?	#1400452	Fe .1 Ph 7 COND. 210
14	X8 Y3	DR.	170'		✓		✓			6gpm	SEPT 1973		
1a	X7 Y3	Dug	12'	✓			4' dia. ✓ STEEL		4'		?	#1400449	
1b	X7 Y3	Dug	12'						3'		1971		Fe 2.5 Ph 6 COND 210
2	X7 Y3	SPRING	—										
3	X7 Y3	SPRING	—				5' dia		Flowing ?	1gpm	?		They obtain water from creek like majority in this vicinity.
2	X7 Y4	SPRING	12'	✓			✓			adequate yield	—		
3	X7 Y4	Dug	70'				✓				?		no log - runs short in Oct.
4	X7 Y4	SPRING	—				✓				—		SPRING discharge - side of creek
5	X7 Y4	SPRING	—				✓				—		~~Fe .1 Ph 6.5 COND. 150~~
6	X7 Y4	Dug	16'				✓				—		Fe .1 Ph 6.5 COND 150 NOT USED
7	X7 Y4	SPRING	—				✓			2 HOUSES	—		Fe 0 Ph 7 COND 225
8	X7 Y4	DR.	275		✓		✓			½ gpm	SEPT 1974		

Watershed 17. Trincomali Channel

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
1	X1 Y16	DR	65'		✓		✓		15'	1gpm	OCT 1961	#1400428	Fe .5 Ph 8.5 COND. 480
1a	X1 Y16	SPRING	6'							?		#1400427	Fe .75 Ph 6.3 COND 240
9	X1 Y16	DR	96'		✓		✓		15'	1.5 gpm	APR 1958		
10	X1 Y16	DR.	102'						29'	1 gpm	OCT 1959		
11	X1 Y16	DR.	147'		✓		✓		28'	1 gpm	NOV. 1962		5 gph @ 40', 10 gph @ 120' 45 gph @ 142
12	X1 Y16	DR	47'		✓		✓		20'	¾ gpm	OCT. 1962		very low - summer 1975.
23	X1 Y16	DR.	81'		✓		✓		10.5'	10gpm @ 78'	June 1969	#1400101	Fe .25 COND. 1600 Ph 7.25
36	X1 Y16	DR.	60'		✓		✓		15'	½ gpm	1964	#1400424	@20' & 47'
37	X1 Y16	DR.	175		✓		✓		—	½ gpm	Oct 1973		
1	X2 Y16	DR.	32'	✓			✓		8'	½ gpm	OCT. 1960		
1	X2 Y15	DR.	90'		✓		✓		16'	¾ gpm	MAR 1969		
2	X2 Y15	DR.	80'		✓		✓			2gpm @ 75'	Aug 1971		
3	X2 Y15	DR.	32'		?		✓		15gpm	15gpm	?	#1400432	Fe 2.5 Ph 6.5 COND 400 no log.
5	X2 Y15	DR.	50'		✓		✓		?	80gph. @ 42'		#1400431	Fe 1.5 Ph 7.25 COND 700
6	X2 Y15	DR.	85'		✓		✓		9'	4gpm @ 83'	SEPT 1968		
7	X2 Y15	DR.	45'		✓		✓		23'	10gpm @ 40'	?		NOT USED
8	X2 Y15	DR.	205'		✓		✓		?	2gpm	?		
9	X2 Y15	DR.	55'		✓		✓			8gpm @ 48'	?		
10	X2 Y15	DR.	125'		✓		✓		Flowing	4gpm @ 115'	MAY 1967		
11	X2 Y15	DR.	150'		✓		✓			*3gpm @ 140'	July 1967		1 gpm @ 80', 2 " @ 100', 3 " @ 140'
12	X2 Y15	DR.	144'		✓		✓		9'	3gpm @ 139'	Aug. 1970		
13	X2 Y15	DR.	90'		✓		✓		16'	3gpm @ 85	Aug 1971		
14	X2 Y15	DR.	175'		✓		✓			12 gpm @ 160'	SEPT ?		TRACE @ 45' good @ 160
15	X2 Y15	DR.	78'		✓		✓		24'	2gpm	MAR 1969		.3gpm @ 48', 1.5gpm @ 74'
16	X2 Y15	DR.	102'							1gpm	APR 1971		@ 35' and 102'

Saltspring Island
Well card Inventory

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Watershed 17. TRINCOMALI Channel

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
5	$Y_5 Y_{13}$	DR	100+	✓		?				?	?		3 wells on prop.
6	$X_5 Y_{13}$	DUG	24 26	✓						?	?		
7	$X_5 Y_{13}$	DUG	28 14							?	?		DRY HOLES no log.
8	$X_5 Y_{13}$	DR.	150'		✓		✓			1 gpm @145'	APR 1970		
9	$X_5 Y_{13}$	DR	84								?	#1400107	COND 470 Fe .25 ppm no log
10	$X_5 Y_{13}$	Dug	17'	✓					overflows	?	?		
11	$X_5 Y_{13}$	DR.	110		✓		✓			* 2 1/2 gpm	MAR. 1970	#1400519	*back card reports 3/4 gpm @100' Fe .1 Ph 7.75 COND 420
12a	$X_5 Y_{13}$	DR.	110		✓		✓			20 gph @90'	APR. 1970	"	
12b	$X_5 Y_{13}$	DR.	100'		✓?		✓?			1/2 gpm	1970		no log.
13	$X_5 Y_{13}$	DR	84'							7-8 gpm	1967		no log not used
14	$X_5 Y_{13}$	SPRING	5'	✓						?	1973	#1400517	COND 310 Fe 2.0 Ph 6.4
15	$X_5 Y_{13}$	DUG	12'	✓			Fiberglas 3' dia.		3'		?	#1400518	SULPHUR SMELL (occasionally) Fe .1 COND 350 Ph 7.5
16	$X_5 Y_{13}$	DR.	61	✓		✓?				2 gpm	JULY 1974		
17	$X_5 Y_{13}$	DR	83'	✓		✓				3 gpm	?		
18	$X_5 Y_{13}$	DR	100'		✓		✓			1 gpm	Aug. 1974		
													cont. over pg.
											12.	Watershed - Booth Bay	
1	$X_2 Y_{11}$	Dug	14								?		BAD TASTE.
2	$X_2 Y_{11}$	DR	106		✓		✓	15'		.2 gpm	MAR 1956		
3	$X_2 Y_{11}$	DR.	250'		✓?		✓?						no log COND 700
4	$X_2 Y_{11}$	DR	115'		✓		✓	17'		1/3 gpm @43'	SEPT 1967		
5	$X_2 Y_{11}$	DR	150'		✓		✓		2'	10 gph @30'	NOV 1963		
6	$X_2 Y_{11}$	DR.	150'		✓		✓			2 gpm @140'	?		1/2 gpm @ 30' 1/2 gpm @ 70' 1 gpm @ 135'
7	$X_2 Y_{11}$	DR	100'		✓		✓			1.5 gpm			
1	$X_1 Y_{12}$	DR.	140		✓		✓				?		DRYHOLE AFTER 1947 (Earthquake?) no log.
1	$X_2 Y_{12}$	Dug	10'	✓			4' ✓		5'	?	?		NOT USED
2	$X_2 Y_{12}$	DR.	195'		✓		✓			1 gpm @175'	JULY 1973		
1	$X_3 Y_{11}$	Dug	14 16	✓						?	?		no logs
2	$X_3 Y_{11}$	DR.	47'								?		DRY HOLE
3	$X_3 Y_{11}$	DR.	25'		✓		✓			1/2 gpm	1960		
4	$X_3 Y_{11}$	DR.	119'							12 gpm	?	#1400439	COND. 450 Fe .1 Ph 8.5 ~~well~~ no log.
5	$X_3 Y_{11}$	Dug	10'								?	#1400438	SUPPLIES 55 people commercial? Cond. 350 Ph 6.5 Fe 2.0
6	$X_3 Y_{11}$	Dr.	58'		✓		✓		9'	3 1/2 gpm @ 55'	OCT 1962		
7	$X_3 Y_{11}$	DR	54'						9'	1 gpm	NOV 1965		Fault @ 40'
8	$X_3 Y_{11}$	SPRING ~~DUG~~	12'	✓					7'		?	#1400442	no log COND 340 Ph 6 Fe 0
9	$X_3 Y_{11}$	Dug	12'	✓					9'	?	?		
10	$X_9 Y_{11}$	DR.	80'		✓?		✓?			?	1971		no log.
11a	$X_3 Y_{11}$	DR.	76'		✓		✓			2 gpm @70'	APR 1969	#1400437	Fe .1 Ph 7.75 COND 450
11b	$X_3 Y_{11}$	DUG	14'	✓						?			Fe Ph 5.75 COND 400
12	$X_3 Y_{11}$	SPRING	3'	✓						?		#1400433	Fe 1.0 Ph 6.25 COND 280
13	$X_3 Y_{11}$	DR.	60'		✓		✓		12'	4 gpm @ 60'			COND 340 Fe .5 Ph 6.5
14	$X_3 Y_{11}$	DUG	10'							?	?		DRY IN SUMMER no log
15	$X_3 Y_{11}$	DR	110'		✓		✓		18'	1/2 gpm @68 and 107	SEPT 1967	#1400117	COND 545 Fe .75
16	$X_3 Y_{11}$	DR	77'		✓		✓		30'	10 gpm @37'	APR. 1969		Fault @ 37'
17	$X_3 Y_{11}$	DR.	310'		✓		✓			1 gpm @ 245-310	MAY 1971	?	COND 220 Fe .75 ppm no SITE #?
18	$X_3 Y_{11}$	DR.	80'		✓		✓		6'	1/2 gpm @48'	Aug 1972		
19	$X_3 Y_{11}$	DR.	85'		✓		✓		6'	20 gph @70'	Aug 1972	#1400116	COND 420 Fe 5
20	$X_3 Y_{11}$	DR	85'		✓		✓			1 gpm @53'	1972	#1400443	COND 1500 Fe .1 Ph 8.75
21	$X_3 Y_{11}$	Dug	15'	✓					12'	?	?	#1400443	Low in late Summer no log COND 400 Ph 6.75 Fe .75
22	$X_3 Y_{11}$	DR	80'		✓		✓			1 gpm @62'	Aug. 1974		
23	$X_3 Y_{11}$	DR.	125'		✓		✓		24'		MAY 1973		15 gph @101' 40 gph @ 78' 20 gph @37'
2	$X_4 Y_{11}$	DR.	43 1/2		✓		✓		+2'	Flowing. 1.6 gpm	June 1949		
3	$X_4 Y_{11}$	Dug	24'	✓					20'	?	?		NOT IN USE
4	$X_4 Y_{11}$	SPRING	?							?			~~no log~~
5	$X_4 Y_{11}$	DR.	22'						Flows (all year round)	330 gph?	1950	#1400418	Fe .1 COND 810 Ph 7.75
11	$X_4 Y_{11}$	DR.	82'		✓		✓				Aug 1968		abandoned
20	$X_4 Y_{11}$	Dug	15'	✓			conc. 4x4' crib		4'				no log Ph 6.25 Fe .6 cond 580
23	$X_4 Y_{11}$	DR	96'						25'	1 1/2 gpm	?		cond. 340 Fe .05 Ph 8.0
1	$X_4 Y_{10}$	Dug	10'						4'	?	?	#1400447	Fe 1.0 Ph 6.0 COND 120

18 drilled 14 dug and springs

Saltspring Island

Well card Inventory

Sept 13, 1976

Watershed 12. Booth Bay

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
2	X4 Y10	?	?	✓					0	2-3 gpm	?		
3	X4 Y10	DR.	75'		✓		✓		17'	½ gpm	NOV 1971		H2O @ 29' and 67'
4	X4 Y10	SPRING		✓						7 homes supplied ?		#1400440	COND 730 Fe .75
5	X4 Y10	DR	150'		✓		✓		7'	½ gpm or 10 gph ?		#1400446	Fe 5.0 COND 6000 Ph 7.5
6	X4 Y10	DR	112		✓		✓		?	*4 gpm	July 1970		½ gpm @ 38' ½ " @ 41' 2½ " @ 69' 2 gpm @ 87' 2 gpm @ 103' *
7	X4 Y10	Dug	?						2'	?	?		no log.
8	X4 Y10	SPRING	—		✓					often flows	?	#1400445	Fe .5 Ph 6.75 COND 120
9	X4 Y10	DR	150'		✓		✓		?	15 gpm @ 150'	MAY 1974		
	~~								Watershed -	5. Stowel & Weston Lakes.			
1	X7 Y4	DR	121'		✓		✓		10'	.3 gpm	MAY 1967		
14	X9 Y4	?	?							good supply ?	?		
1	X8 Y5	Dug	15'						12'		?		no log location questionable
2	X8 Y5	Dug	≈20'	✓ ?			4'						not used several houses, north end of Weston Lake using lake water
3	X8 Y5	DR.	140								Aug 1966	[illegible] # ?	Fe .8 Ph 7.75 COND 380
4	X8 Y15	DR	95'		✓		✓			6 gpm @ 80'	JULY 1970	#1400385	granite 6 gpm and Trace COND 160 Ph 6
5	X8 Y5	DR	120		✓		✓			3 gpm @ 100'	Aug 1970		granite
6	X8 Y5	DR.	190'		✓		✓			10 gpm @ 175'	DEC. 1970	#1400384	granite Ph 7.2 COND 400 Fe .1
7	X8 Y5	DR.	90'		✓		✓			3 gpm @ 80'	DEC 1970		granite - water @ 25'
8	X8 Y5	DR	130'		✓		✓			5 gpm @ 100'	1969		GRANITE
9	X8 Y5	DR.	160'		✓		✓		30'	1.5 gpm @ 140'	1969		GRANITE
10	X8 Y5	DR.	127'		✓		✓			7½ gpm @ 110'	MAR 1972		GRANITE
11	X8 Y5	DR.	120'		✓		✓			9 gpm @ 115'	July 1972		COND 380 Fe .1 Ph 7.25 no log.
12	X8 Y5	DR.	175'		✓		✓			1.5 gpm @ 165'	July 1974		granite FRACT. @ 70' and 95'
13	X8 Y5	DR.	120'		✓		✓			1.5 gpm @ 65'	MAR 1972		granite
14	X8 Y5	DR.	170'		✓		✓			2 gpm @ 130'	OCT 1973		granite
1	X8 Y6	SPRING	—							?	—	#1400389	COND 200 Ph 6.5 Fe - LOTS OF SPRINGS COND 200
2	X8 Y6	SPRING	-							?	—		Fe .1 Ph 6.75 COND 140
3	X8 Y6	SPRING	-							?	—		Fe .1 Ph 6.75 COND 140
4	X8 Y6	DR	110'		✓		✓			1 gpm @ 95'	MAR. 1970.		COND. 210 Fe .25 Ph 6.7 granite
5	X8 Y6	DR.	?		✓ ?		✓ ?			20 gpm	1971		no log.
6	X8 Y6	SPRING	—							?	?		Fe 1.0 Ph 6.25 COND 180
1	X9 Y6	SPRING	—							?	?	#1400382	Fe .4 Ph 6.25 COND 210
3	X9 Y6	DR.	310		✓		✓			< 5 gpm	1969		—
4	X9 Y6	DR	265		✓		✓			< 5 gpm	1969		
5	X9 Y6	DR.	160		✓		✓			< -	1969		no log.
6	X9 Y6	DR.	260		✓		✓		Flowing	< 5 gpm	1969		
7	X9 Y6	DR.	238		✓		✓			< 5 gpm	1969		no log.
8	X9 Y6	DUG	10'		✓		✓		6'		?		not used
10	X9 Y6	DR.	175'		✓		✓			1 gpm @ 175'	SEPT 1972		granite
14	X9 Y6	SPRING	—						+ 20		?	#1400654	Fe 1.0 Ph 7.25 COND 275
15	X9 Y6	DR.	150'		✓		✓			1.5 gpm @ 138'	JUNE 1974		granite
2a	X7 Y5	DR.	95'		✓		✓			1 gpm @ 80'	SEPT 1970		not in use. - granite Fe 1.75 COND 300' Ph 6.75
2b	X7 Y5	Dug	8'							to 10 gpm	?		Fe .1 Ph 6.25 COND. ?
3	X7 Y5	DR.	70'		✓		✓			8 gpm @ 55'	Aug 1970		granite.
5a b c	X7 Y5	Dug	27' 5' 6'						2'		?		Ph 6.0 HARD 85 ppm Fe .1 ppm no log. (b) only one used.
6	X7 Y5	DR.	53'		✓		✓		7'	3 gpm @ 47	OCT 1958		granite
7a b	X7 Y5	DUG	?						4'		50 yrs OLD.		Fe .25 and .25 (a) (b) Ph 6.25 and 6.25 COND 155 and 115 no log.
8	X7 Y5	DR.	120'		✓		✓			3 gpm @ 100'	SEPT 1972		COND 450 Ph 7.25. Fe .1
8b	X7 Y5	DUG	?				5x5 crib.		5'		?		not used. no log.
1	X9 Y5	DR	145'		✓		✓			1 gpm @ ~~135'~~ 60'	July 1970		granite
2	X9 Y5	DR.	170		✓		✓			1½ gpm @ 150	July 1970		granite
3	X9 Y5	DR.	80'		✓		✓			10 gpm @ 65'	July 1971		granite
4	X9 Y5	DR	70'		✓		✓			2½ gpm @ 55'	July 1970		granite
5	X9 Y5	DR.	200'		✓		✓			2½ gpm @ 200'	JULY 1967		granite well disconnected 197?
	~~												

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Saltspring Island — Well card Inventory

Sept 13, 1976

Watershed 17. Trincomali Channel

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	Remarks
17	X2 Y15	DR.	165'		✓		✓			2gpm	APR. 1971		water @ 128' and 165
18	X2 Y15	DR.	265'		✓		✓		.65'		1973 JUNE	#1400430	Fe 0 Ph 8 COND 775
19	X2 Y15	DR.	198'		✓		✓			2½ gpm	OCT 1973		
20	X2 Y15	DR.	170'		✓		✓			1 gpm @ 160'	OCT 1974		½ gpm @ 25' ½ gpm @ 115' 1 gpm @ 160
21	X2 Y15	DR.	285'		✓		✓			1.5 gpm @ 270'	APR 1974		
2	X2 Y14	DR.	111		✓		✓		36'	½ gpm	MAY 1967		.5gph @ 74' 25" @ 105'
3	X2 Y14	DR.	300'		✓		✓			5gpm @ 170'	OCT 1967		NOT USED, 5gpm @ 180' 2gpm @ 55' 2gpm @ 95'
4	X2 Y14	DR.	230'		✓		✓			5gpm @ 220'	OCT 1967		HAND PUMP
5	X2 Y14	DR.	132'		✓		✓		29'	25gph @ 128'			10 gph @ 40' 15 gph @ 128'
6	X2 Y14	Dug	18'							?	July 1973	#1400667	no log very low w.l.
7	X2 Y14	DR.	120'		✓?		✓?			?		#1400668	no log
8	X2 Y14	DR.	100'+		✓?		✓?			?	July 1973	#1400149	no log
9	X2 Y14	DR.	175'		✓		✓			1 gpm @ 80'	SEPT 1974		
10	X2 Y14	DR.	148'		✓		✓			1 gpm @ 175'	OCT 1974		
11	X2 Y14	DR.	151'		✓		✓		49'	4 gpm @ 138'	MAY 1973		
12	X2 Y14	DR.	125'		✓		✓		36'	5gpm @ ?	MAY 1973		1 gpm @ 84' 2gpm @ 91' and 117'
13	X2 Y14	DR.	130'		✓		✓		27'	20gph @ 122'	June 1973		10gph @ 65' 20 gph @ 122'
1	X3 Y15	DR.	75'		✓		✓		18'	15gph	APR 1963		hard 17 Fe 1 Ph 7.5
1a 16	X3 Y15	SPRING	—							?	?	#1400520	yellowish water?
1c	X3 Y14	DR.	40							40gph @ 22'	JUNE 1965		NOT USED
2a	X3 Y14	SPRINGS	—							2 gpm		5 springs within 300' High salt content	HARD. 850+ Fe 3 Ph 7.8
2b	X3 Y14	SPRING ?	—							?	–	#1400572	Fe 2.5 Ph 7.75 COND 8000
2c	X3 Y14	SPRINGS	—							?	–	~~#1400570~~	COND >8000 Fe 1.0 Ph 8.0
2d e	X3 Y14	SPRING	—							?	—	#1400570	
2f	X3 Y14	SPRING	—							?	—	#1400578	SULPHUR SMELL COND 2000 Fe 5 Ph 5.0
2g	X3 Y14	DR.	?									#1400571	3 TEST HOLES. Fe 5.0 COND 8000 Ph 8.0
3	X3 Y14	DR	90'		✓		✓		16'	¼ gpm @ 125'	MAR 1969		NOT USED
4	X3 Y14	DR.	43'		✓		✓			½ gpm			NOT USED salt water bottom hole
6	X3 Y14	DR.	154'		✓?		✓					#1401148	no log.
8	X3 Y14	SPRING ?	?								—		
1	X4 Y14	DR.	105'		✓		✓		16'	5-6 gph @ 90'	Aug. 1970		
2	X4 Y14	DUG	12'						1'		?		
3	X4 Y14	DUG	8'						2'		?		
4	X4 Y14	DUG	6'								?		COND. 190 Fe 2.0 ppm quicksand
5	X4 Y14	SPRING	—								—		
6	X4 Y14	DUG	18'								?	#1400104	COND 750 Fe .75ppm HARD 13×17.1=222.1
7	X4 Y14	DR.	60'		✓		✓		9'6"	½ gpm @ 12'	NOV. 1965	#1400429	COND 520 Fe 1.25 Ph 6.8 * salty when pumping to long
8	X4 Y14	DR	110'		✓		✓			4gph	Aug 1969		
9	X4 Y14	DR	52'		✓		✓			none	Aug 1969		
10	X4 Y14	DR.	78'		✓		✓		20'	2gpm	OCT 1960		reported good quality
11	X4 Y14	DR.	85'							10gph	OCT 1960		
12	X4 Y14	DR	62'		✓		✓		3'	8gph	Aug 1968		2gph @ 13'6" 6gph @ 57'
13	X4 Y14	DUG	20'								?		
14a	X4 Y14	DR.	72'		✓		✓		12'	¾ gpm	OCT 1958	#1400420	COND 5500 Fe .25 Ph 8.0
14b	X4 Y14	DUG	19'				conc. 5x5'					#1400419	Low in late summer COND. 310 Fe .25 Ph 7.75
15	X4 Y14	DR.	175		✓					.5gpm	DEC 1971	#1400584	COND. 1200 H_2O @ 125-175'
16a	X4 Y14	DUG	10										COND. 90 Fe .3 Ph 5.75
17	X4 Y14	DUG	20'						10'			#1400409	
18	X4 Y14	DR.	110'		✓		✓		.14½'		Aug. 1947		well filled in
1	X4 Y13	DUG	5'6"								?		Fe .25 Ph 7.5 COND. 410
2	X4 Y13	DR.	230		✓		✓		75'	1½ gpm	1969	#1400108	COND 690 Ph 8.75 H_2O @ 80' and 180'
3	X4 Y13	DUG	14'						0		?		no log.
4	X4 Y13	DR.	85'		✓		✓			2-3 gpm	Aug 1972	#1400408	Fe .25 Ph 7.25 COND 390
5	X4 Y14	DR.	122'		✓		✓			½ gpm	JAN 1952		Filled in
1	X5 Y13	DUG	20'						13'	?	?		no log
2	X5 Y13	DUG	10'							?	?		
3	X5 X13	DUG	20'										
4	X5 X13	DR	175'		✓		✓		100'	3 gpm @ 160	APR. 1967		SULPHUR SMELL ½ gpm @ 38' ½ gpm @ 90' 2gpm @ 150'

Saltspring Island Well card

Inventory

Sept 15, 1976

#4
Watershed - Fulford Harbour

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
1	X6 Y4	SPRING	—						+	≈20gpm SUPPLIES 5 households			
1	X6 Y5	SPRING	—	✓					+	Household			
2	X6 Y5	DUG	6'	✓							?		use creek water
3	X6 Y5	DUG	4'				3x5 CRIB		2'		?	#1400392	Fe. 0.1 Ph 7.25 COND. 230
4	X6 Y5	DUG	8'				CONC. 4x5 crib		overflows		?	#1400397	Fe. .1 COND 500 Ph 6.75
5	X6 Y5	SPRING	—						+	2 houses			
7	X6 Y5	DUG	14'				10'x10'				?		NOT used - new well 1975
8	X6 Y5	DR.	75'	?	?					20 gpm	1973	Fe. .75 Ph 7.5 COND. 1500	no log available
9	X6 Y5	DUG	10'				CONCRETE 4x6'		overflows	Abundant	?	#1400398	Fe. .1 COND. 180 Ph 7.25
10	X6 Y5	DR.	74'	coarse SAND ✓		8 or 10 slot ✓5'				≈10 gpm	MAY 1973		
1	X7 Y5	DUG.	12'	gravel ✓							?		
4a	X7 Y5	DUG	10'	TILL?					4'	DOMESTIC & garden		Fe 1.0 Ph 6 COND 200	
4b	X7 Y5	DR.	310'		shale ✓		✓		20'	½ gpm	July 1973	COND. 350	artesian when drilled @ 160' Then reduced to 1½ gpm
1	X6 Y6	SPRING	—						+	5 gpm			
2	X6 Y6	SPRING	—						"	?			water quality reported OK
3	X6 Y6	DUG	15'	GRAV. TILL ✓			2x4 crib		13'	?		#1400394	Fe .25 abond. 1972 Ph 6.5 COND. 160
4	X6 Y6	DUG.	14'						8'	?	SEPT 1973?	#1400580	Fe. 1.0 Ph 6.0 COND. 150
1	X6 Y7	DUG	10'				5'		6'		?		
2	X6 Y7	DUG	10'	CLAY?					5'		?		Abandoned almost dry in summer
3	X6 Y7	DUG	5'	SANDY TILL			WOOD 3x3'				?	#1400396	Fe .25 Ph 6.5 COND. 205
4	X6 Y7	DUG	12'				4'		7'			#1400399	Fe 1.4 COND. 140 Ph 5.75 (corrosive?)
5	X6 Y7	DUG	30'	SAND					5-6'				Fe 1.0 (hard.) Ph 6.2 COND. 165
6	X6 Y7	DUG.	12'				4x4' WOOD		2'			#1400395	Fe. .25 Ph 6.5 COND. 210
7	X6 Y7	DUG	10'	SAND & CLAY			6'x8'		5'6"		July 1973		
4	X6 Y8	DUG	15'	GRAV. & TILL?			6x6'		4'				Fe .7 Ph 6.2 COND. 200
1	X5 Y7	SPRING	—				?						
1a	X5 Y6	SPRING	5'?	GRAV. TILL						1 gpm	?		
1b	X5 Y6	DUG	8'				WOOD, 4x4'		5'			#1400393	Fe. .1 COND. 185 Ph 6.25
2	X5 Y6	SPRING	4-5'	SAND								#1400402	Fe .1 COND 140 Ph 6.5 (other springs on prop. flow year round.)
3	X5 Y6	SPRING	12'?	GRAVEL			6x6' CONC.		8' June /73				Fe .5 COND. 180 Ph 6.5 (corrosive)
4	X5 Y6	DUG	10'	TILL?			5'		2'				Ph 6.75 COND 180
5	X5 Y6	SPRING	2-3'	SAND									
6	X5 Y6	SPRING	—	SAND									
7	X5 Y6	SPRING		GRAV. TILL						AMPLE			MOD. SOFT WATER
8	X5 Y6	SPRING	8'?				4'			1 house & garden		#1400401	Fe .1 COND. 190 Ph 6.5
9	X5 Y6	SPRING	—							house & garden			
10	X5 Y6	DUG	5'										
11	X5 Y6	DUG	12'										
12	X5 Y6	DUG	5'										
13	X5 Y6	DR.	125							1.5 gpm	SEPT 1974		TRACE @105' 1½ gpm @115'
1	X5 Y5	SPRING	—		✓								
2	X5 Y5	SPRING	8'?	SAND			4x6'			DOM. STOCK & irrigation		#1400391	Fe. .1 Ph 6.5 COND. 190
3	X5 Y5	SPRING								DOMESTIC			
1	X5 Y8	SPRING								DOM. sheep irrigation			
2	X5 Y8	SPRING								DOM. sheep irrigation			
3	X5 Y8	DR.	28'						FLOWS	2 homes 7 gpm	WINTER 1969	#1400390	aquifer @ 21' Fe .3 Ph 6.25 COND. 160
4	X5 Y8	DUG	8'							CATTLE ONLY		#1400380	Fe .3 COND. 160 Ph 6.25

* SPRINGS NOT MENTIONING YIELD ASSUMED TO BE - 1 gpm
DUG WELLS NOT MENTIONING YIELD " " " - 500 gpd or .35 gpm

No. of wells in watershed = 47

Summary - 19 springs reported in vicinity of this watershed - Well cards show many springs originating in mountains surrounding area. and filtrating through sands and Tills at lower elevations - Complete chemistry analysis available on 3 of these springs. Hach analysis shows average cond. to be in range of 180-190

23 dug wells reported at average depth of 6'-30'. These wells have simply intersected drainage from higher elevations and many can be interpreted as springs.

Few drilled wells (5) with moderate (questionable) yields at greater depths (½ gpm @ 310' - shale) good yield reported from (#10 X6 Y5) COARSE SAND - 10 gpm (1973)

Saltspring Island
Well card Inventory

Sept 13, 1976

Watershed 16 Long Harbour

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
22	X7 Y10	DR.	120'		✓		✓		28'	1 gpm @ 110'	OCT 1970		NOT USED
23	X7 Y10	DR.	60'		✓		✓			1 gpm	?		
29	X7 Y10	Dr.	200'								MAY 1968		DRY HOLE
34	X7 Y10	DR	98'		✓		✓		16'	.75 gpm @ 39', 1.25 gpm @ 93'	JAN 1971		
36	X7 Y10	?	?								?	#1400652	Fe .8, Ph 7.25, COND 430
40	X7 Y10	DR.	115'		✓		✓		52'	*1½ gpm @ 110'	July 1974		*8 gph @ 98', 1½ gpm @ 110'
1	X7 Y11	DR.	70'		✓		✓		20'	3½ gpm	MAY 1968	#1400512	Fe -.25, Ph - 7.5, COND - 470
2	X7 Y11	DR.	75'		✓		✓		10'	6-7 gpm	DEC 1969	#1400513	Fe .1, Ph 8.75, COND 510
3	X7 Y11	DR	60'		✓		✓		9'		MAY 1968	#1400586	Fe .85, Ph 6.5, COND 260
4	X7 Y11	DR.	300'		✓		✓		24'	½ gpm @ 57'	MAY 1968		¼ gpm @ 32', ¼ gpm @ 57'
5	X7 Y11	DR	30'						?	1½ gpm	1966	#1400587	COND 480, Fe .2, Ph 7.5
6	X7 Y11	DUG	16'						4'		?		no log
7	X7 Y11	DR.	67'		✓		✓		30'	50 gpm	APR 1953		
8	X7 Y11	DR.	225		✓		✓			1.5 gpm @ 212'	MAY 1974		
9	X7 Y11	DR	60'		✓		✓		9'	1 gpm @ 52'	APR 1974		
2	X6 Y11	DR.	110'		✓		✓		35'	20 gph @ 87'	NOV 1971		
5	X6 Y11	DR.	60'		✓?		✓?		?	?	1962	#1400575	Fe .5, Ph 7.5, COND 600, no log
1	X5 Y12	Dug	20'							?	?		no log
2	X5 Y12	DR.	52'		✓		✓		5'	½ gpm @ 30'	1965		Fe .1, Ph 6.5, COND 120
3	X5 Y12	Dug	29'		✓		✓			?	?		
4	X5 Y12	Dug	6'							?	?	#1400436	
5	X5 Y12	SPRING	—				5'		overflows	?	?		COND 140, Ph 6.5, Fe .1
6	X5 Y12	DUG	14'	✓			3'		3'		?	# 1400448	SULPHUR SMELL FAINT, COND 220, Fe .75 Ph 6.0
7	X5 Y12	SPRING	—										
8	X5 Y12	Dug	22'	✓			4'		20'	?	?		

1. Watershed – Musgrave.

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
4	X8 Y2	DR.	65'		✓		✓			3 gpm @ 65'	NOV 1972		
2	X8 Y2	SPRING	—						5'	?	?	#1400646	Fe .1, Ph 6.5, COND 200
1	X4 Y4	Dug	12'	✓			✓			?	?		
1	X3 Y3	SPRING	—							?	?		
2	X3 Y3	DR.	165'							≈ 40 gpm @ 165'	Aug. 1972		SOME WATER @ 21-50, good fracture @ 150-165

1. Watershed – 7. Eleanor Point.

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
10	X10 Y4	DR	300'		✓		✓			3½ gpm @ 290'	MAY 1973		
1	X11 Y4	DR	255'		✓		✓			2 gpm @ 245'	APR 1967		1 gpm @ 130', ½ gpm @ 200', ½ gpm @ 255'
2	X11 Y4	DR	127		✓		✓		Flows	12 gpm @ 110'	1971		
3	X11 Y5	DR.	130		✓		✓		12'	3 gpm	1970	#1400515	Fe .1, Ph 7, COND. 425
1	X10 Y4	SPRING	—							?	?		
2a	X10 Y4	DR.	110		✓		✓		4'	30 gpm? @ 100'	June 1967		
3	X10 Y4	DR.	150		✓		✓			5 gpm @ 140'	MAY 1971		Fe 0, Ph 7.5, COND 380
5	X10 Y4	DR.	150		✓		✓		20'	2 gpm @ 140'	OCT 1961		
4a	X10 Y4	Dug	17							?	?		not used
4b	X10 Y4	DR	?								?		not used
7	X10 Y4	DR	125'		✓		✓		Flows	30 gpm* @ 118'	AUG 1969		* actual rate 1-2 gpm flow
8	X10 Y4	DUG	30'								?		Fe .1, Ph 6.25, COND 150
9	X10 Y4	DR	220		✓		✓			12 gpm			Fe 0, Ph 6.5, no log., COND 800'
11	X10 Y4	DR	245'		✓		✓		20'	15 gpm @ 225	AUG 1973		14

Saltspring Island
Well card Inventory

Sept 13, 1976

Watershed 3. Burgoyne Bay

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer Sand & Grav.	Aquifer Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	Remarks
2	X4 Y6	SPRING								?			
1	X4 Y6	SPRING								?			SPRING FEEDS CREEK which flows INTO SW CORNER OF BURGOYNE ALSO SUPPLIES WARREN'S FARM TO EAST
3	X4 Y6	SPRING								10gpm		#1400662	FLOWS EAST Fe .75 COND 210 Ph 7.0
												Watershed	11. Cusheon Cove
8	X10 Y5	SPRING	10'	✓						?			bedrock @ 10' no water Fe .3 Ph 6.75 COND. 240
9	X10 Y5	SPRING	2'	✓						?			Fe .3 Ph 6.25 COND. 240
16	X9 Y6	DR.	275'		✓		✓			3.5gpm	MAY 1974		Trace @ 28', 1gpm 115', 3.5 @ 265'
2	X9 Y6	DR.	310		✓		✓			<5gpm	1969		
9	X9 Y6	Dr.	140'							overflowing	?		Fe 2.0 Ph 7.5 COND 300 no log.
11	X9 Y6	DR.	130'							overflowing (50 persons)			Fe 1.0 Ph 7.5 COND 315 no log.
12	X9 Y6	DR	100'								1972 -73	#1400647	Fe .1 Ph 6.75 COND 325
13	X9 Y6	Dug	20'										no log.
1	X10 Y6	DUG	7'				4x4'		3'				SULFUR? ample water in adjacent well
	see below											Watershed-	18. Houston
8	X1 Y16	DR.	80'						SUFFICIENT WATER.		1953		no log.
19	X1 Y16	DR.	84'		✓		✓		27'	1gpm @ 70'	AUG. 1968		BEDROCK @ 13'
30	X1 Y16	DR.	50'							never dry	?	#1400423	no log Fe 1.25 COND *6000 Ph 7.0 SULFUR, IRON, HARD.
1	X1 Y14	DR	50'		✓		✓		1½'?	/	NOV 1951		
1	X1 Y15	DR	300'		✓		✓		6'	SMALL QUANTITY	Aug 1971		BEDROCK @ SURFACE
2	X1 Y15	DR	60'		✓		✓		16'	1.5 gpm			
3	X1 Y15	DR.	125		✓		✓		Flowing	*6 gpm @ 115'			*3gpm @ 100', 3 gpm @ 105' SULPHUR SMELL
4	X1 Y15	DR	175'		✓		✓		12'	very small quantity		#1400422	water @ 85' and 130' Fe 4.0 cond. 420 Ph 6.0
5	X1 Y15	DR	200'		✓		✓		15'	*2gpm @ 90'	AUG 1967		*¼ gpm @ 80' 1½ gpm @ 70' ½ gpm @ 40' — water not used.
2	X1 Y16	DR.	55'		✓		✓		19'	*1.8gpm @ 46'	JAN 1956		1gpm @ 40', .8gpm @ 46' Fe .1 Ph 7.5 COND 440
3	X1 Y16	DR.	165'		✓		✓		?	1gpm	JUNE 1968		
4	X1 Y16	DR.	48'		✓		✓		?	nearly dry since APR. /73	APR. 1958		Fe .75 Ph 6.75 COND 520
5	X1 Y16	DR.	220'		✓		✓		130'	1gpm @ 215'	JUNE 1960		
6	X1 Y16	DR.	85'		✓		✓		26'	1.5gpm	MAR 1958		
7	X1 Y16	DUG	12'?	✓			✓			overflows.	?		no log.
13	X1 Y16.	DR	200'		✓					1gpm	MAY 1971		water @ 165' and 185'
14	X1 Y16	Dr.	69'						32'	2gpm	DEC. 1947		
15	X1 Y16	Dr.	110'				✓		17'	4gpm @ 107'	SEPT 1968		
16	X1 Y16	Dr.	110'		✓		✓			1gpm @ 90'	JULY 1967		
17	X1 Y16	Dr.	80'		✓		✓		Flows.	*12 gpm FLOWS.	SEPT 1968		1 gpm @ 35', 11 gpm @ 76'
18	X1 Y16	Dr.	155'		✓		✓			4 gpm @ ~~145~~	June 1967		NOT USED
20	X1 Y16	Dr.	88'		✓		✓		Flows	4gpm @ 29'	JAN. 1971		2gpm @ 16', 2gpm @ ~~29~~'
21	X1 Y16	Dr.	255'	✓	✓		✓?		50'	1½ gpm, @ 250'	Aug 1968		
22	X1 Y16	Dr.	257'		✓		✓		10'	¼ gpm @ 12'	June 1967		
24	X1 Y16	Dr.	73'						22'		APR 1969		
25	X1 Y16	Dr.	42'						13'	1gpm @ 18' .2gpm @ 17'	OCT. 1959		
26	X1 Y16	Dr.	218		✓		✓		10'	3gph @ 60'	July 1969		well abandoned and capped
27	X1 Y16	Dr.	388'		✓		✓			1gpm @ 103'	July 1969		well not used
28 29	X1 Y16	Dr.	100'		✓		✓		34'0	1 gph @ 38'	1970	#1400102	COND 390 Fe 5.0
31	X1 Y16	Dr.	20-25'								?		DRY IN SUMMER no log.
32	X1 Y16	Dr.	220'		✓		✓				?		SALTY
33	X1 Y16	Dr.	265		✓		✓			½ gpm @ 175'	Feb. 1971.		
34	X1 Y16	Dug	18'				Conc. 5'		14'		?	#1400425	Fe .1 COND 210 Ph 6.25
35	X1 Y16	Dr.	200'							45gph	1971	#1400426	Fe. 0 Ph. 7.5 COND. 480 no log.
38	X1 Y16	Dr.	305						45'	10 gph @ 87' 10 gph @ 210'	Aug. 1968		BLASTED; HOLE CAVED
39	X1 X16	Dr.	130'		✓		✓			1½ gpm @ 130'	OCT 1973		—
												Watershed -	9. Beaver Point
1	X10 Y5	SPRING	—							3 houses serviced *	?		PRACT. DRY JULY/73
1	X11 Y5	DRI.	130'						20'	1.5 gpm	1970		no log.
2	X11 Y5	DR.	275'							2½ gpm	1970	#1400514	well not in use Fe. 4.0 cond 380 Ph 7.5
4	X11 Y5	DUG	20'							garden only	?	#1400516	Fe .75 Ph 6.5 cond 380 no log.
5	X11 Y5	Dr.	225'							2gpm @ 210'	Aug 1974		Trace @ 45', ½ gpm @ 60', 1 gpm @ 65'

Saltspring Island
Well card Inventory

Sept 13, 1976
14.
Watershed Scott Point

Well No.	Coordinates	Dug or Drill	Well Depth	Aquifer: Sand & Grav.	Aquifer: Rock	Screen	Open	Slotted	Static Level	Reported Yield	Year Comp.	Chemistry	REMARKS
1	X8 Y10	DR	79'		✓		✓			10 gpm	APR 1958	#1400453	3 gpm @ 54' 7 gpm @ 72'
2	X8 Y10	DR.	123'		✓		✓			4 gpm	MAY 1975	#1400112	1 gpm @ 46' 3 gpm @ 118'
3	X8 Y10	DR.	130'		✓		✓			1¼ gpm	Aug 1975		¼ gpm @ 100' 1 gpm @ 120'
1	X8 Y9	DR.	140		✓		✓			20-25 gpm	1964	1400581	
2	X8 Y9	DR.	115'		✓		✓						
3	X8 Y9	DR.	175		✓		✓				Aug 1975.	1400119	
4	X8 Y9	DR.	190		✓		✓			1½ gpm	NOV 5 1975		
5	X8 Y9	DR.	245		✓		✓			4½ gpm	NOV 12 1975		