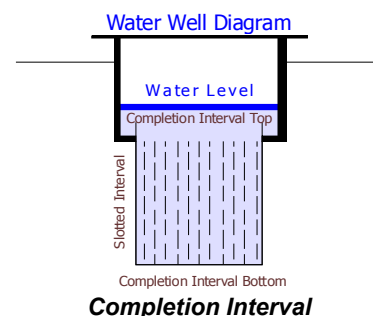62) Nelson, K. E. Oct-1978. Clark, Swanby & Associates Ltd. Report on a Water Well Analysis. Source Well for Texaco Canada Ltd. NE 10-24-25 W4. 10-024-25 W4. [<hc fiche 1978.2.2>]

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9. Glossary

Aquifer	a formation, group of formations, or part of a formation that contains saturated permeable rocks capable of transmitting groundwater to water wells or springs in economical quantities
Aquitard	a confining bed that retards but does not prevent the flow of water to or from an adjacent aquifer
Available Drawdown	in a confined aquifer, the distance between the non-pumping water level and the top of the aquifer
	in an unconfined aquifer (water table aquifer), two thirds of the saturated thickness of the aquifer
Borehole	includes all "work types" except springs
Completion Interval	see diagram
Deltaic	a depositional environment in standing water near the mouth of a river
Dewatering	the removal of groundwater from an aquifer for purposes other than use
Dfb	one of the Köppen climate classifications; a Dfb climate consists of warm to cool summers, severe winters, and no dry season. The mean monthly temperature drops below -3° C in the coolest month, and exceeds 10° C in the warmest month.

Completion Interval

Evapotranspiration	a combination of evaporation from open bodies of water, evaporation from soil surfaces, and transpiration from the soil by plants (Freeze and Cherry, 1979)
Facies	the aspect or character of the sediment within beds of one and the same age (Pettijohn, 1957)
Fluvial	produced by the action of a stream or river
Friable	poorly cemented
Hydraulic Conductivity	the rate of flow of water through a unit cross-section under a unit hydraulic gradient; units are length/time
km	kilometre
Kriging	a geo-statistical method for gridding irregularly-spaced data (Cressie, 1990)
Lacustrine	fine-grained sedimentary deposits associated with a lake environment and not including shore-line deposits
Lithology	description of rock material
Lsd	Legal Subdivision
m	metres
mm	millimetres
m²/day	metres squared per day
m³	cubic metres

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m³/day   cubic metres per day

mg/L   milligrams per litre

Median   the value at the centre of an ordered range of numbers

Obs WW   Observation Water Well

Piper tri-linear diagram   a method that permits the major cation and anion compositions of single or multiple samples to be represented on a single graph. This presentation allows groupings or trends in the data to be identified. From the Piper tri-linear diagram, it can be seen that the groundwater from this sample water well is a sodium-bicarbonate-type. The chemical type has been determined by graphically calculating the dominant cation and anion. For a more detailed explanation, please refer to Freeze and Cherry, 1979

Piper Tri-Linear Diagram
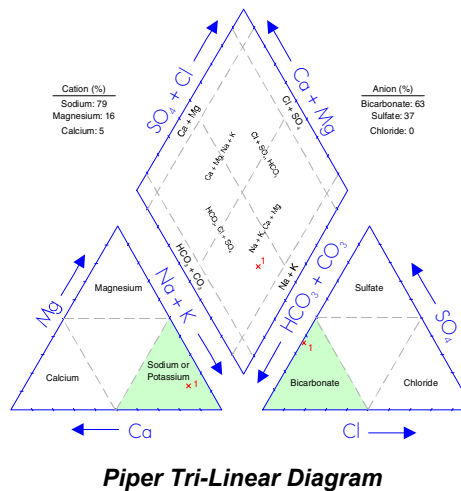
Rock   earth material below the root zone

Surficial Deposits   includes all sediments above the bedrock

Thalweg   the line connecting the lowest points along a stream bed or valley; *longitudinal profile*

Till   a sediment deposited directly by a glacier that is unsorted and consisting of any grain size ranging from clay to boulders

Transmissivity   the rate at which water is transmitted through a unit width of an aquifer under a unit hydraulic gradient: a measure of the ease with which groundwater can move through the aquifer

                               Apparent Transmissivity: the value determined from a summary of aquifer test data, usually involving only two water-level readings

                               Effective Transmissivity: the value determined from late pumping and/or late recovery water-level data from an aquifer test

                               Aquifer Transmissivity: the value determined by multiplying the hydraulic conductivity of an aquifer by the thickness of the aquifer

Water Well   a hole in the ground for the purpose of obtaining groundwater; "work type" as defined by AENV includes test hole, chemistry, deepened, well inventory, federal well survey, reconditioned, reconstructed, new, old well-test

Yield   a regional analysis term referring to the rate a properly completed water well could be pumped, if fully penetrating the aquifer

                               Apparent Yield: based mainly on apparent transmissivity

                               Long-Term Yield: based on effective transmissivity

AAFC-PFRA	Prairie Farm Rehabilitation Administration Branch of Agriculture and Agri-Food Canada
AENV	Alberta Environment
AMSL	above mean sea level
BGP	Base of Groundwater Protection
DEM	Digital Elevation Model
DST	drill stem test
EUB	Alberta Energy and Utilities Board
GCDWQ	Guidelines for Canadian Drinking Water Quality
IAAM	*Infinite Aquifer Artesian Model.* The mathematical model is used to calculate water levels at a given location. The model has been used for more than 17 years by HCL for several hundred groundwater monitoring projects. The model aquifer is based on a solution of the well function equation. The simulation calculates drawdown by solving the well function equation using standard approximation methods. The drawdown at any given point at any given time uses the method of superposition.
NPWL	non-pumping water level
TDS	Total Dissolved Solids
WSW	Water Source Well or Water Supply Well

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10. Conversions

Multiply	by	To Obtain
Length/Area		
feet	0.304 785	metres
metres	3.281 000	feet
hectares	2.471 054	acres
centimetre	0.032 808	feet
centimetre	0.393 701	inches
acres	0.404 686	hectares
inchs	25.400 000	millimetres
miles	1.609 344	kilometres
kilometer	0.621 370	miles (statute)
square feet (ft²)	0.092 903	metres (m²)
metres (m²)	10.763 910	square feet (ft²)
metres (m²)	0.000 001	kilometres (km²)
Concentration		
grains/gallon (UK)	14.270 050	ppm
ppm	0.998 859	mg/L
mg/L	1.001 142	ppm
Volume (capacity)		
acre feet	1233.481 838	cubic metres
cubic feet	0.028 317	cubic metres
cubic metres	35.314 667	cubic feet
cubic metres	219.969 248	gallons (UK)
cubic metres	264.172 050	gallons (US liquid)
cubic metres	1000.000 000	litres
gallons (UK)	0.004 546	cubic metres
imperial gallons	4.546 000	litres
Rate		
litres per minute	0.219 974	ipgm
litres per minute	1.440 000	cubic metres/day (m³/day)
igpm	6.546 300	cubic metres/day (m³/day)
cubic metres/day (m³	0.152 759	igpm
Pressure		
psi	6.894 757	kpa
kpa	0.145 038	psi
Miscellaneous		
Celsius	$F° = 9/5 (C° + 32)$	Fahrenheit
Fahrenheit	$C° = (F° - 32) * 5/9$	Celsius
degrees	0.017 453	radians

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