

Report from the Provincial Government

In this issue of the March 2017 GeoexchangeBC Newsletter, we will provide an update regarding:

- The difference between well and borehole
- Regional groundwater program activities,
- Submission of records,
- Reporting requirements,
- Registration requirements for geoexchange well drillers, and
- An updated contact list of groundwater staff with a regulatory role.

Well versus Borehole

It has been identified that there is confusion in the geoexchange industry regarding the difference in terminology between well and borehole. For industry members, 'borehole' refers to a closed-loop geoexchange or geothermal installation; whereas, "well" refers specifically to an open-loop geoexchange installation.

Under the *Water Sustainability Act* (WSA), the single term of "well" was used to define an artificial opening in the ground made for specific purposes, which includes closed-loop geoexchange wells (or the industry definition of a borehole). The Groundwater Protection Regulation (GWPR) defines "borehole" specifically as a drilled geotechnical well, other than a test pit, that is not in service for more than 30 days after construction.

There is a clear distinction in the legislation between what is considered a well and what is considered a borehole. Closed-loop geoexchange installations are wells whereas boreholes are specifically referenced to geotechnical wells. These distinctions were made to help determine which wells were regulated or excluded from the requirements of the WSA and GWPR and to help establish construction standards for groundwater and aquifer protection. Information related to construction and reporting requirements related to wells and boreholes can be found in the GWPR at

<http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/groundwater-wells>.

Regional Groundwater Program Update – South Coast Region

The following is a brief update on some of the activities of the Groundwater Section, South Coast Natural Resource Region, of the Ministry of Forests, Lands and Natural Resource Operations (FLNRO).

Staffing Update

In support of the WSA, the South Coast Natural Resource Region has hired a number of new staff members, including: six water authorization specialists and technicians, an observation well technician, a water information technician, an additional regional hydrogeologist and a section head.

Observation Well Network Activities

Three new observation wells were added to the Provincial Groundwater Observation Well Network (PGOWN) in the region, including two in Langley (Clayton and Aldergrove aquifers) and one in the



Map showing Natural Resource Regional Boundaries

Abbotsford -Prairie-Sumas aquifer. Theft/vandalism at three observation well stations has led to development of a modified set-up that is more secure against theft and is being installed for all new/upgraded observation well stations. Discussions with multiple municipalities and regional districts regarding collaboration on the expansion of the PGOWN is ongoing and several more wells are expected to be added to the network this coming year as a result. The ambient chemistry sampling schedule is currently being reviewed.

Aquifer Science

A review and re-mapping of aquifers in the Abbotsford and Chilliwack areas is due to be completed by the end of March 2017. The installation of monitoring wells and data collection has been completed for a study on hydraulic connectivity and sensitive streams in Langley. Data analysis is currently being conducted by the project partner, Simon Fraser University and is due to be completed by the end of March. Preliminary data collection has been initiated for the potential development of water balance model for the Nicomekl and Serpentine River watersheds.

Groundwater Protection and Groundwater Authorizations

Groundwater protection activities have included a number of site visits to inspect for compliance with the Groundwater Protection Regulation and outreach sessions to interested stakeholders. The complex closure of a significant flowing well in the Kerrisdale area of Vancouver is expected to be completed in the near future.

Groundwater staff have been providing numerous outreach sessions on groundwater licensing to agricultural and other interested stakeholders. **The waiving of the application fees for existing non-domestic groundwater use applications has been extended to December 31, 2017.** For more on groundwater licensing, visit gov.bc.ca/water or <http://www.frontcounterbc.gov.bc.ca>.

Major Project Reviews

Staff have also been involved with a number of project reviews this last year, including Environmental Assessment processes for the Abbotsford municipal wells at Bevan Avenue, a gravel extraction proposal by Burnco on Howe Sound, the Trans Mountain Pipeline expansion project, and the Massey Tunnel replacement.

Well Record Submission and EWELLS Training

Did You Know?

Drillers constructing closed-loop geoexchange wells are required to submit one well construction report per geoexchange system to the comptroller.

A report for every well in a geoexchange system must be submitted to the well owner.

Well records can be submitted electronically (EWELLS) or by mail to the Ministry of Environment. It is intended that electronic submission of well records will replace paper submission to allow for more efficient processing and information accessibility. Paper records will now only be accepted on a Ministry form.

- EWELLS: <https://a100.gov.bc.ca/ext/ewells/>
- Mail: **Ministry of Environment, PO Box 9362 STN PROV GOVT, Victoria BC V8W 9M2.**

If you or your company would like to learn more about EWELLS or are interested in EWELLS training, please contact Groundwater@gov.bc.ca to indicate your interest.

Reporting Requirements

The WSA and the GWPR specify reporting requirements for certain types of wells. Below are some topics we would like to highlight and bring to your attention:

Closed-loop vs. Open-loop geoexchange wells

When completing a well log for a geoexchange well it is necessary to identify which type of geoexchange system has been constructed, altered, or decommissioned. The images below illustrate the correct way to identify each type of geoexchange system on the well report:

Closed-loop geoexchange:

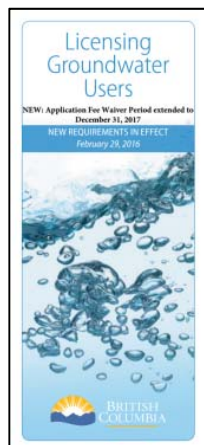
Class of well (see note 6): <u>Closed-loop geoexchange</u>	Sub-class of well: <u>N/A</u>
Water supply wells: indicate intended water use: <input type="checkbox"/> private domestic <input type="checkbox"/> water supply system <input type="checkbox"/> irrigation <input type="checkbox"/> commercial or industrial <input type="checkbox"/> other (specify): _____	

Open-loop geoexchange:

Class of well (see note 6): <u>Water supply</u>	Sub-class of well: <u>N/A</u>
Water supply wells: indicate intended water use: <input type="checkbox"/> private domestic <input type="checkbox"/> water supply system <input type="checkbox"/> irrigation <input type="checkbox"/> commercial or industrial <input checked="" type="checkbox"/> other (specify): <u>Open-loop geoexchange</u>	

Licensable Wells – Informing Well Owners

New and existing well owners may not be aware of the need to acquire a groundwater licence for non-domestic groundwater uses. In an effort to share information with potential licensable well users **you are encouraged to distribute the brochure *Licensing Groundwater Users* when you perform work on wells which you believe might be used for non-domestic purposes.**



Domestic purpose is defined in the *Water Sustainability Act* as the use of water for household purposes by the occupants of one or more private dwellings, other than multi-family apartment buildings, including, without limitation, hotels and strata titled or cooperative buildings, located on a single parcel. Household purposes include drinking water, food preparation, sanitation, fire prevention, water for animals kept for household use or as pets, or irrigation of a garden not exceeding 1000m². Groundwater use meeting the definition of domestic purpose does not require a licence.

To request a set of brochures please email Groundwater@gov.bc.ca.

Registration of Geoexchange Drillers

Construction of closed-loop geoexchange wells is a restricted activity in the Province of BC. To recognize this change, a new classification of well driller was created called geoexchange driller, which qualifies an individual with that classification to construct closed-loop geoexchange wells in B.C.

A certificate program is being offered through the Industry Training Authority (ITA) that allows individuals to obtain their certificate of qualification as a Geoexchange Driller. For more information, please visit www.itabc.ca/program/geoexchange-driller.

Construction of open-loop geoexchange wells remains a restricted activity and requires a well driller who holds a certificate as a water well driller and is registered to construct these types of wells.

Report from the Provincial Government

The register of well drillers and well pump installers can be found online at <http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/groundwater-wells/information-for-well-drillers-well-pump-installers>.

If you would like to become registered or if you would like to update your contact information, please email Groundwater@gov.bc.ca.

Contact Information for Groundwater Staff with Statutory Designation under the WSA

Office	Name	Statutory Designation	Phone	E-mail	Ministry
West Coast (Nanaimo)	Pat Lapcevic, P. Geo.	Assistant Water Manager	250-751-3149	Pat.Lapcevic@gov.bc.ca	FLNRO
	Graeme Henderson	Officer	250-751-7119	Graeme.Henderson@gov.bc.ca	
	Sylvia Barroso, P. Geo.	Assistant Water Manager	250-751-3265	Sylvia.Barroso@gov.bc.ca	
	Ben Robinson	Officer	250-751-3266	Ben.Robinson@gov.bc.ca	
South Coast (Surrey)	Mike Simpson, P. Geo.	Assistant Water Manager	604-586-2809	Mike.Simpson@gov.bc.ca	
	Bryan Jackson	Officer	604-586-2801	Bryan.Jackson@gov.bc.ca	
	Michele Lepitre, P. Geo.	Assistant Water Manager	604-586-4413	Michele.Lepitre@gov.bc.ca	
South Area (Penticton)	Skye Thomson, P. Geo.	Assistant Water Manager	250-490-8276	Skye.Thomson@gov.bc.ca	FLNRO
	Nicole Pyett, P. Geo.	Assistant Water Manager	250-490-2285	Nicole.Pyett@gov.bc.ca	
	Twyla Legault, P. Eng.	Officer	250-490-8287	Twyla.Legault@gov.bc.ca	
	John Pogson	Officer	250-490-8220	John.Pogson@gov.bc.ca	
South Area (Vernon)	David Thomson, P. Geo	Assistant Water Manager	250-260-4641	David.Thomson@gov.bc.ca	
South Area (Kamloops)	Melissa Wade, P. Geo.	Assistant Water Manager	250-371-6206	Melissa.Wade@gov.bc.ca	
	Laurie Lyons	Officer	250-371-6280	Laurie.Lyons@gov.bc.ca	
North Area (Prince George)	Jun Yin, P. Geo.	Assistant Water Manager	778-693-3015	Jun.Yin@gov.bc.ca	
North Area (Smithers)	Cody Cameron, P. Geo.	Assistant Water Manager	250-847-7326	Cody.Cameron@gov.bc.ca	
	Barry Watson	Officer	250-847-7329	Barry.Watson@gov.bc.ca	
Victoria	Mike Wei, P. Eng.	Deputy Comptroller	250-356-5062	Mike.Wei@gov.bc.ca	ENV
	Lindsay Macfarlane	Officer (Sr. GW Data Specialist)	250-953-3408	Lindsay.Macfarlane@gov.bc.ca	
	Erin McGinnis	Officer (GW Data Specialist)	250-387-9465	Erin.McGinnis@gov.bc.ca	