



Ministry of
Water, Land and
Resource Stewardship

Provincial Compliance Efforts

April 13-15, 2023

Provincial Registry of WD & WPI

Phase 1 (live):

- Map search option
- Filter by classification option

Phase 2 (upcoming):

- Search by operational regions feature



Search for a Well Driller or Well Pump Installer

To update contact information or for general enquiries email groundwater@gov.bc.ca.

[Learn more about registering as a well driller or well pump installer in B.C.](#)

Use the search function below to define your search criteria. Please note: The map only shows registered well drillers and well pump installers whose base operation and address are within B.C. Some well drillers and well pump installers may operate in multiple areas throughout B.C. For a complete list refer to the results table below.

Choose professional type:

Well Driller Well Pump Installer

Choose classification(s):

Water Well Driller Geotechnical/Environmental Driller
 Geoexchange Driller

Community:

All
BC
100 Mile House
150 Mile House
Abbotsford
Aldergrove

Individual, company, or registration number:

Search

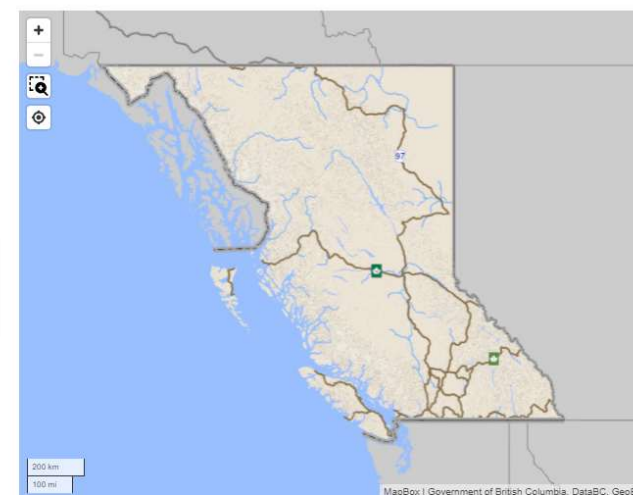
Entries:

10

Map options:

Snap map to search results
 Limit search to map area
 Refresh search results when map area changes

Search Reset



<https://apps.nrs.gov.bc.ca/gwells/registries>

Registration Compliance

Phase 1 (completed):

Newsletter Outreach:

- Emailed a total of 268 WD/WPI and ~38% were undeliverable
- Mailed 157 WD/WPI and 36 were undeliverable
- There were ~70 WD/WPI without known address on the Registry

GWPR s.12(1)

Notice to comptroller: A registered well driller or registered well pump installer must advise the comptroller in writing within 60 days after:

- a. any changes to the information included in the register in relation to the well driller or well pump installer, as the case may be, or
- b. the person ceasing to work in Canada as a well driller or well pump installer, as the case may be.

Registration Compliance

Contractor Outreach:

- Identified 93 companies through online searches (search terms included: plumbing, drilling, pump installation, geotechnical, geo-exchange, water well...)
- 77 WD/WPI from the Registry need updated contact information (including address, email, phone call)
- Called ~443 WD/WPI to get information regarding operational areas for Phase-2 of Registry Map Search

Phase 2 (upcoming):

- Provide informational letters to the identified companies about the requirements to register, certification options, and/or to stop conducting restricted activities without proper qualifications
 - This will be combined efforts with GWPO and NRO

https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-wells/application_for_registration_well_driller_and_well_pump_installer.pdf

Registration Compliance

Discussions with Ministry of Advanced Education:

- Data Sharing with Skilled Trades BC
- More outreach efforts for well drilling industry to support declining workforce

Phase 2 (upcoming):

- Skilled Trades BC – Data Sharing Agreement

Well Report Submission

Highlights:

- Over 2,500 records received in 2022 (all well classes) (does not indicate when the wells were drilled only when they were put into GWELLS)
- 85% entered via industry directly to GWELLS
- Closure reports are not filled out properly (missing lots of information; GPS coordinates, location, finished well depth)

Upcoming:

- Data validations in the application to avoid well reports without any location information etc.

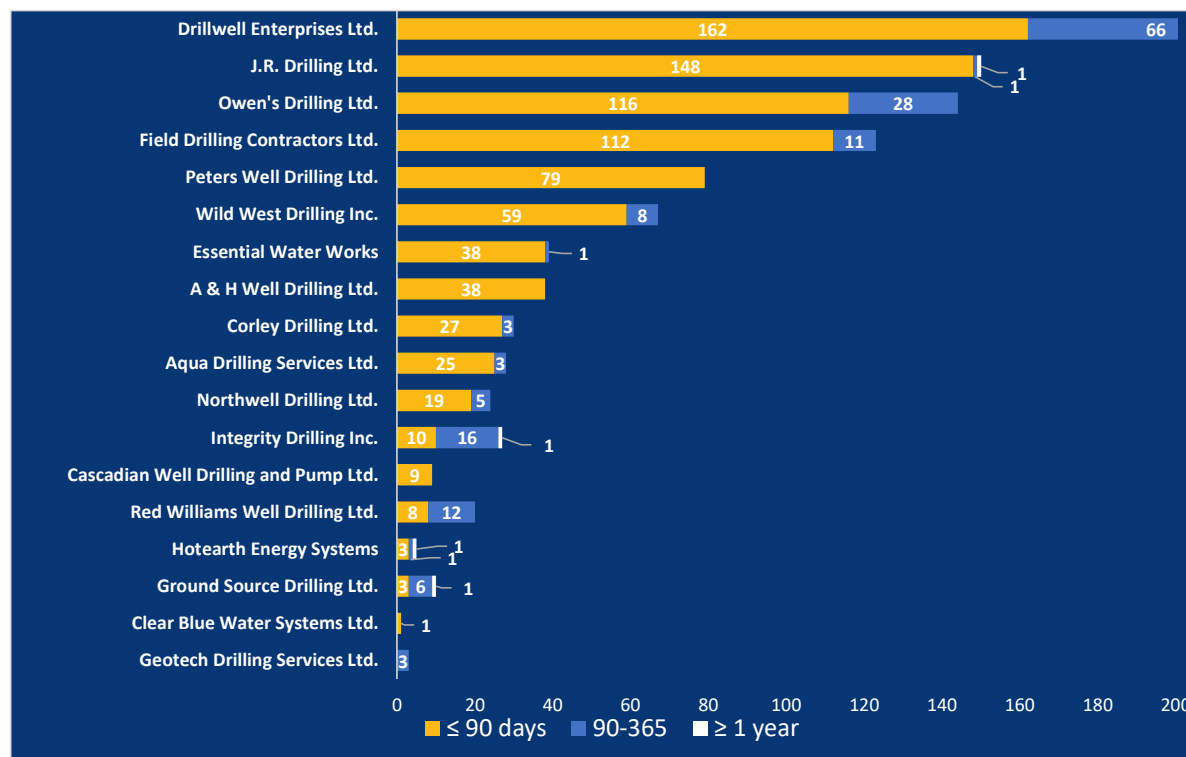


Timelines of Submission

Records submitted in 2022:

- All water supply wells (WSW)
- Submitted by drillers directly into GWELLS
- 18 drillers submitted WSW into GWELLS directly in 2022

Some wells were put into GWELLS with construction dates that occurred after the entry date - we will be emailing the driller (and exploring verification in GWELLS so this cannot happen)



South Area



Education and Outreach

1. Inquiry responses, which may result in a well inspection
 - Provide legislation requirements and responsibilities
2. Presentations to organizations (examples: BC Small Water Systems, NRO, BCGWA)
3. Fact sheets / brochures
 - Flowing Artesian Well Brief for Well Owners – posted to website
 - Dewatering wells – coming soon

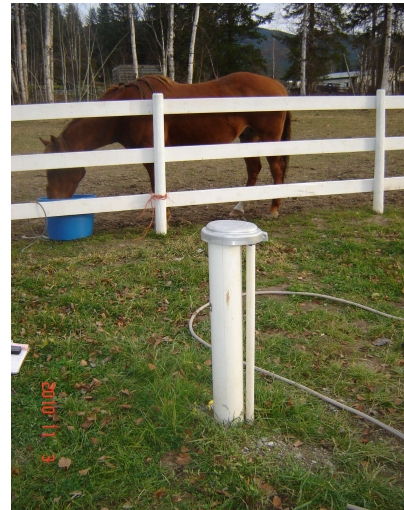


South Area



Well Inspections

1. Complaint driven - concise, detailed complaints easier to action
2. Internal and industry referrals
3. Joint Well Inspections (EHO, NRO, EPO, WO)



West Coast



- Driller and Pump Installer Registration Compliance project, with support from WLRS
 - Currently assessing companies and developing list of those not registered
- Well Record Submission Compliance Project
 - In final review stages
 - Targeted areas in the province and compliance approach will depend on resources staff availability
- Addressing complaints and issues that come in via NRV or directly (complaint driven)
- Ongoing longer-term compliance projects with seawater intrusion and artesian wells
- Outreach involvement to well owners and Island Health
- Ongoing inspections as needed



West Coast



Highlighted Compliance Issue: Seawater Intrusion

- Becoming an emergent issue with ongoing development and use of our aquifers and climate change
- If you are working close to the coast, monitor the water for seawater impacts and be prepared to encounter seawater intrusion
 - Have a plan!
- Monitor during drilling and during pump tests
- Discuss with the property/well owner that there could be a risk of seawater intrusion prior to conducting the work
- Avoid drilling excessively deep
- If you encounter seawater, you may need to seal the well at certain depths at the time of drilling to prevent shallow aquifers from being impacted
- Consider pump setup and timing that will help mitigate seawater intrusion if there is a risk
- Plan ahead and seek guidance and support as needed from another registered driller or pump installer or from a professional like a hydrogeologist

Best Practices for Prevention of Saltwater Intrusion



What is saltwater intrusion and why is it a concern?

Saltwater intrusion occurs when saline (salty) water is drawn into a freshwater aquifer. Saltwater intrusion can affect one well, or multiple wells in an aquifer, making the water unpotable (unpleasant to drink). People with hypertension should not drink groundwater with a high salt content. The health of plants and fertility of soil can be negatively impacted if irrigated with saline groundwater. Once saltwater intrusion occurs, the changes in the aquifer may be permanent or may take many years to recover.

What causes saltwater intrusion?

Saltwater intrusion can occur due to either natural processes or human activities. In aquifers adjacent to the coast and on islands like the Gulf Islands, freshwater floats as a lens above the saltwater, forming a wedge that extends inland from the shoreline (see Fig. 1). Salinity typically increases gradually at the base of the freshwater lens, but in fractured rock aquifers a single fracture can deliver saltwater to a well (Fig. 3). The thickness and depth of the freshwater lens can vary seasonally, or over a longer term due to changes in the amount of precipitation and recharge occurring. Well pumping can also alter the location (depth or distance inland) of the saltwater-freshwater transition zone (Fig. 2).

While intermixing of freshwater and seawater is one of the main causes of saltwater intrusion in coastal B.C., groundwater within deeper aquifers may also be salty due to geologic processes and interactions between rocks and water over a long time period (e.g. millennia). If a well draws water from one of these deeper aquifers, it can cause saline water to migrate or mix with fresher groundwater in shallow aquifers. Isolated areas of saltwater have also been found at relatively shallow depths e.g. < 50 m in some areas such as Saanich, Mayne Island, Saltspring Island and near Parksville.

What areas are at highest risk?

Areas at highest risk of saltwater intrusion include locations:

- » Close to the coast;
- » Where there is a low to moderate slope;
- » On peninsulas or in areas with a limited source area for groundwater recharge;
- » Where there is a high density of wells;
- » Where there are high rates of pumping from a single well or from multiple wells in a coastal area;
- » Where the static (non-pumping) groundwater level is at or below sea level.

South Coast



Unauthorized Use Project

- Assess potential unauthorized water use by watershed
 - Using GIS analyses - already conducted
 - Field data - Data collected using the field app
 - GIS app refinement
- Follow-up letter mailouts to confirmed lots using water in watersheds that were audited
- Prepare mailout lists for unauthorized water use in priority watersheds for upcoming drought season – Bertrand, Serpentine, Nicomekl, Fishtrap, and Little Campbell



Contact Information for Groundwater Staff with Statutory Designation

Office	Name	Statutory Designation	Phone	Email	Ministry
West Coast (Nanaimo)	Jessica Doyle, P. Geo.	Assistant Water Manager	778-693-3035	Jessica.Doyle@gov.bc.ca	FOR
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	Elyse Sandl, P. Geo.	Officer	236-468-3876	Elyse.Sandl@gov.bc.ca	
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South Area (Penticton)	John Pogson, P. Geo.	Assistant Water Manager	778-622-6876	John.Pogson@gov.bc.ca	
South Area (Vernon)	David Thomson, P. Geo.	Assistant Water Manager	778-943-6924	David.Thomson@gov.bc.ca	
South Area (Kamloops)	Melissa Wade, P. Geo.	Assistant Water Manager	778-362-4714	Melissa.Wade@gov.bc.ca	
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Victoria	Amy Sloma, P. Eng.	Deputy Comptroller Officer	778-698-4866	Amy.Sloma@gov.bc.ca	WLRS
	Leia Fougere, P.Eng.	(Sr. GW Data Specialist)	236-478-3730	Leia.Fougere@gov.bc.ca	
	Uelun Tuvshinjargal	Officer (GW Data Specialist)	236-478-0448	Uelun.Tuvshinjargal@gov.bc.ca	

REPORT NON-COMPLIANCE

Have you noticed a well that does not meet the construction standards of the Groundwater Protection Regulation?

Know of someone who is drilling a well or installing a well pump without being registered?

RAPP
Report All
Poachers and
Polluters

24 Hr Hotline:
1-877-952-RAPP
Cellular Dial #7277
(On Telus Network)

For general enquiries, contact:
Groundwater@gov.bc.ca