



ENVIRONMENTAL AND
HYDROGEOLOGY CONSULTANTS

**STATEMENT OF
QUALIFICATIONS**
CORPORATE



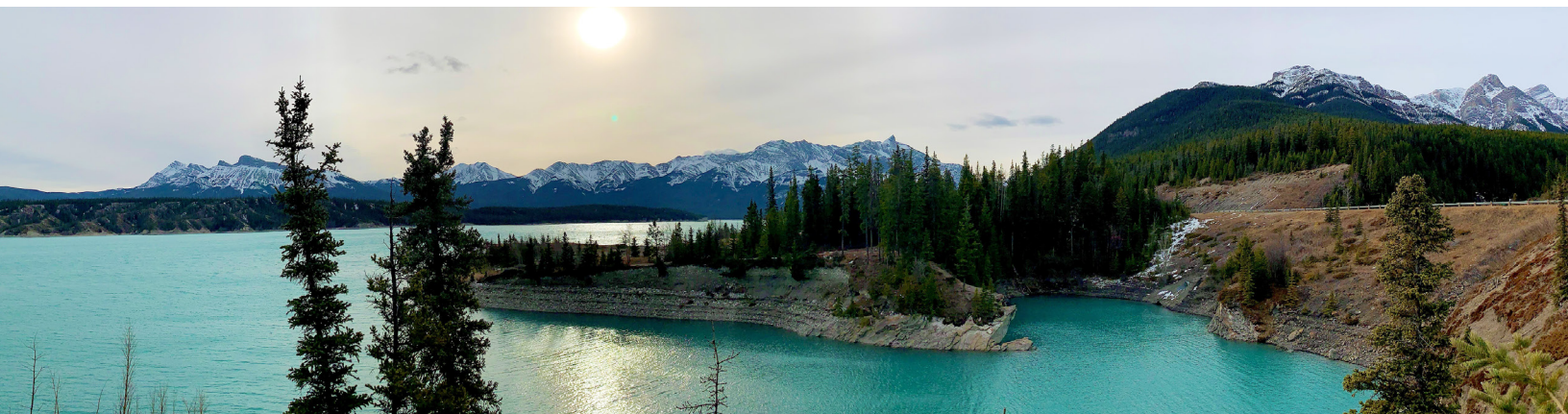


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COMPANY PROFILE

Waterline Resources Inc. offers comprehensive groundwater resource and environmental consulting services to the mining and energy sectors, government, municipalities, Indigenous groups, contractors, and commercial and industrial operations.



OUR MISSION

Waterline's mission is to provide practical and scientifically defensible solutions to a diverse range of environmental challenges, delivered by knowledgeable people who are focused on continued professional development, quality service, and being trusted partners with our clients.

Origins

Waterline was formed in 2000 by Mr. Darren David, (M.Sc., P.Geo.), Mr. Jamie Wills (M.Sc., P.Geo.), and Mr. Steve Foley (M.Sc., P.Geo.) Mr. Eric Pringle (M.A.Sc., P. Eng.) joined Waterline in 2007 and brings over 30 years of environmental and hydrogeological consulting experience to the team. Ms. Michelle Taylor (M.Sc., P.Eng.) joined Waterline in 2016 and brings 25 years of experience in both industry and consulting with a focus on liability management and environmental site assessments.

Today, Waterline's team consists of over 80 scientists, engineers, and other technical specialists in three main offices and multiple regional offices across Alberta and British Columbia. The Waterline team offers the most comprehensive hydrogeological expertise in Western Canada.

Senior Management

MICHELLE TAYLOR M.Sc., P.Eng.

President

Principal Environmental Engineer

- 25+ years of experience both in industry and consulting
- Experience focused on contaminated site assessment and liability management, with specific areas of experience covering environmental site assessment, risk management, remediation, regulatory approvals, and regulatory compliance management
- Works with all service teams to achieve strategic plan goals
- Oversees marketing and external relationships that are critical for success including ensuring quality of service and technical excellence

ERIC PRINGLE M.A.Sc., P.Eng.

Vice President & COO

Principal Hydrogeological Engineer

- 30+ years of environmental and hydrogeology consulting experience
- Environmental site assessment, impact assessment, compliance based monitoring programs
- Contaminant fate and transport modelling, natural attenuation assessments, landfill siting, landfill operation and design, remedial design and liability assessment and management
- Contributions to physical hydrogeology projects include aquifer testing and evaluation, well performance testing, municipal well head protection, well capture delineation and analytical/numeric modelling of groundwater flow



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SENIOR STAFF EXPERTISE

Waterline's senior staff have completed thousands of successful projects in the hydrogeological and environmental disciplines, and provide continual technical mentorship to Waterline's project-level staff. Simply put, **the Waterline team offers the most comprehensive hydrogeological expertise in Western Canada.**

Executive Team

MICHELLE TAYLOR M.Sc., P.Eng.
President
Principal Environmental Engineer
Experience: 25+ Years

ERIC PRINGLE M.A.Sc., P.Eng.
Vice President & COO
Principal Hydrogeological Engineer
Experience: 30+ Years

DARREN DAVID M.Sc., P.Geo.
Vice President Mining
Principal Hydrogeologist
Experience: 35+ Years
Technical Expertise: Mine water management, aquifer mapping, integrating groundwater exploration tools, water budgets, ML/ARD assessment, groundwater-surface water interactions, and BC WSA licensing.

STEVE FOLEY M.Sc., P.Geo.
Chairman, Board of Directors
Principal Hydrogeologist
Experience: 35+ Years
Technical Expertise: Groundwater resource development, site characterization and contaminant assessments, and numerical analysis.

Key Personnel

BRENT LENNOX M.Sc., P.Geo.
Division Manager
Senior Hydrogeologist
Experience: 20+ Years

Technical Expertise: Compliance and due diligence based soil and groundwater assessment and monitoring, risk/remedial action plan and conceptual site model development, in-situ and ex-situ remediation.

DALTON PAJAK B.Sc., P.Geo.
Division Manager
Senior Hydrogeologist
Experience: 12+ Years

Technical Expertise: Groundwater supply evaluation, source water exploration drilling, well design and construction, aquifer testing and analysis, groundwater monitoring and regulatory compliance.

STEVE STURROCK M.Sc., P.Geo.
Division Manager
Senior Hydrogeologist
Experience: 15+ Years

Technical Expertise: Water resources development and management including groundwater exploration, aquifer management, and environmental compliance.

BLAKE HIEBERT B.Sc., P.Geo.
Team Lead
Senior Hydrogeologist
Experience: 13+ Years

Technical Expertise: Water resources development and management including groundwater exploration, aquifer management, and environmental compliance.

SIMON WING B.Sc., P.Geo.
Team Lead
Senior Hydrogeologist
Experience: 12+ Years

Technical Expertise: Water resources development and management including stormwater infiltration, aquifer management, environmental compliance, and BC WSA licensing.



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HEALTH, SAFETY & CONDUCT PROGRAM

Waterline believes a strong culture of safety is an essential part of the services we provide clients. As such, we have developed a Health, Safety, and Conduct Program that all employees and contractors follow when involved with Waterline’s projects. Our Program is COR Alberta certified, and audited by ISNetworld, Avetta, and Complyworks. Waterline is registered and in good standing with WorkSafeBC.



Key Components

Safe Work Practices and Job Procedures

Waterline works with clients, contractors, and colleagues to identify and mitigate hazards in the workplace. Our policies and guidelines are reviewed and updated annually to remain current with regulatory updates and operational changes.

Health and Safety Statistics

We believe in making decisions based on data. Waterline’s Project health and safety statistics are compiled quarterly and reported through monthly H&S meetings and third-party health and safety management systems.

Environmental Sustainability

Waterline strives to minimize our impact on the environment in all aspects of our work and supports environmental initiatives in our communities.

First Nations Relationship Building

Waterline is committed to working with Indigenous peoples in a respectful and communicative manner and embraces the Truth and Reconciliation Commission of Canada’s Calls to Action.



GROUNDWATER SUPPLY EXPLORATION & DEVELOPMENT

At Waterline, we draw on our collective experience as one of the largest physical hydrogeology groups in Western Canada to find and develop long-term groundwater supply sources for our clients. Waterline has built a strong reputation for leading groundwater supply exploration and aquifer testing programs.



Expertise

Water Supply Exploration

Our proprietary geospatial mapping application, Enviro Web Services (EWS), allows us to interactively view aquifer information and identify groundwater targets.

Drilling Supervision

Waterline has strong working relationships with qualified drilling contractors and provides wellsite supervision to ensure drilling programs are conducted in accordance to applicable regulations, and selects the best drilling methods based on expected borehole conditions and desired outcomes.

Water Supply Well Design and Installation

Our wellsite hydrogeologists log drill core and cuttings, collect samples, and complete grain size analyses and well screen designs.

Maximizing Well Yields

Waterline designs and monitors comprehensive well development programs that are critical to maximize well yields and optimize the life of a supply well.

Water Use Licensing

Waterline supports our clients with BC Water Sustainability Act groundwater licensing and associated technical assessments.



Aquifer Testing

We design and supervise aquifer testing programs required to predict long-term sustainable well and aquifer yields for water supply well groundwater licensing.

WATER WELL MAINTENANCE & REHABILITATION

Water wells have a life cycle and they require regular maintenance similar to other industrial equipment and infrastructure. Performance monitoring can help detect the early signs of well deterioration, and a well maintenance plan will address these issues before they become critical. Wells showing signs of deterioration can be rehabilitated using a variety of techniques. **Waterline routinely helps our clients extend the operational lifespan of their wells and reduce overall operating costs.**

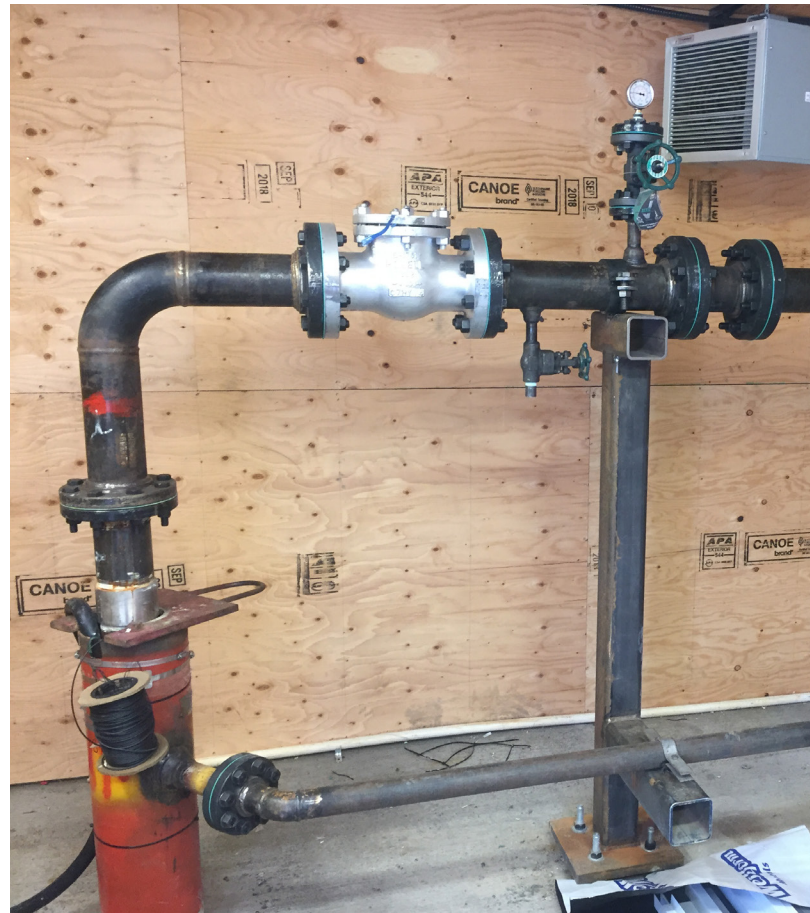
Well Maintenance & Rehabilitation

Downhole Camera Surveys

A quick method to assess downhole well conditions and determine if rehabilitation is required.

Rehabilitation

Waterline works with qualified drilling and pumping contractors, employing well-specific techniques to remove build-up of sediment, mineral scaling, and bacterial growth. Regular well maintenance will increase the life-span of a well, reduce operating costs over time, and ensure access to safe, potable water.



Performance Monitoring

Well Water Levels and Flow Rates

The pumping capacity of a well may decrease over time as the well ages and the screen becomes plugged by sediment, mineral scaling, or bacterial growth. Waterline can identify decreasing well capacity by evaluating pumping levels, flow rates, and the water quality over time.

Water Quality

The water chemistry in a well system should remain relatively stable. Monitoring key water quality parameters allows Waterline to identify changes occurring in the system that increase the possibility of mineral scaling that plugs the well screen, filter pack, and aquifer.

GROUNDWATER - SURFACE WATER INTERACTIONS

Groundwater and surface water systems are intrinsically connected and impacts to one system often result in impacts to the other. Understanding the interaction between these systems is critical to the successful management of water resources. **Waterline has extensive experience measuring, identifying, and assessing interactions between groundwater and surface water and evaluating how these systems affect or are effected by environmental change.**

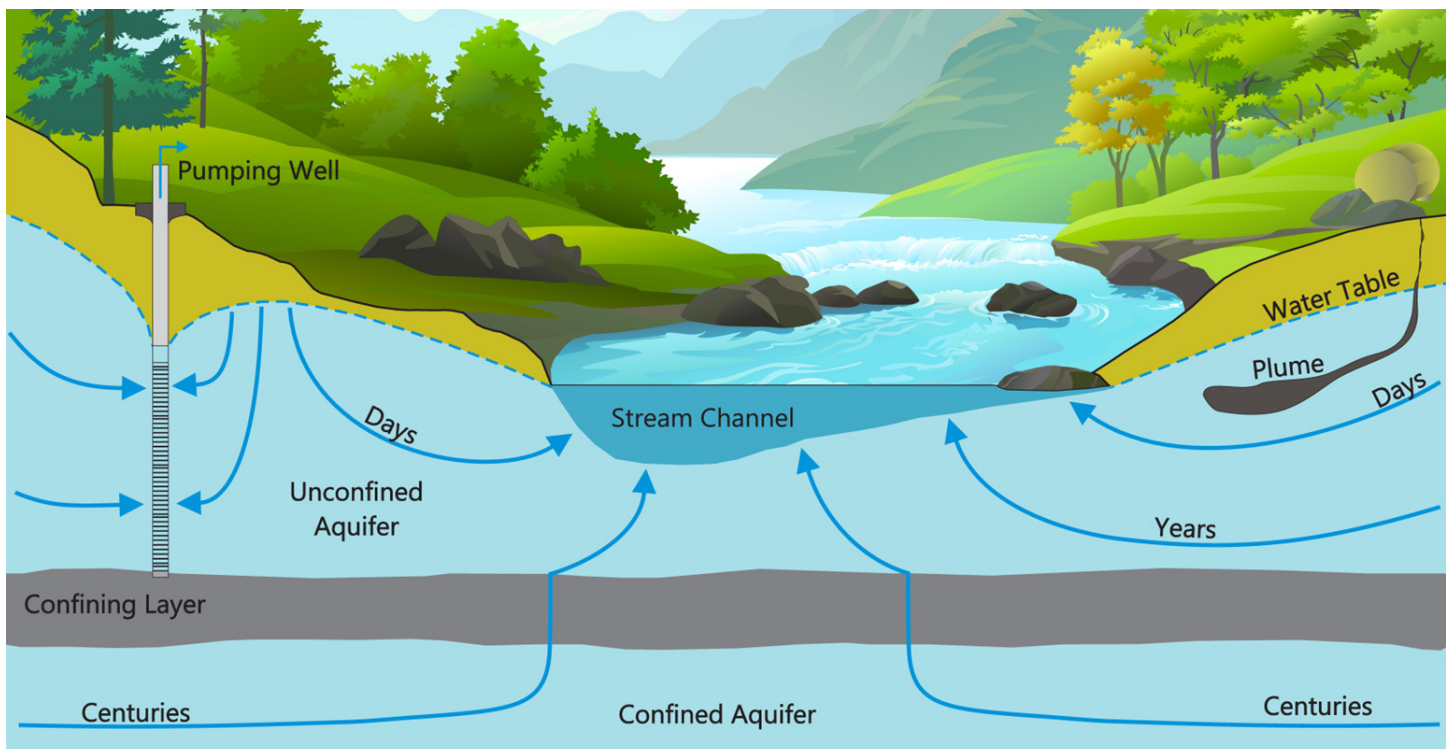
Expertise

Effects of Groundwater Diversion on Streamflow

Productive aquifers are often located in groundwater discharge areas close to sensitive streams that may rely on groundwater to maintain essential streamflow. Separating the effects of groundwater pumping from seasonal variability or climatic factors on stream discharge rates is challenging and requires considerable experience in hydrogeology and geochemistry. Waterline uses specialized instrumentation and techniques to help our clients understand how groundwater diversion may impact the nearby surface water environment.

Contaminant Groundwater Pathways

Groundwater flow pathways are common routes for spilled or improperly stored contaminants to enter stream or lake environments. Waterline has extensive experience conducting environmental impact assessments to determine if or when a contaminant plume will move towards a nearby surface water environment.



ENVIRONMENTAL MONITORING & SAMPLING

A considerable number of Waterline's clients use our monitoring and sampling expertise to fulfill regulatory monitoring obligations. **Waterline has coordinated and completed over a thousand environmental monitoring programs** to meet site regulatory compliance objectives over 20+ years of operations.



Expertise

Groundwater and Surface Water Data Collection

Waterline routinely measures groundwater levels and collects groundwater and surface water chemistry samples for monitoring programs across Western Canada.

Quality Assurance Quality Control (QA/QC)

Data collected from field programs must be of high quality to allow for defensible and meaningful interpretations. Waterline's sampling protocols conform to the most stringent regulatory QA/QC requirements in British Columbia and Alberta.

Data Management

All monitoring and sampling data is stored in Waterline's proprietary online data management and geospatial mapping application, Enviro Web Services (EWS). Our system allows for easy online access, interactive mapping, and graphical visualizations for all your project data.



INDIGENOUS RELATIONS

Waterline has worked with Indigenous groups throughout Western Canada and built long-term relationships with our Indigenous clients through respect, knowledge sharing and collaboration. Much of this work has been focused on groundwater and contaminant issues to protect Traditional Lands and Indigenous Rights related to land use and clean water. We use a collaborative approach, applying our extensive groundwater experience along with incorporating Traditional Knowledge, to provide our clients with a deeper understanding of their water supply and other resources and how, through capacity building, resources can be better protected and managed.



Expertise

Baseline Assessments

Waterline has conducted baseline assessments on reserve land for our Indigenous clients. Baseline assessments can include developing a Conceptual Site Model (source-pathway-receptor model) for surface and groundwater on community lands, assessing the overall water supply in terms of the quantity and quality, and evaluating current water use and development potential for new groundwater sources. These assessments can provide a community with scientific information that can enhance Traditional Knowledge, allowing the community to effectively manage and protect their water resources.

Groundwater Program Development

Many of the Indigenous communities Waterline supports are in rural areas where securing safe drinking water can be a challenge. We assist our rural clients in developing programs for the protection of domestic use water wells and managing groundwater resources. Incorporating Traditional Knowledge is vital to an Indigenous community's groundwater protection and management

program. Waterline encourages knowledge sharing and transfer in both directions to build a technical support network within a community to support these programs.

Project Reviews

Indigenous groups are often faced with the task of reviewing major projects (e.g., mining, oil and gas, power production, rail or other transportation) that are either proposed or are occurring on or near their Traditional Lands that may cause environmental or cultural impacts, including detrimental effects to their water supply or lands used for harvesting, hunting or fishing. Waterline has provided support and groundwater expertise to our Indigenous clients for project reviews, including Environmental Impact Assessments (EIA), investigation reports, and remediation programs for industrial sites and related activities, along with evaluating ongoing effects to receptors.

Training & Capacity Building

With many of our Indigenous community projects, we include training to community members and staff so that the community can complete water monitoring and sampling, understand threats to their water supply, and apply this knowledge towards sustainable future community development.

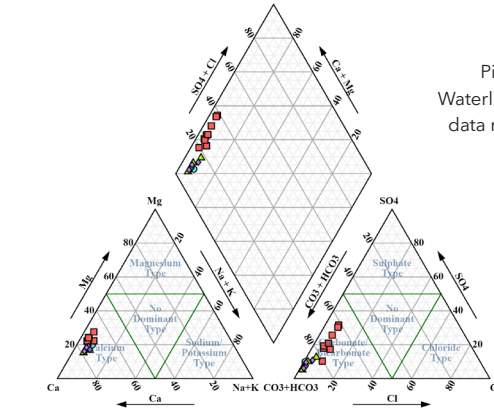
DATA MANAGEMENT WITH ENVIRO WEB SERVICES

Waterline's proprietary online data management and geospatial mapping application, Enviro Web Services (EWS), allows Waterline staff and our clients online access to publicly available environmental datasets. EWS also provides clients with a secure and private platform to store, manage, and visualize project specific datasets.

EWS Applications

Data Integration

EWS combines georeferenced public datasets into one online system. Data sources in BC include the BC Freshwater Atlas, BC Groundwater Wells and Aquifers database, BC Geologic Survey maps, ParcelMap BC, provincial districts and regions, Indigenous peoples information from CIRNAC, provincial fish distributions, and more.



Piper plot generated using Waterline's Enviro Web Services data management application.

Improved Desktop Study Efficiency

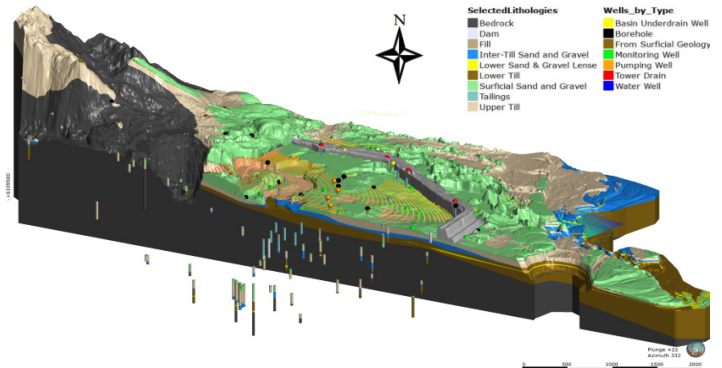
The first step of many hydrogeological studies is to search for and compile available public data in the project area. With EWS, this work has already been completed. When combined with uploaded project-specific data, EWS allows us to quickly develop an understanding of a project site and results in cost savings for our clients.

Project Database

EWS serves as the client database for many projects Waterline works on, which provides important continuity for long-term studies as Waterline or client staff join or leave a project. Proprietary client data is stored securely and privately, and remains accessible as long as required by the client.

ADDITIONAL SERVICES & EXPERTISE

Waterline combines the collective experience of thousands of successfully completed projects to offer a diverse selection of client services in disciplines ranging from groundwater resources to environmental reclamation to geographic information data management.



Groundwater Model Cross-Section

Commonly Provided Services

- Phase I & II Hydrogeological Assessments
- Wellhead Protection Plans
- Groundwater at Risk of Pathogens (GARP) Assessment
- Integrated Stormwater Management Plans
- Well Decommissioning
- Groundwater Supply Source-to-Tap Assessment
- Environmental Site Assessment
- Groundwater Modeling
- Aquifer Mapping
- Wetland Conservation Hydrogeology
- Soil Monitoring and Sampling



OUR CLIENTS

Waterline has built a strong reputation for providing high-quality, on-time, and cost-effective solutions to domestic and international clients. **Our success is ultimately dependent on the success of our clients, and on the long-term relationships we build with our clients.** Below are some examples of current and recent clients across various regional and local districts, commercial and industrial operations, and Indigenous groups who rely upon our expertise.



Commercial Development

Cermaq Canada
Crown Isle Resort & Golf Community
EPCOR Water (West) Inc.
Mount Washington Alpine Resort
Neptune Bulk Terminals
Safety-Kleen Canada Inc.
Seward Developments Inc.
Stoddart Creek Water Services Ltd.

Oil & Gas

Canadian Natural Resources Ltd.
Canlin Energy Corporation
Cenovus Energy
Shell Canada Ltd.
Strathcona Resources Ltd.
Tidewater
Whitecap Resources Inc.

Municipal

Capital Regional District
City of Campbell River
City of Delta
City of Okotoks
City of Prince George
Cowichan Valley Regional District
District of Squamish
District of Wells
Regional District of Nanaimo
South Central Regional District
Sunshine Coast Regional District
Town of Cochrane
Town of Gibsons
Town of Golden
Town of Sparwood
Town of Squamish

Pulp & Paper

Brisco Wood Preservers Ltd.
Canfor Pulp Ltd.
Catalyst Paper
Confex Inc.

Indigenous Groups

Gitwankak Band
Halalt First Nation
Ktunaxa Nation Council
Mowachaht/Muchalaht First Nation
Nadleh Whut'en First Nation

Mining

Artemis Gold Inc.
Avanti Kitsault Mining
Barkerville Gold Mines Ltd.
Centerra Gold
Conuma Coal Resources Ltd.
KGHM Ajax Mining Inc.
Lafarge Boulder Creek
Lundin Mining
Mount Polley Mining Corp.
New Gold Inc.
Thompson Creek Metals Company