

# Geoscience BC

## *Project Update*

### Southeast

September 24, 2019

Non-profit organization

Generate and share high quality, unbiased earth science research and data

Collaboration between governments, communities, Indigenous groups, resource sectors, academia

... improves our collective level of geoscience knowledge

... informs responsible natural resource and investment decisions

.... catalyzes socio-economic opportunities

... stimulates innovation and geoscience technologies



## Minerals



## Energy



## Water

Identifying New Natural Resource Opportunities

Understanding Water

Advancing Science & Innovative Geoscience Technologies

Facilitating Responsible Natural Resource Development

Enabling Clean Energy

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Governance, Management  
& Finance

Public Access &  
Data Management

External Relations  
& Communications



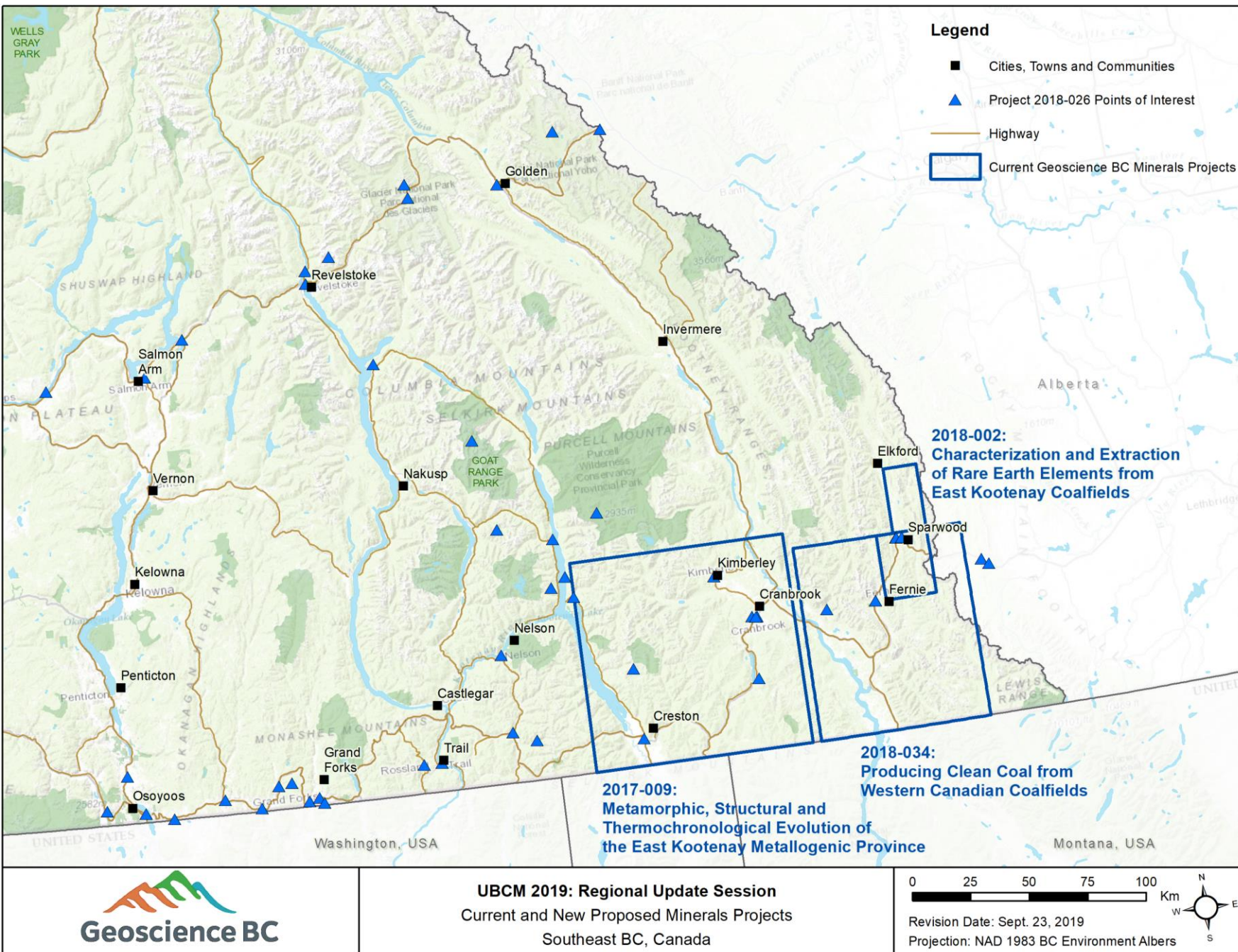


**Geoscience BC**

## Completed & Current Research Projects

Strategic Research Area	Completed Research Projects	Current Research Projects
Minerals	127	29
Energy - Oil & Gas	24	11
Energy – Geothermal	10	2
Water	25	5
<b>Total</b>	<b>186</b>	<b>47</b>

- Geoscience BC has funded 233 projects, of which:
  - 186 are completed; and
  - 47 are currently underway
- Scientific Project Plan outlines current and future research projects
- Research findings and data available online and summarized in annual Summary of Activities:
  - Minerals; Energy and Water



# Projects in Your Area



## Minerals

### Strategic Objectives Guide Research Project Generation



- Identifying New Natural Resource Opportunities



- Advancing Science & Innovative Geoscience Technologies



- Facilitating Responsible Natural Resource Development
- Enabling Clean Energy
- Understanding Water



# The Metamorphic, Structural and Thermochronological Evolution of the East Kootenay Metallogenic Province

## Project Goals

- Look for clues in the rocks that reveal how deeply they were buried, what temperatures they reached, and how they were deformed, to provide information about the regional geology
- Establish the impact this burial and deformation had on mineralization
- Stimulate on-the-ground exploration activities



## **Producing Clean Coal from Western Canadian Coalfields using the Water-Based 'Roben Jig' Process**

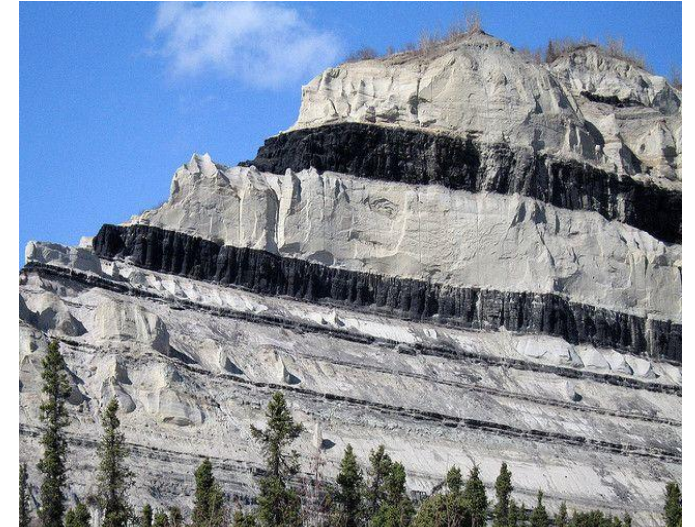
- Canadian Carbonization Research Association
- Traditional organic liquids can negatively affect coal rheology and coke strength, resulting in an undervaluation of exploration samples
- 3-year project to verify the jig as a tool to evaluate coal deposits with respect to coal and coke quality at the exploration phase





# Characterization and Extraction of Rare Earth Elements from East Kootenay coalfields

- UBC – Norman B. Keevil Institute of Mining Engineering
- Rare Earth Elements (REEs): batteries, magnets, electronics
- Coal deposits have been identified as potential new sources
- Project Objectives:
  - Compile a REE database in East Kootenay coalfields and identify REE-rich samples
  - Analysis to examine REE-bearing minerals and associations in BC coal
  - Lab-scale extraction study on select samples



## **Access to the Mining Heritage of BC: Bringing Geological Collections to the Masses**

- Below BC - non-profit society on a quest to bring geology and the broader earth sciences alive for the public through education and a variety of media.
- Virtual museum of rock, mineral and fossil samples from sites and collections across southern and northwestern BC.
- Includes online 360-degree 'field trips' at key locations across



## East Kootenay Chamber of Mines Core Library Project



- Salvaging and moving drill core from sites across southeastern BC to the East Kootenay Chamber of Mines' Fort Steele Drill Core Library.
- Storing and protecting drill core provides long-term access to information about the region's geology and mineral potential



## Four regional-scale projects for 2019/2020

- Central Interior Copper Gold Research Series
  - Till studies, archived till reanalysis, geophysical interpretations, overburden drilling planning
- Vancouver Island North
  - Airborne geophysical surveying in 2019
- Golden Triangle Baseline Geophysical
  - Acquisition of privately held geophysical data in 2019
- **Kootenay Region Geoscience Project Generation**
  - **Project generation and priority setting for geoscience in the Kootenay region**



- 'Serpentinities' have high potential to react to atmospheric CO<sub>2</sub>, form carbonate minerals, and reduce greenhouse gases (GHGs)
- Mining companies may be able to capture GHGs in their waste materials if mining ultramafic ores
- Project will evaluate BC's potential to capture GHGs

**More information at 1 pm!**





# Geoscience BC

## Thank You

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