



Core Research
Facility Manual
VERSION 1.2: June 2018

About the Commission

The BC Oil and Gas Commission (Commission) is the single-window regulatory agency with responsibilities for regulating oil and gas activities in British Columbia, including exploration, development, pipeline transportation and reclamation.



The Commission's core roles include reviewing and assessing applications for industry activity, consulting with First Nations, ensuring industry complies with provincial legislation and cooperating with partner agencies. The public interest is protected by ensuring public safety, protecting the environment, conserving petroleum resources and ensuring equitable participation in production.

Mission

The Commission regulates oil and gas activities for the benefit of British Columbians by:

- Protecting public safety.
- Respecting those affected by oil and gas activities.
- Conserving the environment.
- Supporting resource development.

Through the active engagement of stakeholders and partners, the Commission provides fair and timely decisions within its regulatory framework. It supports opportunities for employee growth, recognizes individual and group contributions, demonstrates accountability at all levels, and instills pride and confidence in our organization.



Vision and Values

To provide oil and gas regulatory excellence for British Columbia's changing energy future.

- Respectful Accountable
- Effective Efficient
- Responsive Transparent

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Manual Revisions

The Commission is committed to the continuous improvement of its documentation. Revisions to the documentation are highlighted in this section and are posted to the [Documentation Section](#) of the Commission's website. Stakeholders are invited to provide input or feedback on Commission documentation to OGC.Systems@bcogc.ca or submit feedback using the [feedback form](#).

Version Number	Posted Date	Effective Date	Chapter Section	Summary of Revision(s)
1.0	June 7, 2017	July 1, 2017	All	This is a new document. Users are encouraged to review in full.
1.1	July 7, 2017	August 1, 2017	Chapter 4	Updated the first bullet point in Section 4.1. (p.13).
1.2	June 7, 2018	July 1, 2018	Various	This document has been updated to include geothermal well cores.

Introduction

Purpose

The Core Research Facility Manual is intended as a reference document and to provide information about the Core Research Facility and its processes. This manual provides an overview of the requirements and procedures to access petroleum well cores, geothermal well cores, drill cutting samples and core removal requests.

The manual has been prepared to be as comprehensive as possible; however it may not cover all situations. Where circumstances or scenarios arise and are not covered by the manual, contact one of the Commission's Core Facility staff for assistance.

Scope

Written by the Commission, the Core Research Facility Manual is limited in scope to the Commission's core facility application processes and the authorities and requirements established within the [Oil and Gas Activities Act](#) (OGAA) or specified enactments established thereunder.

Carrying out oil and gas and related activities may require additional approvals from other regulators or create obligations under other statutes. It is the permit holder's responsibility to know and uphold all of their legal obligations.

Manual Structure

This manual is divided into sections to explain each policy, procedure or guideline in order to provide a comprehensive how-to document.

Additional Guidance

As with all Commission documents, this manual does not take the place of applicable legislation. Readers are encouraged to become familiar with the acts and regulations and seek direction from Commission staff for clarification. Some activities may require additional requirements and approvals from other regulators or create obligations under other statutes. It is the applicant and permit holder's responsibility to know and uphold all legal obligations and responsibilities.

Throughout the manual there are references to guides, forms, tables and definitions to assist in creating and submitting all required information. Additional resources include:

- [Glossary and acronym listing](#) on the Commission website
- [Documentation and guidelines](#) on the Commission website
- [Frequently asked questions](#) on the Commission website
- [Advisories, bulletins, reports and directives](#) on the Commission website
- [Regulations and Acts](#) listed on the Commission website
- Core Query Tool
- Core Research Facility website

Chapter 1: Core Research Facility

Overview

The Oil and Gas Activities Act (OGAA) via Section 29 of the Drilling and Production Regulation (DPR) specifies requirements for petroleum exploration companies to submit drill cuttings and core from wells drilled in the province to the BC Oil and Gas Commission (Commission). Core and cuttings at the facility are managed in accordance with Part 6 of the DPR which allows for core examination and temporary removals for testing. Drill cuttings and core samples are directed to the Core Research Facility, defined by the DPR as the facility for the storage and examination of well samples and cores.

The Core Research Facility archives and provides public access to inspect and examine petroleum well cores, geothermal well cores, and drill cutting samples. The key services provided are core/drill cuttings examination and core removal (retrieving the core from the warehouse for shipping) to private laboratories.

Many groups benefit from access to cores and drill cuttings, including:

- Oil and gas exploration companies
- Academic institutions
- General public
- Other natural-resource-oriented groups

Public access to the rock sample archived within the Core Research Facility is an important component in the Province's continued commitment to natural resource science and helps to foster continued responsible oil and gas industry development.

1.1 Visiting the Core Facility

The core facility is currently located at the Commission's Fort St John office:

Physical/Courier Address:

6534 Airport Road
Fort St John BC
V1J 4M6

Mailing Address:

BAG 2
Fort St John BC
V1J 2B0

Hours:

Monday – Friday – 8:30 am – 4:30 pm
Please note: Closed 12:00-1:00 pm

Contact:

Core Facility Supervisor
email: corelab@bcogc.ca
Phone: 250-794-5313

1.2 Viewing Core and Reserving Tables

Core facility services can be requested by directly contacting the facility by phone or email. You will need to provide the well authorization number, surface location and the well depths.

Please Note:

Missed or cancelled appointments may result in a maintenance fee if a cancellation notice is not submitted five (5) days prior to the scheduled appointment.

The available facilities include four functional areas including:

- A business reception area.
- A core and drill cuttings processing area.
- T core and drill cuttings examination area with examination tables and booths, and;
- The warehouse storage area.
 - An area with two examination tables with a sliding table tray for microscope, examination tools and note taking that can be reserved by company staff to view and examine confidential core.

Facility tours can be arranged to accommodate geologists, corporations, the general public, and educational groups from elementary to university levels. Tour requests are by reservation only and must be pre-approved by the onsite Core Facility Supervisor (there are no unscheduled drop-ins).

Drill cuttings and cores, including geothermal well cores and cuttings may be viewed at the core facility. To request a facility tour, core examination or to make a reservation at the facility a [Core Examination Application Form](#) must be submitted for approval to CoreLab@bcogc.ca.

Cores and geothermal well cores may also be temporarily removed to third party locations for study and analysis. To request removing core for examination, an [Application for Core Removal](#) must be submitted.

- Clients will need two weeks minimum notice when making reservations for tables or core removal services;
- Sufficient notice is required (5 business days) when cancelling core examinations or core removals, otherwise clients may be charged the applicable box fee.

Please Note:

Drill cuttings can only be examined in house. They cannot be removed from the facility.

1.3 Shipping Core, Geothermal Core, and Drill Cuttings to the Facility

To ship new core and geothermal cores from a well site to the Commission Core Research Facility or to a lab for analysis a [Notice of Shipment of Core Samples Form](#) must be used.

To ship drill cuttings a [Notice of Shipment of Drill Cutting Samples Form](#) must be used.

Shipping requirements can be found in Part 6 of the Drilling and Production Regulation. Shipping of geothermal well cores should follow these same requirements.

1.4 Core Fees

Section 31(3) of the Drilling and Production Regulation (DPR) states that with the approval of an official, a person, on payment of the fees set out in Section 19 of the Fee, Levy and Security Regulation (FLSR), may remove a well core from the core facility for the purpose of laboratory investigations and analysis that cannot be performed at the core facility.

Chapter 2: Drill Core, Geothermal Core & Cuttings for Examination

Public access to the rock samples archived within the Core Research Facility is an important component in the Province's continued commitment to natural resource science and helps to foster continued responsible oil and gas industry development.

To initiate a request for examination of drill core, geothermal core, or samples, clients must contact the Core Facility Supervisor via email or phone:

Email: corelab@bcogc.ca
Phone: 250-794-5313

A [Core Examination Application Form](#) must be filled out and submitted with the request. Clients should provide the following details:

- Well authorization (WA) number;
- Well name and location;
- Intervals required;
- Preferred dates for examination; and
- How many tables required.

Clients must provide a minimum of two (2) weeks' notice when booking the examination tables. The supervisor will review the request and gather any additional details necessary, check for core/sample availability and book tables as necessary.

On the day of examinations, core and samples are prepared and laid out at the tables, clients are given an orientation of the facility and any additional requests such as samplings are serviced using the [Core Sampling Application Form](#) at the facility.

When examining the core, clients must ensure that core declared as being representative of a type section is not broken or chipped. In addition, clients must ensure that breakage of core during examination at the core facility is minimized and that the core is not destroyed, broken or sampled without the approval of the Core Facility Supervisor.

Chapter 3: Drill and Geothermal Core Removal Requests

Clients may remove a well, or geothermal well core from the core facility for the purpose of laboratory investigations and analysis that cannot be performed at the core facility; however, before any plugging, slabbing or destructive analytical techniques are performed, all details and particulars of the proposed analysis work must be submitted to the Commission for approval and removal of drill core, using the [Core Removal Application Form](#).

3.1 Core Removal

In practice, new drill core from the wellsite typically goes to a 3rd party lab for analysis provider before coming to the Commission. In these cases the permit holder submits the [Core Removal Application](#) to first ship the core from the wellsite to the 3rd party lab. This approval also negates and extends the requirement to submit drill cutting samples from the original 14-day timeline to 90 days for return of core to the Commission.

The process for removal of archive drill core within the Core Research Facility is initiated by a [Core Removal Application](#) Form, filled out by the permit holder and submitted to the Commission. In these cases the core removal request is checked to see if the core is available, as it may be reserved for examination or removed for analysis. If the core is available it is prepared and shipped to the requested location.

A client who removes a well core from the core facility must:

- a) Return the core within 90 days;
- b) Take every reasonable precaution to prevent damage to or mixing of the core in core boxes;
- c) Submit a report, including photographs, if any, of any laboratory analysis conducted on the core to the Commission within 30 days of completing the analysis;
- d) Submit any thin sections cut from core to the Commission in adequate boxes labelled with the well authorization number, well name and a list of each slide's depth;
- e) Label individual thin sections with the well authorization number, well name and depth;
- f) Test cores in a manner acceptable to an official; and

- g) Return the core immediately on the request of the official.

3.2 Core Testing Standard Guidelines

The following guidelines must be met in accordance with the Core Testing Standards Guideline and the Well Data Submission Requirements Manual:

- Plugs must be spaced at least one linear core foot apart and can only be taken if necessary. Slab core where planned, and take plugs through the side of the core (“underneath” the flat face created by the slab), so as to preserve the face.
 - Only take plugs if necessary.
 - Label and return them to their proper box locations with all extra substances cleaned out.
 - Take any additional small pieces required from the plug end caps or the 1/3 slab portion.
- No other “block chunk” cutting from the 2/3 archive portion is permitted, nor can any extra piece be removed from this portion.
- The face of the 2/3 portion must not be disturbed for scratch or other testing.
- No contamination or destructive testing of plugs or full core is permitted unless authorized.

Please Note:

Many operators are submitting 2/3 portions with unauthorized damage to the face. Operators must ensure that labs conduct their analysis according to approved BC testing standards.

Standard core testing is approved as per the above parameters. Please forward explanations and details of any testing that cannot proceed within these parameters (for example, core alteration), prior to its occurrence, via email to CoreLab@bcogc.ca.

Upon completion of the analysis, return the core to the storage location and submit a report of the result, including digital core analysis data and photographs within 30 days. Refer to the Commission’s [Well Data Submission Requirements Manual](#) for submission requirements.

Please Note:

Any person or operator removing core from the core facility must return the core within the approved timeline. If the core is not returned within the approved timeline, the Commission can issue penalties and/or conditions to future core removal applications.

Chapter 4: Submission of Drill and Geothermal Core

As per Part 6 of the Drilling and Production Regulation, Section 29, 30, and 31, receipt and storage of drill and geothermal core for archival purposes is provided by the Commission's Fort St. John Core Research Facility. Core archival is done to preserve and inform the geologic record of the given well and is used by Commission staff, industry and the public (typically universities and institutions).

Please Note:

Analysis of core is done prior to shipment to the core facility and must be submitted in accordance with the requirements outlined in the [Well Data Submission Requirements Manual](#).

4.1 Core Sample Storage

If core sampling has been conducted, drill core archival requirements are established in Section 29(2) of the Drilling and Production Regulation which explicitly states that a well permit holder must submit the following to the Commission:

- As soon as practicable after collecting a core sample, remove the core sample from the core barrel and store it in book fashion in one or more boxes approved by the Commission;
- Accurately label on the end of the box body, but not the box lid, the well authorization number, the well name, the surface location of the well, the core number and interval and the length of the core recovered, and identify the top and bottom of the core on the core box;
- Protect boxes containing cores from theft, misplacement or exposure to the weather; and,
- Forward the core to the Commission, carriage prepaid, no later than 14 days after the date of rig release.

In practice, new core from the wellsite typically goes to a 3rd party lab for analysis before coming to the Commission. In these cases the permit holder has previously submitted and received approval using the [Core Removal Application Form](#) to first ship the core from the wellsite to the 3rd party lab. This approval also negates and extends the 14 day timeline to 90 days for return of core to the Commission.

If the well permit holder has submitted core from a well under Section 2(6) and the well has been designated as a special data well, the well permit holder must complete core analysis of the core without unreasonable delay.

A well permit holder must submit to the Commission a report of the result of the core analysis, including digital core analysis data and photographs within 30 days after completion of the analysis.

Submission of geothermal well core should follow the same requirements as drill core.

4.2 Core Storage Facility

The Fort St. John Core Research Facility provides storage of all new and recent core samples.

There are numerous types of core which are submitted for archival with the Commission, they are:

- Full diameter core;
- 2/3 slab;
- 1/3 slab;
- Sidewall;
- Plug;
- Slides;
- Sample;
- Billet; and
- Segment.

The receipt and processing of drill cores is initiated by a [Notice of Shipment of Core Form](#) filled out by the permit holder and submitted to the Commission. Upon receipt of core shipments, staff cross check the shipping notice with contents for completeness, damage, or missing sections and resolve any issues. Information is recorded within the Commission database and the core is racked in the appropriate location.

Please Note:

The Commission recommends that companies shipping core notify the core facility that a shipment is to be expected.

Chapter 5: Submission of Drill Cuttings

As per Part 6 of the Drilling and Production Regulation Section 29, 30, and 31, receipt and storage of drill cuttings for archival purposes is provided by the Commission's Fort St. John Core Research Facility. Drill cuttings archival is done to preserve and inform the geologic record of the given well, and is used by Commission staff, industry and the public (typically universities and institutions).

Please Note:

The [Notice of Shipment of Drill Cuttings Samples Form](#) must be submitted with the drill cuttings upon delivery to the core facility.

5.1 Drill Cutting Storage

Drill cuttings archival requirements are established in Section 29(1) of the Drilling and Production Regulation which explicitly states that a well permit holder must submit to the Commission the following:

- Take a series of drill cutting samples at depth intervals of 5 metre beginning at a point determined by the permit holder to be 50 metre measured depth above the shallowest potential reservoir zone expected in the well and continuing to the total depth of the well;
- Collect, wash, dry, sort and preserve 2 complete sets of drill cuttings samples in vials, arranged in trays of adequate construction;
- Clearly and accurately label the vials and trays with the name and location of the well and the sample depths represented and, if the well is a multi-let well, identify the leg from which the cuttings originated; and
- Deliver 2 sets of the drill cutting samples, carriage prepaid, to the Commission no later than 14 days after the date of rig release.

Drill cutting sample storage is being performed at the Charlie Lake Core Storage Facility which is unmanned but serviced by the Fort St John staff. The receipt and processing of drill cuttings is initiated by a [Notice of Shipment of Drill Cuttings Samples Form](#), filled out by the permit holder and submitted to the Commission. Upon receipt of drill cuttings shipments, staff cross check the shipping notice with contents for completeness,

damage, or missing sections and resolve any issues. Information is recorded within the Commission database and the drill cutting samples are racked in the appropriate location.

One of the drill cuttings sample sets submitted is staged, prepared and shipped once off confidential, to Geological Survey of Canada (GSC) in Calgary.

Submission of geothermal well cuttings should follow the same requirements as drill core.