



Well Testing and Reporting
Requirements Guide
VERSION 2.1: December 2016

Introduction

Well test data is fundamental to the understanding and effective management of oil and gas wells and pools. Timely, comprehensive collection and dissemination of well testing data is a key mandate of the Commission. Reservoir pressure test data is utilized for a variety of purposes; pool mapping, well classification, reserves determination and the regulation and calculation of disposal capacity. Well flow tests provide detailed early production characteristics.

This document provides assistance in understanding and complying with the BC Oil and Gas Commission (the Commission)'s well testing and reporting requirements.

Additional Guidance

As with all Commission documents, this guide 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

Guidelines can be obtained from the [Reservoir Management - Reservoir Engineering Documentation](#) section of the Commission's website. Additional information is also available at this site on topics such as Modification of Annual Pool Testing Requirements, Coordinating Operators, and Pools with Non-Annual Testing Approval.

Information related to Well Data Submission Requirements and the eSubmission Portal User Guide can be obtained from the [Documentation](#) section of the Commission's website.

Contact Us

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Document 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)
2.1	December 7, 2016	January 1, 2017	1.5	Added requirements to Section 1.5, specifically, #5 and 8.

Chapter 1: Reservoir Pressure Survey Tests

Reservoir pressure measurements are required on all producing oil and gas pools, in accordance with [Section 73](#) of the [Drilling and Production Regulation](#) (DPR). The Commission reserves the right to order additional tests other than the outlined minimum requirement. Reservoir pressure tests, both initial and annual, are also required for disposal wells, as a condition of the approval Order. Further information is available in the Water Disposal Section of the [Water Service Wells Summary Information](#) document.

1.1 Initial Pressure Testing

1. A well permit holder must ensure that the static bottom hole pressure of each completed zone of oil or gas wells is measured before initial production.
2. Wells completed in an unconventional zone listed in [Schedule 2](#) do not require an initial bottom hole pressure if a valid pressure measurement from the same unconventional zone within a 4km radius (distance measured from the well head) is publically available.

1.2 Annual Pressure Testing

1. A well permit holder must ensure that the static bottom hole pressure of each producing pool and each observation well is measured once every calendar year.
2. Wells completed in an unconventional zone listed in [Schedule 2](#) are not subject to annual pressure testing requirements.
3. Initial pressure tests are credited toward the minimum annual testing requirement for a pool.
4. The Commission requires adequate pool pressure survey coverage. The minimum number of reservoir pressure tests to be conducted annually for each producing pool should be equal in number to:
 - a. Oil pools – a number equal to 25% of the total number of wells within the pool or 50% of the producing wells within the pool, whichever is less.
 - b. Gas pools – a number equal to 25% of the total number of wells within the pool or 50% of the producing wells within the pool, whichever is less.

1.3 Pressure Testing Exemptions

1. Testing of a pool may be exempted under Section 4(1)(z) of the DPR, in cases where an adequate pressure history exists, wells have low productivity, and/or there are limited remaining reserves.

2. Listings of [pools with non-annual pressure survey approval](#) and [pools where a coordinating operator has been assigned](#) are available on the Commission website.
3. To apply for exemption, please refer to the [Guideline for Modification from Initial or Annual Pressure Testing](#).

1.4 Quality of Pressure Testing

1. A well permit holder must ensure that, when static bottom hole pressures are measured, the surveyed wells remain shut-in until the reservoir pressure has been attained in the well bore or until sufficient data are available to permit the calculation of the reservoir pressure.
2. Where insufficient shut-in time was allocated during a test to measure or extrapolate a reservoir pressure, the test may be deemed invalid and additional testing required.
3. The preferred method of determining a static bottom hole pressure is with a bottom hole recorder.
4. To ensure a good quality pressure measurement in a static gradient test a bottom stop of no less than two hours is recommended.
5. A valid diagnostic fracture injection test (DFIT) may meet initial pressure survey testing requirements, if a stabilized pressure is reached or if an analysis can confidently extrapolate a reservoir pressure.

1.5 Pressure Test Submissions

1. The static bottom hole pressure and duration of resulting shut-in time must be reported to the Commission within 60 days after the date on which the pressures were measured.
2. Pressure testing to monitor inter-wellbore communication is considered well data and must also be submitted to the Commission within 60 days of the end of the test.
3. All pressure tests are to be submitted through the Commission's [eSubmission Portal](#) as described in section 3.6 of the [eSubmission Portal User Guide - Wells](#).
4. Well test data submissions made through the [eSubmission Portal](#) must be comprised of one PAS file and one or more PDF files. The PDF file(s) must include the raw data and any analysis data.
5. Only tests conducted using surface recorders may be submitted using the TRGS submission type. The eSubmission portal will accept a TRGS submission without a raw data file; however, if available, a PAS file or CSV file of the raw data must be submitted to the Commission.
6. If a bottom hole pressure calculation has been done, comprehensive details of the data and calculations must be included in the submission.
7. For pressure build-up or fall-off data which include an analysis, submissions must include the following:
 - a. Raw pressure data,
 - b. A plot of the entire test (if converting RD to MPP, include calculation details),
 - c. A log-log diagnostic plot,
 - d. The extrapolation plot or pressure history matching plot, and

- e. A statement regarding the analyst's confidence level regarding the results.
- 8. Pressure transient analyses for disposal wells must report a 60 day pressure extrapolation.
- 9. A PDF of any analysis should be submitted along with the PDF and PAS file of the corresponding test report.

Chapter 2: Well Flow Tests

Well flow tests are considered any situation where mobile test equipment is employed and field notes are generated. This includes both oil and gas wells flowed through testers for an initial period following hydraulic fracture stimulation. Test field notes contain measurements of fluid rates and flowing pressure valuable to the determination of well stimulation effectiveness and production understanding.

Absolute open flow (AOF) potential tests are required for only certain gas wells, in accordance with [Section 63](#) of the DPR.

The Commission reserves the right to order additional tests other than the outlined minimum requirement.

2.1 Production, Clean-Up and Inline Flow Testing

1. A well permit holder must submit any well flow test conducted; including clean-up tests where gas is flared, flowed inline, or a combination of flared and inline flow.
2. Any use of mobile testers requires a report to be submitted to the Commission.

2.2 Flaring

1. If gas flaring is required, it must be done in accordance with [Part 7](#) of the DPR.

2.3 Deliverability Tests

1. Before 6 months have elapsed after a permit holder has first placed a gas well on production, the permit holder must flow test the well and determine the absolute open flow (AOF) potential if:
 - a. The well is producing from a pool with suspected water drive, or
 - b. The well is classified as an exploratory outpost well or exploratory wildcat well.
2. The requirement for AOF testing does not apply to a well completed in an unconventional zone listed in [Schedule 2](#).
3. Any AOF testing conducted must be submitted to the Commission.
4. Specific analysis of AOF data should include the calculation of the wellhead and sandface AOF values at both stabilized and extended rate conditions.

2.4 Underbalanced Drilling

1. A detailed report of any underbalanced drilling that results in burnable gas to the surface must be reported to the Commission.
2. If underbalanced drilling operations result in gas being flared, a copy of the filed notes recorded must be submitted to the Commission.

2.5 Flow Test Submissions

1. All well flow tests must be submitted to the Commission within 60 days of the date on which the operation concluded.
2. All flow test are to be submitted through the Commission's [eSubmission Portal](#) as described in section 3.6 of the [eSubmission Portal User Guide - Wells](#).
3. Well test data submissions made through the [eSubmission Portal](#) must be comprised of one PAS file and one or more PDF files. The PDF file(s) must include the raw data and any analysis data.