

# Annulus Test Reporting Requirements

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Guideline PNG 029

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November 2015

Revision 1.1

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Governing Legislation:

Acts: *The Oil and Gas Conservation Act*

Regulations: *The Oil and Gas Conservation Regulations, 2012*

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**Record of Change**

<b>Revision</b>	<b>Date</b>	<b>Author</b>	<b>Description</b>
0	November, 2015	PNG	Draft
1.0	November, 2015	PNG	Live version, added number.
1.1	November, 2015	PNG	Wording update

## 1. Introduction

This guideline sets out the requirements of the Saskatchewan Ministry of the Economy (ECON) for regulating the reporting of annulus tests related to activities covered under *The Oil and Gas Conservation Regulations, 2012* in Saskatchewan. This guideline provides information related to the details of conducting annulus tests and recording results; guidelines for failed tests; and options available for repair, abandonment or suspension of these activities.

Questions concerning the requirements set out in this document should be directed to the PNG support line at 1-855-219-9373.

### 1.1 Governing Legislation

The requirements outlined in this Directive are based on regulations in *The Oil and Gas Conservation Act (OGCA)*, and *The Oil and Gas Conservation Regulations, 2012 (OGCR)*.

It is the responsibility of all operators, as specified in the legislation, to be aware of Ministry requirements and to ensure compliance with all requirements when conducting annulus tests and recording test results related to injection and disposal wells in Saskatchewan.

## 2. Requirements

### *Section 53: Disposal of waste and other substances*

(5) Every operator shall test and inspect all injection wells at least once every year to ensure that:

- (a) there are no production casing, tubing or packer failures;
- (b) the tubing-production casing annulus is filled with a satisfactory corrosion inhibiting fluid; and
- (c) injection flow lines are in good working order without leakage or risk of leakage due to corrosions or material defects.

*5 Apr 2012 cO-2 Reg 6 s53.*

To be considered in compliance, it is the licensees' responsibility to ensure that all wells (suspended and non-active) equipped with a packer downhole, perform an annulus test/pressure test at least once every calendar year. Completed test data must be recorded on the *Annulus Test Form* and be retained by the licensee for a period of not less than five years. The test data must be provided to the Ministry upon request for compliance audit purposes.

If there are any wells that the licensee believes are of a certain configuration that this test is not applicable, the licensee must contact the appropriate field office to discuss alternate testing methods or exemptions.

If during the calendar year a well is completed/converted to an injection well and an annulus test/pressure test has already been conducted, you may submit those results for that calendar year. The licensee must perform a new test for the following calendar year.

A subsequent test is required to be conducted after any failure and repair. The licensee is required to record the re-test results on the *Annulus Test Form* indicating the issue(s) have been corrected or the well remains in a non-compliance state.

The applicable field office must be notified 24 hours prior to performing an annulus test/pressure test at any given site. Contact the PNG support line at 1-855-219-9373. You will need to provide the following information:

- Field office
- Company
- First location to be tested
- Date and time of the tests
- Company contact name and phone who will be on site.

### 3. Annulus Test Form

This form is subject to change without notification. Please ensure the most recent version is being used for recording test data.

All pressures are to be recorded in kPa, fluid volumes are to be recorded in m<sup>3</sup>, and all other fields are to be recorded with “Y” Yes, “N” No or “N/A” Not Applicable.

#### Licence Number

- Indicate the licence number of the well to be tested.

#### Surface Location DLS

- Indicate the surface land description of the well to be tested.

#### Year

- Indicate the year for which the test is being conducted.

#### Retest?

- Indicate if this is a retest of a previously failed test.

#### Tubing Pressure (kPa)

- Record the initial tubing pressure of the well. If tubing is injecting, it should remain so during the test period and not be shut in. In cases where the tubing pressure is not applicable or the well is on vacuum, leave the tubing pressure blank and explain in the comments.

#### Annulus Initial (kPa)

- Record the initial annulus pressure of the well.

#### Annulus Bled to Zero?

- If pressure on the annulus, bleed the annulus to zero and record the results.

#### Remained at Zero for 10 minutes

- Record if the annulus remained at zero for 10 minutes after bleed off.

Test Pressure Initial

- Using a 1400 kPa (200 psi) gauge (or appropriate higher gauge for those with higher initial pressure), pressure the annulus to a minimum of 700 kPa (100 psi) and record the initial test pressure. Close the annulus in and wait 10 minutes to determine the final test pressure.

Pressure Test Final

- Record the final test pressure after the annulus has been closed in for 10 minutes.

Pressure Test Fluid

- Record the volume of fluid pumped (required to fill and pressure up the casing) to 2 decimal places. If there is a trace amount of fluid (less than 10 liters) record the volume as 0.01m<sup>3</sup>. If during the process of bleeding the annulus to zero fluid flowed back (removed from the well), indicate a negative fluid volume.

Pass or Fail

- Based on the pressure test results indicate whether the well is considered a pass (P) or a fail (F)

This is a closed chamber. For a satisfactory test there should be NO observed pressure change (the final test pressure reading must be within  $\pm 5\%$  of the initial reading).

If the initial annulus pressure is above zero and the pressure cannot be bled off and maintained at zero for 10 minutes, then the test is considered a failure.

Compliance - Inhibited Annulus

- Observe and record if the tubing-production casing annulus is filled with a satisfactory corrosion inhibiting fluid as required by Section 53(5)(b) of *The Oil and Gas Conservation Regulations, 2012*.

Compliance – Production Casing

- Observe and record if the production casing is in compliance (no failures).

Compliance – Tubing

- Observe and record if the tubing is in compliance (no failures).

Compliance – Packer

- Observe and record if the injection packer is in compliance (no failures).

Compliance – Associated Lines

- Observe and record if the injection flow lines are in good working order without leakage due to corrosion or material defects.
- Indicate “N/A” for wells not tied in.

ECON Witnessed

- Indicate if Ministry personnel witnessed the test.

Comments

- Comments must be provided if the well fails any of the above mentioned parameters. Provide failure details and shut-in/repair dates.

Indicate “Y” for in compliance, “N” for not in compliance (details must be provided in the comments section) and “N/A” for polybore or slim hole wells with no inhibited annulus.

#### **4. Annulus/Pressure Test Failures**

For wells that have failed pressure tests, the well must be immediately shut-in.

All failures must be reported immediately to the appropriate field office with the repair or abandonment to be completed by a mutually agreed date. Please contact the PNG support line, at 1-855-219-9373 or 1-844-764-3637 (after business hours).

Failed wells shall not be put back in service until one of the following has occurred:

1. The well is repaired and passes a subsequent test;
2. The well is properly suspended with a bridge plug or
3. The well is properly abandoned according to ECON regulations.

A kill string is not an acceptable method of suspension for a well subject to *Section 53(5)(6)(7)(8) of the Oil and Gas Conservation Regulations, 2012*.

#### **5. Non-Compliance**

Failure to comply with the requirements in this Directive may result in enforcement actions.

Appendix 1: Location of Regional Field Offices

Regional Office Map

