Well Data Submission Requirements

Directive PNG013

June 2026

Revision 2.1

Governing Legislation:

Act:	*The Oil and Gas Conservation Act*
Regulation:	*The Oil and Gas Conservation Regulations, 2012*
Order:	71/26

Record of Change

Revision	Date	Description
0.0	September, 2015	Initial draft
1.0	October 12, 2016	Approved first version
2.0	June, 2023	Updated to promote clarity and consistency with other directives and regulations regarding well data submission requirements; to codify existing policies on submission of drill cuttings samples and thin sections of core; and to incorporate new hydraulic fracturing data submission requirements.
2.1	June, 2026	Updated section 8.2 to incorporate submission requirements from a repealed guideline, and section 8.4 with a minor wording change.

Contents

1. Introduction

This Directive sets out the requirements for the submission of well data for drilling, completion, workover and abandonment activities to the Saskatchewan Ministry of Energy and Resources (ER) using the Integrated Resource Information System (IRIS). It also outlines requirements for the submission of physical well data to ER, including drill cuttings and drill core. ER requires these well data to be submitted in order to maintain an accurate record of information and activities for each well drilled in the province. These data are used by both ER and industry.

Questions concerning the requirements set out in this Directive should be directed to the ER Service Desk at 1-855-219-9373 or email at ER.servicedesk@gov.sk.ca.

2. Definitions

Boss wellbore: Means the wellbore to which data is to be reported. Where multiple wellbores exist for a well, common data elements such as casing or marker/formation tops etc. must be reported to the boss wellbore.

Bottom hole (depth): Means the distance, in meters from the surface to a wellbore's endpoint.

Business associate (BA): Is any entity that conducts business activities with the Government of Saskatchewan.

Canadian Well Identifier (CWI): Is an IRIS-generated reference number (e.g. SK1234567) that is assigned at the time of well licensing (not to be confused with a well licence) and used to unambiguously identify and retrieve information about a specific well, wellbore or well completion.

Drilling activity: Occurs when a drilling rig is required at a specific wellsite to complete a particular operation or set of operations. This includes activities from spud (or re-entry) through to rig release. A single drilling activity may include the drilling of multiple wellbores (i.e. multiple wellbore drilling activities) as part of the one overall drilling activity for a drilling rig. **Note**: If a drilling rig sets surface or intermediate casing in advance of wellbore drilling activities and is released before the wellbore drilling activities commence, this is considered as a preset drilling activity independent and separate from the future wellbore drilling activities.

Drilling activity end date: Means, for any one specific drilling activity, the date that there is no longer any drilled meterage being added. In a situation where a drilling activity includes multiple wellbores, the drilling activity end date is the date that the last wellbore was drilled by the rig prior to the rig release date for the well.

Drilling activity start date: Means, for any one specific drilling activity, the date at which physical drilling operations have commenced. See also the definition for "Spud Date".

Intermediate Casing Point (ICP): Means the point at which the production casing, in a horizontal wellbore, has landed within the stratigraphic unit or zone of interest. The ICP has reference

points related to depth, expressed in meters (true vertical depth and measured depth), and geographical coordinates.

Kick-Off Point (KOP): Means the point at which the drilling string has been pulled back on a horizontal well to begin drilling of a subsequent wellbore.

Measured depth (MD): Means the distance, expressed in meters measured from the Kelly Bushing to the point of interest. A measured depth is not corrected for wellbore deviation from the vertical plane.

Monobore horizontal well: Means a horizontal well where the inside diameter of the entire drill string is the same from the surface to the endpoint of the wellbore. No intermediate casing is set in these wells. Instead, a production casing or liner is run from surface to the endpoint of the wellbore.

Monobore landing point (LP): Means the measured depth in a monobore horizontal well where the well has reached horizontal or near-horizontal within the target pool. The LP has reference points related to depth, expressed in meters (true vertical depth and measured depth) that must be recorded on the "as drilled" survey and reported into IRIS as the Intermediate Casing Point.

Re-entry well: Means a well pursuant to *The Oil and Gas Conservation Regulations, 2012* that has been:

a. abandoned and re-entered;
b. re-entered to alter the trajectory; or
c. re-entered to deepen to a new stratigraphic unit.

Rig release date: Means the date a rig concluded drilling operations at a specific well site or moved from the well site. Each drilling activity associated with a well has a Rig Release Date

Sidetracks/ghost hole: Means a secondary wellbore (of any length), drilled from an existing wellbore that passes through less than 100 meters (m) of reservoir. If the secondary wellbore passes through 100 m or more of reservoir, the secondary wellbore will be considered as a leg (i.e. wellbore). A sidetrack operation may be done intentionally or may occur accidentally. A secondary wellbore will be considered as a ghost hole if the secondary wellbore is isolated from the existing wellbore.

Shallow water source well: Means a well that bottoms in or above the Glacial Drift stratigraphy, is less than 75 m in total vertical depth and its purpose is the production of water.

Spud date: Is equal to the Drilling Activity Start Date of a well's first drilling activity. A spud date is assigned by IRIS to every well and does not change when a subsequent drilling activity is performed on the same well.

Stratigraphic test well: Means a wellbore drilled for the sole purpose of gaining subsurface structural or stratigraphic information with no authorization to complete or produce.

True vertical depth (TVD): Means the vertical distance, expressed in meters measured from the Kelly Bushing of the drilling rig to the horizontal plane containing the point of interest.

Well: As defined in the OGCR.

Wellbore: Means the drilled opening in the ground created by means of a drilling activity and includes the entire path of the drilled opening from the start to a terminating point (bottom/end).

Wellbore measured depth: Means the distance, expressed in meters measured from the Kelly Bushing of the drilling rig to the endpoint of the wellbore.

Wellbore true vertical depth: Means the vertical distance, expressed in meters measured from the Kelly Bushing of the drilling rig to the horizontal plane containing the endpoint of the wellbore.

Well completion: Means a set of one or more wellbore contact Intervals that function as a unit to produce or inject fluids.

Well completion date: Means the date that well completion operations have ended.

Wellbore contact interval: Means a measured interval within a wellbore that is intended to put the wellbore into contact with one or more stratigraphic units for the purpose of production, injection or service.

3. Governing Legislation

The requirements in this Directive are authorized under and supplemented by:

- *The Oil and Gas Conservation Act* (OGCA)
- *The Oil and Gas Conservation Regulations, 2012* (OGCR)
- Minister's Order 291/21
- Associated Directives
  - *Directive PNG003: Well Survey Requirements* (Directive PNG003)
  - *Directive PNG005: Casing and Cementing Requirements* (Directive PNG005)
  - *Directive PNG008: Disposal and Injection Well Requirements* (Directive PNG008)
  - *Directive PNG010: Well Logging Requirements* (Directive PNG010)
  - *Directive PNG014: Incident Reporting Requirements* (Directive PNG014)
  - *Directive PNG015: Well Abandonment Requirements* (Directive PNG015)
  - *Directive PNG017: Measurement Requirements for Oil and Gas Operations* (Directive PNG017)
  - *Directive PNG048: Hydraulic Fracturing Requirements*
- Associated Guidelines
  - *Guideline PNG022: Lahee Classification Guideline* (Guideline PNG022)
  - *Guideline PNG024: Reclassification and Recompletion* (Guideline PNG024)
  - *Guideline PNG029: Annulus Test Reporting Requirements* (Guideline PNG029)
  - *Guideline PNG049: Potash Well Requirements*

- *Guideline GL99-01: Saskatchewan Drilling Waste Management Guidelines* (Guideline GL99-01)
- *Guideline GL2000-01: Saskatchewan Hydraulic Fracturing Fluids and Propping Agents Containment and Disposal Guideline* (Guideline GL2000-01)

Licensees should review the provisions of the OGCA and OGCR and other applicable Directives in conjunction with this Directive.

It is the responsibility of all licensees to be aware of ER requirements and to ensure compliance with these requirements throughout the lifecycle of any well licensed in Saskatchewan.

3.1 Compliance and Enforcement

All enforcement measures related to non-compliance with this Directive and its requirements are set out in the OGCA and the OGCR.

The term "must" used in this Directive indicates when compliance is required and may be subject to enforcement action. The terms "should" and "expects" indicates recommended practices but are not subject to enforcement action.

In assessing a licensee's compliance with this Directive's requirements, ER may at any time request a licensee to produce required documents, records, or reports.

3.2 Licensees' Responsibilities

ER expects all licensees to proactively monitor their IRIS obligations and notifications for their BA Identifier (BA ID) to ensure compliance. If a licensee identifies a situation where they are not compliant they should inform ER immediately. ER will make an assessment and consider the most appropriate action.

IRIS Obligations

IRIS obligations identify data or documents the licensee must submit to ER, through IRIS, in order to be compliant with the OGCA, the OGCR and this Directive. IRIS generates three types of obligations: 1) to honour; 2) proposed; and 3) submit data or submit a document. IRIS automatically generates obligations for most well data submission requirements. ER may also create manual obligations for data submissions. In addition, new IRIS obligations may be added when there is a change in drilling, completion or abandonment activity.

Once an obligation is created in IRIS, notice is considered served and the BA is required to comply with the obligation. IRIS obligations that are not fulfilled by the specified date will result in non-compliance penalties. A detailed list of obligations applicable to this directive and their due dates is found in Appendix 3. ER is aware that single operations or activities may occur over multiple days. If a single operation or activity occurs over multiple days, please note that for those obligations that trigger from either 1) the well completion date or 2) the date the activity was performed, licensees may choose the date that the single operation or activity concludes.

IRIS obligations do not represent every requirement needed for compliance. It is the licensee's responsibility to review all the requirements in the OGCA, the OGCR and relevant directives.

ER may amend obligations upon application. Please contact the ER Service Desk for more information.

Notifications

Notifications are communications from ER that are delivered electronically through IRIS. Notifications (among other items) advise the licensee, BA or IRIS user of the successful submission of well information in response to an IRIS obligation.

4. Reporting Structured Data and Submission of Supporting Documentation

The licensee of each well must populate specific required structured data fields in IRIS as well as submit electronic documents associated with the well.

4.1 IRIS Reporting Timelines

Timelines for submitting well data in IRIS depend on the specific activity type. Submission timelines belong to one of the following categories:

- **Immediate reporting**
  - within one day of the Drilling Activity Start Date of a drilling activity; or
  - within seven days of the Rig Release Date, Well Completion Date or date a particular operation or activity was performed
- **Ten-day reporting**
  - within ten days of the Drilling Activity End Date
- **Thirty-day reporting**
  - within 30 days of the Drilling Activity End Date, Well Completion Date, or date that a particular operation or activity was performed
- **Ninety-day reporting**;
  - within 90 days of the Drilling Activity End Date, or date that a particular operation or activity was performed

4.2 Acceptable Format for Submission of Attachments into IRIS

The maximum file size that IRIS will accept is 1000 MB per attachment. Refer to Appendix 1 for the acceptable naming conventions, formats, and standards for file attachments.

5. Drilling Activity Reporting

Drilling Activity reporting can be grouped into the following categories:

- Immediate Reporting
  - Reporting within one day of the Drilling Activity Start Date
  - Reporting within seven days of the Rig Release Date
- Reporting within 10 days of the Drilling Activity End Date
- Reporting within 30 days of the Drilling Activity End Date

- Reporting within 90 days of the Drilling Activity End Date

5.1 Immediate Reporting: Within One Day of the Drilling Activity Start Date

The licensee must submit to ER, through IRIS, the following information within one day of the Drilling Activity Start Date:

- drilling contractor name;
- well site supervisor name, telephone number and email address;
- drilling start date; and
- rig number.

Note: submission of the Drilling Activity Start Date for the first drilling activity that occurs at a well results in the IRIS well status changing from “Planned” to “Drilling”.

5.2 Immediate Reporting: Within Seven Days of the Rig Release Date

The licensee must submit to ER, through IRIS, the following information within seven days of the Rig Release Date:

- Rig Release Date;
- Drilling Activity End Date;
- the Kelly Bushing elevation (not applicable to preset drilling activities);
- indication if:
  - drill core was taken;
  - drill cuttings sample submission is required;
  - drill stem test was performed;
  - a kick occurred during drilling;
  - circulation was lost during drilling;
  - the proposed trajectory was attained; and
  - the measured depth of the bottom hole is greater than planned.

Note: the following information with respect to additional drilled segments (i.e. sidetracks/ghost hole, etc.) associated with a drilling activity must be submitted to ER, through IRIS, within seven days of the Rig Release Date or within 30 days of the Drilling Activity End Date if the information is submitted under the “Sidetracks/Ghosts” functionality on the wellbore screen:

- depth pulled back to (MD); and
- depth drilled to (MD).

5.3 Reporting within 10 Days of the Drilling Activity End Date

The licensee must submit to ER, through IRIS, the following drill core information within ten days of the Drilling Activity End Date:

- top of the core interval (MD);
- base of the core interval (MD);
- core type;
- indication if there is missing core (Y/N);
- core number from;

- core number to;
- slab type;
- box number from;
- box number to; and
- indication if core analysis will be performed (Y/N).

See section 8.8 for additional drill core data submission requirements.

5.4 Reporting within 30 Days of the Drilling Activity End Date

For every drilling activity, the licensee must submit to ER, through IRIS, data related to the following data categories within 30 days of the Drilling Activity End Date of a drilling activity:

- casing and liners;
- Tour Reports;
- wellbore depths and co-ordinates;
- markers/formations;
- sidetracks/ghost holes;
- open hole well logs;
- cased hole logs;
- cement bond logs and interpretation;
- drill cutting data;
- survey plans or reports;
- as-drilled survey reports (and revisions);
- Geological Report;
- lithological description log (strip log).

5.4.1 Casing and Liners

The licensee must submit to ER, through IRIS, the following surface casing data within 30 days of the Drilling Activity End Date for the drilling activity:

- date the surface casing is set;
- surface casing base measured depth reached;
- outside casing diameter; and
- indication that the surface casing is or is not cemented in place.

Information related to surface casing must be submitted at the well level. Surface casing details must be included in the Tour Report.

The licensee must submit to ER, through IRIS, the following intermediate casing data and production casing data within 30 days of the Drilling Activity End Date of a drilling activity:

- date the surface casing is set;
- tubular type;
- base measured depth (m);
- outside casing diameter;
- an indication that the casing is or is not cemented in place; and
- cement return in cubic meters (m^3).

The licensee must submit to ER, through IRIS the following liner data within 30 days of the Drilling Activity End Date of a drilling activity:

- date the surface casing is set;
- tubular type;
- liner type;
- top measured depth (m);
- base measured depth (m); and
- outside liner diameter.

The licensee must submit to ER, through IRIS the following casing patch data within 30 days of the Drilling Activity End Date of a drilling activity:

- date the casing patch was set;
- top measured depth (m); and
- base measured depth (m).

Note: if a well has multiple wellbores, information related to any casing or liners that are common among the wellbores must be submitted under the boss wellbore.

Information related to casing and liners that are installed after the Drilling Activity End Date of a drilling activity (e.g. casing installed as part of a well workover) must be submitted to ER, through IRIS, by the licensee within 30 days of the conclusion of the workover or well maintenance activity.

5.4.2 Tour Reports

The licensee must maintain a Tour Report at the drilling rig during all drilling activity operations. The licensee must submit to ER, through IRIS, the Tour Report within 30 days of the Drilling Activity End Date of a drilling activity. The Tour Report must be a complete accounting of the drilling activity and contain the following information:

- any cementing operation conducted, including:
  - name of the cementing company;
  - method of cementing;
  - type and amount of cement and additives used;
  - weight and volume of slurry;
  - volume of cement returned to the surface;
  - time of plug down
- any kick or flow encountered;
- any log, drill stem test, cored interval or other survey performed;
- any abandonment plug used, including:
  - the length;
  - the setting depth (MD);
  - the amount and type of cement and additives;
  - the weight and volume of slurry;
  - the depth (MD) felt;
- elevation of the Kelly Bushing of the drilling rig;

- the date and time of the rig release; and
- any other information that the minister may require.

Tour Reports must be in a standard format as outlined by the Canadian Association of Energy Contractors.

5.4.3 Wellbore Depths and Co-ordinates

As part of the well licence application, the licensee must provide to ER, through IRIS, the proposed depths and co-ordinates of all wellbores associated with the well. Once a wellbore has been drilled, the depths and coordinates of the wellbore must be corrected to actuals, as necessary, and confirmed in IRIS within 30 days of the Drilling Activity End Date of the drilling activity. The information must not contradict the data contained within the Tour Report, the as-drilled survey plan, or the directional survey.

For all wells, the licensee must submit to ER, through IRIS, the following information within 30 days of the Drilling Activity End Date of the drilling activity:

- ground elevation;
- measured depth of the bottom hole for all wellbores, as well as ICP and KOP for horizontal wells;
- true vertical depth of the bottom hole for all wellbores;
- surface land location (LSD, SEC, TWP, RGE, MER);
- bottom hole land location (LSD, SEC, TWP, RGE, MER);
- surface latitude and longitude;
- bottom hole latitude and longitude;
- surface boundary co-ordinates;
- bottom hole boundary coordinates; and
- rectangular coordinates for directional, slant and horizontal wells.

Note: for vertical wells, the surface boundary co-ordinates will also be shown as the bottom hole co-ordinates.

For horizontal wells, the licensee must additionally submit to ER, through IRIS, the following information within 30 days of the Drilling Activity End Date of the drilling activity:

- land location (LSD, SEC, TWP, RGE, MER) for ICP, KOP and LP;
- latitude and longitude for ICP, KOP and LP;
- boundary co-ordinates for ICP, KOP and LP; and
- rectangular coordinates for ICP, KOP and LP.

Note: for a well with multiple wellbores, only the boss wellbore will allow editing of the surface co-ordinates, but those same co-ordinates will also be displayed for each wellbore associated with the well.

For monobore horizontal wells, the licensee must additionally submit to ER, through IRIS, the monobore landing point (LP) co-ordinates within 30 days of the Drilling Activity End Date of the drilling activity.

Note: for monobore horizontal wells**,** the LP co-ordinates from the "as drilled" survey must be entered into IRIS in place of the ICP.

5.4.4 Markers/Formation Tops

For vertical and directionally drilled wells, the licensee must identify all major stratigraphic markers/formation tops from below surface casing to the total drilled depth of the well/wellbore and must submit to ER those stratigraphic markers/formation tops. The licensee must submit to ER, through IRIS, the following information related to the geological markers/formation tops that are associated with the well within 30 days of the Drilling Activity End Date:

- top and base indicator;
- stratigraphic unit;
- true vertical depth; and
- measured depth.

For horizontal wells, the licensee must submit to ER, through IRIS, within 30 days of the Drilling Activity End Date the following information specifically related to the boss wellbore's marker/formation above the target zone of interest, marker/formation with respect to the zone of interest and marker/formation below the zone of interest, if it is penetrated:

- top and base indicator;
- stratigraphic unit; and
- true vertical depth; and
- measured depth.

5.4.5 Sidetracks and Ghost Holes

The licensee must submit to ER, through IRIS, within 30 days of the Drilling Activity End Date, details related to any additional meters drilled that do not have prior approval within IRIS (i.e. sidetracks or ghost holes).

The following details must be included in the Tour Report and must be reported on the wellbore that the sidetrack or ghost hole was drilled from:

- depth (MD) pulled back to; and
- depth (MD) drilled to.

Note: If the additional drilled meterage is more than 100 m in a productive reservoir, the licensee should contact ER to create an additional wellbore.

5.4.6 Open Hole Well Logs

A licensee must submit to ER, through IRIS, all well logs that are associated with individual wellbores within 30 days of the Drilling Activity End Date of the drilling activity. All logs for non-vertical wells must be submitted in MD and TVD, and the logs must be submitted in both TIFF and LAS formats. All logs for vertical wells must be submitted in TIFF format, and if available, LAS format must also be submitted.

The licensee must submit to ER, through IRIS, the well log and the following information within 30 days of the date the well logging was conducted:

- type of log;
- well ID of the applicable well;
- date the log was run;
- top and bottom (MD) of the interval logged; and
- depth type: MD or TVD, or both MD and TVD for non-vertical wells.

Note: If the obligation to conduct well logging has been waived (i.e. the licensee is not obligated to conduct the well logging), and the well logging is in fact conducted, all well logs produced must be submitted to ER.

See Directive PNG010 for detailed information on well logging requirements.

5.4.7 Cased Hole Well Logs

A licensee must submit to ER, through IRIS, individual copies of each cased hole well log within 30 days of the Well Completion Date. Both TIFF and LAS file formats must be submitted in both MD and TVD.

Note: See Directive PNG010 for details on well logging requirements.

5.4.8 Cement Bond Logs and Interpretation

For cement bond logs required as per Directive PNG008, a licensee must submit to ER, through IRIS, the following data within 30 days of the Well Completion Date for the applicable well completion:

- The cased hole cement bond log(s); and
- The cement bond log interpretation.

5.4.9 Drill Cutting Data

For all vertical and deviated wells, unless otherwise directed by ER, each licensee shall cause to be collected, at interval depths of 5 m, a series of samples of the various formations penetrated by the drill in drilling a well and shall preserve and maintain those samples.

For all horizontal wells, unless otherwise directed by ER, each licensee shall cause to be collected, at interval depths of 5-10 m from the top of the Second White Speckled Shale Formation to KOP; at interval depths of 5-10 m from KOP to ICP; and at interval depths of 5-20 m from ICP to total depth, a series of samples of the various formations penetrated by the drill in drilling a well and shall preserve and maintain those samples.

5.4.9.1 Drill Cutting Interval Data

The licensee must submit to ER, through IRIS, the following drill cutting interval data within 30 days of the Drilling Activity End Date of the drilling activity:

- Top (MD);

- Base (MD);
- Top (TVD); and
- Base (TVD).

5.4.9.2 Drill Cutting Submission Criteria

The licensee must submit to ER, the physical drill cutting samples that meet the submission criteria set out in this section, within 30 days of the Drilling Activity End Date of the drilling activity.

For vertical and deviated wells drilled in Saskatchewan, excepting wells in Townships 1 to 38, Range 12, West of the Third Meridian to the Alberta border that are drilled no deeper than the Second White Speckled Shale, drill cuttings must be submitted to ER when:

1. The well is the first well drilled on a Section of land; or
2. For a particular Section of land, the well's bottom hole depth reaches a TVD greater than 50 m below the TVD of the bottom hole of any other well drilled on the Section; or
3. The well is licensed with one of the following Lahee classifications:
   a. Outpost (03);
   b. New Pool Wildcat (04);
   c. New Field Wildcat (05);
   d. Deeper Pool Test (06);
   e. Stratigraphic Test or Other (07).

Note: See Guideline PNG022 for more information on Lahee classification categories.

For horizontal wells drilled in Saskatchewan, drill cuttings must be submitted where, considering the surface location of the well:

1. The well contains the first horizontal wellbore drilled within a particular Section of land, and drill cuttings from previously drilled vertical wells do exist in that Section of land; or
2. The well contains either the first or second horizontal wellbore within a particular Section of land, and drill cuttings do not exist from previously drilled vertical wells in that Section; or
3. The well contains a wellbore within a particular Section of land for which the TVD of the wellbore bottom hole is more than 50 m below the TVD of the bottom hole of any other wellbore on the Section.

If the requirements to submit drill cuttings for horizontal wells have been satisfied, further drill cuttings may be submitted at the discretion of the operator. If drill cuttings were collected from a well or wellbore and were not required to be submitted under this directive and those drill cuttings are no longer required by the licensee, the licensee must contact ER to determine if submission may be required.

5.4.9.3 Drill Cutting Physical Submission Requirements

The licensee must submit to ER drill cuttings for all wells that meet the drill cutting submission criteria outlined in section 5.4.9.2. Two sets of drill cuttings must be submitted, with the cuttings placed in 11 milliliter or 3 dram vials. The vials are to be contained in sample trays that are 24 centimeters (cm) by 34 cm in size.

Drill cuttings must be submitted to ER within 30 days of the Drilling Activity End Date, sent prepaid to:

The Subsurface Geological Laboratory
201 Dewdney Avenue East
Regina, Saskatchewan S4N 4G3

Individual drill cuttings vials must be labelled with:
- licence number;
- unique well identifier for the well/wellbore (e.g., xxx/xx-xx-xxx-xxWx/xx);
- leg number (if applicable); and
- measured depth from the Kelly Bushing at which each drill cutting was taken.

Sample trays in which the vials are contained must be labelled with:
- licence number;
- unique well identifier for the well and wellbores included in the tray;
- leg number (if applicable); and
- measured depth intervals from the Kelly Bushing over which the drill cuttings were taken for all wellbores and legs/sidetracks (if applicable).

If drill cuttings are missing for a depth or depth interval within a wellbore, a written explanation must be provided to ER for the missing drill cuttings at each particular depth or depth interval where cuttings are missing.

The name, phone number and email address of an appropriate contact person must be provided if there are any questions regarding the drill cuttings submitted.

Note: if labels for submitted drill cuttings do not comply with the labelling guidelines above, the drill cuttings will be shipped back to the licensee for corrections to the labels at that licensee's expense.

A licensee that does not submit drill cuttings as per this directive, including those that have been returned to the licensee for non-compliance will be assessed penalties.

5.4.10 Directional Survey

For all directionally-drilled wells, slant wells, approved horizontal sections, sidetracks or ghost holes, the licensee must submit to ER, through IRIS, the directional survey report within 30 days of the Drilling Activity End Date of the drilling activity.

The licensee must conduct directional surveys to at least 30 m above the endpoint of the wellbore and show a final extrapolation to where the wellbore has reached its total depth.

5.4.10.1 As-Drilled Survey Plan

The licensee must submit to ER, through IRIS, the as-drilled survey plan within 30 days of the Drilling Activity End Date of the drilling activity. The as-drilled survey plan must include representations of all wellbores, sidetracks, and ghost holes drilled.

Please refer to Directive PNG003 for detailed information regarding survey plan requirements.

5.4.10.2 Revised As-Drilled Survey Plan

If additional wellbores are drilled after the initial drilling activity, a licensee must submit to ER, through IRIS, a revised as-drilled survey plan within 30 days of the Drilling Activity End Date of the drilling activity.

A revised as-drilled survey must show all wellbores and sidetracks/ghost holes applicable to the well.

5.4.11 Geological Report

For every well, excepting grout wells, the licensee must complete and submit to ER, through IRIS, the Geological Report prepared and stamped by an accredited geologist within 30 days of the Drilling Activity End Date of the drilling activity. The report must contain, but is not limited to the following information within a single document:

- well data summary;
- identification of formation tops;
- daily drilling mud properties;
- bit record;
- daily summary report;
- reservoir summary report;
- summary report of well logs run; and
- detailed descriptions of drill cuttings, samples, and core.

5.4.12 Lithological Description Log/Strip Log

For every well, except grout wells, the licensee must submit to ER, through IRIS, a lithological description log produced from drill cuttings for each wellbore, sidetrack or ghost hole, prepared and stamped by an accredited geologist within 30 days of the Drilling Activity End Date.

In addition to the lithological description logs required for every well, the licensee of a horizontal well must submit to ER, through IRIS, a lithological description log produced from drill cuttings for the build wellbore section and the lateral wellbore section, prepared and stamped by an accredited geologist within 30 days of the Drilling Activity End Date.

All lithological description logs must include detailed sample descriptions from the sampled intervals taken while drilling, as well as the gamma, gas, and rate of penetration measurements taken while drilling.

The lithological description log must be in MD. If samples are collected from multiple wellbores, including sidetracks or ghost-holes, during a drilling activity, the resultant individual lithological description logs must be submitted together in a single document.

5.5 Reporting Within 90 Days of Drilling Activity End Date

For each drilling activity, the licensee must submit to ER, through IRIS, Form A-1 (Notification of Drilling Waste Disposal) found in Guideline GL99-01 within 90 days of the Drilling Activity End Date of the drilling activity.

6. Well Completion Activity Reporting

The following types of well completion activities require the submission of data to ER, through IRIS:

- initial well completion;
- subsequent well completion and
- well completion change.

To report the well completion date, a licensee must have either:

- A well licence on which drilling has been reported in IRIS; or
- an authorization from ER that approves a new well completion or approves changes to an existing well completion.

6.1 Immediate Reporting: Within Seven Days of the Well Completion Date

6.1.1 Reporting of an Initial Well Completion

The licensee must submit to ER, through IRIS, the following information within seven days of the well completion date:

- well completion date; and
- a response to the question “Was the well completed as planned?”
    - if the response is “‘No” the licensee must indicate what completion details differ from those of the original authorization., including:
        - well completion type;
        - pool;
        - pool top TVD;
        - unit and project links; and
        - drainage area/unit.

6.1.2 Reporting of a Subsequent Well Completion or a Well Completion Change

The licensee must submit to ER, through IRIS, the following information within seven days of the well completion date:

- well completion date; and
- a response to the question: “Was the well completed as planned?”

6.2. Reporting Within 30 Days of the Well Completion Date

The licensee must submit to ER, through IRIS, a well completion report within 30 days of the well completion date. A well completion report must include detailed information related to completion operations including, but not limited to, the following information:

- contact intervals;
- applicable wellbore isolation devices; and
- applicable treatments.

The licensee must submit to ER, through IRIS, the following information within 30 days of the well completion date for a well completion workover:

- date of the change;
- top and base of the contact interval (MD);
- completion number;
- indicate if the well is plugged or squeezed; and
- the well completion workover report.

A completion workover report must include detailed information related to well completion workover operations including, but not limited to, the following information:

- contact intervals;
- applicable wellbore isolation devices; and
- applicable treatments.

6.2.1 Contact Intervals

The licensee must submit to ER, through IRIS, the following contact interval information for each wellbore, within 30 days of the well completion date:

- the date the contact interval was created;
- the status of the contact interval;
- the top and base of the contact interval (MD);
- the CWI associated with the well completion (i.e. the completion number) that the contact interval is applicable to.

Information related to the gross contact interval, as it relates to each pool, must be submitted to ER.

Note: when reporting the date that the contact interval was created for an open hole completion, use the drilling activity end date of the wellbore.

Additional requirements:

- Contact interval(s) must be amended if an isolation device alters existing contact intervals or results in additional contact intervals. Contact interval(s) must be amended if an isolation device results in well abandonment; and
- A completion report, casing repair report or a workover report must be submitted within 30 days of the conclusion of the applicable well maintenance activity.

6.2.2 Treatments and Fractures

The licensee must submit to ER, through IRIS, the following information for each wellbore within 30 days of the date that the treatment activity concluded:

- date of the treatment;
- treatment type;
- For hydraulic fracturing, the following is also required:
  - volume of fresh water pumped downhole (m^3);
  - volume of recycled water pumped downhole (m^3);
  - volume of other water volume used (m3);
  - volume of total fluid pumped downhole (m^3);
  - top and base of the contact interval in MD to which the treatment was applied;
  - stratigraphic unit
  - fracture half-length;
  - carrier fluid type;
  - communication event disclosures as defined in Directive PNG048; and
  - fracture fluid information including:
    - component type;
    - trade name;
    - supplier;
    - purpose;
    - ingredient(s);
    - chemical abstract service number;
    - component concentration; and
    - concentration in fracture fluid;

Information submitted to ER as part of the fracture fluid report is non-confidential. The licensee may remove from the report the family name of chemical components considered as a trade secret. However, the licensee must report to ER the generic chemical name of the component. If the component is a trade secret, the component, component concentration and concentration in the fracture fluid must be provided to ER.

Note: the CAS # field can be populated with “trade secret” for any component considered a trade secret.

Note: treatments are associated with the wellbore in which they belong and relate to existing contact intervals that were previously reported. The gross contact intervals of a treatment cannot extend through more than one pool/stratigraphic unit.

The licensee must submit to ER, through IRIS, a fracture report within 30 days of the date that the fracture activity concluded, which includes the following:

- Fracture Planning and Well Control programs developed pursuant to Directive PNG048;
- Fracture operations report;
- Form A-2: Notification of Flowback Fluid and Frac Sand Disposal (located within Guideline GL 2000-01).

6.2.3 Wellbore Isolation Devices (Packers and Plugs)

The licensee must submit to ER, through IRIS, the following information within 30 days of the setting or removal of a wellbore isolation device as it relates to a specific wellbore:

- date the isolation device was set;
- isolation device type;
- center element (MD);
  - applicable but not limited to packers, bridge plugs, and retainers.
- top of cement (MD);
  - applicable but not limited to bridge plugs, cement plugs, and retainers.
- Date the isolation device was removed.

The licensee must submit to ER, through IRIS, a well completion workover report within 30 days of setting or removing a wellbore isolation device.

Contact interval(s) must be amended if an isolation device alters existing contact intervals or results in additional contact intervals. Contact interval(s) must be amended if an isolation device results in well abandonment.

The requirement to submit information related to wellbore isolation devices only applies to those isolation devices that are considered permanent, meaning that the devices are used in the wellbore for injection or production purposes (not set temporarily to allow workover or well maintenance activities).

Note: information related to casing patches and packers where the packer's purpose is to secure a liner is required to be submitted with the casing information.

7. Abandonment Activity Reporting

For more detailed information on well abandonment activities and requirements, see Directive PNG015.

7.1 Immediate Reporting: Within Seven Days of the Abandonment Date

For any well completion abandonment, wellbore abandonment or downhole abandonment activity, the Licensee must submit to ER, through IRIS, the following information within seven days of the abandonment date:

- abandoned date; and
- abandonment authorization number.

7.2 Immediate Reporting: Within Seven Days of the Cut and Cap Date

The Licensee must submit to ER, through IRIS, the following information within seven days of the cut and cap date:

- cut and cap date;
- final cut and cap report; and
- Gas Migration and Surface Casing Vent Flow Form and specific data elements required.

Note: a cut and cap abandonment does not require an authorization number to be submitted when the cut and cap date is entered in IRIS. The authorization for this activity is provided in the downhole abandonment authorization.

7.3 Reporting within 30 days of the Abandonment Date

For any well completion abandonment, wellbore abandonment or downhole abandonment activity, the licensee must submit to ER, through IRIS, a detailed abandonment report within 30 days of the abandonment date.

8. Reporting of Other Information (Tests and Analysis)

The licensee must submit to ER, through IRIS, information related to any test or analysis performed within 30 days of the date of a test or analysis was conducted.

8.1 Drill Stem Test (DST)

The licensee must submit to ER, through IRIS, the following information within 30 days of the DST being performed:

- DST number;
- date of test;
- interval top and interval bottom MD (mkb);
- indicate if misrun (Y/N);
- initial Time, Final Time and Tool Open Time, in minutes;
- initial pressure and final pressure (kPa);
- estimated gas production (m^3/day);
- type of gas production;
- fluid cushion type;
- fluid cushion quantity;
- indication if gas to surface (Y/N);
- Indication if closed chamber analysis (Y/N);
- DST test recovery type, cut and quantity; and
- the DST report.

Note: do not submit a DST report if the test was not conducted correctly (i.e. “misrun”).

8.2 Gas Test

The licensee must submit to ER, through IRIS, the 4-point isochronal or modified isochronal tests within 30 days of the test being performed.

The test results submitted must include a complete analysis, testing method used, raw production and pressure data, field notes, interpretation of the results, and a graph of the sandface deliverability.

Refer to Directive PNG011 for more information on when this type of gas test must be conducted.

8.3 Pressure Test

8.3.1 Gas Well Pressure Test

The licensee must submit to ER, through IRIS, the Gas Well pressure test results within 30 days of the well completion date.

8.3.2 Annulus Test

Annulus test reporting must be conducted in accordance with Guideline PNG029 and a licensee is required to keep records of the tests and test results for five years. Test results must be submitted to ER upon request and within the requested timeframe.

8.3.3 Bottom Hole Pressure Survey

The licensee must submit to ER, through IRIS, the Bottom Hole Pressure Survey (i.e. reservoir survey) report within 30 days of the date the survey was performed.

8.3.4 Maximum Wellhead Injection Pressure Value and Supporting Report

The licensee must submit to ER, through IRIS, the Maximum Wellhead Injection Pressure Value and supporting report, and any revision of said report, within 30 days of the Well Completion Date for the applicable well completion. Refer to Directive PNG008 for additional detail and requirements around maximum wellhead injection pressure.

8.3.5 Fall-Off Test

The licensee must submit to ER, through IRIS, the fall-off test results within 30 days of the test being performed.

8.4 Fluid Analysis

The licensee must submit to ER, through IRIS, the following information within 30 days of the analysis being performed with respect to any fluid analysis test conducted at the facility or well:

- test date;
- origin of the sample that has been analyzed;
- the fluid analysis document containing all test and analysis results;
- test type;
- sampling pressure; and
- specific data elements required.

Refer to Directive PNG017 for additional information regarding oil and gas sampling and analysis requirements.

8.5 Production Test

The licensee must submit to ER, through IRIS, the production test results within 30 days of the date that the test was performed.

8.6 Injection Well Tests and Inspections

The licensee must submit to ER, through IRIS, the results of test and inspections conducted to ascertain the condition of an injection well's casing, tubing, packers and injection flowlines within 30 days of the date the test or inspection was conducted.

8.7 Reservoir Survey

The licensee must submit to ER, through IRIS, the results of any reservoir survey conducted within 30 days of the date the survey was conducted.

8.8 Drill Core Data

In addition to the drill core requirements laid out in this section, see also section 5.3.

8.8.1 Physical Drill Core Submission

All drill cores taken from a drill core barrel must be protected from theft or misplacement and submitted prepaid to ER at the following address within 30 days of the drilling activity end date or, if approved core analysis is performed, within 90 days of the drilling activity end date*:*

Subsurface Geological Laboratory
201 Dewdney Avenue East
Regina, Saskatchewan S4N 4G3

Permission from ER must be obtained prior to any core analyses being performed. All portions of the core not destroyed in the aforementioned analyses must be returned to ER, including the "A" and "B" sides.

All cores submitted to ER must be crated in the correct stratigraphic order in cardboard boxes that do not exceed the specifications set out in Appendix 2.

Core boxes must be prepared as follows:

- one end of the core box lid and one end of the core box body must be labelled with:
  - the well licence, the unique well identifier, and the well location;
  - the core number and its depth interval;
  - the box number expressed as "_____ of _____ boxes";
- the top of the core must be placed at the labelled end of the body of the core box;
- the top and bottom of the core must be legibly marked, on the core box; and
- the core box must contain a single folded divider covering the bottom of the box and it must extend upwards (in the center of the box) to separate the rows of core.

No person shall take any core out of Saskatchewan or destroy any core without the consent of ER.

ER may, as a condition of the licence require the licensee to core and test any stratigraphic unit from which production may be expected, and in the event that the information is required, the licensee must submit said information to ER in the most expeditious manner.

8.8.2 Core Analysis and Special Core Analysis

For every analysis made on core, the licensee must submit to ER, through IRIS, the following information within 30 days of the analysis being performed:

- date of the analysis;
- the core analysis report (that clearly indicates the depths at which analysis has been conducted);
- UWI for the wellbore from which it was taken;
- analyzed interval from Core # to Core #;
- core gamma ray? (Y/N); and
- indicate if any special analysis was conducted.

If core photography has been conducted, the licensee must submit to ER, through IRIS, core photos upon request and within the requested timeframe.

8.8.3 Thin Section Data

For all thin sections, the licensee must submit to ER, through IRIS, the following information within 30 days of a thin section's fabrication:

- The stratigraphic unit from which the sample was taken;
- The depth of stratigraphic unit (TVD and MD);
- The thin section reference number (generally the number given by a licensee to the thin section); and
- The thin section report.

All thin sections fabricated must be submitted to ER within 90 days of the fabrication date. The licensee may take a duplicate thin section set for their use.

Appendix 1: File Naming Conventions, Formats and Standards

The format for naming attachment files is determined by ER and must be followed by all clients submitting data in IRIS. The naming convention for attachments is:

Licence Number - Data Type - Well Type

- Data type examples include survey plan, 'as drilled' plan, Tour Report, completion report, drill stem test, Geological Report, core analyses, fluid analyses, pressure survey, etc.;
- Well types include DD for directional, HZ for horizontal or leg, and a blank for a vertical well.

Examples of the subject line and file name for a Geological Report on the three well types are:

- 15H123 - Geological Report - HZ.pdf, or
- 15H123 - Geological Report - DD.pdf; or
- 15H123 - Geological Report.pdf.

The attachments shall be provided in PDF or other file format as specified.

The following formats and file extensions are acceptable for upload in IRIS:

- DOC or DOCX
- JPEG or JPG
- PDF
- PNG
- TIF or TIFF
- XLS or XLSX
- ZIP
- LAS
- DWG
- DXF

Electronic Well Log Submission Standards

- LAS format means LAS (Version 3.0) format or later (http://www.cwls.org/wp-content/uploads/2014/09/LAS_3_File_Structure.pdf);
- TIFF format means the format specified in accordance with the Canadian Well Logging Society standards as proposed September 28, 2004;
- All electronic well log submissions must include the well location UWI, the CWI and licence number.

Appendix 2: Specifications for Drill Core Boxes

Diameter of core (cm)	Maximum outside dimension of box (cm) Length	Width	Height	Rows per box
6.0 to 7.6	80	17.0	8.5	2
7.7 to 8.9	80	20.5	10.0	2
9.0 to 11.4	80	12.5	12.0	1
11.5 to 14.0	80	15.5	15.0	1

Appendix 3: Well Data Submission Obligation Deadlines

Directive PNG013 Obligation Deadlines			WITHIN:	1 DAY OF	7 DAYS OF			10 DAYS OF	30 DAYS OF			90 DAYS OF	
Data Group	Data Subgroup		PNG013 Section	see also	drilling activity start date	rig release date	the date the activity was performed ----	well completion date ----	drilling activity end date	drilling activity end date	the date the activity was performed ----	well completion date ----	drilling activity end date	the date the activity was performed ----
Drilling Commencement	drilling contractor name		5.1		x									
	Well site supervisor name, telephone number and		5.1		x									
	drilling start date		5.1		x									
	rig number		5.1		x									
Drilling Activity	Drilling Activity End Date		5.2			x								
	Rig Release Date		5.2			x								
	Drilling Activity Information		5.2			x								
	Casing and Liner Information		5.4.1	PNG005						x				
	Tour Report		5.4.2							x				
	Wellbore Depths & Coordinates		5.4.3							x				
	Markers/Formations		5.4.4							x				
	Sidetracks/Ghost Holes		5.4.5							x				
	Open Hole Well Logs		5.4.6	PNG010						x				
	Open Hole Well Log Structured Data		5.4.6								x			
	Cased Hole Logs		5.4.7	PNG010								x		
	Cement Bond Logs & Interpretation		5.4.8									x		
	Drill Cutting	Drill Cutting Interval Data	5.4.9							x				
		Physical Drill Cuttings	5.4.9							x				
	Directional Survey	the survey report	5.4.10	PNG003						x				
		the 'as drilled' survey	5.4.10	PNG003						x				
	Geological Report		5.4.11							x				
	Lithological Description Log/Strip Log		5.4.12							x				
	Form A-1 - Notification of Drilling Waste		5.5										x	
Well Completion Activity	Initial Well Completion		6.1					x						
	Subsequent Well Completion		6.1	PNG024				x						
	Well Completion Change		6.1					x						
	Well Completion Contact Intervals		6.2.1									x		
	Well Completion and Well Completion Workover Repor		6.2									x		
	Well Maintenance Reports (ex. casing repair etc.)		5.4.1								x			
	Well Completion Treatments and Fractures		6.2.2								x			
	Fracture Report and Fracture Fluid Report		6.2.2								x			
	Well Completion Isolation Devices		6.2.3								x			
Abandonment Activity	Well Completion, Wellbore or Downhole Abandonment		7.1	PNG015			x							
	Cut and Cap Abandonment plus Report *****		7.2	PNG015			x							
	Cut and Cap Gas Migration and Surface Casing Vent		7.2				x							
	Well Completion, Wellbore or Downhole Abandon. Rpt		7.3	PNG015							x			
Testing/Analysis Activities *	Drill Stem Test		8.1								x			
	Gas Test		8.2								x			
	Gas Well Pressure Test		8.3.1	PNG017								x		
	Annulus Test (submit to ER Upon Request)		8.3.2	PNG029										
	Bottom-hole Pressure Survey		8.3.3								x			
	Maximum Well-head Injection Pressure Value & Repo		8.3.4	PNG008								x		
	Fall-Off Test		8.3.5								x			
	Fluid Analysis		8.4	PNG017							x			
	Production Test		8.5								x			
	Injection Well Tests and Inspections		8.6								x			
	Reservoir Survey		8.7								x			
	Drill Core	Drill Core Data	5.3						x					
		Physical Drill Core**	8.8.1							x			x**	
		Drill Core Analysis***	8.8.2								x***			
		Core Photos (upon request)	8.8.2											
		Thin Section Data	8.8.3								x			
		Physical Thin Section	8.8.3											x

* NOTE: The results of any testing/analysis activities listed above must be submitted to ER (within the applicable timeframe) if the test/analysis was conducted.
** NOTE: If core sampling and analysis has been approved by ER and is conducted, the core may be submitted within 90 days of the drilling activity end date.
*** NOTE: Core sampling and analysis must be approved by ER before it is performed.
**** NOTE: If a single operation or activity occurs over multiple days, indutry may choose the day that the single operation or activity concludes.
***** NOTE: Industry will have one year to cut and cap from the reporting of the downhole abandonment. Industry will then have 7 days from the cut and cap date to report the cut and cap information. Both the 1 year and 7 day requirement are fulfilled by submission of the cut and cap date plus report.