

Well Data Submission Requirements

Directive PNG013

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Version 1.0

Governing Legislation:

Act: *The Oil and Gas Conservation Act*

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

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1 Introduction

Directive PNG013: Well Data Submission Requirements (Directive PNG013) sets out the requirements for the submission of well data for drilling, completion, workover and abandonment activities using the Integrated Resource Information System (IRIS). The Saskatchewan Ministry of Energy and Resources (ER) requires this well data to be submitted in order to maintain an accurate record of information and activities for each well drilled in the province. The data is used by both ER and by the oil and gas industry.

Questions on *Directive PNG013* can be directed to the ER Service Desk at 1-855-219-9373 or ER.servicedesk@gov.sk.ca.

2 Definitions

Business associate (BA) is any entity that conducts business activities with the Government of Saskatchewan through IRIS. In some instances, the term licensee is also used to represent the BA.

Boss wellbore is the wellbore that has been assigned by IRIS to which data or in the case of multiple wellbores can report common data elements such as casing and marker/formations to be reported into IRIS. In addition, it is the only wellbore where the surface coordinates can be changed.

Bottom hole (depth) is the end depth in metres of a wellbore where drilling operations has ended.

Canadian Well Identifier (CWI) is a system generated reference number (e.g. SK1234567) from IRIS that is assigned at the time of well licensing for the purpose to rapidly and unambiguously identify and retrieve information about a specific well, wellbore or well completion.

Drilling activity is an activity that includes the activities from spud or re-entry of a wellbore by a drilling rig through to the rig release date and includes preset drilling activities. A single drilling activity may include the drilling of multiple wellbores as part of the same drilling activity for the drilling rig.

Drilling activity end date is, for any one specific drilling activity, the date that there is no longer any drilled meterage being added.

Drilling start date is the date at which drilling operations have commenced.

Finished drilling date is a date derived from the first wellbore drilling activity associated with a well, and is equal to the drilling activity end date for that activity. In a situation where the first wellbore 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. A finished drilling date is assigned by IRIS to every well at the end of the first wellbore drilling activity, and does not change when a subsequent drilling activity is performed on the same well. Note: a finished drilling date does not typically derive from a preset drilling activity.

Sidetracks/ghost hole is a secondary wellbore drilled from an wellbore that is less than 100 metres in length. A sidetrack operation may be done intentionally or may occur accidentally. Intentional sidetracks might bypass an unusable section of the original wellbore or explore a geologic feature

nearby. In cases where a sidetrack operation is done, the secondary wellbore is usually drilled substantially parallel to the original wellbore, which may be inaccessible due to an irretrievable fish, junk in the hole, or a collapsed wellbore. These sidetrack/ghost hole do not require prior approval from the ministry and are not previously set up in IRIS.

Intermediate casing point (ICP) is 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 metres (true vertical depth and measured depth), and geographical coordinates

Kick off point is 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) is the distance, expressed in metres, measured from the Kelly Bushing of the drilling rig to the bottom or end of the wellbore. A measured depth is not corrected for wellbore deviation.

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

Landing point (LP) is the measured depth in a monobore horizontal well at which the wellbore has intersected the targeted stratigraphic unit.

Preset drilling activity is the activity related to drilling and setting surface or intermediate casing by a drilling rig that is released after the surface casing or intermediate casing has been set. The rig may return to the site at a later date and drill to the licensed depth of the wellbore as part of a separate drilling activity.

Rig release date is the date a rig last conducted drilling operations at a specific well site or moved from the well site. Every drilling activity associated with a well has a rig release date.

Spud date is a date derived from the drilling start date of the first drilling activity reported for the well in IRIS:

- *If there is a preset surface casing drilling activity, the spud date for the well is the drilling start date of that drilling activity.*
- *If there are no preset surface casing or preset intermediate casing drilling activities and the first activity is a wellbore drilling activity, the spud date for the well is the drilling start date of that drilling activity.*

True vertical depth (TVD) is the vertical distance, expressed in metres, measured from the Kelly Bushing of the drilling rig to the horizontal plane containing the bottom or end of the wellbore. Due to intentional or unintentional deviations in the path of the wellbore, its MD is always greater than its TVD.

Well is a proposed or actual drilled hole in the ground designed to exchange, or facilitate the exchange of, fluids between a subsurface reservoir and the surface or another subsurface reservoir, or to enable the detection and measurement of rock properties.

Well origin is the location on the surface of the earth where the drill bit is planned to penetrate or does penetrate the earth to establish or rework a well.

Well set is a grouping mechanism for well components used to maintain an end-to-end link through all stages of the well life cycle (i.e. planning to disposal).

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

Wellbore completion is a set of one or more wellbore contact Intervals that function as a unit to produce or inject fluids.

Wellbore contact interval is a measured depth range 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 Legislation and Compliance

It is the responsibility of all licensees, as specified in the legislation, to be aware of ER requirements, and to ensure compliance with these requirements throughout the life-cycle of any well licensed in Saskatchewan.

Data or submission requirements may be amended or waived upon application and approval by ER.

3.1 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 508-16*
- *Associated Directives*
 - *Directive PNG003: Well Survey Requirements*
 - *Directive PNG005: Casing and Cementing Requirements*
 - *Directive PNG010: Well Logging Requirements*
 - *Directive PNG014: Incident Reporting Requirements*
 - *Directive PNG015: Well Abandonment Requirements*
 - *Directive PNG017: Measurement Requirements for Oil and Gas Operations*

Licensees should review the provisions of the *OGCA* and *OGCR* and other applicable Directives in conjunction with *Directive PNG013*.

3.2 Compliance and Enforcement

All compliance events and enforcement measures related to *Directive PNG013* are set out in the *OGCA* or 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.

ER expects all licensees to proactively monitor their IRIS obligations to ensure compliance. If a licensee identifies a situation that is not compliant, they should inform ER immediately. ER will make an assessment and consider the most appropriate action to take.

In assessing a licensee’s compliance with *Directive PNG013* requirements, ER may at any time request a licensee to produce required documents, records, or reports.

3.3 Licensees’ Responsibilities

Licensees are responsible for monitoring the IRIS obligations and notifications for their Business Associate (BA).

IRIS Obligations

IRIS obligations identify data or documents the licensee must submit in IRIS in order to be compliant with the *OGCA*, *the OGCR* and *Directive PNG013*. IRIS automatically generates obligations for most well data submission requirements. Many of the IRIS obligations are triggered by the submission of specific information such as a drilling activity end date or a well completion date. ER may also add manual obligations for data submissions. In addition, new IRIS obligations may be added when there’s 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.

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

Notifications

Notifications are communications from ER that are delivered electronically in IRIS. Notifications 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 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 are either:

- *immediate*
 - *within one day of the drilling start date of a well or wellbore;*
 - *within seven days of the drilling activity end date, rig release date, completion date or abandoned date.*
- *within 30 days; or*
- *within 90 days.*

Note: No changes to already submitted data or attachments can be made after a rig release date is submitted. Please contact the ER Service Desk at ER.servicedesk@gov.sk.ca or 1-855-219-9373 if changes are required to any data or attachments already submitted and accepted.

4.2 Acceptable Format for Submission of Attachments into IRIS

The maximum file size that IRIS will accept is 500 MB per attachment. Refer to:

- *Appendix 1 for the acceptable naming convention for attachments; and*
- *Appendix 2 for acceptable attachment types.*

Note: If a document that is being attached to an application and should be confidential outside of the well's confidential period, contact the ER Service Desk at 1-855-219-9373 or ER.servicedesk@gov.sk.ca before attaching the document.

5 Spud Date and Finished Drilling Date

The spud date and finished drilling date are not specifically submitted by a licensee. These dates are derived in IRIS from the drilling activity information the licensee submits. Every well in IRIS requires a spud date and a finished drilling date. The spud date for the well is the drilling start date of the first drilling activity reported for the well in IRIS. The finished drilling date of the well is the drilling activity end date of the first wellbore drilling activity reported for the well in IRIS.

6 Drilling Activity Reporting

Each time a drilling rig performs a new wellbore drilling activity, immediate reporting is required in IRIS

6.1 Immediate Reporting: Within one day of the drilling start date

The licensee must submit the following information in IRIS within one day of the drilling start date:

- *Drilling Contractor name;*
- *Well Site Supervisor name, phone number and email address;*
- *Drilling Start Date; and*
- *Rig Number.*

Submitting the drilling start date for the first drilling activity that occurs at a well, results in the well status in IRIS being changed from 'Planned' to 'Drilling'.

6.2 Immediate Reporting: Within seven days of the finished drilling date

The licensee must submit the following information in IRIS within seven days of the drilling activity end date:

- *Drilling activity end date.*

Note: For a preset drilling activity, in addition to requirements of sections 6.1 and 6.2, the rig release date must be reported within seven days of the drilling activity end date in accordance with section 6.4. This will result in the well status in IRIS being changed from 'Planned' to 'Drilling'.

6.3 Immediate Reporting: Within seven days of the finished drilling date

If the licensee has indicated that a drill core has been taken, the following core data elements must be entered into IRIS within seven days after the finished drilling date:

- *Core interval - top and base (MD and TVD);*
- *Core type;*
- *Recovered amount %;*
- *Interval(s) (top and base) of any missing core;*
- *Depth of core interval within the wellbore - from, to;*
- *Slab type;*
- *Box number - from, to;*
- *Core analysis done Y/N; and*
- *Missing core comment box.*

Note: Although core data must be submitted in IRIS within seven days of the finished drilling date, submission of the physical core to ER is not required until 30 days after the drilling activity end date.

6.4 Immediate Reporting: Within seven days of the rig release date

The licensee must submit the following information in IRIS within seven days of the rig release date:

- *Rig release date;*
- *Kelly bushing elevation (not applicable to presetting surface casing); and*
- *Yes/No answers to the following questions:*
 - *Core Taken?*
 - *Drill Cuttings Sample Submission Required?*
 - *DST Performed?*
 - *Kick? (Did a kick occur during drilling?)*
 - *Lost Circulation?*
 - *Proposed trajectory attained?*
 - *Is the measured depth of the bottom hole greater than planned?*

The following information with respect to additional drilled segments (e.g. sidetracks/ghost hole, etc.) associated with the wellbore drilling activity must be submitted into IRIS during immediate reporting (i.e. within seven days of the Rig Release Date) or can be submitted under the “Sidetracks/Ghosts” tab on the wellbore screen (i.e. within 30 days of the Drilling Activity End Date):

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

Notes:

1. *After the data for a preset drilling activity is fully submitted in IRIS, the status of the wellbore is changed from “Proposed” to “Drilling”.*
2. *After the data for the first wellbore drilling activity for a well is fully submitted in IRIS:*
 - *IRIS assigns the ‘Finished Drilling Date’ of the well based on the Drilling Activity End Date of that wellbore drilling activity. IRIS will additionally confirm or change the boss wellbore assignment for the well.*
 - *IRIS automatically cancels any remaining wellbores that were licensed but not drilled within that wellbore drilling activity.*
 - *IRIS changes the status of the wellbore:*
 - *from “Proposed” to “Drilled” if the licensee does not check off the flag to indicate that the wellbore is cased. In this case the licensee can submit additional information associated with the wellbore in IRIS , such as depths, co-ordinates and casings; or*

- from “Proposed” to “Cased” if the licensee does check off the flag to indicate that the wellbore is cased.

6.5 Reporting within 30 Days of the Drilling Activity End Date

The licensee must report or attach in IRIS the following data types within 30 days of the Drilling Activity End Date of a drilling activity:

6.5.1 Casing and Liners

The licensee must submit in IRIS surface casing data within 30 days of the Drilling Activity End Date of the preset surface casing drilling activity.

Surface casing information cannot be entered in IRIS until the Drilling Start Date for the preset surface casing drilling activity has been submitted. Information related to surface casing must be submitted at the well level.

Surface casing details must be included in the Tour Report and information that is required to be entered in IRIS related to casing includes:

- *Date the surface casing is set;*
- *Base measured depth reached;*
- *Outside casing diameter; and*
- *Is casing cemented? Y/N.*

The licensee must submit intermediate and production casing data and liner data in IRIS, within 30 days of the drilling activity end date of a wellbore drilling activity.

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.

6.5.2 Tour Reports

The licensee must report or attach in IRIS the following data types within 30 days of the Drilling Activity End Date of a drilling activity:

The licensee must maintain a Tour Report at the drilling rig during all drilling activity operations. The Tour Report must be a complete accounting of the drilling activity and contain the following:

- *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 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:*
 - Length;
 - Setting depth;
 - Amount and type of cement;
 - Weight and volume of slurry; and
 - Depth felt.
- *The elevation of the Kelly Bushing of the drilling rig; and*
- *The date and time of the rig release.*

Tour reports in PDF form must be in a standard format as outlined by the Canadian Association of Oil Well Drilling Contractors.

A licensee can submit the Tour Report at the same time as the drilling activity information is submitted in IRIS or it can be submitted within 30 days of the Drilling Activity End Date. When entering the drilling activity details in IRIS, the “Attachments” tab on the screen can be used to attach the Tour Report.

6.5.3 Wellbore Depths and Co-ordinates

As part of the well licence application, the licensee is required to provide the proposed depths and co-ordinates of all the wellbores associated with the well in IRIS. Once a wellbore has been drilled, the actual depths and coordinates of the wellbore must be edited, as necessary, and confirmed in IRIS within 30 day of the Drilling Activity End Date of the wellbore. The information must be confirmed from the data contained within the Tour Report, the ‘as drilled’ survey plan and the directional survey.

The licensee must enter/confirm the following information in IRIS for vertical, directional, slant and horizontal wells:

- *ground elevation;*
- *measured depth of the bottom hole for all wellbores and ICP/KOP for horizontal well;*
- *true vertical depth for wellbores;*
- *wellbore surface land location (LSD, SEC, TWP, RGE, meridian);*
- *bottom hole land location (LSD, SEC, TWP, RGE, meridian);*
- *latitude and Longitude – vertical – surface only;*

- *latitude and Longitude for directional, slant or horizontal bottom holes;*
- *surface boundary co-ordinates for all wells;*
- *bottom hole boundary coordinates for directional, slant and horizontal wells (for vertical wells, the surface co-ordinates will also be shown as the bottom hole co-ordinates); and*
- *rectangular coordinates for directional, slant and horizontal wells.*

Horizontal wells also require entering or confirming in IRIS:

- *land Location (LSD, SEC, TWP, RGE, meridian) for ICP/KOP/LP;*
- *latitude/Longitude for ICP/KOP/LP; and*
- *boundary coordinates for ICP/KOP/LP rectangular Coordinates for ICP/KOP/LP.*

Note: On a multi-leg well, 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.

Monobore horizontal wells must have:

- *surface co-ordinates;*
- *LP; and*
- *bottom hole co-ordinates.*

Note: The LP coordinates from the “as drilled” survey must be entered in IRIS in place of the ICP.

6.5.4 Markers/Formations

The licensee must enter into IRIS information related to geological markers/formations that are associated with the well. The following information must be submitted in IRIS:

- *Top/base indicator;*
- *Stratigraphic unit; and*
- *TVD and MD (in metres).*

All major stratigraphic markers/formations are to be identified and reported on all vertical and directionally drilled wells from below surface casing to the total drilled depth of the well/wellbore. Horizontal wells require a minimum of two geological markers/formations to be submitted in IRIS on the boss wellbore; namely:

- *marker/formation above the target zone of interest;*
- *marker/formation with respect to the zone of interest; and*

- *the marker/formation below the zone interest, if it is penetrated.*

6.5.5 Sidetracks/Ghost Holes

The Licensee must enter into IRIS details related to any additional metres drilled that do not have prior approval within IRIS (e.g., sidetrack/ghost holes). These Sidetrack/Ghost Holes do not receive any prior approval and are not previously set up in IRIS.

The following details must be included in the tour report and must be entered on the wellbore that the sidetrack/ghost was drilled from:

- *Depth pulled back to; and*
- *Depth drilled to.*

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

6.5.6 Open Hole Well Logs

A licensee must submit into IRIS well logs that are associated with individual wellbores. Submissions of the logs (as attachments) are due within 30 days of the drilling activity end date of the wellbore drilling activity.

Logs must be run from the total depth of the wellbore to the base of the surface casing and the licensee must submit the following information into IRIS within 30 days after the logs have been run:

- *Type of log;*
- *Well ID of the wellbore in which the log was run;*
- *Date the log was run;*
- *Top and bottom in measured depth of the interval logged; and*
- *Depth type: MD or TVD.*

The following types of open hole logs must be run, unless there is an open hole waiver:

- *Resistivity or standard electric log; and*
- *Radioactivity log, including either a:*
 - *natural and induced radioactivity, from total depth to the base of the surface casing; or*
 - *porosity curve, from total depth to the base of the surface casing.*

The suite includes but is not limited to an Electronic Induction log and either a Sonic or Neutron log, all of which must be submitted in MD and TVD depths for directional or slant wells in both TIFF and LAS formats must be submitted.

Note: See *Directive PNG008* and *Directive PNG010* for well logging requirements.

6.5.7 Cased Hole Logs

A licensee must submit into IRIS separate copies of cased hole well logs within 30 days of the initial completion. Both TIFF and LAS file formats must be submitted in both MD and TVD.

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

6.5.8 Cement Bond Logs and Interpretation

In accordance with *Directive PNG008*, a licensee must submit into IRIS copies of separate cased hole Cement Bond logs and Interpretation within 30 days of the completion or conversion date of the well. Required attachments must conform to the file naming convention as set out in Appendix 1 and Appendix 2.

6.5.9 Drill Cutting Data

The licensee must submit the following Drilling Cutting interval data into IRIS:

- *Top MD;*
- *Base MD;*
- *Top TVD; and*
- *Base TVD.*

The physical drill cutting samples must be submitted to ER within 30 days of the drilling activity end date of the wellbore drilling activity. The physical drill cuttings must be submitted prepaid at the following address as required by *Guideline PNG023: Submission of Drill Cuttings: Oil, Gas and Potash Wells*:

The Subsurface Geological Laboratory
201 Dewdney Avenue East
Regina, Saskatchewan S4N 6N6

6.5.10 'As Drilled' Survey Plan

The licensee must submit wellbore depth and co-ordinates data fields listed in IRIS from the 'as drilled' survey plan and submit a copy of the 'as drilled' survey plan which must include representations of all wellbores and sidetracks/ghost holes drilled. See section 6.1.4.3 for required fields to be entered in IRIS.

The information must be submitted within 30 days of the drilling activity end date of the wellbore drilling activity.

Note: Please refer to *Directive PNG003* for details on survey plan requirements.

6.5.11 Revised 'As Drilled Survey' Plan

A licensee must submit into IRIS a copy of the revised 'as drilled' survey plan in pdf format which must be submitted within 30 days of the drilling activity end date of the wellbore drilling activity or due date assigned by ER.

If additional wellbores are added after the initial wellbore drilling, a revised 'as drilled' survey plan must show all wellbores and sidetracks/ghost holes for the well.

6.5.12 Directional Survey

The licensee must submit into IRIS a copy of the directional survey in pdf format. Directional surveys must be run to at least 30 metres above the bottom of the wellbore and show a final extrapolation to where the wellbore has reached its total depth.

For each directionally-drilled well, slant well, approved horizontal section or any additional Ghost holes/Sidetracks, directional surveys must be submitted within 30 days of the drilling activity end date of the wellbore drilling activity.

6.5.13 Geological Report

The licensee must attach and upload the required copy of the Geological Report prepared by an on-site geologist within 30 days of the drilling activity end date of the wellbore drilling activity. The report must contain, but is not limited to, the following information within a single PDF document:

- *Well data summary;*
- *Identification of formation tops;*
- *Mud properties;*
- *Wellbore survey;*
- *Bit record;*
- *Daily summary report;*
- *Reservoir summary report;*
- *Summary report of well logs run; and*
- *Detailed descriptions of samples/core.*

An accompanying lithological description log for each wellbore and sidetrack/ghost hole must be submitted into IRIS at the same time.

6.5.14 Lithological Description Log/Strip Log

The licensee must attach and upload the required Lithologic logs for both the Build, Lateral wellbore sections and any ghost holes/sidetracks sections in IRIS within 30 days of the drilling activity end date of the wellbore drilling activity.

The lithological description log must be TVD. Lithology/strip log files must be contained within a single PDF and TIFF if taken for each horizontal wellbore and/or wellbore and sidetrack/ghost hole drilled. The boss wellbore requires a lithological log for the build portion of the wellbore and for the lateral of that wellbore.

6.6 Reporting Within 90 Days of Drilling Activity End Date

The licensee must submit the required A1-form found in from Guideline GL99-01 Guideline in IRIS for each drilling activity within 90 days of the drilling activity end date of the wellbore drilling activity.

7 Reporting Well Completion Activity Information

The following completion activities require the submission of data in IRIS using the Immediate Reporting screen:

- *Initial Well Completion;*
- *Subsequent Well Completion or*
- *Well Completion Change.*

In order to use the Immediate Reporting screen to report the completion date, a licensee must have either:

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

The well licence or the authorization creates the ability to report completion information in IRIS if either of the above criteria is met.

Note: To add a new completion to an existing well or to change an existing completion, the licensee must submit an application in IRIS and receive authorization from ER.

Applications that may require a new completion on an existing well include:

- *Enhanced Oil Recovery (EOR);*
- *Waterflood;*
- *Spacing Modification;*
- *Commingling;*

- *Reclassification;*
- *Recompletion; or*
- *Well Test.*

7.1 Immediate Reporting of an Initial Well Completion (within seven days of the well completion date)

The licensee must submit the following information in IRIS within seven days of the well completion date:

- *Completion date; and*
- *A response to the question “Was the well completed as planned?”*
 - *If the response is ‘No, the licensee must indicate what changed from the original authorization, including:*
 - Well Completion Type;
 - Pool;
 - Pool Top TVD;
 - Unit and project links; and
 - Drainage Area/Unit.

7.2 Immediate Reporting of a Subsequent Well Completion (within seven days of the well completion date)

The licensee must submit the following information in IRIS within seven days of the well completion date:

- *Completion Date; and*
- *A response to the question: “Was the well completed as planned?”*
 - *If the response is ‘No’, IRIS will not accept the submission.*

7.3 Immediate Reporting of a Well Completion Change (within seven days of the well completion date)

The licensee must submit the following information in IRIS within seven days of the well completion date:

- *Completion Date; and*
- *A response to the question: “Was the well completed as planned?”*
 - *If the response is ‘No’, IRIS will not accept the submission.*

7.4 Well Completion Reporting within 30 Days

The licensee must submit in IRIS the following data within 30 days of a completion, treatment or activity:

7.4.1 Contact Intervals

The licensee must submit into IRIS the following information related to contact intervals that are associated with individual wellbores within 30 days of the end of a completion activity:

- *Date the contact interval was created. For an open hole completion, use the drilling activity end date of the wellbore ;*
- *Status of the contact intervals (contact intervals will default to 'open' when being created)*
- *Top and base of the contact interval in measured depth;*
- *The Canadian Well Identifier associated with the completion (also known as the completion number) that the contact interval is associated with (a list of possible completion numbers is provided); and*
- *'Remedial' completion types are to recognize that remedial perforations are done to repair/pump cement behind the casing, and are closed immediately after the work is completed.*

At least one contact interval must be submitted per completion. ER also requires the submission of information related to the gross contact interval as it relates to each pool.

Additional actions:

- *maintenance of the contact interval(s) will be required if a plug or packer is set in the well or if the well is abandoned; and*
- *a completion report, casing repair report or a workover report must be submitted within 30 days of the completion.*

The licensee must also submit the following into IRIS within 30 days of the workover:

- *Date of the change;*
- *Contact interval;*
- *Completion number; and*
- *If the well is plugged or squeezed.*

7.4.2 Treatments

The licensee must submit into IRIS the following information related to treatments that are associated with individual wellbores within 30 days after the treatment occurs:

- *Date of the treatment;*
- *Treatment type (acidized or chemical, CO₂, hydraulic or sand fracture); and*
- *Top and base of the contact interval in measured depth which the treatment was applied to.*

Note: Treatments are associated with the wellbore in which they belong and relate to existing contact intervals that were previously reported.

The licensee must also submit into IRIS the following reports within 30 days of the date of the activity:

- *Completion Report - The licensee must submit a copy of the completion report within 30 days after the completion is done.*
- *Workover Report - The licensee must submit a copy of the workover report within 30 days after the workover is done.*
- *Fracture Report - This submission requirement includes submission of detailed information related to hydraulic fracturing operations and fractured fluid disclosure. If a completion is fractured, the licensee must submit a copy of the fracture report, the A-2 Form, and the Notification of Flowback Fluid and Frac Sand Disposal within 30 days after the fracture treatment date. The Information Guideline GL 2000-01 provides details and the A-2 Form that must accompany the fracture report submitted.*

7.4.3 Packers and Plugs

The licensee must submit into IRIS the following information within 30 days after a plug or packer is set or removed, as it relates to the specific wellbore in which the plug or packer exists:

- *Date the plug or packer was set;*
- *Type (either a packer or plug);*
- *Top of the plug or packer in measured depth or in the case where cement is on top, the top of the cement; and*
- *Removal date of the packer or plug.*

Additional actions:

- *maintenance of the contact interval(s) will be required if a plug or packer is set in the well or if the well is abandoned.*

- Licensee must submit a completion/workover report within 30 days of setting the plug or packer.

Note: The requirement to submit information related to plugs or packers only applies to those plugs or packers that are considered permanent (i.e. they are used in the wellbore for injection or production purposes and not just temporarily set in order to perform a workover). Information related to packers that are used to hold a liner is required to be submitted with the casing information.

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, etc.) is required to be submitted by the licensee within 30 days of the conclusion of the workover.

8 Reporting Abandonment Activity Information

All abandonments are considered non-routine and require authorization from ER. The authorization may be specific to the abandonment, or, in the case of a well completion abandonment, may be part of an authorization to recomplete or reclassify a wellbore.

For more information on well abandonment activities and requirements see *Directive PNG015: Well Abandonment Requirements*.

8.1 Reporting a Wellbore Abandonment

Wellbore abandonment occurs when the licensee plans to abandon a wellbore of a multi-leg horizontal multi-leg well, but plans to continue to produce from the same completion. A licensee must apply through IRIS to abandon a wellbore. A Wellbore Abandonment Application is considered non-routine and requires ER authorization.

8.2 Reporting a Downhole Abandonment and a Cut and Cap Abandonment

A licensee must apply through IRIS to downhole abandon and cut and cap a well through a Non-Routine Abandonment Application. Authorization requires ER review and approval. The plan for both the downhole abandonment and the cut and cap abandonment are approved in the same authorization.

8.3 Reporting a Well Completion Abandonment

Well Completion Abandonment refers to situations where the licensee plans to plug or cement squeeze an existing completion in order to complete the well within another pool rather than downhole abandon the well. Authorization for a Well Completion Abandonment may be made as part of the following applications to ER:

- *Reclassification;*
- *Recompletion;*
- *Waterflood;*

- *Enhanced Oil Recovery (EOR);*
- *Commingling; or*
- *Spacing Modification.*

The above applications require the licensee to attach a workover plan, which includes the plan for abandonment of the existing completion. The authorization is used for reporting the abandonment of that completion.

8.3.1 Immediate Reporting of Well Completion, Wellbore or Downhole Abandonment (within seven days of the Abandonment Date)

The Licensee must submit the following into IRIS:

- *Abandoned Date;*
- *Abandonment authorization number and report.*

8.3.2 Immediate Reporting of Cut and Cap Abandonment (within seven days of the Cut and Cap Date)

The Licensee must submit the following into IRIS:

- *Cut and Cap Date;*
- *Final Cut and Cap Report; and*
- *Gas Migration and Surface Vent Flow Form.*

8.3.3 Within 30 Days of the Abandoned date, Well Completion, Wellbore or Downhole Abandonment

The Licensee must submit the following into IRIS within 30 days:

- *Detailed Abandoned Report*

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. For more information on well abandonment activities see *Directive PNG015: Well Abandonment Requirements*. For more information on reclassification or recompletion see *Guideline PNG024: Reclassification and Recompletion*.

9 Reporting of other Information (Tests and Analysis)

The licensee must submit information into IRIS within 30 days of the date of a test or analysis being performed:

9.1 Drill Stem Test

The licensee must submit into IRIS the following within 30 days of the test being performed:

- *DST number;*
- *Test date;*
- *Test interval top and bottom in measured depth;*
- *Misrun (Y/N);*
- *Times- Initial, Final and Open Tool Time;*
- *Pressures;*
- *Flow volume- Initial Flow Pressure and Final Flow Pressure;*
- *Estimated Gas Production;*
- *Type of Gas Production;*
- *Fluid Cushion Type (mud or water) and quantity;*
- *Gas to Surface (Y/N);*
- *Closed Chamber Analysis (Y/N);*
- *DST test recovery fields and quantity; and*
- *DST report (attachment), unless the test is a 'misrun'.*

9.2 Gas Test

The licensee must submit into IRIS a copy of the 4 Point Isochronal or modified Isochronal tests within 30 days after the test is performed.

9.2.1 Gas Well Test

The licensee must submit into IRIS a copy of the Gas Well pressure test within 30 days after any completion. Please refer to *Directive PNG017: Measurement Requirements for Oil and Gas Operations* for additional reporting requirements.

9.2.2 Annulus Test

Reporting must be done in accordance with *Guideline PNG029: Annulus Test Reporting* and the licensees are required to keep records of the tests for 5 years. Tests must be provided upon request by ER.

9.3 Fluid Analysis

The licensee must submit into IRIS the following within 30 days of the analysis being completed (see oil analysis exception in the Note below), with respect to any fluid analysis test (oil, gas and water):

- Test date;
- Origin of fluid analysis;
- Scanned electronic copy of the fluid analysis;
- The following specific data elements must be submitted for an oil analysis:
 - Oil density;
 - Oil API Gravity; and
 - Oil sulphur test.
- The following specific data elements must be submitted for a gas analysis:
 - Gas heat content; and
 - Gas hydrogen sulphide test.
- The following specific data elements must be submitted for a water analysis:
 - Water resistivity;
 - Water dissolved solids;
 - Water specific gravity; and
 - PH level.

Note: Oil fluid analysis is required for oil or condensate completions and must be submitted within 30 days after the on production date.

ER will consider an application to waive the oil analysis test obligation if the applicant can demonstrate that there is another well where the boss wellbore bottom hole is located within 1.6 km of the boss wellbore bottom hole location of the new well and for which ER has an oil analysis not older than 10 years for the target stratigraphic unit. In the application for waiver, the applicant must provide the location of the well within 1.6 km for which an oil analysis has previously been performed and submitted for the target stratigraphic unit.

Please refer to *Directive PNG017: Measurement Requirements for Oil and Gas Operations* for additional reporting requirements.

9.4 Bottom Hole Pressure Survey

The licensee must submit into IRIS the following Bottom Hole Pressure Survey (reservoir survey) report within 30 days after the test is performed.

9.5 Drill Core

Licensee must submit in IRIS the following within seven days of the drilling activity end date of the wellbore drilling activity:

- Top MD;
- Base MD;

- *Core Type;*
- *Missing Core (Y/N);*
- *Core number from;*
- *Core number to;*
- *Slab Type;*
- *Box number from;*
- *Box number to; and*
- *Core Analysis (Y/N).*

Note: The physical core must be submitted prepaid to ER at the following address within 30 days of the drilling end date:

The Subsurface Geological Laboratory
201 Dewdney Avenue East
Regina, Saskatchewan S4N 6N6

9.6 Core Analysis and Special Core Analysis

The licensee must submit into IRIS the following within 30 days of the analysis being completed:

- *Scanned electronic copy of the core analysis;*
- *UWI for the wellbore from which it was taken;*
- *Date of the analysis;*
- *Analyzed interval from Core # to Core #;*
- *Core Gamma Ray? Y/N;*
- *Any special analysis done flag; and*
- *PDF copy of the analysis report.*

9.7 Thin Section Data

The licensee must submit into IRS the following within 30 days of the thin section being taken, or any thin section that is made from a sample taken from a wellbore:

- *Stratigraphic unit from which the sample was taken;*
- *Depth of stratigraphic unit (TVD and MD);*
- *Thin section reference number (generally the number given by a licensee to the section); and*
- *PDF copy of the Thin Section Report.*

Appendix 1: Naming Convention for File Attachments

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

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

All surveys, forms, tests, analyses, and reports must be attached and submitted in IRIS by industry to fulfill requirements of *Sections 10(a), 31, 73, 84, 85, 87, 88, 89 and 95* of the *OGCR*. The attachments shall be provided in PDF or other file format as specified in Appendix 2.

Appendix 2: Acceptable Document Types

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

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

Appendix 3: 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 Canadian well identifier (CWI) and licence number.*

Appendix 4: Well and Wellbore Document Attachments Diagrams

