JOB AID

HELIUM REPORTING IN ALBERTA

Jurisdiction	Release/Revision Date	Comment
AB	March 8, 2021	Initial Release

Contents

Introduction

Helium production in Alberta is expected to rise in the coming years. As such, it has been necessary to develop royalty and reporting guidelines for helium producers. Alberta Energy took the first step by introducing a new helium royalty rate effective as of April 1, 2020.

Additionally, the Alberta Energy Regulator (AER) has now developed new guidelines that will enable producers to report helium production and movement in Petrinex. **New helium reporting requirements will be effective in Petrinex as of April 2021 (for the March production month).**

Helium is a new product that utilizes the existing infrastructure and monthly reporting processes already in Petrinex. There are no new reporting screens.. This job-aid provides a summary of the changes implemented to accommodate helium reporting.

Infrastructure Changes

New changes introduced are focused around well infrastructure. There are no new facility types or subtypes being introduced for helium. Helium wells will be linked to existing gas battery subtypes. Movement of helium from the well/battery is reported using existing facility types or with miscellaneous codes. All of this is covered in detail further on.

Helium Well Statuses

There are new well statuses in Petrinex to accommodate helium as the fluid type. The statuses in the table below will accommodate the life cycle of a helium well from production to eventual abandonment (the same as wells for other fluid types).

HELIUM WELL STATUSES		
Well Status	**Active**	**Industry Update**
HELIUM FLOW N/A N/A	Y	Y
HELIUM PUMP N/A N/A	Y	Y
HELIUM TEST N/A N/A	Y	Y
HELIUM D & COMP N/A N/A	Y	Y
HELIUM SUSP N/A N/A	N	Y
HELIUM TSTCMP N/A N/A	N	Y
HELIUM CLOSED N/A N/A	N	N
HELIUM ABAN N/A N/A	N	N
HELIUM ABZONE N/A N/A	N	N
HELIUM ABRENT N/A N/A	N	N
HELIUM ABWHP N/A N/A	N	N

- Helium statuses are very similar to those that are available for gas production wells. There are no storage, injection, or cyclical statuses as these activities are not applicable to helium.

- The first four statuses listed have an **Active** value of Y (Yes). Wells with active statuses will be linked to batteries and require a monthly volumetric submission.
    - Volumetrics associated with test activities and production associated with Drilling & Completing activities are permitted for helium wells.
    - More on volumetric reporting is provided under the Monthly Reporting Changes section.

- Statuses that have an **Industry Update** value of Y (Yes) indicate that, when the well is in that status, Industry may edit/change the well status. Only the AER can set and manage Closed and Abandonment statuses. Industry cannot set or change these statuses.

Well Status Transitions

The table below provides the well status transitions available for Industry for helium well events. The column on the left lists statuses that the well is currently in and the column on the right lists all of the statuses (related to helium) that the well could transition to from that current status in the Edit Well Status screen.

These statuses are very similar to gas and other types of production wells. Wells go from completion to production, then transition between active and inactive statuses throughout their life cycle.

HELIUM WELL STATUS TRANSITIONS (INDUSTRY)	
Current Status	**Transition To Status**
N/A N/A N/A N/A	HELIUM D & COMP N/A N/A
N/A N/A N/A COMMIN	HELIUM FLOW N/A N/A HELIUM PUMP N/A N/A
N/A N/A OBSERV N/A	HELIUM FLOW N/A N/A HELIUM PUMP N/A N/A
N/A DRL & C N/A N/A	HELIUM D & COMP N/A N/A HELIUM FLOW N/A N/A HELIUM PUMP N/A N/A HELIUM TEST N/A N/A
HELIUM D & COMP N/A N/A	HELIUM FLOW N/A N/A HELIUM PUMP N/A N/A N/A DRL & C N/A N/A
HELIUM FLOW N/A N/A	HELIUM PUMP N/A N/A HELIUM SUSP N/A N/A N/A N/A N/A COMMIN
HELIUM PUMP N/A N/A	HELIUM FLOW N/A N/A HELIUM SUSP N/A N/A N/A N/A N/A COMMIN
HELIUM SUSP N/A N/A	HELIUM FLOW N/A N/A HELIUM PUMP N/A N/A N/A N/A N/A COMMIN
HELIUM TEST N/A N/A	HELIUM FLOW N/A N/A HELIUM PUMP N/A N/A HELIUM TSTCMP N/A N/A N/A N/A N/A COMMIN N/A N/A OBSERV N/A
HELIUM TSTCMP N/A N/A	HELIUM FLOW N/A N/A HELIUM PUMP N/A N/A HELIUM TEST N/A N/A N/A N/A N/A COMMIN N/A N/A OBSERV N/A

- Standard transitions exist to move wells from inactive statuses like drilled/cased and observation to active flowing or pumping helium statuses. Active wells can be suspended and suspended wells can become active again (like any other production well).

- Completed wells can become helium test wells. In addition, wells that are still in the drilled and cased stages can become helium drilling and completing (D & COMP) wells if any marketable fluids are produced prior to completion. Like other test or drilling/completing wells, production can only be reported for these wells for a maximum of 3 months. Beyond that, it is expected that these wells should be transitioned to either active producing statuses or some other allowable inactive status (as listed in the table above).

- Helium wells can be commingled using the existing process in the Edit Well Status screen. The reporting event is given an active helium status (flowing or pumping). Other events can then be selected for commingling by clicking the **Commingle Events** button located under the Facility Link field. Only events that share the same well licence will be listed. Any selected well event will automatically be given a status of N/A N/A N/A COMMIN if it is currently in a status that allows that transition (as per the table above). Commingled well events are not linked to a facility. Volumetric activity is not reported for a commingled well event, as it is included under the reporting event.

- Only status transitions that can be performed by Industry users are listed above. There are some status transitions that can only be performed by the AER:
    - Moving wells to any kind of Abandoned status.
    - Moving wells into a Closed status (HELIUM CLOSED N/A N/A) or from a Closed status back to a helium producing or suspended status.
    - Performing primary product changes. Although rare, the AER can move an active Crude Oil or Gas well to Helium and vice versa. Primary product changes are typically done back to the beginning of the well's production. This involves Industry removing volumetric reporting in all prior production periods and re-entering them once the well status change is complete.

Well to Facility Linkages

Like any other primary product, helium wells with certain statuses must be linked to reporting facilities. These include wells that are actively producing (flowing or pumping), have test or drilling/completing (D & COMP) statuses, or are suspended.

As stated earlier, there are no new facility types or subtypes for helium. Helium wells will be linked to existing gas battery subtypes. Well to facility linkages are accomplished in one of two ways:

- In the **Edit Well Status** screen when the transition to a new well status would require a new facility linkage.
    - Examples include bringing a well on production (pumping or flowing) from a completed, test, or drilling/completing status. Other examples include putting an inactive well into a test or drilling/completing status.
    - Certain well status transitions do not allow well to facility linkage changes, such as moving a well from a producing status to suspended.

- Requesting a **Well to Facility Link Change**. This function allows the current facility operator to request that a well be linked to a new facility (as long as it is an allowable subtype). If the new

facility is operated, then the change is processed immediately. If the new facility is non-operated, the new facility operator must approve the request.

The following table lists the well statuses that require facility linkages and which facility subtypes the well may be linked to.

HELIUM WELL-FACILITY LINKAGES		
Well Statuses	**Subtype**	**Subtype Description**
HELIUM FLOW N/A N/A HELIUM PUMP N/A N/A HELIUM SUSP N/A N/A	351 361 362 363 364 365 366 367	GAS SINGLE WELL BATTERY GAS MULTIWELL GROUP BATTERY GAS MULTIWELL EFFLUENT MEASUREMENT BATTERY GAS MULTIWELL PRORATION SE ALBERTA BATTERY GAS MULITWELL PRORATION OUTSIDE SE ALBERTA BATTERY GAS MULTIWELL GROUP BATTERY (ISSUED BY AER ONLY) GAS MULTIWELL PRORATION SE AB BATTERY (ISSUED BY AER ONLY) GAS MULTIWELL PRORATION OUTSIDE SE AB BATTERY (ISSUED BY AER ONLY)
HELIUM TEST N/A N/A HELIUM TSTCMP N/A N/A	371	GAS TEST BATTERY
HELIUM D & COMP N/A N/A	381	DRILLING AND COMPLETING

- Helium wells that are actively producing (flowing/pumping) or are suspended can be linked to any existing single-well/multi-well measurement or proration gas battery subtype.

- Helium test wells can only be linked to the gas test battery subtype. Helium drilling/completing wells can only be linked to the drilling and completing battery subtype.

Monthly Reporting Changes

To accommodate monthly reporting, a new product code HELIUM has been created in Alberta. This matches the helium product code already existing in Saskatchewan and Manitoba.
Monthly reporting for helium entails volumetric and allocations (optional) submissions. There is no reporting associated with pipeline splits or NGL pricing.

Volumetric Reporting

There are no new volumetric rules or processes for helium. Helium is reported like any other product. It is produced at the well level and can be moved at the facility level to other downstream reporting

facilities to a sales point (or miscellaneous code). Facilities can also report inventories of helium. Volumetrics can be reported online under the Edit Volumetric Submission screen or by batch upload. Helium is a gas, but it is treated more like oil for reporting purposes. The unit of measurement is m3. Helium is its own product group for balancing purposes, there are no other products in this group. The balancing activity assigned to this group is Imbalance (IMBAL). This means that there must be no imbalance for this product at a facility. There is no threshold for metering difference like there is with the Gas product group. Any imbalance would result in compliance errors and associated fees.
The table below lists what volumetric activities can be associated/reported with the helium product code along with the volumetric view that the activity would be submitted or observed in under the Edit Volumetric Submission screen. Note that Vent is listed twice as it can be used in both well and facility level reporting.

HELIUM PRODUCT VOLUMETRIC ACTIVITIES

Activity	Activity Description	Volumetric View	Auto-Generated
DISP	DISPOSITION	Facility Activity	Y, N
INVADJ	INVENTORY ADJUSTMENT	Facility Activity	N
INVCL	CLOSING INVENTORY	Facility Activity	N
INVOP	OPENING INVENTORY	Facility Activity	Y
REC	RECEIPT	Facility Activity	Y, N
VENT	VENTED	Facility Activity	N
PROD	PRODUCTION	Well Activity	N
VENT	VENTED	Well Activity	N
IMBAL	IMBALANCE	Summary	Y

- Well level activities would only be associated with the helium wells linked to a battery. Facility level activities are applicable to any facility type associated with helium flow, from the producing battery to any facility that receives and/or disposes of helium.

- The helium product group, like any other product group at a facility, can be selected in the Summary view in order to see a summary of that product's balancing activities.

- The Auto-Generated column indicates whether that volumetric activity is submitted by a user or is automatically generated (populated) by Petrinex. Auto-generation is one method used by Petrinex to help ensure product balancing by eliminating the possibility that 2 sides of the same transaction are reported with different numbers. This is covered in more detail below.

Well Level Reporting

All active helium wells require a monthly volumetric submission (same as any other active well). Active helium wells are listed under the Well Activity view of the battery in the Edit Volumetric Submission screen.
The table below shows which well-level volumetric activities are permitted for wells with active helium statuses. This table differs from the one in the previous section in that these are activities that are permitted for the **well status** and are not exclusive to the helium product code. As an example, PROD

(production) is permitted for an active helium well. However, the well may produce more than just helium. It could produce other products as well (water, oil, condensate, etc.). Activities for all products must be reported at the well.

HELIUM VOLUMETRIC WELL ACTIVITIES		
Well Status	**Activity**	**Activity Description**
HELIUM FLOW N/A N/A HELIUM PUMP N/A N/A	PROD VENT SHUTIN LDINJ LDINVADJ LDREC	PRODUCTION VENTED SHUT-IN LOAD FLUID INJECTED LOAD FLUID INVENTORY ADJUSTMENT LOAD FLUID RECOVERED
HELIUM TEST N/A N/A	PROD VENT SHUTIN	PRODUCTION VENTED SHUT-IN
HELIUM D & COMP N/A N/A	PROD	PRODUCTION
HELIUM TSTCMP N/A N/A	SHUTIN	SHUT-IN

- The production of helium can only be reported at an active helium well (as per the table above). However, as previously noted, an active helium well can produce more than just helium.

- For proration batteries, helium wells are included under the gas proration factor. Even if there is no gas production at the battery, the production of helium will require a gas proration factor to be entered.

- Like gas, the first time a helium well produces condensate or oil, a Volumetric Gas Well Liquid (VGWL) record will be created. Once the VGWL is set, the well must report production of the same liquid (oil or condensate) in all future production months (it cannot vary from month to month). The AER may review and change the VGWL liquid. This typically would require the operator to go back and amend volumetric reporting in prior months back to the beginning of the well's production.

- Load fluid reporting is permitted at a helium flowing or pumping well. As per the table in the previous section, load activities are not permitted for the helium product. However, the operator may report load of other products like oil or water for example.

- As mentioned in the infrastructure section, helium test or drilling/completing wells can only report production for a maximum of 3 months. The well must be moved to an active flowing or pumping status and linked to an active gas battery to report production beyond that.

Facility Level Reporting

Facility activities are reported under the Facility Activity view in the Edit Volumetric Submission screen. Activities at this level are generally for product storage, consumption, or movement between facilities. As stated earlier, helium is not treated any different than any other product. From the producing battery, helium will either flow to downstream facilities on to a sales point or to a miscellaneous code in the same manner as other products produced at the wellhead.
The following table shows which miscellaneous codes can be used for helium transactions.

HELIUM MISCELLANEOUS CODES	
Misc. Code	**Misc. Description**
AB CO	Alberta Commercial Sales
AB IN	Alberta Industrial Sales
AB MC	Alberta Miscellaneous
BC MC	British Columbia Miscellaneous

The table at the beginning of the Volumetric Reporting section contained a list of activities that are permitted for the helium product. At the facility level, these included:

- Inventory (INVADJ, INVCL, INVOP) – Facilities can maintain inventories of helium. Industry users submit any inventory adjustments and closing inventory for the month (if an inventory balance exists). Opening inventory is auto-generated by Petrinex in the subsequent production month based on the closing inventory submission of the previous month. Industry users cannot remove or modify the opening inventory number. The only way to change an opening inventory value is to amend the closing inventory in the prior production month.

- Vented (VENT) – Facilities can report vented volumes of helium. Activities like fuel and flare are not applicable and cannot be reported for the product of helium.

- Receipts & Dispositions (REC, DISP) – Typically the receiving facility will report a receipt of helium which will auto-generate the disposition at the delivering facility. The auto-generated disposition cannot be changed or modified. The only way to change an auto-generated disposition would be to talk to the receiving facility operator and have them change the receipt volume. There are some exceptions to this rule.
    - The delivering facility operator must report a disposition to a miscellaneous code.
    - Certain facility types can report the disposition to another facility, which will auto-generate the receipt. These are typically sales point/custody transfer point facility types. (Ex: terminals, pipelines, etc.)
    - Rules for receipts and dispositions are the same for helium as any other product.

Helium can be used for cross-border volumetric reporting. The helium product code exists in Saskatchewan and Manitoba. A facility in one of these provinces could report a receipt of helium and the disposition would be auto-populated at the Alberta facility. An Alberta facility could also report a receipt of helium from a facility in Saskatchewan or Manitoba in the same fashion.

British Columbia cannot accommodate cross-border helium reporting, as it does not currently have the helium product code. Alberta operators can report any deliveries of helium to British Columbia as a disposition to BC MC (miscellaneous). Receipts of helium can also be reported from BC MC.

Volumetric Non-Compliance

Helium is its own product group for balancing purposes. The balancing activity for this group is Imbalance (IMBAL). This means that, like oil, activities for this product must balance precisely. Imbalance is calculated as:
Opening Inventory + Production + Receipts + Inventory Adjustments – Vent – Dispositions – Closing Inventory
If a facility's helium is out of balance, it will receive the VME0055 non-compliance error (Imbalance is other than 0.0). This error carries a financial penalty, which is assessed if the error is not corrected before the Volumetric Reporting Deadline. It will continue to be assessed a financial penalty in each subsequent production month as well until the error is corrected. This error can be seen in two places:

- On the **Summary View** of the facility in the Edit or Query Volumetric Submission screens.
- On the **AER Non-Compliance Error Report**

The facility operator can request the AER Non-Compliance Error Report at any time. The report is also automatically generated 2 days before the Volumetric Reporting Deadline. This alerts operators to any outstanding non-compliance errors and gives them a chance to fix them before the deadline. Another report is automatically generated at the deadline. At this point, penalties are assessed on any outstanding errors.

Allocations Reporting

There are no Royalty Triggers associated with the helium product. This means there are no mandatory allocations for helium. However, if a helium well produces other products that have mandatory royalty triggers (i.e. gas), these triggers would still be applicable the same as any other well.
Allocations can optionally be reported on any volumetric activity, including those for helium. Operators are always encouraged to file any allocations that would aid in partner to partner reporting. Filing such allocations can reduce or eliminate the need to send out individual reports to partners.

Helium Royalties

Alberta Energy implemented a new helium royalty rate effective as of April 1, 2020. An information letter was released on May 13th, 2020 to provide more clarity on helium royalties. Please click the link below to see this letter:
https://inform.energy.gov.ab.ca/Documents/Published/IL-2020-22.pdf
The Natural Gas Royalty Regulations 2009 & 2017 (under the Mines and Minerals Act) were also updated as of May 13th, 2020 to incorporate helium. Please click the links below to see these amended regulations:
https://www.qp.alberta.ca/documents/Regs/2008_221.pdf
https://www.qp.alberta.ca/documents/Regs/2016_211.pdf
All producers who recover Helium from a well within Alberta, or cause Helium to be produced by any other means from hydrocarbon recovered from the well, are required to report all sales of Helium to

Alberta Energy each month. For information on reporting helium sales, please see the contact information for the Alberta Energy Pricing & Analysis Team in the contacts below.

Contacts

Please see the contact information for the various business areas below if you have questions or require more information on helium reporting.

Petrinex

For questions or information related to how helium is reported in Petrinex, please contact the **Petrinex Business Desk:**

Phone: 403-297-6111 (Calgary)
1-800-992-1144 (other locations)
Email: petrinexsupport@petrinex.ca

Alberta Energy

For general questions or information related to helium royalties, please send an email to Energy.Helium@gov.ab.ca

For questions related to the reporting of helium sales, please contact the **Pricing & Analysis Team**:

Phone: 403-355-5884 or 403-297-5427
Email: GasValuation.energy@gov.ab.ca

Alberta Energy Regulator (AER)

For questions or information related to regulator policies and guidelines related to helium reporting, please refer to the AER's Directive 007 and Manual 011, or contact the Production Accounting Help Desk:

Phone: 403-297-8952 extension 3
Email: pa.help@aer.ca

Directive 007: https://static.aer.ca/prd/documents/directives/directive007.pdf

Manual 011: https://static.aer.ca/prd/documents/manuals/Manual011.pdf