

PRODUCTION ALLOCATION DISCREPANCY (PAD) REPORT: Data Included And How To Use It

Jurisdiction	Release/Revision Date	Location of Change in this Document	Comment
AB / BC	November 15, 2023	Updated information throughout the document.	Please review this updated tip in its entirety.
AB	June 8, 2015	For More Information	Updated contact information for DOE Gas Royalty Volumetric & Cost Reporting Team
AB	May 28/14	For More Information	Updated contact information for DOE Gas Royalty Volumetric & Cost Reporting Team
AB	March 3, 2014	For More Information	Updated contact information for DOE Gas Royalty Volumetric & Cost Reporting Team
AB	July 19, 2013		Initial Release – this Job Aid was created from information originally part of the tip titled Production Allocation Discrepancy Report

Audience: AB and BC Natural Gas Producing and Allocating Facility Operators.

Process: The **Production Allocation Discrepancy (PAD) Report** is available in Alberta and British Columbia, in a Comma Separated Values (CSV) format. This report identifies the discrepancy between the raw volumetric gas production and the net residue gas and/or raw gas sales and processed NGLs allocated back to the source of the raw gas production and is only available to operators of the volumetric facilities. Due to the amount of data that can be contained in this report any changes to volumetric or allocation data will be reflected on the PAD report the next day.

Alberta has two versions of the PAD report:

1. Production Allocation Report
 - a. Differences of +/- 20%
 - b. The Alberta Energy and Minerals (AEM) calculates provisional assessment crown royalties for any variance of +20% or more.
 - c. Calculates and displays only the current year and 3 years prior which are not statute barred.
2. Production Allocation Report – Industry version
 - a. Industry can select the difference %
 - b. Is for information only and differences less than 20% will not be subject to crown royalties.
 - c. Calculates and displays only the current year and 3 years prior, which are not statute barred.

British Columbia has only one version of the PAD report

1. Production Allocation Report – Industry version
 - a. Industry can select the difference %.
 - b. Is for information only.
 - c. Calculates and displays data back to BC’s implementation to Petrinex in 2018-10.

COLUMN NAMES AND DESCRIPTIONS:

Before using the data on this report, it is important to understand the definitions for the column headings as many are similar.

There are essentially three sets of data on the report:

- data associated with the volumetric reporting (columns B - P)
- data associated with the allocation reporting (columns Q – AF)
- data associated with the discrepancy information (columns AG to AJ)

Column	Column Name	Description
A	Production Month	The production month the data was reported for.
B	Volumetric Reporting BA ID	The ID of the operator who reported the volumetric (gas production) data.
C	Volumetric Reporting BA Name	The name of the BA who reported the volumetric (gas production) data.
D	Volumetric Facility ID	The Facility ID that pertains to the volumetric data.
E	Volumetric Facility Name	The name of the facility that pertains to the volumetric data.
F	Volumetric Amendment Number	The amendment number associated with the volumetric data.
G	Volumetric Well ID	The Well ID under which the gas production was reported.
H	Volumetric Gross Well Production	The volume of gas production reported (10 ³ m ³) for the well for that production month.
I	Volumetric PE %	The percentage (portion) of the gas production volume that belongs to the Production Entity (PE). In BC PE relates to a stream that would not be a well id (i.e., Unit).
J	Volumetric Well Production	The calculated result of the Gross Well Production multiplied by the Volumetric PE %.
K	Volumetric PE Product	The Production Entity product used for this row of data on the report. There are 3 available: GAS, OIL or ALLOC. The production entity screen will identify GAS or OIL. ALLOC is used when a well belongs to a multi well group (i.e., a unit) but is on a royalty holiday or program and has been (should be) excluded from the group (unit) until the program ends. In BC the PE product is OIL, GAS or NONE.
L	Volumetric Contact Name	The name of the person who submitted the volumetric data.
M	Volumetric Contact Email	The email address of the person who submitted the volumetric data.
N	Volumetric Contact Phone	The phone number of the person who submitted the volumetric data.

Column	Column Name	Description
O	Production Entity	The production entity (PE) the producing well belongs to. In BC this is a stream id.
P	Total Production Volume	The sum of all the Volumetric Well Production quantities associated to the PE. For a single well PE, it will be the same value as column J. For a multi well PE it will be the sum of all the wells (column J) involved in the PE.
Q	Allocation Reporting BA Id	The Business Associate ID of the operator who reported the allocation (SAF/OAF) data.
R	Allocation Reporting BA Name	The name of the BA who reported the allocation (SAF/OAF) data.
S	Allocation Facility id	The Facility ID associated with the allocation data.
T	Allocation Facility Name	The name of the facility associated with the allocation data.
U	Allocation Amendment Number	The amendment number associated with the allocation data.
V	Allocation Product	The product being allocated on the SAF/OAF.
W	Allocation Activity	The activity being allocated on the SAF/OAF.
X	Allocation From/to	The from/to on the SAF/OAF allocation.
Y	Allocation Cascaded from	The Cascaded from facility ID on the SAF/OAF allocation.
Z	Allocation Production Entity	The Production Entity (PE) listed on the allocation (stream ID).
AA	Allocation Gross Calc Volume	The gross calculated volume from the SAF/OAF submitted.
AB	Allocation Calculated GE Volume	The gas equivalent of the volume allocated for gas. For gas, this will be the same as the gross Calculated Volume (column AA); for liquids (LPG's), this will be the gross multiplied by the applicable gas equivalent factor.
AC	Allocation Contact Name	The name of the person who submitted the allocation data.
AD	Allocation Contact Email	The email address of the person who submitted the allocation data.
AE	Allocation Contact Phone	The phone number of the person who submitted the allocation data.
AF	Total Allocated Volume	The sum of all the Allocation Calculated GE volume quantities that belong to the PE. For a single well PE, it will be the same value as column AB. For a multi well PE, it will be the sum of all the allocations (column AB) involved in the PE.
AG	Volume Difference	The absolute value (in 10 ³ m ³) of the difference between production volume and allocated volume.
AH	Volume Difference%	The percentage of the volume difference between production volume and allocated volume. The percentage is capped at plus or minus 100%. It is the positive percentages that will be subject to potential royalty recalculations.
AI	Volume Discrepancy Message Id	Each error message has a different ID #.
AJ	Volume Discrepancy Message Text	The text associated with the message ID.

How to Use the Petrinex Generated or Industry Version of the PAD Report

An essential step for reviewing the report is to filter the data in order to determine where inaccurate allocations have occurred when compared to production.

Note: When requesting the Industry version of the PAD report, operators can select the Minimum Volume Discrepancy % +/- they wish to review since many AB and/or BC Industry operators have internal discrepancy goals that are less than +/- 20%,

The examples below can be used for either the Petrinex Generated or Industry Version of the report to filter and identify any applicable variance differences and investigate the situations that are outside the AEM and/or internal operators' difference/discrepancies goals.

Use caution when filtering as you can easily filter away the discrepancy. We suggest you hide some columns when reviewing the report in order to determine the discrepancies to be reviewed.

The columns that SHOULD NOT be HIDDEN are:

Column A – Production Month
Column D – Volumetric Facility
Column G – Volumetric Well ID
Column J – Volumetric Well Production
Column K – Volumetric PE Product
Column O – Production Entity
Column P – Total Production Volume
Column S – Allocation Facility
Column V – Allocation Product
Column W – Allocation Activity
Column X – Allocation From / To
Column Y – Allocation Cascaded From
Column Z – Allocation Production Entity
Column AB – Allocation Calculated GE Volume
Column AF – Total Allocated Volume
Column AG – Volume Difference
Column AH – Volume Difference %

Once you have only these columns selected, here are some suggestions in filtering your data to determine why these facilities are on the Production Allocation Discrepancy (PAD) Report.

- 1. Review all Positive Results under Column AH - Volume Difference%. These are the streams which will have royalty recalculations if not corrected.**

Suggestions for corrections:

- An amendment has been made with just the volumetric or SAF/OAF submitted. Possibly all that is required is to resubmit either the missing volumetric or SAF/OAF submission. This will clear up the imbalance.
- New streams in that particular month have no allocations, and other streams in that facility have over allocations.

- Allocations are high for some wells and low on others. Review the allocation process in your production allocation system.

2. Review all positive 100% imbalances which display allocations but no production.

Select the **positive 100** from Column AH - Volume Difference, **(BLANKS)** from Column J - Volumetric Well Production and **GAS** from Column V - Allocation Product. This shows wells that have no volumetric data supplied yet the well(s) were included in allocations.

Possible reasons are:

- No volumetric submission has been reported.
- An amendment has been made with the allocations submitted, yet the volumetric submission has not (timing difference).
- Over-allocation which results in a volume difference % greater than or equal to 100%.

3. Review all negative 100% imbalances which displays no allocations but has production.

Select the **negative 100** from Column AH - Volume Difference% and **GAS** and **(BLANKS)** from Column V - Allocation Product. This shows the well(s) that have volumetric data submitted, yet no allocations have been reported.

Possible reasons are:

- No allocations have been reported.
- An amendment has been made with the volumetrics submitted, yet the allocation submission has not (timing difference).
- The well was reported as part of a multi-well production entity (examples are a Unit, Well Group) allocation, but is required to be reported at the well level.

4. Any wells that are part of a Production Entity (Unit, Well Group etc.) that will receive a royalty benefit are required to be reported at the well level. (AB Only)

In cases where an AB well is part of a multi-well production entity and the AB well qualifies for an Alberta Royalty Program, the PAD report in Alberta will show the well(s) that need to be reported at the well level and where allocation volumes should not be included in the multi-well production entity.

In Alberta only, to find these wells, filter as follows:

Select **ALLOC** (ALLOC is not available on the BC report) from Column K - Volumetric PE Product. These wells should have allocations reported at the well level to clear the imbalance.

Select the following columns for the identified wells from the step above:

- Select the **Facility** from Column D - Volumetric Facility,
- Select the three options **ALLOC, GAS & OIL** from Column K - Volumetric PE Product
- Select **GAS** and **(BLANKS)** from Column V - Allocation Product
- Select **negative 100** and all **positive** results from Column AH - Volume Difference%
- Select each **production month** from Column A - Production Month.

The result of this query will display the following:

- Well(s) that need to be reported at the well level, however gas production was low enough that a royalty recalculation was not required.
- If there is an over-allocation to the production entity, you will need to reduce the allocation to this production entity and then allocate to the well in order to receive the royalty benefit.

5. Review all positive or negative 100% records which will display over/under allocations at a specific facility.

Select the **negative 100** and **positive 100** results from Column AH - Volume Difference%. Then select each Column D - Volumetric Facility and review each facility paying specific attention for both positive and negative 100 results. This is an example where you have no allocations for some streams and over allocations at other streams.

For More information:

Regarding the Alberta Petrinex Generated PAD Report please contact the AEM Volumetric and Cost Reporting team:

Gas Royalty Voicemail: 780-422-8727

Alberta Toll Free: 780-310-0000

Email: VCR@gov.ab.ca

Regarding the PAD Report – Industry version please contact the Petrinex Business Desk.

Phone: (403) 297-6111

Toll Free: 1-800-992-1144

E-mail: petrinexsupport@petrinex.ca