

24 September 2024

1. Verification Statement – 2023 Greenhouse Gas Emissions Inventory IPC Canada Ltd., Canadian Operations

IPC Canada Ltd. (IPC) retained GHD Limited (GHD) to conduct verifications of the following reports for the 2023 calendar year:

Onion Lake Thermal (Saskatchewan)

- 2023 Reporting Year Emissions Return

Onion Lake Primary (Saskatchewan Aggregate Facility)

- 2023 Reporting Year Emissions Return

IPC Aggregate Facility (AGAC) (Alberta)

- 2023 Reporting Year Compliance Report

Blackrod SAGF Pilot Facility (Alberta)

- 2023 Reporting Year Opted-In Facility Compliance Report

GHD has prepared this Verification Statement in accordance with ISO Standard ISO 14064 Greenhouse gases - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements (ISO 14064-3:2019).

2. Verification Objectives, Standards, and Criteria

The objective of the verifications was to provide IPC with assurance that the Emissions Return/Compliance Reports contained no material discrepancies and were prepared in general accordance with ISO 14064. The verifications were conducted to a reasonable level of assurance. GHD applied ISO 14064-3 as the verification standard and conducted the verifications in accordance with the following criteria:

- ISO 14064 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals, ISO, December 2018 (ISO 14064-1)
- ISO 14064 Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements, ISO, April 2019 (ISO 14064-3:2019) (Alberta verifications and Saskatchewan Emissions Return verifications)
- International Accreditation Forum Mandatory Document for the Use of Information and Communication Technology (ICT) for Auditing/Assessment Purposes: Issue 2 (IAF MD4: 2018)

Additional provincial regulations incorporated as necessary to cover individual operation's provincial reporting, and include the following standards and criteria:

Alberta

- Emissions Management and Climate Resilience Act, Technology Innovation and Emissions Reduction Regulation, Alberta Regulation 133/2019 (TIER) and amendments
- Standard for Completing Greenhouse Gas Compliance and Forecasting Reports, Version 3.3 (Compliance Standard) (January 2023)
- Standard for Validation, Verification and Audit, Version 5.2 (VVA Standard) (January 2023)
- Alberta Greenhouse Gas Quantification Methodologies Technology Innovation and Emissions Reduction Regulation, Version 2.3 (Quantification Methods) (September 2023) or applicable update (Alberta 2023 Compliance Report)

Saskatchewan (2023 Emissions Returns)

- The Management and Reduction of Greenhouse Gases Act, Chapter M-2.01 of The Statutes of Saskatchewan, 2010
- The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations, Chapter M 2.01 Reg. 4, under The Management and Reductions of Greenhouse Gases Act (Government of Saskatchewan, September 2023) (Regulations) or promulgated update
- The Industrial Facility Standard, (Government of Saskatchewan, May 2024) (Industrial Facility Standard) (OLT 2023 Emissions Return)
- The Aggregate Facility Standard, (Government of Saskatchewan, May 2023) (Aggregate Facility Standard) (OLP 2023 Emissions Return)

3. Verification Scope

The verification scope for each Facility included the following:

Onion Lake Thermal (Saskatchewan)

The verifications included the emission sources from the OLT Facility, which is located at the following address:

14-05-056-27W3
Near Onion Lake, Saskatchewan

The Facility production unit to represent all Site operations is heavy oil, in units of cubic metres oil equivalent (m³OE). GHD confirmed that the same products were used for the Facility's Baseline Submission.

The Facility's reportable GHG emission sources include those associated with thermal in-situ oil production, including steam generators, boiler and heaters from the combustion of natural gas and on-Site produced gas. Additionally, propane is used for stationary combustion in secondary equipment. These emissions have been reported by IPC under the following source categories:

- Stationary Combustion: carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O)
- Flaring: CO₂, CH₄, N₂O
- On site Transportation: CO₂, CH₄, N₂O

Onion Lake Primary (Saskatchewan Aggregate Facility)

The verification included the emission sources from IPC's Aggregated Facility, which consists of 245 individual facilities located across Saskatchewan.

The Facility's saleable products fall within Production Class 1 – Lloydminster Heavy and Non-Heavy. The Facility production unit to represent all Site operations is barrels of oil equivalent (BOE).

GHD confirmed that the same products were used for the Aggregate Facility's Baseline.

The Aggregate Facility is classified in the upstream oil and gas sector. Reportable emissions from the Aggregated Facility originate from the following regulated source categories, in accordance with Section 15(1) of the Aggregate Facility Standard:

- General Stationary Combustion: CO₂, CH₄, N₂O

IPC Aggregate Facility (AGAC) (Alberta)

The IPC Aggregate (AGAC) Facility consists of 305 COGs, including those of the following Petrinex facility types:

- Single and Multi-well oil batteries
- Single and Multi-well bitumen batteries
- Single and Multi-well gas batteries
- Gas Gathering Systems
- Gas Plants
- Injection and Storage Facilities

The specified GHG sources, reportable categories and gas types as per the requirements of the TIER include emissions from the following source categories:

- Stationary Combustion: CO₂, CH₄, N₂O
- Flaring: CO₂, CH₄, N₂O

The IPC Aggregate (AGAC) Facility production includes crude oil, gas or other hydrocarbons. The specific production benchmark unit is the production of energy products in m³ oil equivalent volumes (PROD), as reported in Petrinex.

Blackrod SAGD Pilot Facility (Opted-In Facility) (Alberta)

The verification included the emission sources from the operation of the SAGD Pilot Facility, which is located at the following address:

55.619053, -112.654942
Near Wandering River, Alberta

The specified GHG sources, reportable categories and gas types as per the requirements of the TIER include emissions from the following source categories:

- Stationary Combustion: CO₂, CH₄, N₂O
- Flaring: CO₂, CH₄, N₂O
- On-site Transportation: CO₂, CH₄, N₂O
- Fugitives: CO₂, CH₄, N₂O

The Facility production is reported under TIER as Production (Bitumen – Oil Sands in Situ) in m³ of bitumen.

4. Verification Procedures

Assessment of Conflict of Interest and Contract Execution

GHD completed a thorough evaluation for Conflict of Interest (COI) and Independence for each Verification work. This included a review of other potential work conducted by GHD for Client and the Facilities listed in the scope of work.

GHD confirmed that the verifications could be successfully completed without undue risk of impartiality and conflict of interest to either GHD or Client. We have assessed the following key aspects:

- Verification evaluation
- Team evaluation

GHD has rigorous COI and Verifier Competency evaluation procedures that are followed for every verification project. Our documented procedures ensure that all COIs and Independence Verification criteria are properly evaluated. GHD's COI procedure ensures that GHD and the GHD Project Team have no potential conflicts of interest.

GHD also evaluated and approved the Verification Team's competencies. GHD can assure Client that we have highly qualified staff with the appropriate technical expertise for the verifications.

Verification Procedures

GHD conducted a risk-based verifications to assess the following:

1. Accuracy and completeness of annual GHG emissions
2. Uncertainty of external data sources used
3. Emission assumptions
4. Accuracy of emission calculations
5. Potential magnitude of errors and omissions
6. Accuracy of production data reported

To sustain a risk-based assessment, the GHD Project Team identified and determined risks related to annual GHG emissions during both the desk reviews and the follow-up interviews. The GHD Project Team particularly focused on the accuracy and completeness of provided information.

To sustain a risk-based assessment, the GHD Project Team identified and determined risks related to annual GHG emissions during the desk reviews, site visit and the follow up interviews as applicable. The GHD Project Team focused on the accuracy and completeness of provided information. The components of the document review and follow up interviews were:

Document Review:

- Review of data and information to confirm the correctness and completeness of presented information.
- Cross checks between information provided in the Compliance Report/Emissions Return and information from independent background investigations.
- Determine sensitivity and magnitude analysis for parameters that may be the largest sources of error.
- Comparison of reported emissions with emissions from previous reporting year(s)

Follow up Interviews:

- On-Site / Remote Site Assessment
- Via telephone
- Via email
- Via ICT

Through the document review, GHD established to what degree the presented Compliance Report/Emissions Return met the verification standards and criteria.

The GHD Project Team's document review during the review process comprised of, but was not limited to, an evaluation of whether or not:

- The documentation is complete and comprehensive and follows the structure and criteria given in ISO 14064 and/or other supporting guidance.
- The Compliance Report/Emissions Return and the emissions estimates therein, conform to the program criteria.

- The methodologies are justified and appropriate.
- The assumptions behind the inventory are conservative and appropriate.
- The GHG emission calculations are appropriate and use conservative assumptions for estimating GHG emissions.
- The GHG information system and its controls are sufficiently robust to minimize the potential for errors, omissions, or misrepresentations.
- The frequency of, and responsibility and authority for, monitoring, measurement, data recording activities and quality control/quality assurance/management control procedures is sufficient.

The GHD Project Team interviewed Facility personnel to:

- Cross check information provided by interviewed personnel, i.e., by source check or other interviews.
- Compare with projects or technologies that have similar or comparable characteristics.
- Test the correctness of critical formulae and calculations.
- Review data management and recording procedures.
- The specific verification tests conducted by GHD as part of the audit included the following:
 - Review of third-party data and reports
 - Tracing of data from output back to the measurement device(s)
 - Full recalculations of key GHG supporting data and emissions
 - Reasonableness checks of the sources of data and calculation methodologies

Site Assessments

GHD conducted in-person or virtual site assessments as part of the verifications conducted under both the Alberta and Saskatchewan regulations for each operation.

5. Verification Opinion

Based on the verification conducted by GHD's, the GHG assertion provided in each Facility's 2023 Emissions Return/Compliance Report was determined to be free of material misstatements, fairly presented and substantiated by sufficient and appropriate evidence in all material aspects with the following qualifications:

- Onion Lake Primary (2023 Emissions Return): There is inherent uncertainty associated with the quantification of fuel gas produced (and combusted) from oil wells at the Facility. These quantities are not directly measured but are calculated using engineering calculations.

All of Which is Respectfully Submitted,

GHD



Bryan Rubie, P. Eng.
Co-Lead Verifier



Neil Risk, M.Sc., P. Geo.
Co-Lead Verifier



Sean Williams, P. Eng.
Co-Lead Verifier



Gordon Reusing, M.Sc., P.E., P. Eng.
Independent Reviewer



Peter Tkalec, P. Eng.
Independent Reviewer



Erik Martinez, P. Eng.
Independent Reviewer