THEAUS GLOBAL

January 5, 2026

Project Design Document

Wildwood Sequestered Carbon-Intensive Oil – CCA1 Project

Version 1.1

Prepared pursuant to the Methodology for In Situ Sequestration of GHG Emissions from Planned Production of Carbon-Intensive Oil (Version 1.1) and in accordance with ISO Standard 14064-2:2019

Table of Contents

List of Figures

List of Tables

Acronyms

.kml	Keyhole Markup Language file format
.shp	Geographic information system shapefile
API	American Petroleum Institute
BOE	Barrel of Oil Equivalent
CBDP	Credible Business Development Plan
CCA	Carbon Credit Area
CH_4	Methane
CI	Carbon Intensity
CIO	Carbon-Intensive Oil
CO_2 / CO_2e	Carbon Dioxide / Carbon Dioxide equivalent
COS	Carbon-intensive Oil Substitute
ER	Emission Reduction
FID	Final Investment Decision
GHG	Greenhouse Gas
GREET	Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies model
IRR	Internal Rate of Return
ISO	International Organization for Standardization
kg	Kilogram
LCA	Life-Cycle Assessment
MRV	Monitoring, Reporting, and Verification
N_2O	Nitrous Oxide
NPV	Net Present Value

OCI+	Oil Climate Index Plus Gas
OPEM	Oil Products Emissions Module
OPGEE	Oil Production Greenhouse Gas Emissions Estimator
PA	Project Activity
PDD	Project Design Document
PoA	Program of Activities
PP	Project Proponent
PRELIM	Petroleum Refinery Life Cycle Inventory Model
PVC	Production Volume Certifier
QA	Quality Assurance
QC	Quality Control
SAGD	Steam-Assisted Gravity Drainage
SFI	Suitable Financial Instrument
SSR	Source, Sink, and Reservoir
t	Metric tonne
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification Body

Definitions

American Petroleum Institute (API) Gravity	A measure of how light or heavy a petroleum liquid is compared to water. If the API gravity of a liquid is greater than 10, the petroleum liquid floats on water. If less than 10, the liquid is heavier and sinks in water. The API gravity of a liquid is directly correlated to its density and is a key factor in establishing the market value and GHG emissions related to crude oil.
Barrel of Oil Equivalent	The barrel of oil equivalent (BOE) is a unit that allows for a single value to represent the sum of all hydrocarbon products forecasted as resources. It is commonly used in the oil and gas industry to standardize diverse types of hydrocarbons into a comparable unit. Typically, condensate, oil, bitumen, and synthetic crude barrels are considered equal (1 barrel = 1 BOE). Carbon Intensity (CI) values for hydrocarbon production are often reported in kilograms of carbon dioxide (CO_2) equivalent per barrel of oil equivalent (kg CO_2e/BOE).
Carbon Credit	A unit representing one (1) metric tonne of CO_2e of GHG emission reductions relative to the Baseline Scenario, quantified in accordance with this PDD. Carbon Credits may be issued under different Carbon Credit Types, including Ex-ante and Ex-post.
Carbon Credit Area (CCA)	An area from which CIO Volume would be Extracted in the Baseline Scenario, where that CIO Volume is used to calculate the corresponding GHG emissions that would have occurred for use in Carbon Credit calculations. CCA boundaries are defined by geographic mapping and represented in .shp or .kml digital files.
Carbon Credit Type	Category of Carbon Credits issued under the TGSM, representing validated (Ex-ante) or verified (Ex-post) emissions reductions relative to the Baseline Scenario, and achieved through the Project Scenario. These Carbon Credits are generated because the Extraction, processing, and combustion that would occur under the Baseline Scenario does not occur in the Project Scenario. Reconciliation between Ex-ante and Ex-post issuance follows the applicable procedures established by the Registry, GHG Program, or VVB. The GHG emissions associated with the Project generate avoidance Carbon Credits.
Carbon-Intensive Oil (CIO)	For this methodology, crude oil with an API gravity of 12.0 or heavier as Extracted, before any blending or Upgrading. In addition to the API threshold, CIO is intended to have a higher CI than the substitute oil (at least 5% higher). The methodology does not fix an absolute threshold value for CI. Thus, the PP shall demonstrate that the GHG Project's Baseline Scenario CIO has a higher CI than the identified substitute oil intensity in each period.
Carbon-Intensive Oil Substitute (COS)	An oil volume sourced from a single field, or different slates (including oil sands, light oil, or renewables), intended to meet the same demand as the Baseline Scenario CIO Volume that is Sequestered in situ under the Project Scenario. The substitute oil shall have a lower CI than the CIO, typically at least 5% lower in CI, and shall be economically viable under prevailing market conditions.

CIO Deposit	A geologically defined subsurface accumulation of CIO from which the CIO Volume is derived.
CIO Volume	The volume of CIO (as calculated by a Production Volume Certifier based on the CBDP) that would be Extracted in the Baseline Scenario and Sequestered in the Project Scenario.
CIO Volume Developer	The entity that has entered into a contractual agreement with the CIO Volume Owner to Extract the CIO Volumes.
CIO Volume Owner	The entity that holds legal title to a CIO Deposit and enters into a contractual agreement under which the CIO Volume Developer is granted the rights to Extract CIO from that deposit.
Credible Business Development Plan (CBDP)	The development plan used to determine the annual Extraction forecast values for the CIO Volume.
Crediting Period	A fixed five-year period under the TGSM during which Carbon Credits may be issued for verified emission-reduction outcomes. Crediting Periods may be renewed up to three times, subject to revalidation of regulatory surplus, financial feasibility, and technical viability.
Downstream	The final stage of the oil supply chain begins at the refinery exit gate and includes the distribution, sale, and end-use combustion of petroleum products. Downstream emissions refer specifically to GHG emissions from the combustion of refined products derived from CIO or its substitutes. These emissions are quantified using life-cycle assessment (LCA) tools such as the Oil Products Emissions Module (OPEM) or the Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies model (GREET). Downstream is illustrated in Figure 1 of the TGSM, which delineates it as the segment following Midstream refining operations through to the final combustion of end-use fuels.”
Ex-ante	Refers to the quantification and issuance of GHG emission mitigation outcomes before they have occurred, based on validated projections derived from a CBDP and CIO Volume forecasts. Ex-ante Carbon Credits represent anticipated GHG emission reductions relative to the Baseline Scenario that have been validated but not yet verified. These Carbon Credits may be issued to facilitate early project financing or market participation. Still, they cannot be retired or used for offsetting purposes until their underlying emission mitigations have been verified. Upon verification, the Ex-ante Carbon Credits are reconciled and converted to Ex-post issuance in accordance with the applicable Registry or GHG Program procedures for issuance and conversion.

Ex-post	Refers to the quantification and issuance of GHG emission reductions that, by the time of verification, would have occurred under the Baseline Scenario, as established by the CBDP and CIO Volume forecast. Ex-post Carbon Credits represent verified emission reductions achieved within a given monitoring period. These Carbon Credits may be retired or transacted in accordance with the applicable Registry or program rules, following confirmation that the CIO Volumes have remained Sequestered in situ and met all conditions of Permanence and verification.
Extraction[1]	Part of the Upstream portion of the oil supply chain entails drilling, fracturing, mining, or otherwise accessing oil resources. For the purposes of this methodology, Extraction includes drilling, gathering systems, and facilities construction, as well as operations up to the point where processed oil and gas exit the oilfield processing facilities.
Extraction Period	The estimated operational lifespan during which the Planned Production of CIO would have been Extracted in the absence of the GHG Project. This period is calculated based on analog analysis of similar oil developments, incorporating expected start-up, plateau, and decline phases derived from comparable geologic formations, Extraction techniques, and Baseline Scenario assessment and project design.
GHG Project or Project	A planned set of activities implemented by the PP to reduce greenhouse gas emissions relative to a defined Baseline Scenario. In this methodology, a GHG Project refers specifically to Sequestering CIO Volumes in situ.
Government	Sovereign or sub-sovereign public authority (at the national, provincial, or state level) recognized by applicable law within the Project jurisdiction, which owns or has legal title to a CIO Deposit, where such ownership is vested in the public domain. In jurisdictions where CIO Deposits may be privately owned (e.g., the United States), this definition does not apply to private owners or concessionaires; those entities are instead referred to as Project Proponents or Private Entities as appropriate. Municipal, local, and Indigenous Governments are excluded from this definition unless they explicitly hold the legal title to the CIO Deposit under applicable law.
In Situ or in situ	Remaining in its original location; in this PDD, oil and its associated life-cycle GHG emissions remain in the reservoir.
Market Leakage or Leakage	Market leakage refers to changes in global or regional supply-demand dynamics outside the Project Boundary that produce GHG emissions attributable to the displacement of the Baseline Scenario's Extracted CIO Volume. Leakage occurs when the CIO Volume that would have been Extracted under the Baseline Scenario is instead Sequestered in situ under the Project Scenario, and equivalent supply is partially or fully sourced from other producers, thereby diminishing the net emission reductions attributable to the Project.

[1] Carnegie Endowment for International Peace. (n.d.). Oil Climate Index Plus (OCI+): Glossary. Retrieved February 10, 2025, from https://oci.carnegieendowment.org/#glossary.

Midstream	The middle portion of the oil supply chain that entails refining crude oil or otherwise transforming hydrocarbons into petroleum products. The interface between the Midstream and Downstream is the point at which petroleum products exit the refinery, as illustrated in Figure 1 of the TGSM.
Permanence	In the context of Project Activities, Permanence refers to the long-term retention and durability of GHG reductions achieved by the Project. It ensures that the Sequestered CIO Volumes remain intact and are not Reversed over time, and thus provide lasting climate benefits. Permanence is a key principle for project integrity, reflecting the commitment to maintaining emissions reductions (for this Project, the 100-year Sequestration Period) beyond the GHG Project's lifespan or over a defined monitoring period, thereby addressing risks of Reversal due to natural, human, or system-related factors.
Planned Production	The planned activity of commercial Extraction of CIO Volumes that would result in releasing significant GHG emissions into the atmosphere.
Private Entity	Any legally registered individual, corporation, partnership, or consortium that holds legal title, mineral rights, or contractual control over a CIO Deposit under the applicable laws of the Baseline Scenario jurisdiction, where such ownership or control is not vested in a Government. This includes entities operating under private ownership, concession, lease, or production-sharing agreements, provided that the rights to develop, suspend, or forego development of the CIO Deposit are clearly established.
Production Volume Certifier (PVC)	A professional petroleum engineering firm responsible for calculating the CIO Volume(s) (referred to as 'Production Volume' in the CBDP). The PVC shall also prepare and/or confirm that the CBDP CIO Volume and associated assumptions are technically and economically sound, consistent with standard industry practices, and suitable for quantifying Baseline and Project Scenarios.
Program of Activities (PoA)	A structured framework under which multiple, independently implemented Project Activities may be included over time within the same Wildwood SAGD development, provided they satisfy common eligibility criteria and operate under shared governance, quantification principles, monitoring procedures, and permanence requirements. The PoA ensures that each included Activity applies the same Baseline and Project Scenario logic, adheres to consistent data, assurance, and reporting standards, and is implemented under the oversight of a single Project Proponent responsible for maintaining methodological consistency and ensuring compliance with the applicable Registry or GHG Program.
Project Activity (PA)	The set of actions undertaken by the Project Proponent within the Project Boundary to implement the Project Scenario. Project Activities do not include Extraction or any actions associated with producing, transporting, refining, or combusting hydrocarbons.

Project Area	The specific, fixed, and clearly delineated geographic area where the Project's Activities that generate emission reductions occur for this Project, limited to the applicable CCA(s) and associated subsurface drainage area(s).
Project Boundaries	The spatial, temporal, and operational limits of a GHG Project defining (i) the Project Area in which the PAs are implemented and (ii) the GHG quantification boundary (included SSRs/life-cycle segments) for which emissions are quantified. For clarity, Project Boundaries are not synonymous with CCA boundaries.
Project Proponent (PP)	The individual or legal entity that has overall responsibility for the design, implementation, and monitoring of the GHG Project. The PP shall demonstrate authority to control or influence the Baseline Scenario, implement the GHG mitigation activity, and claim the resulting emission reductions in accordance with this methodology and the ISO 14064-2:2019. A Project Proponent may be any Private Entity that holds the legal title, mineral rights, or contractual control of the CIO Deposit. In all cases, the Project Proponent shall demonstrate clear, uncontested ownership or control rights over the Project Activity and the associated GHG emission mitigation.
Project Start Date	The earliest documented action taken by the Project Proponent to designate that the Sequestered CIO Volume will remain in situ rather than Extracted in the Baseline Scenario
Registry or GHG Program	The governing system, platform, or GHG Program under which the PP registers, validates, verifies, and issues Carbon Credits in accordance with the applicable Registry criteria and methodology. It establishes the rules for credit issuance, retirement, tracking, and transparency, and may impose additional requirements concerning validation, verification, Permanence, and project eligibility. A Registry includes any recognized national, subnational, or voluntary GHG Program that aligns with ISO 14064-2:2019 principles and accepts projects developed under this framework.
Reversal	Physical Extraction (in whole or in part) of the Sequestered CIO Volume during the Sequestration Period.
Sequestration or in situ Sequestration	Refers to the long-term in situ Sequestration of CIO Volume, in which the resource remains unextracted for the duration of the Project Scenario. Sequestration includes the stewardship of subsurface rights, the monitoring and verification that no Extraction of the designated CIO Volume has occurred, and the financial and legal mechanisms that ensure the CIO Volume remains Sequestered in situ for the full Permanence period.
Sequestration Period	The Permanence period during which the PP commits to leaving the CIO Volumes Sequestered.
Stakeholder	A party with direct and enforceable regulatory authority or contractual rights or obligations that determine or enforce the decision to Extract or Sequester the CIO Volume.

Steam-Assisted Gravity Drainage (SAGD)	An Extraction technique used for recovering heavy or ultra-heavy crude oil that is too deep or otherwise inaccessible for surface mining. SAGD involves injecting steam to reduce the oil's viscosity, making it easier to Extract to the surface.
Suitable Financial Instrument	Advanced assurance instruments that protect i) the GHG emissions of the Project; or ii) the credit buyer in the event of a Reversal; and include third-party insurance, project-level bonding, or third-party financial guarantees.
Theaus Global Sequestration Methodology (TGSM)	The ISO 14064-2:2019-aligned methodology prepared by EcoEngineers establishes the principles, criteria, and procedures for identifying, quantifying, monitoring, reporting, validating, and verifying GHG emission reductions achieved by Sequestering CIO Volumes in situ. The methodology provides the program-neutral framework for determining Baseline and Project Scenario emissions, demonstrating additionality and permanence, and supporting the issuance of Carbon Credits for eligible GHG Projects.
Upgrading	An Upstream process that converts extra-heavy oil or bitumen into synthetic crude oils.
Upstream	The beginning of the oil supply chain that includes Extraction, production, surface processing and Upgrading, waste disposal, and other miscellaneous operations, as well as transporting oil to the refinery.[2] The interface between the Upstream and Midstream value chain components is the entrance to the oil refinery, as illustrated in Figure 1 of the TGSM.

[2] Although the conventional oil and gas industry categorizes the transportation of crude oil to refineries as part of the midstream sector and reserves the term Downstream for refining and end-use activities, this methodology adopts a different boundary definition. The approach is consistent with life-cycle assessment (LCA) models such as Stanford's OPGEE the University of Calgary's PRELIM and the Rocky Mountain Institute's OPEM, as well as the Oil Climate Index Plus Gas (OCI+), which define Upstream activities to include Extraction, production, surface processing, Upgrading, and transportation to the refinery gate. This definition establishes a clear and consistent system boundary for quantifying the carbon intensity of oil and gas resources. Under this framework, the Upstream boundary concludes at the refinery entrance, as illustrated in Figure 1 of the TGSM (Appendix A). Emissions associated with refining and Downstream use are excluded from the Upstream scope. See: https://oci.carnegieendowment.org/#glossary.

About This Document

This Project Design Document (PDD) describes the Wildwood Sequestered Carbon-Intensive Oil – CCA1 GHG Project, which implements an In Situ Sequestration approach (Project Scenario) for the approved Wildwood SAGD development (Baseline Scenario). Under the Project Scenario, Carbon-Intensive Oil (CIO) Volumes are Sequestered in situ for the Sequestration Period, and resulting emission reductions are quantified relative to the Baseline Scenario. The CIO Deposit is the subsurface resource base from which the Credible Business Development Plan (CBDP) is developed and the CIO Volume is calculated, and that CIO Volume is the primary quantified input for comparing Baseline Scenario and Project Scenario emissions and quantifying emission reductions. In this PDD, Extracted CIO Volume refers to the CIO Volume under the Baseline Scenario, and Sequestered CIO Volume refers to the CIO Volume under the Project Scenario.

This PDD has been prepared pursuant to the *Methodology for In Situ Sequestration of GHG Emissions from Planned Production of Carbon-Intensive Oil* (Version 1.0) (the Theaus Global Sequestration Methodology, TGSM), provided in Appendix A. It covers Carbon Credit Area 1 (CCA1), and documents the first Project Activity (PA) under the Wildwood Sequestered CIO Program of Activities (PoA). Under the PoA, each Project Activity takes place within the portion of the CCA where the emission-reducing activities occur. This is what we refer to as the Project Area. Additional Carbon Credit Areas, and their corresponding Project Areas and Project Activities, will be documented in separate project documentation (including separate PDDs and/or program documentation, as applicable).

This PDD conforms with ISO 14064-2:2019, which provides program-neutral requirements for GHG Project quantification, monitoring, and reporting. Where this PDD references registry-, program-, or market-specific concepts (including procedures for carbon-credit issuance, tracking, transfer, and retirement), those elements are included to support carbon-market implementation and are not requirements of ISO 14064-2:2019.

The Project is implemented within Alberta and remains subject to applicable Alberta laws and the current contractual relationship between the CIO Volume Owner and the CIO Volume Developer. This Project is pursued solely for voluntary carbon markets and is not intended for regulatory compliance use in Alberta (including under TIER) or as a provincial policy instrument. The GoA has not endorsed the Project as a policy or TIER compliance instrument, and nothing in this PDD should be construed as such endorsement.

This PDD is intended to be independently assessed by a Validation and Verification Body (VVB). For ISO conformity, the VVB's assessment scope is limited to the ISO 14064-2 elements addressed in this PDD (including Baseline Scenario determination, boundary setting, quantification, uncertainty, monitoring, and reporting). Other elements may be assessed separately to the extent required under the TGSM and any applicable GHG program.

Methodologies apply across sectors and therefore use generic terminology. This PDD applies those concepts to the Wildwood context using clear, project-specific definitions (some of which have been updated from the TGSM) to support clarity, readability, and transparency. Prior to reviewing this WSCIO – CCA1 PDD, readers are encouraged to review the TGSM (Appendix A). Together, the TGSM and this PDD are intended to provide a comprehensive understanding of how each informs the other.

Figure 1: Map of Wildwood SAGD Development Location within Alberta, Canada

Section 1: Introduction

Theaus Global is an Alberta-based developer of ISO-aligned methodologies and project documentation for quantifying and verifying GHG mitigation outcomes in the Carbon-Intensive Oil (CIO) sector. Theaus Global has created a standards-aligned, scalable framework for CIO projects, supported by industry expertise, technology, and transparent stewardship, to progressively reduce GHG emissions associated with Planned Production of CIO, consistent with applicable standards.

This Project provides a market-based path to commercialization through in situ Sequestration in addition to conventional Extraction: under the Project Scenario, CIO Volumes are Sequestered in situ for the Sequestration Period, and emission reductions are quantified relative to the Baseline Scenario under the TGSM and ISO 14064-2:2019. This Project is designed to operate alongside existing provincial systems and to support incremental in-province investment and procurement—without requiring project-specific new pipeline capacity or additional extraction infrastructure. This Project is a complementary commercialization approach for the same CIO Volume—creating value through verified climate outcomes tied to the underlying resource, rather than through physical Extraction of that CIO Volume.

The Wildwood Sequestered Carbon-Intensive Oil – CCA1 (WSCIO–CCA1) Project is the first GHG Project Activity (PA) within the Wildwood Sequestered CIO Program of Activities (PoA) and is a voluntary, project-level GHG mitigation activity in Alberta, Canada, implemented under the TGSM aligned with ISO 14064-2:2019, that quantifies emission reductions by maintaining planned CIO Volumes in situ and quantifying the difference between Baseline Scenario and Project Scenario emissions. Baseline Scenario CIO Volumes are established through petroleum-engineering and economic evaluation and are independently certified by the Production Volume Certifier (PVC) through the Credible Business Development Plan (CBDP). The Baseline Scenario is the fully permitted Wildwood SAGD development (i.e., regulatory approvals and permits were obtained to advance toward Final Investment Decision (FID)), while the Project Scenario implements contractual, governance, monitoring, and financial assurance measures to maintain the planned CIO Volume in a continued non-producing, in situ state for the 100-year Sequestration Period (with intent to make the stewardship commitment permanent). For CCA1, the planned CIO Volume is approximately 22 million barrels of bitumen, which results in 10,248,166 tCO_2e of emission reductions over 16 years of Baseline Scenario Extraction, per the CBDP, with issuance of 9,223,350 Carbon Credits after application of a 10% voluntary, project-level buffer pool (subject to validation and verification), over a 15-year crediting horizon consisting of one five-year Crediting Period, renewed twice. This results in approximately two barrels of bitumen for everyone one Carbon Credit. Permanence and Reversal-risk management are supported by binding non-production commitments (including director and shareholder governance commitments), lease continuation in non-producing status, Suitable Financial Instruments (including a financial guarantee to assure the first eight years of the Project), a Financial Assurance Account funded from five percent (5%) of gross Carbon Credit sale proceeds (subject to a cap and to cover the entire 100-year Sequestration Period as described in the Theaus Global Stewardship Framework (TGSF)), and the 10% project-level buffer pool. This voluntary, market-based pathway provides an alternative to physical Extraction for realizing value from CIO Volumes through quantified climate outcomes, while ensuring that no new Project surface development or other Baseline Scenario impacts occur (no Carbon Credits are claimed for any environmental co-benefits). The Project operates within existing provincial tenure, approvals, and oversight systems and is pursued solely for voluntary carbon markets; it does not depend on Government of Alberta endorsement or policy support.

This PDD documents: (i) the roles and responsibilities of the Project Proponent (PP), the CIO Volume Owner, and the CIO Volume Developer (together, the Stakeholders); (ii) the Baseline Scenario and Project Scenario, including Project Boundaries and the basis for Baseline Scenario CIO Volume determination; (iii) the quantification approach for estimating Baseline Scenario and Project Scenario emissions and calculating emission reductions, including data quality controls, uncertainty assessment, and assumptions; and (iv) the monitoring, reporting, and information management procedures used to demonstrate that no activities occur that would compromise the integrity of the Sequestered CIO Volumes. The Project establishes robust QA/QC, recordkeeping, and audit trails to support validation and repeated verification cycles over the full 15-year crediting horizon and the 100-year Sequestration Period.

Credit issuance and life-cycle management are intended to be supported by transparent disclosure and traceable accounting, and by the Project's governance and financial assurance framework, which is designed to fund lease-continuation, monitoring, verification, regulatory, and other stewardship obligations over the full 100-year Sequestration Period (with intent to make the stewardship commitment permanent). Consistent with the TGSF, Theaus Global has adopted a proceeds-allocation and disclosure framework intended to direct a meaningful share of gross carbon-credit sale proceeds to sustainability and transition investments and to fund long-term Project obligations, while maintaining alignment with applicable Alberta laws and the Project's voluntary-market purpose.

Implementation therefore requires ongoing quantification, monitoring and reporting, robust QA/QC and recordkeeping, third-party assessment, and long-term stewardship and financial assurance over the full Sequestration Period.

Reforestation and carbon-dioxide-removal (CDR) activities remain important components of global mitigation portfolios, but current evidence indicates material constraints on their ability to supply the volume, durability, and timing of reductions required to meet net-zero targets. Forest-based mitigation is constrained by land availability, long establishment periods, and variable permanence, and several protocols have been found not to consistently ensure high-quality and durable carbon benefits under changing climate and disturbance regimes[3]. Likewise, assessments of CDR emphasize that current and projected removal capacity remains far below the scale required for Paris-aligned objectives, with deployment constrained by cost, energy requirements, and infrastructure availability[4].

These constraints underscore the need for high-integrity approaches capable of delivering large, immediate, and measurable emission reductions. Long-term in situ Sequestration of the CIO Volume directly addresses this gap. Because petroleum-engineering methods enable precise estimation of CIO Volume and associated life-cycle GHG emissions, maintaining the CIO Volume in situ can be accurately quantified, monitored, and verified. Sequestering CIO Volumes in situ ensures that the life-cycle emissions associated with CIO Extraction do not occur, provides durable mitigation that does not rely on long-term biological storage or capture technology and expands the availability of credible, measurable emission reductions in a sector responsible for a significant share of global GHG emissions.

[3] Sanders-DeMott, R., et al. *Ground-Truth: Can Forest Carbon Protocols Ensure High-Quality Credits? Earth's Future* (2025). Available at: https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2024EF005414

[4] IIASA. *The 2024 State of CDR Report: Scaling up CO_2 Removal to Meet Paris Targets* (June 2024). Available at: https://iiasa.ac.at/news/jun-2024/2024-state-of-cdr-report-scaling-up-co2-removal-to-meet-paris-targets

Theaus Global engaged EcoEngineers (a Lloyd's Register Quality Assurance (LRQA) company), an independent consulting, auditing, and advisory firm, to develop an ISO 14064-2:2019-compliant methodology. EcoEngineers developed the *Methodology for In Situ Sequestration of GHG Emissions from Planned Production of Carbon-Intensive Oil,* also referred to as the Theaus Global Sequestration Methodology (TGSM), under ownership of Theaus Global. The methodology covers program-neutral requirements for Baseline Scenario boundary definition, GHG Project quantification, uncertainty determination, qualification of additionality and permanence and monitoring requirements–all ISO 14064-2:2019 requirements. In addition to ISO 14064-2:2019 requirements, Theaus Global utilizes ISO Clause 6.1 to establish and justify additional criteria and procedures that align with ISO principles and bridge projects to the carbon credit markets. By providing this transparent, enforceable framework, Theaus Global promotes consensus, accelerates coordinated climate action, and advances global decarbonization.

For application of the methodology in this PDD, Theaus Global engaged GLJ Ltd., a global leader in energy resource consulting and reserves evaluation, to serve as the Production Volume Certifier (PVC). As one of the world's top petroleum resource and reserves evaluation firms and among the few fully capable of evaluating an Alberta SAGD project, GLJ meets the requirements set out in the TGSM. With extensive background on the CIO Volume Developer's Wildwood SAGD development—having conducted evaluations on this specific production asset since 2012—GLJ was responsible for developing the CBDP and quantifying the CIO Volumes. This engagement ensures that the quantification of CIO Volume and resulting emission reductions are grounded in rigorous, standard-compliant petroleum engineering and economic evaluation.

Section 2: Stakeholders and Stakeholder Engagement

2.1 Overview

The TGSM defines how project Stakeholders collaborate to implement a GHG Project under which the CIO Volume is Sequestered in situ. Stakeholder relationships are described in Sections 2.2–2.5 and illustrated in Figure 2. Relevant contact information for Stakeholders is provided in Appendix K; the PP is responsible for keeping this information current and will notify the VVB and Registry, as applicable, within 30 days of any change.

2.2 CIO Volume Owner

The TGSM defines the CIO Volume Owner as the entity that holds legal title to the CIO Deposit. For the Baseline Scenario of all GHG activities and projects, the CIO Volume Owner must enter into one or more contractual agreements with a CIO Volume Developer to Extract CIO Volumes from the CIO Deposit (unless the CIO Volume Owner and CIO Volume Developer are the same entity).

For the WSCIO – CCA1 Project, the CIO Volume Owner is the Province of Alberta, Canada, represented by the Government of Alberta (GoA) (entity ID documentation can be found in the Constitution Act[5]). The GoA holds the statutory authority, regulatory framework, and implementation capacity governing the approval and development of Extraction projects within

[5] Constitution Act, 1905, SC 1905, c.
https://laws-lois.justice.gc.ca/eng/acts/A-10.6/page-2.html?wbdisable=false

Alberta, which includes the Wildwood SAGD development. References to the GoA in this PDD are descriptive of mineral title and regulatory context, unless otherwise noted.

2.3 CIO Volume Developer

The TGSM defines the CIO Volume Developer as the entity that has entered into a contractual arrangement with the CIO Volume Owner to Extract CIO Volumes from a CIO Deposit. For the WSCIO–CCA1 Project, this relationship is evidenced by the CIO leases, related instruments, and associated regulatory approvals held by the CIO Volume Developer for the Wildwood SAGD development.

For the WSCIO – CCA1 Project, Surmont Energy Ltd. (Surmont) is the CIO Volume Developer (corporate ID included in Appendix K).

2.4 Project Proponent

The TGSM defines the PP as the legal entity responsible for the design, implementation and monitoring of the GHG Project. The PP is also responsible for the GHG Project's Carbon Credit plan, the preparation and content of the Project's PDD, and for ensuring compliance with all terms, conditions and obligations of the GHG Project and Carbon Credit plan. Where the PP is not the CIO Volume Owner or the CIO Volume Developer, the PP must ensure, through contractual arrangements (including enforcement and step-in remedies where needed) and applicable legal rights, that it has clear, enforceable authority and control from those parties to design, implement and monitor the GHG Project.

The PP's authority to design, implement, monitor, and commercialize the Project for the 100-year Sequestration Period is established through contractual arrangements with the CIO Volume Developer (Appendix C), supported by binding non-production governance commitments and enforcement mechanisms (including step-in remedies, if required).

For the WSCIO – CCA1 Project, Theaus Global is the PP (corporate ID included in Appendix K)

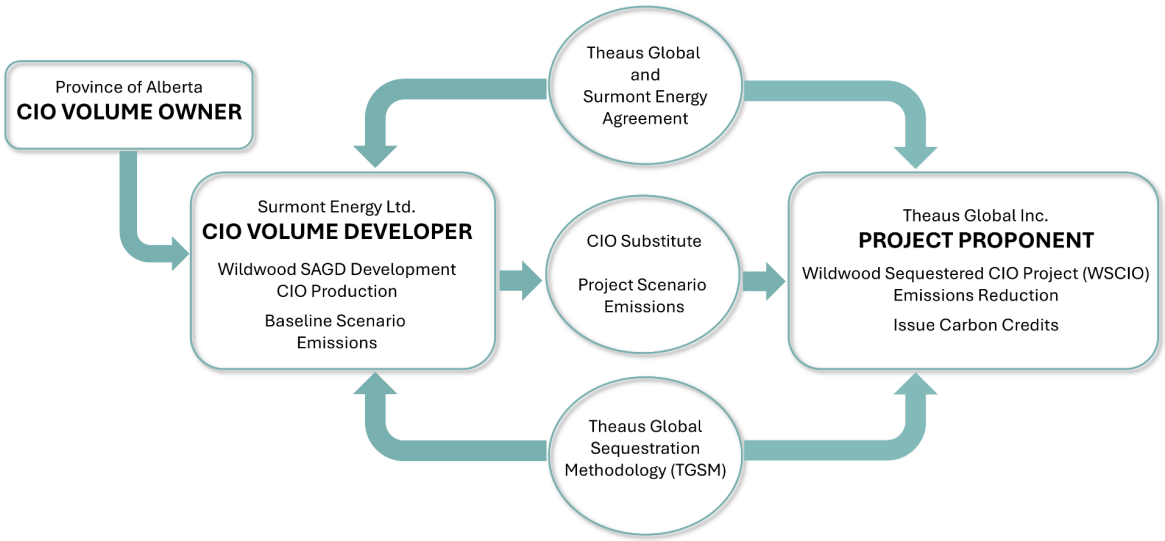

Figure 2: Wildwood WSCIO – CCA1 Project Stakeholder Mapping

2.5 Project Proponent Stakeholder Consultation

In the Baseline Scenario, Stakeholder consultation relating to the CIO Volume Owner was conducted by the CIO Volume Developer as an integral part of the regulatory processes for obtaining approvals for the planned Extraction project. Those processes were designed primarily to identify and mitigate potential adverse impacts of proceeding with Extraction, including the GoA's constitutional duty to consult with Indigenous peoples (Appendix F).

In the Project Scenario for the WSCIO – CCA1 Project, the planned Extraction project does not proceed, and the associated potential adverse impacts that were the focus of Baseline Scenario regulatory consultation do not arise. Therefore, no additional GoA regulatory consultation is required. The Stakeholder interactions relevant to the Project Scenario are:

> (i) consultation and agreement with the CIO Volume Developer through contractual arrangements that reflect the Project's commitment to Sequester CIO Volumes in situ for the Sequestration Period; and
>
> (ii) ongoing compliance by the CIO Volume Developer with its contractual and regulatory obligations towards the CIO Volume Owner under applicable leases, related instruments, and regulatory approvals. This includes provisions addressing continuation/administrative requirements, payment of annual rent and any escalating rental, as applicable, and the satisfaction of all obligations required under the applicable leases and related instruments to maintain the leases and related approvals in good standing (Appendix C).

For the Project Scenario, Stakeholder engagement also includes maintaining a clear intake point for inquiries and grievances (Appendix K), ensuring transparent availability of project information, and maintaining and updating contact information with notification to the VVB and Registry, as applicable, within 30 days of any material change. All inquiries and grievances received through this intake mechanism are recorded in the Project's grievance register, which is maintained as a controlled record in accordance with Section 12.

Section 3: Objective and Application Field

3.1 Geographical Scope

The TGSM applies only to GHG Projects in which the Baseline Scenario is located in G7 countries. G7 countries are considered to have sufficiently stringent regulatory, legal, governance, monitoring and enforcement frameworks to support high-integrity carbon credit projects. The Baseline Scenario is located in Canada, a G7 country.

3.2 Emissions Reduction Focus

The TGSM applies only to GHG Projects for CIO Deposits. The Baseline Scenario is designed for Extraction, processing, transportation and refining of 8.0 API bitumen for combustion end-uses. This bitumen gravity meets the API Gravity requirements of the definition of CIO (Appendix I) and will be used as the basis for the emission reduction calculations for the WSCIO – CCA1 Project.

3.3 Technological Scope

The TGSM allows a wide range of technologies, facilities and scenarios to be used in the Extraction of CIO Volumes, including the SAGD process design used in the Baseline Scenario (Section 4 and Appendix E).

3.4 Compliance with Technical, Legal and Regulatory Frameworks

The WSCIO – CCA1 Project meets TGSM requirements: the Baseline Scenario had all major regulatory, legal, and environmental approvals needed to advance to the final investment decision (FID) stage, including the permits and regulatory clearances necessary for starting the first phase of a multiple-phase Baseline Scenario. The PP confirms that these approvals for Extraction in the Baseline Scenario are identified and in force (Table 3 and Appendix F).

The PP is not aware that any additional regulatory, legal, or environmental approvals are required solely to maintain non-producing status under the applicable leases and related instruments. The Project is implemented in compliance with applicable laws and regulations and operates alongside existing provincial tenure, approvals, and oversight systems, without creating new regulatory instruments.

References to “producing status” (for purposes of this PDD, meaning physical Extraction is occurring) and “non-producing status” (for purposes of this PDD, meaning no physical Extraction) refer to the designation of a continued lease under Alberta’s oil sands tenure system. A continued lease is designated “producing” where Extraction meets or exceeds the Minister-established minimum level of production (MLP), and is designated “non-producing” otherwise. In this PDD, the Baseline Scenario contemplates development and Extraction of the CIO Volume in a manner expected to meet or exceed the applicable MLP if implemented. The Project Scenario maintains the CIO Volume in situ and therefore maintains the applicable continued leases in non-producing status for the Sequestration Period.

Under Alberta’s *Oil Sands Tenure Regulation, 2020* (Appendix B), when a primary lease is continued the Minister’s written notice indicates whether the resulting continued lease is designated producing or non-producing, and the Minister may establish a minimum level of production (including duration) required for a producing designation (ss. 9–10). The Regulation also provides that the Minister may issue a notice requiring a lessee to commence production or recovery or to increase existing production or recovery, and if the lessee fails to comply within the time specified, the Minister may cancel the lease as to all or part of its location (or as to any zone or subsurface area) (ss. 13–14). The Minister generally intervenes in phases, as described above. A key policy mechanism to discourage indefinite, non-producing status is through escalating costs for non-producing continued leases. The CIO Volume Developer is prepared to cover any escalation costs through the Sequestration Period and has not received a notice requesting Extraction to commence. Section 10.1 and Table 8 outline additional permanence safeguards and trigger-event controls (see Appendix D for detailed Table 8).

The applicable Alberta Crown mineral leases for the CCA have been maintained in good standing, including continuation in non-producing status, as evidenced in the Government of Alberta extracts and continuation documentation (Appendix C).

The following tables provide a timeline for both the Baseline and Project Scenarios. Table 1 describes key milestones undertaken by the CIO Volume Developer and its predecessors to advance the Baseline Scenario toward regulatory readiness and commercial viability prior to the Project Start Date. Table 2 summarizes key milestones after the Project Start Date for (i) the Baseline Scenario (CIO Volume Developer) and (ii) the Project Scenario (Project Proponent).

Table 1: Baseline Scenario Timeline

Year / Period	CIO Volume Developer, Baseline Scenario
2007	● Wildwood oil sands leases issued/granted by the CIO Volume Owner to the predecessor CIO Volume Developer, establishing rights to explore, develop and Extract CIO from the Leases. ● Leases originally registered on title in name of predecessor CIO Volume Developer at 100% ownership with leases non-producing. Leases subsequently transferred to current CIO Volume Developer at 100% leasehold interest and formally continued as non-producing status in 2025.
2008 – 2010	● Maintained Wildwood Leases in good standing and continued early technical and commercial evaluation of a greenfield SAGD project.
2011 – 2012	● Obtained Oil Sands Exploration Program Letter of Authority granting surface access for exploration and delineation activities at Wildwood. ● Undertook winter road construction, seismic acquisition, stratigraphic corehole drilling and related field work to delineate the CIO Deposit and gather data for SAGD project design and regulatory applications. The area of the SAGD Project has access limited to a few winter months when the ground is sufficiently frozen to allow heavy equipment to be moved in, as well as seasonal restrictions on access to protect wildlife.
2013 – 2015	● Maintained Wildwood Leases in good standing and advanced regulatory applications and project design for Wildwood SAGD development. ● Indigenous and Baseline Scenario stakeholder consultation progressed to meet the CIO Volume Owner's duty to consult, culminating in a Consultation Adequacy Report (Appendix F) while regulators reviewed SAGD project applications and prepared required approvals and Order in Council.
2016	● Received approvals for Wildwood SAGD development (including Scheme Approval, environmental approval and Order in Council), granting full authority for the CIO Volume Developer to construct and operate the SAGD project. ● Confirmed Wildwood as fully permitted greenfield SAGD development ready to move toward final investment decision.
2017	● Received Licence of Occupation from CIO Volume Owner, authorizing construction of an all-weather access road and bridge into the Wildwood SAGD development area. ● To manage surface impacts, road construction predicated upon commencement of SAGD surface-facility construction.
2018 – 2021	● Redesigned Wildwood surface facility plans to improve project execution and enhance profitability. ● Redesigned Wildwood subsurface well pair geometries and completion strategies based on significant industry learnings at analogous projects, to improve project execution and enhance profitability ● Non-condensable gas co-injection, infill wells, and other design improvements incorporated into reservoir Extraction planning, improved expected operating performance and profitability ● Developed alternative product logistics to market for improved profitability. ● Integrated updated designs, plans, and cost estimates into economic evaluations confirming Wildwood SAGD development to be commercially attractive. ● Negotiated debt and equity financing to pre-FID stage for CIO Volume Developer directors approval. ● Evaluated carbon-market pathways and alternative commercialization strategies for the Wildwood SAGD development's CIO Volumes as part of fiduciary review of strategic options.

Table 2: Baseline and Project Scenario Timelines

Year / Period	CIO Volume Developer, Baseline Scenario	Project Proponent, Project Scenario
2022	• Maintained Wildwood Leases and baseline regulatory approvals in good standing while evaluating non-combustion and carbon-credit pathways for the asset, including bitumen-beyond-combustion concepts. • Confirmed on April 1, 2022 that CIO Volume Developer determined the Wildwood SAGD development would not be further developed/produced and ceased further activities, aligning with the Project Start Date.	• Conducted initial analysis and research to develop the sequestered-oil project concept and implementation approach leading up to the Project Start Date. • Project Start Date: April 1, 2022. • Began initial technical and commercial work on quantifying Baseline Scenario GHG emissions from planned Extraction and structuring a sequestered-oil crediting approach.
2023	• Agreed with Project Proponent on key commercial and governance arrangements to commercialize Carbon Credits from Sequestering CIO Volumes in situ.	• Implemented current corporate structure. • Secured contractual rights to develop and issue Carbon Credits for Wildwood through commercial agreements with CIO Volume Developer, began developing Project documentation aligned with ISO 14064-2:2019.
2024	• Maintained Wildwood Leases and Baseline Scenario regulatory approvals in good standing. • Provided operating, subsurface and engineering data, and other technical input, to support design and documentation of the Sequestered CIO Volumes associated with the GHG Project.	• Commissioned an independent methodology aligned with ISO 14064-2:2019 for in situ Sequestration of GHG emissions from planned CIO production under the Baseline Scenario. • Advanced registry alignment and digital infrastructure and market-access paths.
2025	• Continued applicable leases, enabling long-term in situ CIO Sequestration across the Project Area. • Adopted director resolution committing not to Extract from the Project Area for 100 years, thereby Sequestering the CIO Volumes for the duration of the Sequestration Period. • Majority CIO Volume Developer vote-casting shareholders executed a binding covenant reinforcing the Sequestration commitment for at least 100 years.	• Finalized key project instruments (including financial assurance and long-term stewardship arrangements) to support the Project and align with high-integrity carbon market expectations and 100-year permanence and ongoing monitoring. • Published the EcoEngineers-developed methodology. • Engaged independent petroleum evaluation firm GLJ as PVC, to prepare Baseline Scenario Credible Business Development Plan as specified by TGSM. • Executed final definitive long-term agreements with the CIO Volume Developer (replacing prior agreement) and supporting binding governance commitment (director resolution) underpinning long-term, in situ Sequestration. • Completed/participated in key diligence actions including VVB site visit and submitting the ISO PDD and supporting documentation to VVB for validation/verification.

The following regulatory compliance matrix summarizes such requirements and demonstrates that these regulatory requirements are in place for the entire WSCIO PoA and are thus applicable to the WSCIO – CCA1 Project:

Table 3: Regulatory Compliance Matrix

Requirement	Authority	ID/Reference	Fulfillment	Applicability to Project
Oil Sands Leases	GoA, Department of Energy	7407090356 7407070234 7407060378 7407060379 All IDs above	September 20, 2007 July 12, 2007 June 28, 2007	Establishes legal right to Extract CIO; confirms Baseline Scenario feasibility.
Oil Sands Exploration Program Letter of Authority	GoA, Sustainable Resource Development Department	OSE 110094	December 19, 2011	Establishes legal right to Extract CIO; confirms Baseline Scenario feasibility.
Consultation Adequacy Report	GoA, Aboriginal Relations, Aboriginal Consultation Office	N/A	December 19, 2014	Establishes Stakeholder engagement in the Baseline Scenario; confirms Baseline Scenario feasibility.
Order in Council Approval	GoA, Lieutenant Governor	12421	September 15, 2016	Establishes legal right to Extract CIO; confirms Baseline Scenario feasibility.
Commercial Scheme Approval	GoA, Alberta Energy Regulator	12421	September 28, 2016	Establishes legal right to Extract CIO; confirms Baseline Scenario feasibility.
Environmental Protection and Enhancement (EPEA) Approval	GoA, Alberta Environment Department	318401-00-00	September 28, 2016	Required for Baseline Scenario CIO Extraction; confirms Baseline Scenario feasibility.
Licence of Occupation Decision	GoA, Alberta Energy Regulator	LOC161117	May 8, 2017	Establishes legal right to access to Extract CIO; confirms Baseline Scenario feasibility.
Oil Sands Leases continuation	GoA, Department of Energy	7407090356 7407070234 7407060378 7407060379 All IDs above	May 1, 2025	Formally continued leases as non-producing to align with GHG Project.

3.5 LCA and GHG Quantification Tools

This PDD sources carbon intensity and leakage parameters from peer-reviewed literature, in accordance with the TGSM. The PP evaluated multiple peer-reviewed datasets and selected Prest, Fell, Gordon, and Conway (2024) (Appendix H) because the authors synthesize and harmonize methodologies and data from multiple sources (such as OCI+ modelling which incorporates OPGEE, PRELIM and OPEM, time-series econometric approaches, micro econometric methods and structural modelling) then apply a rigorous framework to determine carbon intensity and market leakage. Prest et al. was used to determine all three parameters (CI_{CIO}, CI_{COS} and leakage) from a single, harmonized peer-reviewed source to ensure consistency in the values used to determine the overall Project emissions and to ensure values beneficial to the Project did not skew final results.

Prest et al. (2024) provide the most relevant peer-reviewed basis for quantifying the Project's CIs, because the study directly integrates life-cycle emissions data with market-level leakage modeling. The authors use the OCI+ database, which "provides annual field-level time-series estimates of life-cycle GHG emissions for 586 oil and gas fields representing two-thirds of global supply" (p. 18) and present field-specific emissions intensities under both 100- and 20-year GWPs. They discuss the OCI+ data and show that fields in the Canadian oil sands average 650 $kgCO_2e$/BOE under a 100-year global warming potential—well above the global average of 520 $kgCO_2e$/BOE—thus providing a transparent and internally consistent source for defining the CI value ascribed to Canadian CIO in this PDD. Prest et al. also construct leakage-rate distributions via repeated sampling of supply and demand elasticities, producing "10,000 leakage rate estimates" in the principal Monte Carlo approach with a mean of "56.9 percent." By combining field-level emissions intensities with empirically grounded elasticity-based leakage estimates, Prest et al. satisfy the TGSM's requirement for a peer-reviewed dataset and provide a unified source for understanding the CI of CIO, the CI of CSO and the leakage parameter applied in this Project.

In selecting a leakage parameter for use under the TGSM, the PP assessed peer-reviewed academic literature on carbon-leakage across multiple sectors and policy settings. The studies surveyed in this literature, including Beck, Kruse-Andersen and Stewart (2023) (Appendix H), consistently find that carbon-market leakage is typically far below 100 percent and frequently within the range of 10–30 percent across a variety of modelling assumptions and regions. Although these studies are not oil-specific, they demonstrate that leakage is determined by the interaction of international supply and demand elasticities. Under the TGSM, the conservativeness of the Project's leakage parameter arises from selecting the empirically derived value from Prest et al. (2024) which is substantially higher than the 10–30 percent leakage factors commonly found in the literature. Because Prest et al. report a mean leakage rate of 56.9 percent, adopting their parameter yields a materially more conservative estimate of market-response emissions than relying on the lower figures prevalent in the peer-reviewed literature.

The comprehensive body of literature provides conclusive evidence that leakage is generally well below 100 percent; however, it does not offer specific estimates calibrated to the global oil market characteristics relevant to this Project. After reviewing these studies, the PP determined that only Prest et al. (2024) directly captures the substitution dynamics of internationally traded crude by integrating empirical elasticity ranges with field-level emissions data. As a result, Prest et al. provides a suitable peer-reviewed, conservative basis for the Project's leakage value and aligns fully with the requirements of the TGSM.

3.6 GHG Project Implementation Model

The TGSM applies to any GHG Program or Registry that aligns with ISO 14064-2:2019 requirements for project-level GHG quantification and verification. It may be applied by any entity intending to implement a GHG Project under which the applicable CIO Volume remains Sequestered in situ and the GHG emissions that would occur under the Baseline Scenario do not occur under the Project Scenario. The TGSM may be applied to single projects, aggregated activities, or a Program of Activities.

The WSCIO – CCA1 Project is being implemented as one PA within the overall WSCIO PoA.

3.7 Participation Under Other GHG Methodologies and Double Counting Prevention

The WSCIO – CCA1 Project has not been registered and is not seeking registration under any other GHG programs or methodologies, as confirmed in the Project Proponent's statement of non-submission (Appendix D). Additionally, the WSCIO – CCA1 Project has no other associated form of credit generation.

To ensure there is no double-counting of GHG Project benefits, each PA:

1) Is delineated spatially using geospatial coordinates and legally documented lease boundaries (reference Section 6: Project Boundaries),
2) Has monitoring periods that are uniquely assigned and do not overlap across time periods (reference Section 11: Monitoring), and
3) Has exclusive, irrevocable contractual authority (pursuant to the Project Proponent–CIO Volume Developer agreement) to develop, seek issuance of, administer, and monetize the Carbon Credits associated with the PA, as set out in Section 4: Project Eligibility and Inclusion and Appendix D.

The PP conducted and will continue to conduct Registry cross-checks prior to issuance and applies QA/QC procedures (reference Section 13: Project Documentation) to confirm no overlapping claims exist in other projects or registries. For transparency and supply tracking purposes, the Project Proponent intends to disclose on its website the total issued supply and status of Carbon Credits (including issued, transferred, held, and retired), based on corresponding recordation on a public blockchain ledger—specifically, the Liquid Network blockchain (a Bitcoin side-chain). The measures outlined above ensure that the same reductions are not reported more than once by any party.

Carbon Credits may be transferred bilaterally and/or through intermediaries and may be held directly by buyers or through third-party custody and recordation arrangements and/or regulated exchanges, in each case subject to applicable law and contractual requirements. Ex-ante Carbon Credits may be transferred and held but may not be retired for offsetting/claim purposes. Only Ex-post Carbon Credits may be retired for offsetting/claim purposes. Any reliance on the environmental attributes of Carbon Credits is supported by the applicable VVB validation and/or verification documentation described in this PDD.

Section 4: Project Eligibility and Inclusion

This section addresses applicable TGSM requirements for Section 4 and demonstrates how the Project meets or exceeds those requirements by demonstrating ownership of Sequestration rights, locating the Project in a G7 jurisdiction, establishing the PVC-validated Baseline

Scenario, confirming regulatory readiness to FID, providing sufficient emissions-calculation data, and exercising full control over Extraction rights.

The TGSM sets stringent requirements to ensure that issued Carbon Credits provide true additionality and permanence and thereby impact global emissions. These criteria and how the WSCIO PoA and this WSCIO – CCA1 Project meet them are described as follows:

1) Chain of rights to issue Carbon Credits:
    a) The CIO Volume Owner, which also mandates the applicable regulatory bodies within the Baseline Scenario jurisdiction, entered into contractual agreements with the CIO Volume Developer and its predecessors for Extraction of CIO Volumes from the Wildwood SAGD development (Appendix F). The WSCIO – CCA1 Project includes CIO Volumes included in the Baseline Scenario.
    b) The CIO Volume Developer and its predecessors conducted extensive exploration, development, technical and environmental assessment, and regulatory work to obtain the regulatory approvals required to bring the Extraction project to the FID stage (Appendix F) and was in the process of securing financing to proceed with Extraction of the CIO Volumes .
        i. Because the Surmont Wildwood SAGD development application package is voluminous, Appendix F includes the key approvals and, for the underlying application, an extract limited to the application cover page and table of contents to demonstrate the scope of supporting studies without reproducing the full submission.
    c) Instead of proceeding with Extraction under the Baseline Scenario, the CIO Volume Developer contracted the PP to Sequester the CIO Volume and issue and sell Carbon Credits for the CIO Volume remaining in situ under the WSCIO PoA (Appendix C). The WSCIO – CCA1 Project includes CIO Volumes included in the Baseline Scenario.
        i. the PP is granted exclusive authority to administer and monetize Carbon Credits for the Project (including across all CCAs), including required MRV, Registry engagement, and issuance;
        ii. the CIO Volume Developer undertakes binding covenants to support non-Extraction, including maintaining applicable leases/approvals in good standing and refraining from Extraction over the Sequestration Period, supported by corporate-level governance commitments (shareholder covenant and director resolution); and
        iii. if the CIO Volume Developer materially breaches and fails to cure, the agreement provides step-in remedies to the PP, including a limited power of attorney, allowing the PP to take lawful actions necessary to cure and protect project validity (e.g., required filings and engagement with regulators/Registry/VVB).
    d) Carbon Credit issuance requires commitment from the PP to keep the CIO Volumes Sequestered during the Sequestration Period. The PP has made such binding legal commitment (Appendix D).
    e) The PP developed the WSCIO PoA and, by applying the TGSM, this WSCIO – CCA1 Project PDD is issuing Carbon Credits as described herein.

f) The contractual agreements between the CIO Volume Owner and the CIO Volume Developer, together with related instruments, require the CIO Volume Developer to maintain the Leases and related approvals in good standing throughout the Sequestration Period, including by completing required continuation/administrative actions and paying annual rent and any escalating rental applicable to non-producing status, in each case in accordance with the applicable terms. The Leases have been maintained in good standing, including continuation in non-producing status, as evidenced by the GoA extracts and continuation documentation (Appendix C). The CIO Volume Developer will continue to take the actions required from time to time to maintain the Leases and support their continued non-producing status for the duration of the Sequestration Period, in accordance with applicable terms and applicable law. See Section 10: Permanence.

The above meets the TGSM's requirements for issuing Carbon Credits pursuant to the PP's exclusive, irrevocable contractual rights.

2) Geographic Restriction:

   The WSCIO – CCA1 Project is part of the WSCIO PoA located in Alberta, Canada, a G7 nation, and thus eligible under the TGSM.

3) Baseline Scenario:

   a) The Wildwood SAGD development leases are located in Alberta's Athabasca Oil Sands area, surrounded by commercially viable SAGD projects operated by companies that are Extracting from other leases in the same geological horizons using the SAGD method of CIO Extraction. The CIO Volume Developer and predecessors have conducted 2D and 3D seismic programs, drilled and cored stratigraphic test wells, completed extensive environmental studies and Baseline Scenario stakeholder consultation and discussions, carried out engineering, cost analyses and economic evaluations, and obtained all major permits and regulatory clearances required for the CIO Volume Developer to reach an FID decision to commence the first phase of its multiple-phase Wildwood SAGD development, subject to acquiring necessary financing.

   b) The PVC for this PDD, GLJ Ltd., utilized the CIO Volume Developer's, public, and their own proprietary information and workflows, to calculate the Baseline Scenario's CBDP. GLJ calculated the CIO Volume for the entire WSCIO PoA at approximately 376 million barrels of bitumen (8 API), equivalent to approximately 522 million barrels of sales diluted bitumen (i.e., Extracted bitumen blended with diluent to make it suitable for pipeline transportation, also referred to as dilbit). CCA1 by itself would yield approximately 22 million barrels of bitumen, equivalent to approximately 30 million barrels of diluted bitumen from the area defined in the associated .shp files and CCA map (Appendix E).

   c) All major regulatory, legal and environmental approvals required under applicable Alberta laws and regulations were obtained by the CIO Volume Developer, in readiness for FID as demonstrated in Table 3: Regulatory Compliance Matrix.

   d) Sufficient data is available to calculate the life-cycle emissions for the Baseline Scenario through the third-party engineering (Appendix E), and Prest et al.'s reference data (Appendix H).

e) The Baseline Scenario is approved to Extract crude bitumen from the Wildwood oil sands leases. The bitumen varies in gravity around 8.0 API, well within the 12.0 API or heavier limit imposed by the TGSM's definition for CIO (Appendix I).

f) The PP controls the Baseline Scenario through legal agreements directly with the CIO Volume Developer (Appendix D), and indirectly through the CIO Volume Developer's oil sands leases and related instruments with the CIO Volume Owner (Appendix C).

g) Third-party validation will be completed within five years of the Project Start Date and will be appended to the PDD at such time (Appendix J).

Section 5: Additionality

This section addresses applicable TGSM requirements for Section 5 and demonstrates how the Project meets or exceeds those requirements by establishing regulatory surplus, confirming the legal permissibility of CIO Extraction, demonstrating financial and technical feasibility of the Baseline Scenario, and applying the UNFCCC additionality tool required by the TGSM.

In compliance with ISO 14064-2:2019 and the TGSM, the WSCIO – CCA1 Project must demonstrate that emission reductions result from the Project Scenario. Without Carbon Credit revenues and the TGSM, the CIO Volume Developer would, as contemplated in its oil sands leases with the CIO Volume Owner and its major project approvals from regulatory authorities, have continued with the Wildwood SAGD development to the point of an active Extraction project, producing thousands of barrels of CIO every day for decades (Appendix G). Under the Project Scenario, the CIO Volume is Sequestered in situ, and the Extraction and associated GHG emissions that would occur under the Baseline Scenario do not take place.

The PVC confirmed the economic viability of the Baseline Scenario in its technical and economic viability assessment of the CBDP and calculation of the corresponding CIO Volume and related data for the Baseline Scenario (Appendix E). The conclusive demonstration of additionality for the WSCIO PoA is summarized in the stepwise approach utilizing the United Nations Framework Convention on Climate Change's *Tool for the Demonstration and Assessment of Additionality* (Appendix G).

In addition to the WSCIO – CCA1 Project meeting additionality criteria, the TGSM implements supplemental safeguards and therefore the WSCIO – CCA1 Project includes these as well, which are designed to prevent the issuance of Carbon Credits unless additionality is demonstrated. The safeguards require regulatory surplus, financial feasibility, and technical viability for the Baseline Scenario.

5.1 Regulatory Surplus – Legal and Institutional Conditions

As per the requirements set out in the TGSM and demonstrated in Table 3: Regulatory Compliance Matrix.

- The Wildwood SAGD development is legally permitted, under current regulations, to Extract CIO Volumes.
- The Wildwood SAGD development area is not subject to any conservation designations or regulatory frameworks that prohibit the planned development and Extraction of the applicable CIO Volumes from proceeding.
- The Baseline Scenario is legally viable when selected instead of the GHG Project Scenario.

- The WSCIO – CCA1 Project Activities are not required by any law, regulation, or enforceable policy applicable in the jurisdiction of Alberta.

5.2 Financial Feasibility and Technical Viability

The PVC confirmed both financial and technical viability of the Baseline Scenario in the Wildwood SAGD development CBDP (Appendix E).

The technical viability assessment was conducted using the PVC's proprietary workflows for oil sands projects, utilizing the PVC's and CIO Volume Developer's proprietary data, including extensive relevant information from key analog projects. These workflows and data inputs are described in detail in the CBDP. The assessment of technical viability concluded that the Wildwood SAGD development was technically viable, as a standard application of SAGD technology. Additional discussion of the choice of SAGD as the appropriate technology is provided in PDD Section 7.1.2: Baseline Scenario Offtake, Transportation, Refining and End Use.

The economic viability assessment was prepared using standard, industry-accepted mathematical formulations for the calculation of Net Present Value (NPV), Internal Rate of Return (IRR), and related economic indicators. These formulations were applied through industry-standard petroleum-economic software or coded internally by the PVC in accordance with widely established petroleum-economic methodologies used across the Canadian oil sands sector. Baseline Scenario economic outputs reflect the PVC's CBDP assumptions (including pricing, costs, and fiscal terms such as Crown royalties and taxes), as documented in Appendix E.

The PVC calculated the following key economic results (Canadian $) for the CIO Volume Developer's 100% interest in the Wildwood SAGD development CBDP (Appendix E):

- Total gross revenue before tax and royalties
    - approximately $28 billion (undiscounted)
    - approximately $9.8 billion (discounted @10%)
- Net Present Value of approximately $2.5 billion (before tax, discounted @ 10%)
- Internal Rate of Return of approximately 24% (before tax)
- Total undiscounted capital expenditures of approximately $4.9 billion
- Average undiscounted operating costs of $18.70/bblConsistent with PVC practice, the assessment does not report a "payback period," as this metric is not considered meaningful for SAGD developments, where such projects characteristically involve substantial front-loaded capital expenditures and long-term Extraction which together render simple payback measures uninformative for investment evaluation.

The PVC conducted key economic sensitivity analyses of i) 10% lower benchmark oil prices, ii) 10% lower CIO Volume, and iii) simultaneous 10% lower prices and 10% lower volume, with the third sensitivity resulting in a 20% IRR (before tax). The CDBP and sensitivity economic outputs, including NPV, IRR, operating margins, and cash-flow performance fall within ranges generally regarded by industry as economically viable for SAGD projects. Taken together, these outputs confirm commercial viability for the Baseline Scenario CBDP under the stated assumptions, consistent with industry practice for SAGD projects (Appendix E).

CCA1 is documented as the first Project Activity (PA) within the Wildwood Sequestered CIO Program of Activities (PoA). Accordingly, the Credible Business Development Plan (CBDP) economic evaluation (NPV, IRR, and sensitivities) is prepared for the integrated Wildwood SAGD development (i.e., all Carbon Credit Areas (CCAs) evaluated together), consistent with industry practice for SAGD developments and with the CBDP's stated evaluation context. While this PDD scopes quantification and credit issuance to CCA1 as a discrete PA under the PoA, the Baseline Scenario investment case and financial feasibility necessarily reflect the overall Extraction project, as the material upfront capital, infrastructure, and development obligations relate to the full-field development rather than a single CCA evaluated in isolation. For transparency, GLJ's CCA-level production volumes (including CCA1) are derived by aggregating the forecast volumes from SAGD wells located within the geospatial boundaries of each CCA and reconciling the aggregate of all CCAs to the CBDP project total to avoid double counting. The IRR Workbook therefore presents the CBDP's integrated economic outputs and corresponding sensitivities as the appropriate proxy for Baseline Scenario financial feasibility for this PA within the PoA.

Section 6: Project Boundaries

This section addresses applicable TGSM requirements for Section 6 and demonstrates how the Project meets or exceeds those requirements by defining spatial limits, setting temporal limits, and identifying the SSRs required to delineate the full Project Boundary.

6.1 Spatial Limits

The WSCIO – CCA1 Project's spatial boundaries are fixed for the Sequestration Period and beyond.

The Baseline Scenario Wildwood SAGD development is located in Township 82 and Ranges 8 and 9 West of the Fourth Meridian, within the Athabasca Oil Sands area of northeastern Alberta, Canada.

The Wildwood SAGD development oil sands leases cover 19 square miles (49.2 square kilometres or 4,920 hectares) in the Athabasca oil sands region, located in Township 82, Ranges 7 through 9W4M, approximately 72 kilometres south of the City of Fort McMurray, Alberta (see Figure 1 for location).

The vertical extent of the oil sands leases is between the geological markers of the top of the Viking formation and the base of the Woodbend group formation, as defined by electric type logs and wells defined in the oil sands leases and related documentation.

The vertical extent of the McMurray formation CIO deposit to be developed by the Wildwood SAGD development is further geologically delineated at its top by the overlying Wabiskaw member of the Clearwater formation, and at its bottom by the underlying Devonian carbonate formation of the Beaverhill Lake Group. The McMurray C Formation Net Pay Map (Map 4 in App 1, of PDD Appendix E) functions similarly to an isochore map to further delimit the exploitable portion of the deposit from which CIO Volumes would be Extracted, and is a key volumetric input for the CIO Volume calculation.

Each PDD within the WSCIO PoA covers one or more defined Carbon Credit Areas (CCAs), each of which corresponds to a subsurface SAGD drainage volume tied to a corresponding surface area with x–y boundaries (see Figure 3). This PDD applies to the labelled CCA1. Geographic information system shapefiles defining the boundaries of all CCAs, including CCA1, are provided in Appendix E.

The CIO Volumes for all CCAs of the WSCIO PoA are provided in Appendix E. The total CIO Volume across all 18 CCAs is approximately 376 million barrels of bitumen, with a corresponding total diluted bitumen (“dilbit”) marketable sales volume of approximately 522 million barrels.

The CIO Volume for CCA1 is approximately 22 million barrels of bitumen, with a corresponding dilbit sales volume of approximately 30 million barrels.

The Project draws on Alberta’s established oil sands delineation and Extraction framework to rigorously and transparently define its spatial boundaries. Alberta’s regulatory framework requires oil sands project applications to clearly map and document surface and subsurface rights, relevant drainage areas, and development zones in a way that is traceable to legal land descriptions, geological markers, and approved well and facility plans. Applying this framework ensures distinct CCA boundaries, transparent CIO Volume, and a consistent understanding of the credit-eligible area. This provides the regulatory certainty needed to demonstrate ownership, permanence, and project-level accountability throughout the Project’s lifetime.

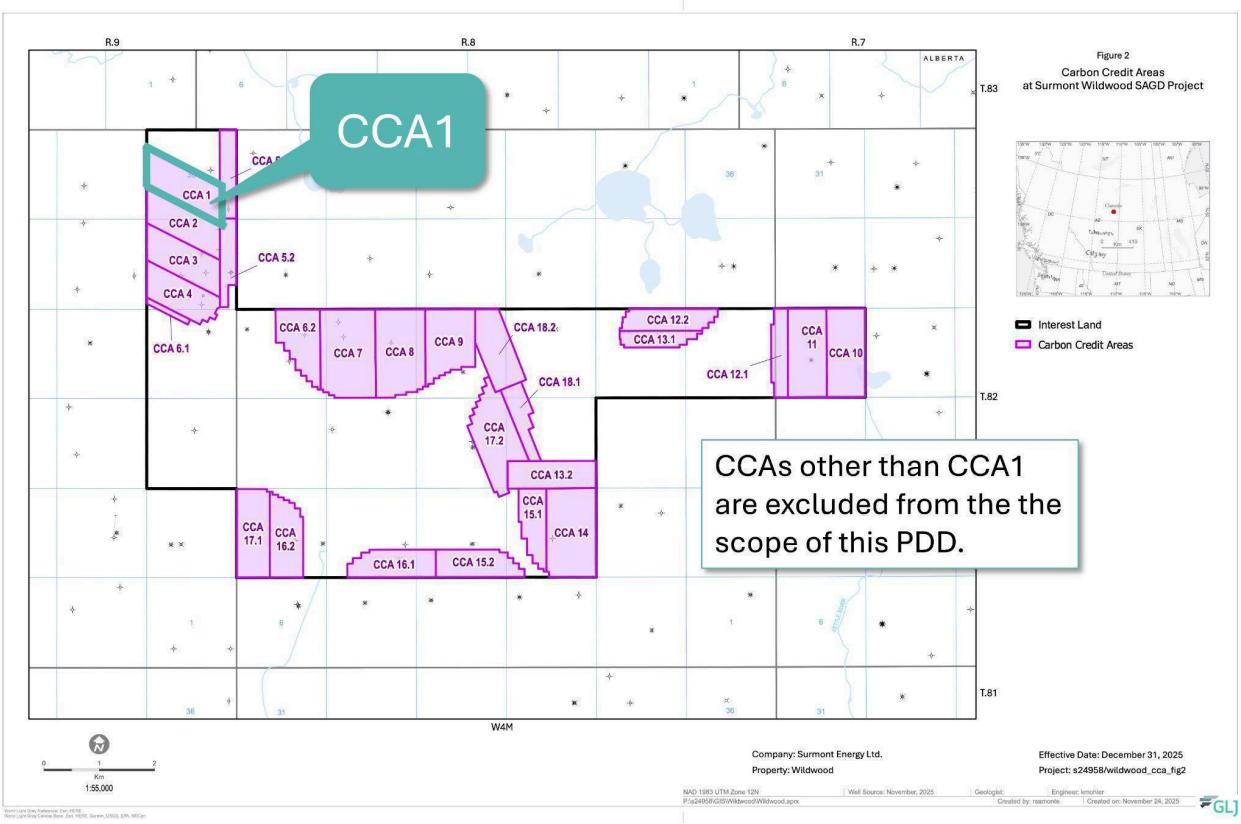

Figure 3: Carbon Credit Areas for the Surmont Wildwood SAGD Development

Figure 4 (on the following page) represents the development status of other CIO Extraction projects. The lighter color represents active Extraction projects and the darker color reflects planned Extraction projects. The Wildwood SAGD development is represented in red.

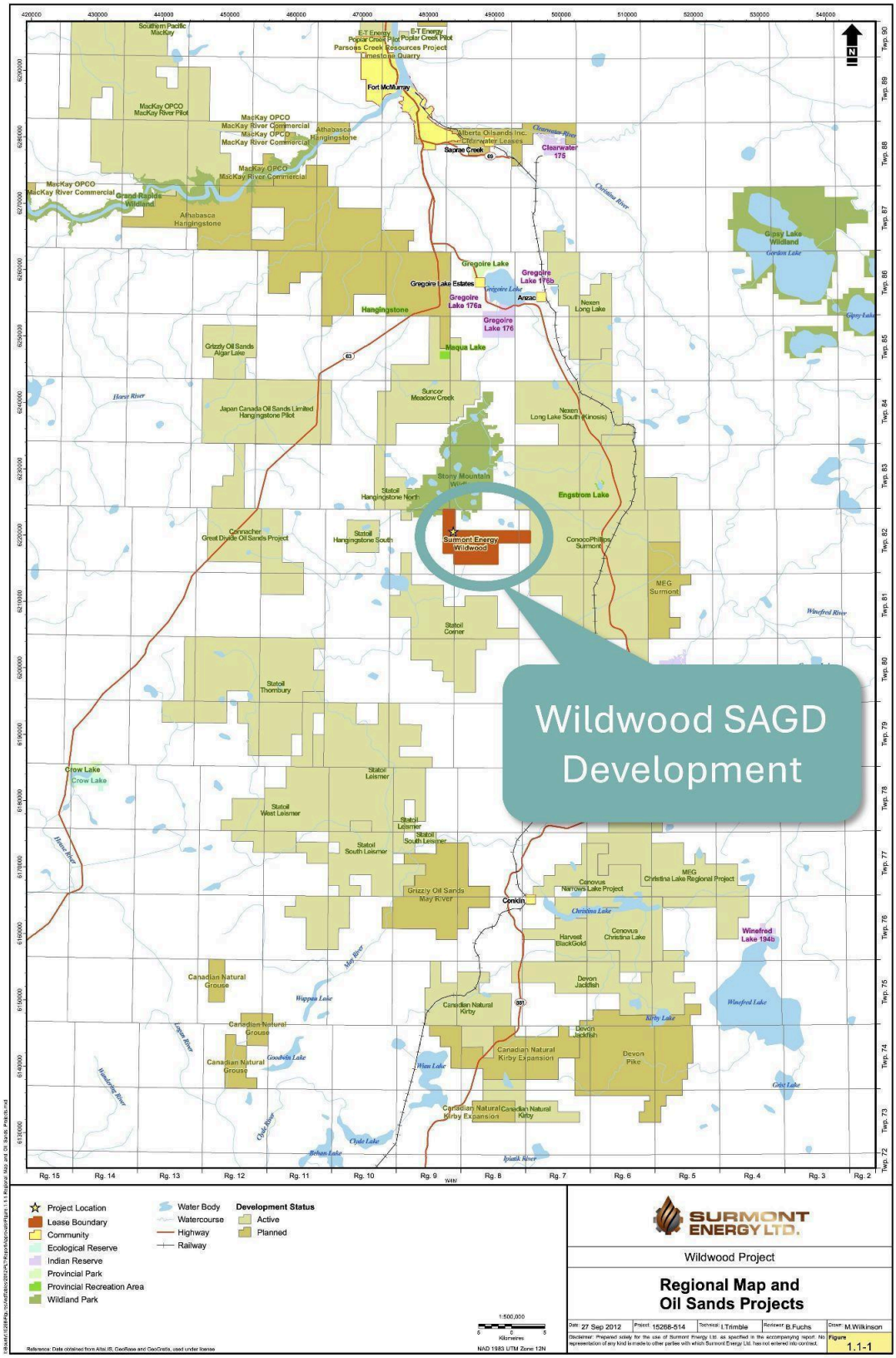

Figure 4: Location of the Surmont Wildwood SAGD Development

6.2 Temporal Limits

6.2.1 Project Duration

Under the TGSM, the project duration is the period (in years) from the first to last day during which the applicable CIO Volume remains in situ and is not physically Extracted (minimum of 50 years), consistent with its designation under the Project Scenario. The WSCIO – CCA1 Project's duration begins on the determined Project Start Date (reference Section 6.2.3 Project Start Date) and ends 100 years later (the Sequestration Period). Rationale for selecting a 100-year duration, and permanence safeguards are described in Section 10: Permanence.

6.2.2 Crediting Period

Under the TGSM, the Crediting Period shall be five years from the Project Start Date, which can be renewed up to three times, for a maximum of 20 years. At the end of each five-year Crediting Period, the Project will undergo a renewal assessment while eligible, including revalidation of regulatory surplus, financial feasibility, and technical viability.

The Wildwood SAGD development CCA1 (the associated CCA for the WSCIO – CCA1 Project) demonstrates a financially viable Extraction period of 16 years. For the purposes of this PDD, the Project applies one five-year Crediting Period, renewed twice, for a total of three Crediting Periods (15 years). This is a conservative approach and aligns the Project's 15-year crediting horizon with Crediting Period expectations commonly applied to non-removal / non-CDR project types under current GHG Program or Registry frameworks.

Consistent with the TGSM, these Crediting Periods apply an annual issuance schedule and require revalidation at each five-year interval).

The Crediting Periods under this PDD are defined as follows:

1) Crediting Period 1: April 1, 2022 to March 31, 2027;
    a) The Monitoring Period under this PDD is April 1, 2022 to September 30, 2025.
2) Crediting Period 2 (first renewal): April 1, 2027 to March 31, 2032; and
3) Crediting Period 3 (second renewal): April 1, 2032 to March 31, 2037.

Crediting Periods 2 and 3 represent two renewals of the initial five-year crediting period. See Table 7 for the detailed breakdown of credit issuance by Crediting Period,

6.2.3: Project Start Date

Under the TGSM, the GHG Project Start Date shall be defined as the earliest documented action taken of the Project to prevent the implementation of the Baseline Scenario, credibly and demonstrably following a pre-execution decision point or comparable project advancement milestone.

On April 1, 2022, the Wildwood SAGD development CIO Volume Developer ceased activities toward Baseline Scenario Extraction, which constitutes the Project's earliest documented action to prevent Baseline Scenario implementation and initiate the Project Scenario for the WSCIO – CCA1 Project.The start date for the WSCIO – CCA1 Project is April 1, 2022. The Project termination date is April 1, 2122.

Section 7: Wildwood SAGD Development (Baseline Scenario)

This section addresses applicable TGSM requirements for Section 7 and demonstrates how the Project meets or exceeds those requirements by defining the Baseline Scenario, identifying the required baseline SSRs, determining CIO carbon intensity, and quantifying baseline emissions using the PVC-validated CIO Volume and methodology equations.

7.1 Baseline Scenario Description

The WSCIO Project quantifies GHG reductions because the Project Scenario designates the applicable CIO Volume for in situ Sequestration rather than Extraction under the Baseline Scenario. The Project will be eligible for Carbon Credits corresponding to the Scope 1, 2, and 3 emissions that would occur during Extraction, processing, transportation, refining, and end use of the CIO Volume in the Baseline Scenario (well-to-wheels).

The TGSM states that the Baseline Scenario volume is the CIO Volume calculated by a PVC determined through a CBDP which considers the extent and characteristics of the CIO Deposit, suitable Extraction methods, production profiles, market conditions, and projected oil prices.

7.1.1 Baseline Scenario Technology Choice

The Baseline Scenario of the WSCIO – CCA1 Project is the Wildwood SAGD development, which is designed to Extract and the applicable CIO Volume using SAGD technology employing horizontal steam injection, oil Extraction well pairs, horizontal infill Extraction wells, and non-condensable gas injection, together with surface facilities typically including oil/water/gas separation, boiler feedwater water conditioning, natural gas-fueled steam generators, gas compression equipment, and other sources of GHG emissions, all of which have been included for the design of the project. The facility design represents a modern, efficient SAGD facility and includes industry standard practices.

The Baseline Scenario was assessed for alternative viable Extraction technology applications and by conclusion of both the CIO Volume Developer and the PVC, it was assessed that SAGD is the only technically and commercially viable Extraction recovery mechanism for development of the Wildwood SAGD development (Appendix E).

Alternative methods do not satisfy key technical constraints. Surface mining is infeasible because Wildwood lies several hundred metres below surface—well beyond mineable depth. Cold Heavy Oil Production with Sand (CHOPS) applies to shallower, more mobile heavy oils in the Lloydminster region, not immobile Athabasca bitumen, and cannot achieve meaningful recovery at Wildwood's viscosity. Cyclic Steam Stimulation has seen commercial success primarily in the Clearwater and Cold Lake formations, where steam-induced fracturing plays a central role and where reservoir vertical permeabilities are not sufficiently high; but in McMurray oil sands SAGD's continuous chamber and gravity drainage mechanism has consistently delivered superior performance, stability, and recovery.

Beyond the Extraction wells and surface processing facilities at the Wildwood SAGD development site, the Baseline Scenario incorporates applicable transportation, refining and end use of the final product supported by the economic evaluations described in Appendix E.

Accordingly, PVC's CBDP results incorporate the economics of offtake agreements typical for diluted bitumen ("dilbit") in the region, and transportation commitments typical for dilbit in the region based on delivering diluted bitumen for pipelining to refinery markets.

7.1.2 Baseline Scenario Offtake, Transportation, Refining and End Use

In the Baseline Scenario, CIO Volumes Extracted from the Wildwood SAGD development are blended with C5+ condensate and shipped as dilbit using the existing Athabasca gathering and trunkline system. This is standard practice for SAGD operators and requires no new infrastructure or changes in market-access conditions. Dilbit moves from regional hubs to established Canadian and international refining markets.

Refining pathways, product yields, and diluent recovery follow the same processes applied to existing Athabasca extraction. No modifications to regional refining patterns or infrastructure arise from Wildwood Extraction.

Offtake, marketing, and transportation arrangements mirror standard Athabasca commercial structures. Extraction is sold under conventional offtake agreements at the project area or regional hubs, with pricing linked to prevailing benchmarks such as WCS and WTI. Pipeline transportation commitments are typically long-term, while condensate supply and return agreements maintain ongoing diluent requirements. These arrangements demonstrate that Wildwood Extraction integrates fully into the established Athabasca dilbit value chain.

The Alberta Energy Regulator projects an increase of marketable Athabasca in situ bitumen volumes to approximately 2.25 million bbl/d by 2034[6] (15% above 2025 levels), confirming that Wildwood's transportation, refining, and market assumptions align with a stable and growing Athabasca supply base (Appendix C).

End uses of refined products derived from Wildwood dilbit would be identical to those of other Athabasca dilbit, including gasoline, diesel, jet fuel, LPGs, asphalt, and petroleum coke, all entering established distribution networks.

Overall, Wildwood's transportation, refining, marketing, and end-use profile reflects the standard Athabasca dilbit supply chain, is consistent with the CBDP, meets the TGSM definition of Accepted Production Method, and is reflected in the choice of CI from Prest et al.'s publication used to determine emission reductions WSCIO - CCA1 Project. Because the CIO Volume designated for the Project Scenario remains in situ and is not physically Extracted, the Wildwood SAGD development has not been financed and commercial arrangements have not been negotiated. A more detailed discussion of market access, logistics, and refining pathways is provided in Appendix E.

7.1.3 Baseline Scenario Surface and Subsurface Impacts

The Baseline Scenario has been developed to exceed the TGSM's requirements. As a result, both the surface and subsurface of the Wildwood SAGD development have certain existing impacts to be noted as a basis for initial verification and future monitoring and verification. These surface and subsurface impacts have not resulted in any Extraction of the applicable CIO Volume.

Environmental baseline studies and applicable environmental assessment/approval materials for the Baseline Scenario are included in Appendix F. Environmental co-benefits may result from Sequestering the CIO Volume in situ, where adverse impacts would have occurred from the surface footprint of the SAGD project had it proceeded to development and Extraction. Potential co-benefits based on findings from the environmental baseline studies include prevention of:

- changes to forests, shrublands, muskeg, fenlands, creek and other wildlife habitat in their current state;

[6] Alberta Energy Regulator. (2025). *Alberta Energy Outlook Report ST98 2025.*

- changes to lands utilized by Indigenous Peoples for traditional purposes such as hunting, fishing, fur trapping, rituals, ancestral burial, harvesting of traditional plants for medicines, and other cultural activities;
- significant regional water demand, for water that was to be used as boiler feedwater for steam generation and power generation;
- potential changes to surface water in the headwaters of creeks and rivers that comprise the drinking water of downstream Indigenous residents and settlements, including changes that could have resulted from dilbit or condensate spills from trucks or pipelines, or from heaving of the surface due to subsurface steaming operations;
- non-GHG atmospheric emissions emanating and noise and light pollution emanating from the SAGD project industrial activities.

No Carbon Credits are being claimed under this PDD for the listed potential co-benefits.

7.2 Baseline Scenario SSRs

Table 4: SSRs Included in Baseline Scenario

SSR in the Scenarios	Controlled/ Related/ Affected	GHG	Included?	Comments on Inclusion in LCA Model
CIO Deposit	Controlled	CO_2	Yes	The carbon source is left undeveloped as part of the PA.
		Methane (CH_4)		
		Nitrous oxide (N_2O)		
CIO Extraction	Controlled	CO_2	Yes	The Baseline Scenario emissions resulting from the Extraction of the applicable CIO Volume are calculated using the OPGEE model within the OCI⁺ tool (Appendix H).
		CH_4		
		N_2O		
CIO Flaring and Venting	Controlled	CO_2	Yes	GHG emissions from safety-related flaring of light- to medium-density hydrocarbons in the produced gas stream are included in the quantification model (Appendix H) .
		CH_4		
		N_2O		
CIO Processing and Refining	Affected	CO_2	Yes	GHG emissions from refining the diluted bitumen associated with the CIO Volume are identified as significant by the PRELIM model within the OCI+ tool (Appendix H) .
		CH_4		
		N_2O		
CIO Transportation	Affected	CO_2	Yes	GHG emissions from transporting diluted bitumen derived from the CIO Volume between Extraction sites and processing facilities (Appendix H).
		CH_4		
		N_2O		
CIO Refined Product Distribution and End-Use Combustion	Affected	CO_2	Yes	GHG emissions resulting from transportation and end-use combustion of all refined products after the refinery exit gate are quantified using the OPEM model within the OCI⁺ tool (Appendix H).
		CH_4		
		N_2O		

7.3 Baseline Scenario GHG Emissions

The emissions associated with the Baseline Scenario are calculated by applying a 'kg of CO_2e per barrel of oil Extracted' multiplier to the CIO Volume. There is a range of widely available and scientifically accepted multipliers to represent the kg of CO_2e emitted per barrel of oil delivered to market.

The TGSM requires the use of an LCA or GHG quantification model that is open-source, transparent in its methodology and has undergone peer review in a recognized scientific or technical forum. As outlined in Section 3.5, this PDD uses Prest et al. to provide a comprehensive, peer-reviewed process for evaluating GHG emissions for the Baseline Scenario.

7.3.1 $CI_{CIO,y}$ Peer Review-Based Estimates

From Prest et al.'s peer-reviewed paper, a CI_{CIO} value of 650 kg CO_2e/BOE was determined based on oil sands field type and 100-year GWP from Table 3. Life-cycle Emissions Intensities of Selected Sets of Fields[4] (p. 21).

- Application of $CI_{CIO,y}$ over time:

  Under the TGSM, $CI_{CIO,y}$ is applied as a peer-reviewed life-cycle emissions-intensity multiplier (kg CO_2e/BOE) representative of the Baseline Scenario CIO category, rather than as a project-specific or facility-level forecast. Accordingly, this PDD applies the Prest et al. (2024) / OCI+ Canadian oil sands field-type average (650 kg CO_2e/BOE; 100-year GWP) as a constant default parameter across years.

- The Project Proponent intentionally does not extrapolate year-by-year CI trajectories based on assumed phase design, steam-oil ratios, or future technology improvements, as such projections would introduce forward-looking and speculative assumptions that are not grounded in peer-reviewed life-cycle datasets. To ensure continued conservativeness and alignment with best available science, the Project Proponent will, at each verification and/or crediting-period renewal, review whether updated peer-reviewed OCI+/equivalent datasets materially change the representative Canadian oil sands CI and will apply any such updates prospectively with full documentation.

7.3.2 Baseline Scenario GHG Emissions Calculation

From the TGSM, the Baseline Scenario GHG emissions in year *y* (BE_y) are calculated using:

Equation 1

$$BE_y = R_y \times CI_{CIO,y}/1000$$

The total Baseline Scenario GHG emissions are calculated using Equation 2 below, summing the annual Baseline Scenario GHG emissions in Equation 1 over the 15-year period (three Crediting Periods).

Equation 2

$$BE = \sum_{y=1}^{15} \left(R_y \times CI_{CIO,y}/1000\right)$$

Where:

$$\sum_{y=1}^{15} R_y = Sum\ of\ annual\ CIO\ Volume\ for\ each\ of\ 15\ years = 29,947,885\ BOE$$

(refer to CCA1 volumes in Appendix E)

$$CI_{CIO,y} = 650\ kg\ CO2e/BOE$$

On this basis, the GHG emissions that would otherwise occur under the Baseline Scenario are calculated to be **19,466,125** t CO_2e over 15 years.

Section 8: Substitute Oil (Project Scenario)

This section addresses applicable TGSM requirements for Section 8 and demonstrates how the Project meets or exceeds those requirements by defining the Project Scenario, identifying the required Project SSRs, determining COS carbon intensity, and applying the prescribed Market Leakage procedures, including econometric modeling or fixed-rate options to quantify Project Scenario emissions.

8.1 Project Scenario Description

In the Project Scenario, the PP quantifies the emissions associated with the COS that replaces Baseline Scenario Extraction of the CIO Volume. The COS must have a lower CI than the Baseline Scenario CIO associated with the CIO Volume (typically at least 5%), and must be economically viable under prevailing market conditions. COS sources can include oil sands, light oil, or renewables. The substitute oil is the energy source that replaces Extraction of the CIO Volume in the Baseline Scenario.

The Project Scenario compares the WSCIO – CCA1 Project Baseline Scenario with COS sources currently in production, (and thus economically viable) with data-backed emissions estimates using open-source, transparent, and peer-reviewed sources (Appendix H).

8.2 Project Scenario SSRs

Table 5: SSRs Included in Project Scenario

SSR in the Scenarios	Controlled/ Related/ Affected	GHG	Included	Comments on Inclusion in LCA Model
COS Deposit	Affected	CO_2 CH_4 N_2O	Yes	The COS replaces Baseline Scenario Extraction of the CIO Volume, which is designated for in situ Sequestration under the Project Scenario.
COS Extraction	Affected	CO_2 CH_4 N_2O	Yes	Emissions associated with the extraction of the COS are calculated using the GREET or OPGEE model within the OCI⁺ tool (Appendix H).
COS Flaring and Venting	Affected	CO_2 CH_4 N_2O	Yes	GHG emissions from safety-related flaring of light- to medium-density hydrocarbons associated with COS production are included in the quantification model (Appendix H).

COS Processing and Refining	Affected	CO_2 CH_4 N_2O	Yes	GHG emissions from refining the COS feedstock are identified as significant by the PRELIM model within the OCI+ tool or the GREET tool (Appendix H).
COS Transportation	Affected	CO_2 CH_4 N_2O	Yes	GHG emissions from transporting the COS feedstock from extraction sites to processing facilities (Appendix H).
COS Refined Product Distribution and End-Use	Affected	CO_2	Yes	GHG emissions from the distribution and combustion of refined products derived from the COS feedstock are quantified using the OPEM model within OCI+, which captures downstream emissions beyond the refinery gate, including product transport and final end-use (Appendix H).

Note: no SSRs from the TGSM have been excluded from the Project Scenario.

8.3 Project Scenario GHG Emissions

8.3.1 $CI_{COSi,y}$ Peer-Review-Based Estimates

Prest et al. determined a CI value of 540 kg CO_2e/BOE for North American oil substitute in the 100-year GWP (Prest et al., p. 21). As required by the TGSM, the substitute oil must have a CI at least 5% lower than the Baseline Scenario oil associated with the CIO Volume, and with a CI of 540 kg CO_2e/BOE the COS exceeds this requirement by approximately 17%.

Project Scenario COS selection from Prest et al. was based on its high degree of coherence with Prest's Baseline Scenario supply and leakage analyses. Prest's COS supply incorporates numerous crude oil sources supplied to the overall consuming refinery complex and downstream combustion end uses, and avoids departures from long-term averages that might be introduced through the PP commissioning a customized substitute supply slate report. For the same reasons, utilizing the Prest CI of the substitute oil is coherent with the other key datasets and correspondingly robust.

8.3.2 Leakage

In the context of the TGSM and the WSCIO – CCA1 Project, market leakage represents indirect GHG emissions caused by market dynamics. There are two options set out in the TGSM for determining leakage:

1) Model-based leakage estimation using analysis from at least one peer-reviewed econometric or simulation model.
2) Fixed leakage rate using a simplified approach, assuming a fixed leakage rate of 100%.

The WSCIO–CCA1 Project applies the leakage parameter (Ly) from Prest et al. (2024) (Appendix H), which reports a mean leakage rate of 56.9 percent based on 10,000 elasticity-based simulations. Because leakage depends on evolving national and international market conditions (including oil-use trends, energy mix, and which jurisdictions are net oil producers vs. net oil importers), the Project Proponent will review the applicable leakage factor (Ly) at each crediting period (at least every five years) using peer-reviewed, oil-market–specific sources, documenting and applying any updates prospectively.

As shown in Section 3.5, Prest et al. provide the only peer-reviewed framework that integrates field-level life-cycle emissions with empirically derived supply and demand elasticities, allowing the PP to use a single, transparent, and internally consistent source for the CI and leakage values. In reviewing additional peer-reviewed leakage studies (Appendix H), the PP found that the analyses generally yielded materially lower leakage estimates, which provided further confidence that adopting the higher, oil-specific value from Prest et al. represents a conservative and defensible choice. Because the TGSM permits a simplified default leakage rate of 100 percent, selecting the empirically-derived 57% from Prest et al. represents a conservative and methodologically justified choice that avoids overstating net emissions reductions while adhering to the TGSM's requirement to use peer-reviewed data.

8.3.3 Project Scenario GHG Emissions Calculation

From the TGSM, the Project Scenario GHG emissions (PE_y) are calculated using:

Equation 3

$$PE_y = R_y \times L_y \times CI_{COS,y}/1000$$

The total Project Scenario GHG emissions are calculated using Equation 4 below, summing the annual Project Scenario GHG emissions in Equation 3 over the 15-year period (three Crediting Periods).

Equation 4

$$PE = \sum_{y=1}^{15} \left(R_y \times L_y \times CI_{COS,y}/1000\right)$$

Where:

$\sum_{y=1}^{15} R_y = Sum\ of\ annual\ COS\ volume\ for\ each\ of\ 15\ years =$

$sum\ of\ annual\ CIO\ Volume\ for\ each\ of\ 15\ years = 29,947,885\ BOE$

(refer to CCA1 volumes in Appendix E)

$CI_{COS,y} = 540\ kg\ CO2e/BOE$

$L_y = 0.57$

The Project Scenario GHG emissions (PE) are on this basis calculated to be **9,217,959** t CO_2e over 15 years.

Section 9: GHG Emissions Reductions

This section addresses applicable TGSM requirements for Section 9 and demonstrates how the Project meets or exceeds those requirements by applying the Baseline and Project Scenario equations and addressing uncertainty components through definition and documentation as required by the methodology.

Discussed in depth in Section 3.5, Prest et al. define and account for uncertainty in market leakage rates and emissions intensities of both the Baseline Scenario oil associated with the CIO Volume and the COS through extensive Monte Carlo analysis with a resulting 95% uncertainty range (p. 4). As per the TGSM, the quantified 95% confidence interval aligns with ISO guidance and recognized good practice.

From the TGSM, the emission reductions of the Project in year y (ER_y) are calculated using:

Equation 5

$$ER_y = BE_y - PE_y$$

The total emission reductions for the WSCIO – CCA1 Project are calculated using Equation 6 below, summing the annual emission reductions in equation 5 over the 15-year period (three Crediting Periods).

Equation 6

$$ER = \sum_{y=1}^{15} (BEy - PEy)$$

Where:

$BE = 19,466,125\ t\ CO2e$

$PE = 9{,}217{,}959\ t\ CO_2e$

The GHG Project (WSCIO – CCA1 Project) emissions reductions (ER) are on this basis calculated to be **10,248,166** t CO_2e over 15 years (see detailed table below).

Table 6: Emission Reduction GHG Accounting Summary

Year	Baseline Emissions (BE) t CO2e	Project Emissions (PE) t CO2e	Emissions Reduction (BE-PE) t CO2e
1	632,946	299,724	333,222
2	1,960,353	928,303	1,032,051
3	1,907,984	903,504	1,004,480
4	2,466,154	1,167,819	1,298,335
5	2,446,060	1,158,303	1,287,756
6	2,026,852	959,793	1,067,060
7	1,679,861	795,479	884,382
8	1,392,702	659,498	733,204
9	1,154,979	546,927	608,052
10	958,180	453,735	504,445
11	795,229	376,572	418,658
12	660,369	312,710	347,659
13	548,677	259,819	288,857
14	456,197	216,027	240,170
15	379,582	179,747	199,835
Total	**19,466,125**	**9,217,959**	**10,248,166**

9.1 Project-Level Buffer Pool (Voluntary)

Following quantification of emissions reductions, including Baseline Scenario and Project Scenario emissions, leakage and uncertainty, this PDD reports the net quantity of GHG emission reductions (ER).

The Project Proponent has voluntarily elected, as an additional conservatism measure, to set aside 10% of ER in a project-level buffer pool and make the remaining 90% available for issuance as Carbon Credits. A 10% buffer pool contribution is aligned with prevailing carbon market practice for projects with moderate permanence risks and strong monitoring plans, providing credible insurance against Reversal while maintaining project financial viability. Given the Project's conservative baselines, secure land tenure, and robust MRV provisions, a 10% buffer is both credible and justified.

This buffer pool is not required by TGSM or ISO 14064-2:2019 and does not change the quantified emission reductions. It is a voluntary measure intended to:

- provide additional conservatism for long-term stewardship, tenure and 100-year permanence obligations;
- accommodate potential future requirements of carbon-crediting standards or registries, should the Project be registered under such a programme; and
- reflect residual risks and uncertainties in project implementation and underlying assumptions (including CIO Volume and and CI forecasts, market leakage, and potential regulatory and policy developments).

For transparency, this PDD reports both:

- the total quantified emission reductions ER (before buffer); and
- the Carbon Credits planned for issuance after application of the 10% buffer pool, equal to 0.9 × ER for each reporting period.

If the Project is subsequently registered under a carbon crediting standard or registry that prescribes a reserve/buffer contribution, that programme requirement will govern the buffer contribution for issuance under that programme and will be treated as satisfying the Project-level buffer requirement (i.e., not additive unless expressly required by the programme). The buffer percentage is reviewed at least annually and may be adjusted only when an event specified in the TGSF occurs, with any change requiring written approval by the CEO or a Director. The TGSF (Appendix D) also sets out the governance of the buffer pool, which does not affect the ISO 14064-2:2019 quantification of emission reductions.

9.2 Credit Issuance Schedule

Table 7: Credit Issuance Schedule

	Crediting Period 1			
	Year	Credits	Buffer Pool	Net of Buffer
Monitoring Period for Verified Ex-post	**2022** Apr 1 - Dec 31	250,145	25,014	**225,131**
	2023 Jan 1 - Dec 31	857,822	85,782	**772,040**
	2024 Jan 1 - Dec 31	1,011,354	101,135	**910,219**
	2025 Jan 1 - Sep 30	916,287	91,629	**824,658**
	Sub total	**3,035,608**	**303,560**	**2,732,048**
Validated Ex-ante	**2025** Oct 1 - Dec 31	308,786	30,879	**277,907**
	2026 Jan 1 - Dec 31	1,290,394	129,039	**1,161,355**
	2027 Jan 1 - Mar 31	276,678	27,668	**249,010**
	Sub total	**1,875,858**	**187,586**	**1,688,272**
Total for Crediting Period 1		**4,911,466**	**491,146**	**4,420,320**

	Crediting Period 2				Crediting Period 3			
	Year	Credits	Buffer	Net	**Year**	Credits	Buffer	Net
Projected Ex-ante	**2027** Apr 1 - Dec 31	845,405	84,540	**760,865**	**2032** Apr 1 - Dec 31	330,336	33,034	**297,302**
	2028 Jan 1 - Dec 31	929,926	92,993	**836,933**	**2033** Jan 1 - Dec 31	365,360	36,536	**328,824**
	2029 Jan 1 - Dec 31	770,895	77,089	**693,806**	**2034** Jan 1 - Dec 31	303,517	30,352	**273,165**
	2030 Jan 1 - Dec 31	639,254	63,925	**575,329**	**2035** Jan 1 - Dec 31	252,308	25,231	**227,077**
	2031 Jan 1 - Dec 31	530,276	53,028	**477,248**	**2036** Jan 1 - Dec 31	209,891	20,989	**188,902**
	2032 Jan 1 - Mar 31	109,710	10,971	**98,739**	**2037** Jan 1 - Mar 31	49,822	4,982	**44,840**
	Total	**3,825,466**	**382,546**	**3,442,920**	**Total**	**1,511,234**	**151,124**	**1,360,110**

Totals for all 3 Crediting Periods	**Net of Buffer Pool**	**9,223,350**
	Buffer Pool	**1,024,816**
	Total Credits	**10,248,166**

Note that limiting the Project to three Crediting Periods (15 years) excludes the final year of the 16-year Extraction period, resulting in 58,917 Carbon Credits that are not claimed under this PDD.

Credit issuance values (Table 7) and underlying emissions-reductions calculations (Table 6) are generated from the Project's controlled GHG quantification and credit schedule workbook, which is maintained as a project record and provided to the VVB.

Section 10: Permanence

This section addresses applicable TGSM requirements for Section 10 and demonstrates how the Project meets or exceeds those requirements by evaluating Permanence risks, applying safeguard measures, establishing the required financial instruments, and implementing Permanence-related monitoring procedures.

The TGSM (Appendix A) stipulates that emission reductions or sequestered emissions resulting from a GHG Project are maintained for a minimum of 50 years (the Permanence period).

A project lifespan of 100 years has been chosen for the WSCIO–CCA1 Project (Sequestration Period). This duration aligns with a long-standing sovereign practice of 99-year lease terms, while adding an extra year to provide a conservative buffer and a transparent rationale: the selected term is twice the methodological minimum and extends beyond the slow-transition risks documented in empirical research. Framing the Project on a century-long timeframe signals a prudent, intergenerational orientation compatible with global expectations for permanence, and with the PP's commitment to maintaining the in situ Sequestration of CIO Volumes throughout the global energy transition.

Specifically, the 100-year Sequestration Period extends beyond multi-decade transition horizons in which long-lived, high-CIO greenfield developments face increasing uncertainty from demand evolution, policy tightening, and increasing carbon-cost exposure—reducing the incentive for Reversal over time.

10.1 Permanence Safeguards

For projects in which emission reductions result from Sequestering CIO Volumes in situ, permanence depends on demonstrating that the outcome is real and durable. In the WSCIO – CCA1 Project, the CIO Volume is Sequestered in situ, and the Baseline Scenario emissions do not occur. Because the CIO Deposit remains in deep geologic formations, the Sequestered CIO Volume is not exposed to risks of Reversal from natural disaster, inadvertent human disruption, or technology-application error.

Accordingly, the primary permanence risk is intentional Reversal through future Extraction. Any decision to resume Extraction would be a deliberate, material undertaking requiring significant capital commitment and lead time, and is addressed through the Project's legal, contractual, governance, monitoring, and financial assurance safeguards described below.

To assure permanence, the WSCIO – CCA1 Project links to the WSCIO PoA assurances through:

a) Legally binding contracts among the CIO Volume Developer and a majority of its vote-casting shareholders that irrevocably prohibit Extraction of CIO Volumes for at least 100 years, and require that any share sale carries the same obligations (Appendix C).
b) A resolution from both the directors of the CIO Volume Developer and the Directors of the PP, committing irrevocably that the CIO Volume will not be Extracted for a

minimum of 100 years, with the intent, consistent with the TGSF, to maintain the in situ Sequestration permanently (Appendix C and Appendix D).

c) Publicly accessible regulatory and production data maintained by the CIO Volume Owner and its regulators (Appendix F), which enable third parties to verify with high confidence that no Baseline Scenario CIO Volumes have been Extracted during the 100-year period.

To manage uncertainty associated with the WSCIO – CCA1 Project, the Project has implemented a comprehensive risk assessment and permanence assurance framework consistent with ISO 14064-2:2019 requirements. The assessment covers Government direction/tenure intervention, market/economic incentive, operational, legal/title, environmental/social, data/measurement, governance, and financial assurance risks (Table 8; see Appendix D for the detailed matrix).

Each risk category is evaluated in terms of likelihood and potential impact. The annual risk review cycle is embedded in the Project's monitoring plan, with extraordinary reviews triggered by defined market, legal, or operational events. This ensures dynamic adjustment to any material changes in the risk profile. For every identified risk, preventive and corrective measures are defined, and residual risk is documented following the application of mitigation controls. Residual risks that remain after mitigation are systematically documented. Roles and responsibilities are explicitly allocated to the Stakeholders. The PP coordinates with technical partners such as VVB and PVC (Table 8; see Appendix D for the expanded matrix).

The defined roles and responsibilities of the CIO Volume Owner and CIO Volume Developer provide additional practical support for permanence by aligning incentives and assigning clear, ongoing stewardship and tenure-management responsibilities; however, these roles do not, on their own, eliminate the possibility of future Extraction, which is addressed through the Project's contractual controls, monitoring, and financial assurance measures described below.:

- its tenure and regulatory framework – a robust and comprehensive tenure system, underpinned by statutory requirements for licensing of all exploration, well drilling, pipeline, and facility activities. Operating oil companies and their service contractors must confirm licences are valid prior to undertaking any activity.
- its transparency and public data systems – development activities and CIO Volume are strictly reported and made publicly accessible. For example, proposed well trajectories must be approved to ensure drilling occurs only in authorized geological and legal formations, and proposed facilities installations are subject to extensive formal public and industry notice prior to regulatory applications. Post-drilling, trajectory surveys, electric well logs, and completion reports are verified and then publicly disclosed via regulator data systems.
- regulatory enforcement – Extraction and transportation of CIO Volume to markets can only occur between licensed facilities, ensuring complete traceability of production. Unpermitted or non-compliant Extraction is effectively precluded, as the Extraction requires extensive and highly visible surface infrastructure (e.g., water sourcing, boiler feedwater conditioning, steam generation, power supply, separation, tankage). These facilities are economically viable only at scale and cannot be concealed.

The robustness of GoA's tenure, regulatory enforcement, and public data systems—together with the high-visibility, capital-intensive infrastructure required for oil sands Extraction in the region—significantly limits the potential for Reversal; residual Reversal/permanence risks are managed through legally binding non-production commitments, annual monitoring (including review of publicly available regulator and lease-registry data and remote sensing), and third-party verification at each monitoring interval.

The assessment covers operational, government direction/tenure intervention (including escalation of non-production charges and notices respecting production), market/economic incentive (including oil-price spikes and third-party acquisition pressure), legal/title, environmental/social, data/measurement, governance, and financial-assurance risks—each of which may contribute to Reversal/permanence risk (Table 8; see Appendix D for the expanded matrix).

Overall, the Project assesses the likelihood of material adverse events affecting permanence —including Reversal—and events that could materially impair credit integrity as Low, recognizing that specific trigger events could elevate risk for particular drivers and would be reassessed at that time, with safeguards, notifications, and (where applicable) issuance controls applied accordingly.

This 'Low' assessment reflects a combination of (i) layered contractual and governance controls over non-production, including enforceable remedies and defined issuance/disclosure controls, (ii) a monitoring and third-party validation/verification regime designed to promptly detect and escalate trigger events, and (iii) a financial assurance framework intended to maintain long-term compliance and good standing (including continued-lease obligations and, where applicable, escalating non-production charges) throughout the Sequestration Period. In addition, based on the CIO Volume Developer's long-standing Alberta oil sands tenure experience, and to management's knowledge, oil sands leases are not generally cancelled solely for "non-production" given the range of extenuating commercial and infrastructure constraints (e.g., oil price cycles, pipeline capacity, permitting and local opposition) that can delay development; instead, the primary policy lever applied to discourage indefinite non-production is the escalating rental regime for non-producing continued leases (of which the PP has included these additional costs as part of its financial assurance safeguards). According to the CIO Volume Developer, cancellation for non-production has occurred only once—an exceptional, airport-adjacent tenure circumstance—aside from cancellations arising from insolvency.

Table 8: Project Risk and Mitigation Measures Matrix

(see Appendix D for detailed Table 8)

Risk Category	Likelihood*	Impact*	Mitigation Measures	Residual Risk*	Responsible Party
Government Direction / Tenure Intervention (Policy, Ministerial notice, or other Crown action)	Low	High	• Monitor tenure status, notices, charges, and policy signals • Documented response protocol for any notice/direction (written response; request withdrawal/relief where available) • Governance escalation for any notice/policy-change event (interim reassessment; VVB/Registry notified as applicable) • Maintain financial assurance and forecasting sufficient to remain in good standing under long-term	**Low**	PP in coordination with CIO Volume Developer; engagement as needed with CIO Volume Owner

			tenure obligations (including escalating non-production charges where applicable) • Issuance controls if a government-direction trigger occurs (pause further Carbon Credit issuance/sales pending reassessment; update disclosures)		
Market / Economic Incentive (Oil price spike; shareholder or third-party pressure)	Low	High	• Monitor oil-price "economic incentive stress" • Non-production covenants survive transfers; enforce remedies • Board review for transfers/control changes • Trigger reassessment; disclosures/notifications; issuance pause if triggered	**Low**	PP (governance/ transactions) in coordination with CIO Volume Developer (tenure/ interface where applicable)
Operational (Unauthorized or non-compliant Extraction)	Low	High	• Non-Extraction commitments; enforceable remedies/step-in • Annual monitoring (regulator/lease data, remote sensing) • Third-party VVB verification each monitoring interval	**Very Low**	PP in coordination with CIO Volume Developer
Legal/Title (Ownership dispute or transfer of lease rights)	Low	High	• Maintain chain-of-title; monitor lease registry • Instruments remain effective through transfers; enforce remedies • Update documentation for material changes	**Low**	PP in coordination with CIO Volume Owner and CIO Volume Developer
Environmental / Social (Public acceptance; political pressure; reputational risk)	Low	Medium	• Stakeholder inquiry/grievance intake; log and respond • Transparent disclosures of safeguards, monitoring, conservativeness • TGSF allocations; reporting commitments	**Low**	PP in coordination with CIO Volume Developer
Data / Measurement (Credit Integrity)	Low	Medium	• Peer-reviewed tools/datasets; documented parameter selection • Independent PVC certification; conservative assumptions • QA/QC; periodic reassessment at VVB cycles	**Very Low**	PP in coordination with technical partners (Methodology Developer, PVC, VVB)
Governance (Internal failure	Low	Medium	• Defined roles/responsibilities (incl. monitoring plan)	**Very Low**	PP

to enforce controls)			• TGSF governance + disclosure commitments • VVB verification; corrective action procedures		
Financial Assurance (Funding shortfall for monitoring/assurance/tenure obligations)	Low	Medium	• Maintain multi-layer financial assurance for long-term obligations including escalators • Review cost changes; adjust contributions as required • Independent oversight/verification as applicable	**Low**	PP (financial assurance) in coordination with CIO Volume Developer (lease-related obligations)

Trigger events include (without limitation) issuance of any tenure/production notice or change in lease status, defined market 'economic incentive stress' conditions (e.g., sustained oil price spikes), proposed transfers/control changes affecting project covenants, or any monitoring/VVB finding inconsistent with non-production or credit integrity; such events prompt formal re-assessment and update of disclosures and issuance controls as applicable.

Certain tenure-related intervention pathways are phased (e.g., issuance of a notice requiring commencement/increase of production, an opportunity to respond and comply and, in some cases, withdrawal of the notice; followed by potential cancellation in whole or in part only if non-compliance persists). The Project has not received a notice requesting Extraction to commence. Publicly available tenure materials do not provide a consolidated, easily verifiable source for notices requesting production or subsequent cancellations for non-compliance. Accordingly, the Project does not quantify historical frequency in this PDD.

*Ratings note (includes Very Low): Likelihood and Impact reflect the Project Proponent's assessment of the inherent (pre-mitigation) risk driver over the monitoring interval. Residual Risk reflects the expected risk level after applying the mitigation measures. Residual Risk may be the same as Likelihood where the driver is primarily external or where inherent Likelihood is already low; it may be lower where mitigation measures materially reduce the chance of the driver resulting in a Reversal event. Likelihood, Impact, and Residual Risk are qualitative ratings assigned as one of Very Low, Low, Medium, or High, considering conditions over the monitoring interval and the 100-year Sequestration Period. Defined trigger events (e.g., notice issuance, tenure-policy change, or "economic incentive stress" conditions) prompt reassessment and updates to disclosures and issuance controls as applicable.

10.2 Financial Instruments and Assurance

The Project will maintain a multi-layered financial assurance framework that secures financial obligations across all Crediting Periods and the 100-year Sequestration Period. Based on current estimates, these obligations are approximately CAD 560,000 and are expected to increase annually (the "Assurance Costs"). The Assurance Costs include: (i) lease tenure/continuation obligations and related monitoring fees (including annual rent and, where applicable, escalating rental while the applicable leases are designated non-producing), and (ii) project-level MRV, Registry, governance, and administrative expenses required to maintain the Project during all Crediting Periods and the 100-year Sequestration Period (see Appendix D for detailed Assurance Costs). The CIO Volume Developer and its predecessors have continuously maintained all lease-related financial and operational obligations associated with the Baseline Scenario since 2007.

In the Project Scenario, the Project Proponent will exceed TGSM recommendations for Suitable Financial Instruments (SFIs) by using two complementary instruments. First, for Years 1–8, a third-party financial guarantee (the “Financial Guarantee”) provides binding financial assurance of up to CAD 5 million, securing early-stage stewardship and permanence obligations and reducing renewal risk (Appendix D). Second, beginning in Year 1, from the first dollar of carbon credit sales (after initial investment is recovered as per the TGSF), Theaus Global will allocate not less than five percent (5%) of gross proceeds from carbon credit sales, subject to a cap as described in the TGSF, to a dedicated financial assurance account (the “Financial Assurance Account”).

The Financial Assurance Account is intended to fund the discounted present value of long-term stewardship obligations, including escalators as required, for the 100-year Sequestration Period (with intent to make the stewardship commitment permanent). Discounting will be referenced to prevailing risk-free benchmark rates (or equivalent benchmark yields), rather than undiscounted nominal 100-year totals.

Based on current estimates of the Assurance Costs, contributions to the Financial Assurance Account are designed to fully fund the present value of the Assurance Costs by the end of Year 10 through revenue from carbon credit sales. The Financial Guarantee ensures that applicable obligations remain covered during the initial eight years regardless of sales timing or volume. Over time, the Financial Assurance Account is expected to replace the Financial Guarantee as the Project’s primary long-term financial assurance instrument.

This framework combines an early-stage third-party guarantee with a dedicated, project-specific Financial Assurance Account for long-term stewardship obligations. Supporting documentation includes the Financial Assurance and the Financial Guarantee as well as the TGSF (Appendix D). Together, the Financial Guarantee and the Financial Assurance Account constitute the Project’s SFI structure under the TGSM.

Additionally, Theaus Global may, where appropriate, support buyer-requested third-party insurance, surety, or warranty products, and may evaluate additional Theaus-controlled risk-transfer instruments as an additive layer of protection, if implemented and expressly designated.

Section 11: Monitoring

This section addresses applicable TGSM requirements for Section 11 and demonstrates how the Project meets or exceeds those requirements by defining the monitoring plan, identifying monitored parameters, specifying data sources, and setting monitoring intervals.

Implementation requires a program that includes (a) quantifying Baseline and Project Scenario emissions, (b) ongoing monitoring and reporting to demonstrate that no activities occur that would compromise the integrity of the Sequestered CIO Volumes (including review of regulator records and remote-sensing evidence, and VVB site visits as needed), (c) robust data QA/QC, recordkeeping, and audit trails to support validation and repeated verification cycles, and (d) long-term stewardship and financial assurance mechanisms designed to fund lease-continuation, regulatory, monitoring, and governance obligations across the full 100-year Sequestration Period.

11.1 Description of Monitoring Plan

The GHG Project and credit issuance are monitored under the TGSM, which stipulates the parameters and their monitoring frequency. The detailed parameter definitions, data sources, QA/QC procedures, and record-retention requirements used to implement this monitoring plan are documented in Appendix J. Monitoring reports will be prepared at the lowest denominator frequency, which in the case of the WSCIO - CCA1 Project will be annual with an intent to increase frequency.

The primary objective of the monitoring plan is to ensure that no activities occur that would compromise the integrity of the Sequestered CIO Volume or result in Extraction under the Project Scenario. This is accomplished through regular inspections and review of documentation that confirms the absence of Extraction activities, including satellite imagery; reports from regulatory agencies regarding lease holdings, oil sands exploration programs, well-drilling licences, pipeline and surface-facility construction and operating licences, and production records; and site visits conducted by a VVB, as required to establish a high level of confidence.

The methodology and emission factors cited in this document are based on current GHG guidance documentation and regulations and understanding of the Wildwood SAGD development. These factors will be regularly evaluated to better ensure appropriate methodologies are applied, including (but not limited to) the Intergovernmental Panel on Climate Change (IPCC) global warming potential.

11.2 Data and Parameters at Validation and Requirements for Monitoring

Table 9: Data and Parameters at Validation and Requirements for Monitoring

Variable/Parameter/ Data		Units	Data Source	Measurement Procedure	Applied Value at Validation/ Verification and Monitoring Periodicity
R_v	**CIO Volume in year** *y*	BOE	CBDP	Counter-factual estimation process, type wells analogs	29,947,885 BOE (15 yr total) (Appendix E); reviewed every five years, assessed by a PVC
$CI_{CIO,y}$	**CI of CIO in year** *y*	kg CO_2e/BOE	LCA	LCA following ISO 14044 guidelines	650 kg CO_2e/BOE (Appendix H); reviewed annually by the PP
$CI_{COSi,y}$	**CI of each oil substitute in year** *y*	kg CO_2e/BOE	OCI$^+$, OPGEE, PRELIM, GREET, peer-reviewed sources, refinery emissions report	LCA following ISO 14044 guidelines	540 kg CO_2e/BOE (Appendix H); reviewed annually by the PP
$X_{i,v}$	**Fraction contribution of oil substitute in year** *y*	Dimensionless fraction between 0 and 1	Market analysis reports, economic modeling	Sum of all $x_{i,y}$ must be 1, representing the proportion of each substitute oil in the total mix	1; annually reviewed by the PP

L_y	**Market leakage factor**	Dimensionless	Market analysis reports, economic modeling	Calculation following econometric modeling and market simulation (TGSM Section 8.3.1) or simple fixed leakage rate (TGSM Section 8.3.2).	0.57 (Appendix H); reviewed annually by the PP
N/A	**Permanence assurance**	Qualitative (e.g., Low, Moderate, High, Yes, No)	Legal agreements, CIO Volume Developer commitment, regulatory agency or government datasets, providers of remote sensing imagery	Documentation review, regulatory agency or government dataset review, remote sensing review, supplemented by in-person site visits if necessary	According to the validation and verification procedures

11.3 CIO Deposit Monitoring Data

11.3.1 Subsurface Data

Existing subsurface impacts include those from previous natural gas exploration and development activities conducted by companies other than the CIO Volume Developer, related to natural gas in shallower geological horizons above the Wildwood SAGD development's oil sands deposits. Such other companies operate under GoA leases for petroleum and natural gas rights, which are legally and geologically distinct from the oil sands leases under which the CIO Volume Developer conducts its operations.

In certain cases, these previous natural gas exploration and development activities also obtained information on prospective deeper targets. Such wells were electric wireline logged and in some cases physical cores were taken over the CIO Deposit before the wells were either plugged back to the appropriate, shallower depth for gas Extraction or abandoned. In both cases, there was no remaining penetration of and no Extraction from the CIO Deposit.

Similar additional subsurface impacts resulted from oil sands exploration activities conducted by the CIO Volume Developer and its predecessors, being stratigraphic test/core hole wells drilled through the CIO Deposit into the underlying formation, wireline electric logged, cores taken, and then abandoned as such wells are not capable of Extraction.

Such subsurface impacts can be assessed only by inference from visible surface impacts and by accessing the relevant regulatory authority and/or CIO Volume Owner publicly accessible datasets for exploration, drilling, facilities construction, and pipeline construction permits, and status of and Extraction records for all wells.

11.3.2 Surface Data

Existing surface impacts include those from previous natural gas exploration, development, and Extraction related to natural gas in shallower geological horizons above the Wildwood SAGD development's oil sands deposits. These activities were conducted by companies other than the

CIO Volume Developer, and comprise linear 2D seismic cut lines, square gas well sites, linear gas pipeline rights of way, rectangular gas compressor station sites and linear wellsite and seasonal access roads.

Additional surface impacts exist from previous oil sands exploration activities conducted by the CIO Volume Developer and its predecessors, mainly grid 3D seismic cut lines, square stratigraphic test/core hole wellsites, and linear core hole wellsite access roads. All of these surface impacts can be observed on the airphoto mosaic map and the graphical impacts maps in Appendix L.

11.3.3 Current-State Data

Each of these subsurface and surface current-state impacts can be tied to activities that in the past did not, and in the future will not, themselves provide a means to Extract from the CIO Deposit. Such confirmation can be achieved by accessing the relevant regulatory authority and/or the CIO Volume Owner's publicly accessible datasets for exploration, drilling, facilities construction, and pipeline construction permits, as well as the status of and records for all wells (wells of the CIO Volume Developer and all others). Current-state versions of such datasets at the time of commencement of the GHG Project are appended in Appendix L.

In Appendix L, the Well Production dataset extracted from the Alberta Energy Regulator (AER) includes regulatory status fields such as "Abandoned," "Cancelled location," and "Licensed." These status codes reflect the regulator's records and do not indicate producing wells within the Project Area. "Abandoned" entries are historic stratigraphic/core-hole wells drilled for geological and petrophysical information and subsequently abandoned and reclaimed; they did not produce and are not capable of production. "Cancelled location" entries represent authorized locations that were not proceeded with and were cancelled. "Licensed" entries relate to water-source and aquifer monitoring well licences. If drilling never occurred, licences may remain on record as "licensed" even though no well was constructed or produced.

11.4: Monitoring Roles and Responsibilities

The monitoring plan (Clause 6.10 of ISO 14064-2) ensures both the ongoing confirmation that CIO Volumes remain Sequestered and quantification of project parameters. Activity data are obtained as required through PVC forecasts, regulator reports, and satellite imagery. Roles are assigned to the PP (project monitoring, reporting, and permanence oversight) and the CIO Volume Developer. The PP is responsible for ensuring that contact information for all project participants and relevant authorities remains current. Updates will be communicated to the VVB and Registry, as applicable, within 30 days of any change. QA/QC procedures include reconciliation of reported data, cross-checks against public registries, and anomaly detection and are the responsibility of the PP. Further monitoring roles and responsibilities are outlined in the following table:

Table 10: Monitoring Plan Roles and Responsibilities

Monitoring Activity	Variable/ Parameter/ Data included in Activity	Frequency	Method / Tool	Responsible Party
Baseline quantification	R_y	At least every 5 years	Model review	PP in coordination with CIO Volume Developer
Stakeholder consultation update		Annual	Confirm continuity of contractual arrangements between PP and CIO Volume Developer. Confirm continuity of contractual and regulatory arrangements between CIO Volume Owner and CIO Volume Developer.	PP in coordination with CIO Volume Developer
Data factor review (CI values, leakage factors)	$CI_{CIO,y}$ $CI_{COSi,y}$ $X_{i,y}$ L_y	Annual	LCA models, literature review	PP
VVB verification		At least every 5 years	Audit & assurance	VVB

Section 12: Information Management

This section addresses applicable TGSM requirements for Section 12 and demonstrates how the Project meets or exceeds those requirements by applying QA/QC procedures, maintaining documentation and recordkeeping systems, referencing existing information-management systems, and ensuring accuracy and traceability.

All Project information management follows a robust QA/QC process to ensure accuracy, consistency, and reliability. The PP secures, manages, and preserves all data, reports, and documents consistent with ISO 14064-2, ensuring confidentiality, accuracy, traceability, and verifiability throughout their life-cycle. Roles are assigned to the PP for overall data governance, the PVC for CIO Volume data, and third-party providers for LCA datasets. The following procedures apply and are detailed further in the information management policy in Appendix D:

12.1 Secure Document Storage

- All project and corporate documents are stored in Google Drive for Business, which provides enterprise-grade encryption (AES-256 at rest and in transit).
- Access to documents is restricted through role-based permissions (including view, comment, and edit permissions) managed under Google Workspace administration; editing access to working files is restricted to authorized personnel.
- Automatic version control is enabled to preserve the integrity of all records and prevent unauthorized overwriting.

12.2 Documentation and Recordkeeping

- Each document is assigned a unique identifier (including document number, revision, and date).
- Superseded versions are retained in a controlled archive to ensure full historical traceability.
- Final approved/issued versions of key project documents (e.g., PDDs, monitoring reports, validation/verification packages) are preserved in a read-only format (e.g., PDF) within the controlled archive; any updates are made only through a new revision/version.
- Records are classified and archived in compliance with corporate, regulatory, and client requirements.
- The Project Proponent maintains a grievance register as part of the Project's controlled records. All Stakeholder inquiries and grievances received through the intake mechanism described in Appendix K are logged, tracked, and retained in accordance with this Section to ensure completeness, traceability, and availability for VVB review.

12.3 Quality Assurance and Verification

- All reports and critical documents are subject to QA/QC review, including cross-checking, approval, and sign-off procedures, prior to release.
- Audit trails automatically recorded in Google Drive provide a verifiable history of all access, edits, and approvals.
- Supporting data, metadata, and calculation references are stored alongside final reports to enable verification of results.

12.4 Accuracy and Traceability

- Information is maintained in a manner that ensures accuracy, completeness, and reproducibility.
- Regular internal audits are conducted to confirm that data and documents remain current, compliant, and verifiable.
- All documentation practices follow the principles of relevance, transparency, and accountability in alignment with ISO 14064-2:2019 and internal QA/QC procedures.

12.5 Obligations

- All staff and project partners are required to comply with these procedures to maintain the integrity and security of corporate and project information.
- Non-compliance with information management protocols will be treated as an information incident and managed under the information management policy, including documented corrective and preventive actions and escalation where appropriate, consistent with company governance policies.

Section 13: Project Documentation

This section addresses applicable TGSM requirements for Section 13 and demonstrates how the Project meets or exceeds those requirements by prescribing the documentation retention requirements for project registration, monitoring, verification, and issuance.

All documentation and records pertaining to the Project during validation, verification and monitoring will be stored in a secure and accessible format for at least seven years after the WSCIO – CCA1 Project duration ends.

Section 14: Validation and Verification

This section addresses applicable TGSM requirements for Section 14 and demonstrates how the Project meets or exceeds those requirements by conducting validation, applying the required validation procedures for additionality and CIO Volume forecasts, implementing verification processes, maintaining QA/QC, and documenting verification frequency and results.

For validation and verification compliance, refer to Appendix J. This appendix also includes applicable monitoring documentation, including the comprehensive Ex-ante and Ex-post parameter tables.

Section 15: Conclusion

By fostering transparency and alignment with international best practices, Theaus Global is committed to safeguarding the exceptional integrity of WSCIO – CCA1 Project Carbon Credits and their life-cycle management over their 100-year Sequestration Period and beyond.

The WSCIO – CCA1 Project developed by Theaus Global in Alberta, Canada, designates the applicable CIO Volume for long-term in situ Sequestration within its original deep geologic formations. Maintaining this CIO Volume in situ is the core mitigation mechanism of the Project Scenario. For the CIO Volume designated for Sequestration, the Project does not undertake Baseline Scenario Extraction. As a result, the GHG emissions that would otherwise arise from drilling, construction, operations, transportation, refining, and end-use combustion do not occur for that CIO Volume in the Project Scenario.

Theaus Global's commitments extend beyond in situ Sequestration. Under the TGSF, the Project directs a meaningful share of proceeds from sales of Carbon Credits toward initiatives (further outlined in the TGSF), such as renewable energy, grid modernization, carbon-removal technologies, and community-level priorities, ensuring that CIO Volumes are paired with investment in the energy transition. These allocations support both local and global sustainability goals and link each Carbon Credit issued to measurable climate and community benefits, including in Alberta.

By combining the long-term in situ Sequestration of the CIO Volume with transparent governance, long-term financial assurance, reinvestment in the energy transition, and traceable life-cycle accounting for Carbon Credits via a public blockchain ledger, the WSCIO – CCA1 Project offers a durable, high-integrity model for climate mitigation. It demonstrates how Sequestering CIO Volume in situ can create value from the same resource into transition finance, strengthen the credibility of carbon markets, and expand the supply of verifiable Carbon Credits. In this sense, the Project can be understood as a pathway for "decarbonized oil": the same CIO Volume remains Sequestered in situ, while the associated climate outcome is issued as a verified digital commodity. This creates a credible, Sequestration-based pathway alongside conventional Extraction-based value chains and expands the supply of high-integrity, lifecycle-based emission reductions that can be issued, transacted, and retired through transparent digital infrastructure. The Project provides other CIO producers with an opportunity to evaluate the Carbon Credit value for their CIO Volumes and apply the methodologies pioneered in the TGSM to quantify Baseline Scenario life-cycle GHG emissions and the resulting emission reductions from maintaining CIO Volumes in situ.

APPENDICES

Appendix A: Theaus Global Sequestration Methodology

This Appendix A provides the Theaus Global Sequestration Methodology (TGSM), which establishes the principles, requirements, and ISO-aligned processes applied throughout this PDD. The TGSM is applied throughout this PDD (Sections 1–14); section cross-references identify key methodological linkages where relevant.

It contains the following documents:

1) Appendix A: Theaus Global Sequestration Methodology

Appendix B: CIO Volume Owner Documentation

This Appendix B provides related documentation to content required by this PDD in respect of Section 3.4 – Compliance with Technical, Legal, and Regulatory Frameworks

It contains the following related documents:

1) Appendix B: Alberta Oil Sands Tenure Guidelines – Principles and Procedures[7]
2) Appendix B: Mines and Minerals Act[8]
3) Appendix B: Oil Sands Tenure Regulation[9]

[7] Link to the most recent version of Oil Sands Tenure Guidelines.
[8] Link to the most recent version of Mines and Minerals Act
[9] Link to the most recent version of Oil Sands Tenure Regulation.

Appendix C: CIO Volume Developer Documentation

This Appendix C provides information required by this PDD in respect of:

1) Section 2.5 – Project Proponent Stakeholder Consultation: Leases and instruments governing the CIO Volume Owner's rights and the CIO Volume Developer's obligations to maintain the deposit in good standing.
2) Section 10.1(a) – Permanence: Contract between CIO Volume Developer and the majority of vote-casting shareholders of the CIO Volume Developer
3) Section 10.1(b) – Permanence: Resolution of the Directors of the CIO Volume Developer

It contains the following redacted documents:

1) Appendix C: Alberta Energy Outlook
2) Appendix C: GoA Mineral Lease Extension
3) Appendix C: GoA Mineral Lease Summary OSL-7407060378
4) Appendix C: GoA Mineral Lease Summary OSL-7407060379
5) Appendix C: GoA Mineral Lease Summary OSL-7407090234
6) Appendix C: GoA Mineral Lease Summary OSL-7407090356
7) Appendix C: GoA Mineral Lease OSL-7407060378
8) Appendix C: GoA Mineral Lease OSL-7407060379
9) Appendix C: GoA Mineral Lease OSL-7407070234
10) Appendix C: GoA Mineral Lease OSL-7407090356
11) Appendix C: Surmont Director Resolution
12) Appendix C: Surmont Majority Shareholder Covenant
13) Appendix C: Wildwood Mineral Lease Continuation Letter

Appendix D: Project Proponent Documentation

This Appendix D provides information required by this PDD in respect of:

1) Section 4.1c – Project Eligibility and Inclusion: Documentation that instead of proceeding with Extract CIO Volume, Surmont entered into a contractual agreement with the PP, Theaus Global, to alternatively Sequester CIO Volume.
2) Section 4.1d – Project Eligibility and Inclusion: Documentation committing the PP, Theaus Global, to keep the CIO Deposit Sequestered.
3) Section 6.2.3 – Project Start Date: Date refers to the earliest date documented that the PP, Theaus Global, took action to prevent the implementation of the Baseline Scenario.
4) Section 10 – Permanence: Resolution of the Directors of the PP, Theaus Global
5) Section 10.1 – Table 8 matrix support
6) Section 10.2 – Financial Assurance and Financial Assurance Guarantee
7) Section 12 – Information Management

It contains the following documents:

1) Appendix D: Theaus Global Director Resolution
2) Appendix D: Financial Assurance
3) Appendix D: Theaus Global Information Management Policy
4) Appendix D: Project Risk and Mitigation Measures Matrix (Detailed)
5) Appendix D: Theaus Global and Surmont Agreement
6) Appendix D: Financial Assurance Guarantee
7) Appendix D: Theaus Global Statement of Non-Submission
8) Appendix D: Theaus Global Stewardship Framework

Appendix E: Production Volume Certifier Documentation

This Appendix E provides the documentation of the Production Volume Certifier, GLJ Ltd., for information required by this PDD in respect of:

1) Section 3.3 – Technological Scope: Technologies, facilities and scenarios for planned CIO production, including the SAGD process design of the Baseline Scenario.
2) Section 4.3b – Baseline Scenario: Calculation of the Baseline Scenario Credible Business Development Plan CIO Volume, requirements for Production Volume Certifier.
3) Section 4.3d – Baseline Scenario: CIO Volume for calculation for Baseline Scenario emissions.
4) Section 5.2 – Technical Viability and Financial Feasibility: Baseline Scenario technical viability and financial feasibility.
5) Section 6.1 – Spatial Limits: GIS shapefiles delineating the legal surface area and subsurface drainage boundaries of all CCAs, including CCA1.
6) Section 6.2.1 – Project Duration: Project duration exceeding economic life of Baseline Scenario.
7) Section 7.1 – Baseline Scenario Description: Economic evaluation, offtake agreement, transportation commitment inclusions.

It contains the following documents:

1) Appendix E: GLJ Credible Business Development Plan for Wildwood SAGD Project
2) Appendix E: Shapefile-CCA.cpg
3) Appendix E: Shapefile-CCA.dbf
4) Appendix E: Shapefile-CCA.prj
5) Appendix E: Shapefile-CCA.sbn
6) Appendix E: Shapefile-CCA.sbx
7) Appendix E: Shapefile-CCA.shp
8) Appendix E: Shapefile-CCA.shp.xml
9) Appendix E: Shapefile-CCA.shx

Appendix F: Regulatory Compliance Approvals and Reports

This Appendix F provides information required by this PDD in respect of:

1) Section 3.4 – Table 3 Compliance with Technical, Legal and Regulatory Frameworks.
2) Section 4.1a – CIO Volume Owner contractual agreements with the CIO Volume Developer for Extraction of CIO.
3) Section 4.1b – Project Eligibility and Inclusion, Chain of Ownership for Right to Issue Carbon Credits: CIO Volume Developer development and regulatory approvals.

It contains the following documents:

1) Appendix F: ACO Wildwood Adequacy Report
2) Appendix F: AER Wildwood EPEA-Approval
3) Appendix F: AER Wildwood Licence-of-Occupation
4) Appendix F: AER Wildwood Scheme Approval - Restored
5) Appendix F: AER Wildwood Scheme Approval
6) Appendix F: GoA Letter of Authority
7) Appendix F: Order-in-Council, Surmont-Wildwood
8) Appendix F: Surmont Wildwood Application Extract

Appendix G: Additionality Demonstration

This Appendix G provides information required by this PDD in respect of Section 5 – Additionality: Demonstration of additionality.

It contains the following document:

1) Appendix G: Additionality Assessment

Appendix H: GHG Quantification Parameters

This Appendix H provides information required by this PDD in respect of:

1) Section 3.5 – LCA and GHG Quantification Tools: Prest et al.
2) Section 4.3d – Baseline Scenario: Life-cycle emissions data use of Prest et al.
3) Section 7.2: Baseline Scenario SSRs – Table 4: SSRs Included Inclusions and Exclusions in Baseline Scenario
4) Section 8.2: Project Scenario SSRs – Table 5: SSRs Included Inclusions and Exclusions in Project Scenario.

It contains the following document:

1) Appendix H: Beck, Kruse-Andersen and Stewart, *Energy Economics*
2) Appendix H: Prest et al., *Emissions Reductions from Supply-Side Fossil Fuel Interventions*

Appendix I: Bitumen Analysis Reports

This Appendix I provides information required by this PDD in respect of:

1) Section 3.2 – CIO Deposits Emissions Reduction Focus: CIO heavier than 12.0 API.
2) Section 4.3e - Project Eligibility and Inclusion, Baseline Scenario: Approved to Extract bitumen heavier than API 12.0.

It contains the following documents:

1) Appendix I: Aggregate Bitumen Assays Program
2) Appendix I: API-Gravity Report - 1AA-09-19-082-08W4
3) Appendix I: API-Gravity-Report - 1AA-09-25-082-09W4

Appendix J: Validation and Verification Reports

This Appendix J provides information required by this PDD in respect of:

1) Section 14 - Validation Compliance
2) Section 14 - Verification Compliance

It contains the following documents and will be updated with the final validation and verification reports upon completion of third-party validation and verification:

1) Appendix J: Validation and Verification Report
2) Appendix J: Monitoring Report

Appendix K: Stakeholder Information

This Appendix K provides information required by this PDD in respect of Section 2.1 – Key Roles and Principles.

It contains the following documents:

1) Appendix K: Stakeholder Inquiry and Grievance Intake Mechanism
2) Appendix K: Stakeholder Contact Information
3) Appendix K: Surmont Energy Ltd. Certificate of Incorporation
4) Appendix K: Theaus Global Inc. Certificate of Incorporation

Appendix L: Surface and Subsurface Disturbance Documentation

Appendix L provides documentation in respect of Section 11 – Monitoring, and includes surface and subsurface disturbance datasets as at the commencement of the GHG Project, including maps, airphoto mosaics, and tabulated regulatory records of wells, facilities, and pipelines relevant to assessing historical and current-state impacts within and adjacent to the Wildwood SAGD development.

It contains the following documents:

1) Appendix L: 2025 Baseline Project Disturbance Photomosiac Map
2) Appendix L: 251031 Disturbance Table - Well Production
3) Appendix L: 251103 Disturbance Table - Well Cores
4) Appendix L: 251103 Facility Table
5) Appendix L: 251103 Pipeline Table
6) Appendix L: 251103 2025 Baseline Wells and Infrastructure Map