



REPORT

**Environmental Compliance Approval Amendment
Application for the Non-Demonstration use of Alternative
Low Carbon Fuels at the Picton Cement Plant**

Lehigh Hanson Materials Ltd.

Submitted to:

Lehigh Hanson Materials Ltd.

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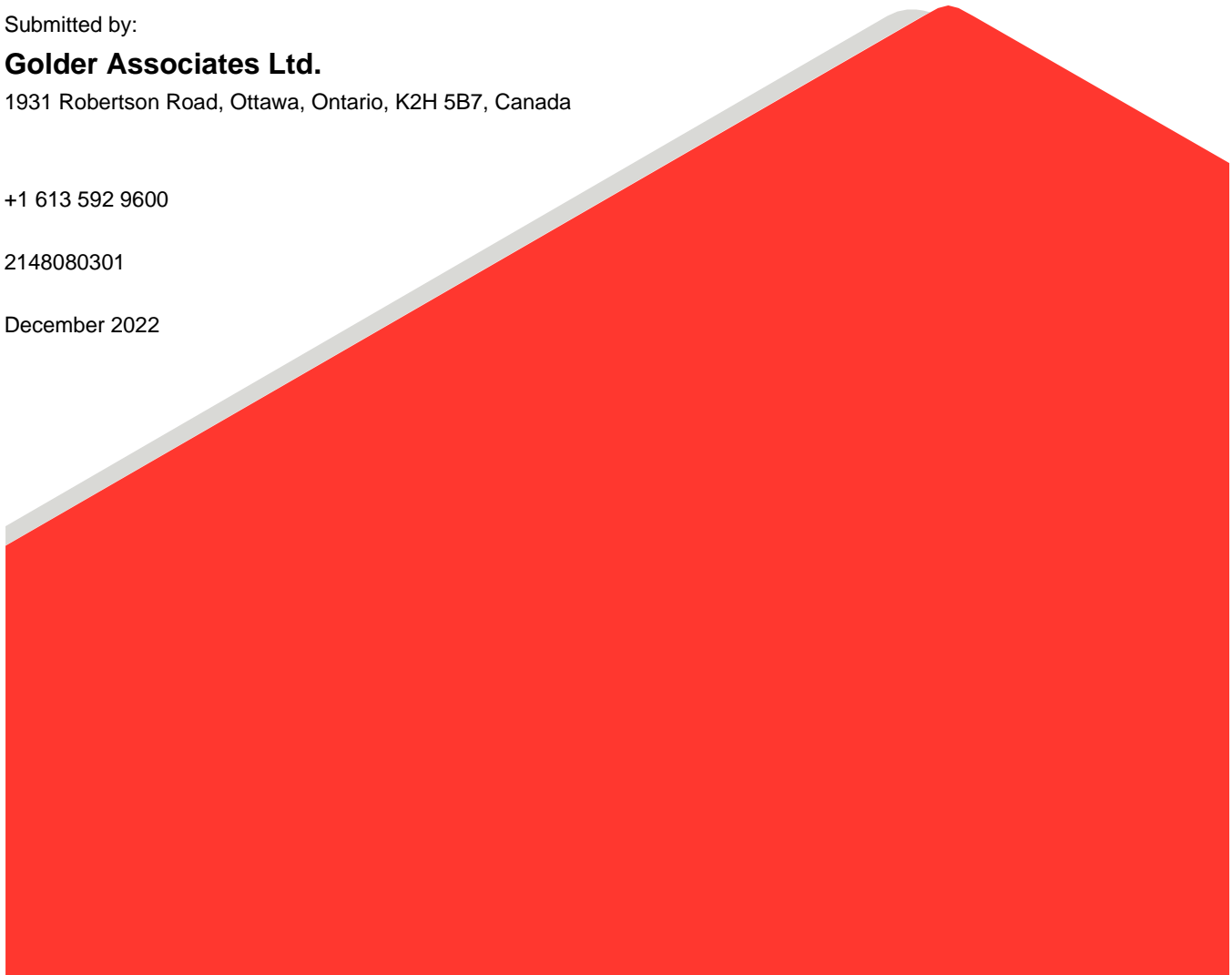
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Distribution List

Electronic copy - Ministry of the Environment Conservation and Parks (MECP), EAPB, Toronto

Electronic copy - MECP, Kingston District Office

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SUMMARY

Lehigh Hanson Materials Ltd. (Lehigh) is undertaking efforts to use Alternative Low Carbon Fuels (ALCFs) to supplement part of the fossil fuels required to make portland cement at their Picton Cement Plant (the Site). ALCFs are in use in many cement plants all over the world and represent a proven technology to reduce greenhouse gas emissions. The Site is located at 1370 Hwy 49, Picton, Ontario and currently operates with Environmental Compliance Approval (ECA) for air and noise, #0073-BHGQHC, issued October 31, 2019.

Golder Associates Ltd. (Golder) was retained by Lehigh to prepare an application under Part II.1 of the *Ontario Environmental Protection Act* (EPA) to amend the existing ECA, to allow for a Non-Demonstration (Permanent) Project to use ALCFs at the Site, satisfying Ontario Regulation (O. Reg.) 79/15 (as amended by O. Reg. 54/21 and 824/21) (the ECA Amendment Application).

As part of the ECA Amendment Application, Lehigh is requesting approval for the following:

- ALCF daily throughput of up to 200 tonnes per day, which may include the following materials:
 - Construction & Demolition (C&D) Materials; including but not limited to primarily wood material with minor amounts of non-recyclable paper and plastic.
 - Industrial, Commercial, and Institutional (IC&I) Materials; including but not limited to primarily non-recyclable paper, plastic and textiles wood material, and tire fibre and fluff.
 - The combustible fraction of non-recyclable household waste (commonly referred to as Refuse Derived Fuel [RDF]).
 - Discarded treated seed.
- Installation of new conveyance and storage equipment for ALCFs at the Site using enclosed containers and buildings.
- Renew the LOF condition 2.1 of ECA Number 0073-BHGQHC, which expires on July 1, 2023.

The Site will target approximately 33% thermal replacement by using mixtures of ALCFs to replace petroleum coke and coal. The above noted ALCFs would meet the following criteria to satisfy the fuel requirements of O. Reg. 79/15:

- be used as mixtures of non-recyclable and non-odorous materials;
- not be derived from or composed of any material set out in Schedule 1 of O. Reg. 79/15;
- wholly derived from or composed of materials that are biomass, municipal waste, or a combination of both; and
- have a high heat value of at least 10 megajoules per kilogram.

Lehigh considers the engagement of Indigenous groups and consultation with adjacent and nearby residents/property owners to be a critical component to their operations. As a result, and in line with the requirements outlined in O. Reg. 79/15 and its amendments, Lehigh has undertaken a range of consultation and engagement activities in support of the preparation of the ECA Amendment Application.

This application is also supported by several studies that have been prepared in response to public comments or as a requirement of O. Reg. 79/15 and its amendments. Each attachment included with this ECA Amendment Application are summarized below:

ECA Application Form

The Ontario Ministry of Environment, Conservation and Parks (MECP) form entitled “*Environmental Compliance Approval Application*” (ECA Application Form) has been provided with this ECA Amendment Application package. Supporting documentation to this application package are included with Attachment 1:

- Table 1 – Sources and Contaminants Identification Table has been included to support the costing section of 5.1.1 and 5.2.2 of the ECA Application Form. The third column in the table identifies the Source Costing Category (i.e., New, Previously Reviewed, Decommissioned and Requires Review) since the previous ECA Application.
- Proof of legal name
- A copy of ECA 0073-BHGQHC, dated October 31, 2019

Carbon Dioxide Intensity Report

The results of the Carbon Dioxide Emission Intensity Report show that the proposed ALCF materials have carbon dioxide emission intensities lower than the conventional fuel used at the Site. The results can be found in Attachment 2.

Consultation Report

A summary of consultation and engagement, including two Public Meetings, that has been undertaken as part of this study is provided in the Consultation Report, which was prepared in accordance with O. Reg. 79/15 and its amendments. A summary of the two pre-submission meetings held with the MECP on January 10th, 2022, and May 11th, 2022 is also included in the Consultation Report. The Consultation Report can be found in Attachment 3.

Emission Summary and Dispersion Modelling (ESDM) Report

An Emission Summary and Dispersion Modelling (ESDM) Report was prepared to support this application and was prepared in accordance with Section 26 of Ontario Regulation 419/05 (O. Reg. 419/05). Guidance in the MECP publication, “*Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling (ESDM) Report, Version 4.1*”, dated March 2018 (ESDM Procedure Document) PIBS 3614e04.1 was followed, as appropriate. For the reasons outlined in the ESDM Report and in the Public Meetings, the use of ALCF materials is not expected to change the emissions from the Site; however, the ESDM Report was updated to include a conservative assessment of the potential impacts of using ALCFs as fuel to supplement the conventional fuels. The maximum predicted concentrations of all assessed contaminants remain below their respective MECP limits. The ESDM Report can be found in Attachment 4.

Acoustic Assessment Report (AAR)

The AAR was updated to include the proposed ALCF project at the Site. The AAR shows that the noise impact from the ALCF-associated equipment is predicted to be acoustically insignificant when compared to the existing operations at the Site. Based on the results of this assessment, sound levels from the Site operations on the surrounding points of reception (PORs) are expected to be at or below the applicable MECP sound level limits when noise controls, as specified in the Noise Abatement Action Plan (NAAP), are implemented. The AAR and the NAAP can be found in Attachment 5.

Fuel Handling Procedures and Testing Manual

A Fuel Handling Procedures and Testing Manual was prepared to support the ECA Amendment Application and to provide a summary of operational procedures and testing related to the use of ALCFs at the Site. Following approval of the ECA Amendment Application, the Site intends on working with suppliers of ALCF materials and securing long-term supply, the Procedures and Testing Manual can be found in Attachment 6.

Traffic Impact

A Traffic Impact Brief was completed to address public questions about potential increase in traffic as a result of using ALCFs. The Traffic Brief concludes that no noticeable incremental peak hour operational performance impacts at any of the intersections along the planned travel route will occur as a result of the ALCF project. The Traffic Impact Brief can be found in Attachment 7.

TIMING

Once the ECA Amendment is issued by the MECP, the Site intends on working with suppliers of ALCF materials to secure long-term supply and beginning the construction of the ALCF building and conveyance equipment.

On November 24th, 2022, the Notice of Completion of the Consultation Report was emailed to the Project contact list and mailed to approximately 5,994 residents / property owners in the Picton area via Canada Post's Neighbourhood Mailing / Unaddressed Admail Service to advise the public, stakeholders and Indigenous Communities of their opportunity to review the Consultation Report as well as additional project materials (e.g., supporting study reports). The Notice of Completion of the Consultation Report and the Consultation Report was posted on the Project website (www.lehighpictonalcf.ca) on November 23rd, 2022. The Notice of Completion of the Consultation Report was also published in the *Picton Gazette* on November 24th and December 1st, 2022 and in the *Picton County Weekly News* on December 1st, 2022. As mentioned above, the Consultation Report documents the extensive consultation activities that occurred throughout the project.

All the above noted documents (excluding the Fuel Handling Procedure and Testing Manual due to confidentiality reasons) are available on the project website: <https://www.lehighpictonalcf.ca/>

In summary, this ECA Amendment Application demonstrates that the Site will remain within the current MECP limits for air and noise, and meets the requirements of O. Reg. 79/15 and its amendments, and an ECA amendment should be issued for the Site to allow for the use of ALCFs.

Signature Page

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[https://golderassociates.sharepoint.com/sites/150044e/lehighlowcarbonfuelsecaontario/shared documents/eca amendment application \(internal master\)/cover letter & project description/2148080301-r-rev0 lehigh eca 1dec2022.docx](https://golderassociates.sharepoint.com/sites/150044e/lehighlowcarbonfuelsecaontario/shared%20documents/eca%20amendment%20application%20(internal%20master)/cover%20letter%20&%20project%20description/2148080301-r-rev0%20lehigh%20eca%201dec2022.docx)