



July 31, 2025

Freres Lumber Co. Inc.
141 14th St.
Lyons, OR 97358
Sent electronically only

Mike Flewelling,

DEQ received the submittal of the Cleaner Air Oregon (CAO) Emissions Inventory (Inventory) for Freres Lumber Co. Inc. (Freres) in Lyons, OR on May 29, 2025, and has completed an initial review. In accordance with [Oregon Administrative Rule \(OAR\) 340-245-0030\(2\)](#), DEQ has determined that the following additional information, corrections, and updates are required to be submitted by September 29, 2025 to approve the Inventory:

1. Provide the following additional information:
 - a. A list of the onsite "Distillate oil, kerosene, gasoline, natural gas or propane burning equipment"; include throughput, fuel storage, and Btu/hour ratings to confirm the equipment meets the requirements to be exempted using [OAR 340-245-0060\(3\)\(b\)\(B\)](#).
 - b. Manufacturer data for the propane boiler (BLR2) to justify using emission factors for 10-100 MMBtu/hr.
 - c. Additional information on the types of wood processed at the facility to verify it is all "softwood".
 - d. For the Wood fuel boiler TEU (BLR3):
 - i. Manufacturer information on the ESP;
 - ii. Information on ash handling operations at the facility;
 - iii. The following regarding startup and shutdown procedures for this TEU, including:
 1. Startup and shutdown plan;
 2. Fuel used during startup and shutdown;
 3. Any emission controls used during startup and shutdown; and
 4. The number of startups and shutdowns per year.
 - e. For the Natural Gas Combustion in Dryer Auxiliary Burners TEU (DRY_NG):
 - i. Manufacturer documentation showing the natural gas dryer is <10 MMBtu/hr; and
 - ii. Verification that the natural gas dryer does not have a selective non-catalytic reduction (SNCR) system or a selective catalytic reduction (SCR) system.
 - f. For the Propane Emergency Generator TEU (EGEN): Manufacturer information for the generators to confirm "2-stroke lean burn" is representative. The Title V Operating Permit Review Report states the emergency generator used by the facility is a rich burn engine.
 - g. For the Emergency Diesel Generator Fire Pump TEU (FIRE):
 - i. Manufacturer documentation that these engines do not have NO_x controls;

- ii. Please note that if Freres can provide manufacturer documentation that the engines meet EPA Tier 4 emission standards¹, then DEQ would approve the use of the “Post-2006 Tier 2, 3 and 4 Diesel Internal Combustion Engine” emission factors from DEQ’s combustion spreadsheet² in the AQ520 form.
- h. For the Cooling Tower TEU (CT):
 - i. Additional manufacturer information to support the following:
 - 1. Water circulation rate used; and
 - 2. If the unit has a drift loss eliminator.
 - i. For the Fugitive Welding TEU (WELD): Electrode types used for each welding process, if available.
 - j. For the Propane tank TEUs (PROPANE_TNK1) and (PROPANE_TNK2): Based on the annual throughputs of propane provided in the Inventory, DEQ concurs that these TEUs are exempt in accordance with [OAR 340-245-0060](#)(3)(a).
- 2. Revise and submit all applicable submittal documents, including the AQ520, supporting calculations, and the process flow diagram, as necessary, to resolve the following:
 - a. For the Veneer Dryer TEUs (DRY_HEAT, DRY_NG, and DRY_COOL): Update these TEU IDs throughout the submittal documents to VD1_HEAT, VD2_HEAT, VD1_NG, VD2_NG, VD1_COOL, and VD2_COOL to match the EU IDs used in the permit. Conversely, Freres can provide justification why the TEU IDs should be different.
 - b. Clarify if the Steam Vats are the same TEU as the Steam Tunnel and, if so, be consistent on the naming convention for this TEU throughout the AQ520 form and supporting calculations. If these are separate TEUs, include both in the AQ520 form.
 - c. Provide additional clarification on the activity levels for the steam tunnels (TEU ID TUNNEL) and the veneer dryer heated and cooling zones (TEU IDs DRY_NG, DRY_HEAT, and DRY_COOL). The Process Flow Diagram shows all materials from the steam tunnels going to the veneer dryer heated and cooling zones. However, the activity levels in Tab 2 of the AQ520 form show 480,000 Msf-3/8" veneer in the Steam Tunnels with only 200,000 Msf-3/8" veneer in each of DRY_HEAT and DRY_COOL.
- 3. Provide a revised Process Flow Diagram with the following updates in accordance with [OAR 340-245-0040](#)(4)(b)(C)(i):
 - a. Include toxic emission unit (TEU) IDs as provided on the AQ520 form;
 - b. Include all emission point IDs as provided on the AQ520 form;
 - c. Include PROPANE_TNK1 and PROPANE_TNK2 TEUs; and
 - d. Any updates required to satisfy Comment 2.c above.
- 4. Provide a revised CAO Emissions Inventory AQ520 form³ that includes the updates and revisions required below:

¹ <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-U/part-1039>

² <https://www.oregon.gov/deq/aq/Documents/AQ104B-ToxicsATEICombustionTool.xlsx>

³ CAO has recently published an updated version of AQ520 form. Since the Inventory was started in the previous version, Freres may use the new version or continue to use the old version. The new version, along with a detailed instructions manual, is available in Step 2 of the Step-by-Step Guide for Facilities <https://www.oregon.gov/deq/aq/cao/pages/cao-risk-assessment-resources.aspx> and is also available on YDO.

- a. In Tab 2, provide “actual” annual and maximum daily production activities and usage, as applicable, in the 2024 calendar year, in accordance with [OAR 340-245-0040\(4\)\(a\)\(B\)\(i\)\(I\)](#).
- b. Do not use rounded emissions estimates in Tab 3. DEQ reviewed the emissions estimates provided in the form against direct calculations of the emission factors and the throughputs; many of the emissions estimates provided appeared to be rounded.
- c. For the Propane boiler TEU (BLR2): In Tab 3, use the CASRN number for benzo(a)pyrene (CASRN 50-32-8) for PAH emissions.
- d. For the Wood fuel boiler TEU (BLR3):
 - i. In Tab 3, remove “Unknown” from Column E “Control Efficiency”. This column should only provide numerical values of control efficiencies included in emission factors or in the emissions estimate calculations.
 - ii. In Tab 3, startup and shutdown emissions by using the “Mechanical Collector” emission factors from DEQ’s approved list of TAC emission factors for wood-fired boilers.
 - iii. In Tab 3, change the CASRN for Di-n-octyl phthalate to DEQ SEQ ID 518 (Phthalates).
- e. For Steam Tunnel Production TEU (TUNNEL):
 - i. In Tab 2 of the AQ520 form, include the percent distribution of the emissions to each emission point (e.g. % to VAT1A and % to VAT2D).
 - ii. In Tab 2 and 3, any updates required to satisfy Comments 2.b and 2.c, above.
- f. For Natural Gas Combustion in Dryer Auxiliary Burners TEU (DRY_NG):
 - i. Add Boiler 3 as a Control Device for this TEU in Column C of Tab 2.
 - ii. Include fugitive emissions (2% of total DRY_NG emissions) or justify that this sub-TEU is exempt.
- g. For Veneer Dryer Cooling Sections TEU (DRY_COOL): In Tab 2, Column E of the AQ 520 form, provide the percent distribution of the emissions to each emission point (e.g. % to D1CS and % to D2CS).
- h. For the Veneer Dryer TEUs (DRY_HEAT, DRY_NG, and DRY_COOL): Any updates required to satisfy Comments 2.a and 2.c, above.
- i. For Gasoline Dispensing TEU (GDF): In Tab 3, use the gasoline speciation enclosed in this letter.
- j. For GDF, EGEN, and FIRE TEUs: Update the activity units in Tab 2 for these TEUs to Mgallons to be consistent with the emission factor units (lb/Mgal).
- k. For the Emergency Diesel Generator Fire Pump TEU (FIRE): If Freres provides manufacturer documentation that the engines meet EPA Tier 4 emission standards¹, then update Tab 3 of the AQ520 form with emission factors from the “Post-2006 Tier 2, 3 and 4 Diesel Internal Combustion Engine” table from DEQ’s combustion spreadsheet⁴.
- l. For Cooling Tower TEU (CT): In Tab 2, Column E of the AQ520 form, provide the percent of emissions that go to each emission point listed. (% to CT01 and % to CT02)
- m. For Fugitive Welding TEU (WELD):
 - i. In Tab 3, update the welding emissions estimates to include the emissions from the Plant 1 Welding Shop for the Stooddy S965 product. It appears that these were not included in the total emissions estimates.
 - ii. In Tab 3, add the following TACs, at the concentrations listed, for the following welding rods:

⁴ <https://www.oregon.gov/deq/aq/Documents/AQ104B-ToxicsATEICombustionTool.xlsx>

1. Stoodly S965:
 - a. Fluorides (DEQ SEQ ID 239) at 1%; and
 - b. Provide additional information from the manufacturer on nickel concentrations in the welding rod. Nickel is mentioned in Section 15 “EPCRA/SARA Title III 313 Toxic Chemicals” of the SDS. DEQ may require nickel emissions be added to the Inventory.
2. Eutectic 7018RS:
 - a. Quartz, as “Silica, crystalline (respirable)” (CASRN 7631-86-9) at 3%;
 - b. Calcium Fluoride as “Fluorides” (DEQ SEQ ID 239) at 10%; and,
 - c. Provide additional information from the manufacturer on nickel concentrations in the welding rod. Nickel is mentioned in Section 15 “EPCRA/SARA Title III 313 Toxic Chemicals” of the SDS. DEQ may require nickel emissions be added to the Inventory.
3. Lincoln 7018:
 - a. Quartz, as “Silica, crystalline (respirable) (CASRN 7631-86-9) at 0.55%; and,
 - b. Calcium Fluoride as “Fluorides” (DEQ SEQ ID 239) at 7.5%.
4. Unibraz E120S: Nickel (CASRN 7440-02-0) at 1.975%.
- n. For the Sulfuric Acid Tank (SA_TANK) TEU:
 - i. Based on the throughput provided, this TEU can be considered exempt in accordance with [OAR 340-245-0060\(3\)\(b\)\(B\)](#).
 - ii. In Tab 2 of the AQ520 form, add “exempt TEU” to the Unit Description.
- o. Propane tank TEUs (PROPANE_TNK1) and (PROPANE_TNK2): In Tab 2 of the AQ520 form, add “exempt TEU” to the Unit Description.
- p. For the following TEUs, in Tab 4, Column F of the AQ520 form, provide the percent of emissions that go to each emission point listed. (e.g. % to FUG_P1, % to FUG_P2, and % to FUG_P4):
 - i. MB_P124; and,
 - ii. MB_WELD.
- q. In Tab 5, for the MB_P124 TEU using Krylon White: add barium sulfate as “Barium and compounds” (CASRN 7440-39-3) to the AQ520 form.
5. Consider the following during preparation of the Modeling Protocol for the Wood fuel boiler TEU (BLR3):
 - a. Consider having two AQ520 forms; one for the startup and shutdown scenario and one for the scenario with the ESP providing controls.
 - b. Stack parameters may differ between the startup and shutdown scenario and when the ESP is providing controls.

DEQ requests that you submit additional information to complete your Inventory. If you think that any of that information is confidential, trade secret or otherwise exempt from disclosure, in whole or in part, you must comply with the requirements in [OAR 340-214-0130](#) to identify this information. This includes clearly marking each page of the writing with a request for exemption from disclosure and stating the

specific statutory provision under which you claim exemption. Emissions data is not exempt from disclosure.

DEQ remains available to discuss this information request and answer any questions you may have. Failure to provide additional information, corrections, or updates to DEQ by the deadlines in this letter may result in a violation of [OAR 340-245-0030\(2\)](#).

If you have any questions regarding this letter, please contact me directly at heather.kuoppamaki@deq.oregon.gov or 503-407-7596, and I look forward to your continued assistance with this process.

Sincerely,

A handwritten signature in black ink, appearing to read 'H. Kuoppamaki', with a stylized flourish at the end.

Heather Kuoppamaki, P.E.
Cleaner Air Oregon Project Engineer

Encl: Draft Cleaner Air Oregon TAC Speciation for Gasoline

Cc: Kyle Freres, Freres Lumber Co.
File

Draft Cleaner Air Oregon TAC Speciation for Gasoline

Prepared for distribution 11/14/2023, CF

CASRN	Toxic Air Contaminant (TAC)	HAP	TAC Vapor Weight Fraction
526-73-8	1,2,3-Trimethylbenzene		0.00007058
95-63-6	1,2,4-Trimethylbenzene		0.00039799
108-67-8	1,3,5-Trimethylbenzene		0.00015565
540-84-1	2,2,4-Trimethylpentane	Y	0.01543471
91-57-6	2-Methyl naphthalene	Y	0.00000183
71-43-2	Benzene	Y	0.00549442
110-82-7	Cyclohexane		0.00452826
100-41-4	Ethyl benzene	Y	0.00141423
110-54-3	Hexane	Y	0.02169322
78-79-5	Isoprene, except from vegetative emission sources		0.00026761
98-82-8	Isopropylbenzene (cumene)	Y	0.00004279
108-38-3	m-Xylene	Y	0.00267533
91-20-3	Naphthalene	Y	0.00000597
95-47-6	o-Xylene	Y	0.00125055
106-42-3	p-Xylene	Y	0.00116709
108-88-3	Toluene	Y	0.013467

Source: California Air Resources Board Speciation Profiles, highest weight fraction for each TAC from from <https://ww2.arb.ca.gov/speciation-profiles-used-carb-modeling>

Profile 691: https://www.arb.ca.gov/ei/speciate/profilereference/headspace10_og691.pdf?_ga=2.268862007.758220910.1660859414-1997574997.1643846064

Profile 695: https://www.arb.ca.gov/ei/speciate/profilereference/headspace10w-og695.pdf?_ga=2.268862007.758220910.1660859414-1997574997.1643846064