

**Addendum to the  
Application to Revise  
Minor Permit No.  
AQ0483MSS03**

*for*

**Columbia River Carbonates  
Calder Mine**

*Submitted To:*

Alaska Department of Environmental Conservation  
Division of Air Quality, Air Permits Program

*Prepared By:*



*Consulting, LLC*

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**July 2022**

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## 1.0 Introduction

Columbia River Carbonates (CRC) operates Calder Mine (AQ0482MSS03). CRC submitted an application to revise its minor permit in May 2022. This document is an addendum to the original application. A signed Stationary Source Identification Form is included in Attachment A. CRC seeks to add two Caterpillar P3454C generator sets to the Owner Requested Limit (ORL). EU ID 28 was installed in October 2021. A second engine of the same make/model (EU ID 30) is also being installed. Engine emission data was provided by the manufacturer from the EPA certification source test for this engine family.

When EU ID 28 was installed, it did not require a minor permit prior to its installation. Adding a second engine (EU ID 30) of the same make and model likewise does not require a minor permit prior to its installation. However, CRC has chosen to limit the combined PTE of all its fuel-burning to under 40 TPY NO<sub>x</sub>, thus retaining its ability to increase its emissions at a future date and maximize its ability to avoid triggering requirements under 18 AAC 50.502(c)(4).

## 2.0 Adding EU ID 28 and 30 to the ORL

In accordance with §50.540(k)(2), CRC requests to include the new EU IDs 28 and 30 under the current ORL (Condition 13), which caps the sum total NO<sub>x</sub> emissions from engines listed in Table 2 of the permit to 36.0 tons per year (tpy). If EU IDs 28 and 30 were not included under the ORL, their combined unrestricted NO<sub>x</sub> PTE would raise Calder’s NO<sub>x</sub> PTE to more than 40 TPY. CRC wishes to include EU IDs 28 and 30 under the ORL so that the facility remains in the same permitting classification that it is in now.

**Table 1: Pollutant Emissions Summary**

|  | NO <sub>x</sub><br>tpy | CO<br>tpy | PM-10/2.5<br>tpy | SO <sub>2</sub><br>tpy | VOC<br>tpy |
|--|------------------------|-----------|------------------|------------------------|------------|
| Existing PTE<br>(TAR to AQ0483MSS03)                                     | 36.3                   | 8.6       | 2.7              | 15.1                   | 6.1        |
| New PTE  | 38.1                   | 10.5      | 4.3              | 18.5                   | 9.1        |
| Net Change in Emissions  | 1.8                    | 1.9       | 1.6              | 3.4                    | 3.0        |
| [18 AAC 50.502(c)(4)(A)]<br>Minor Permit Triggered by<br>an Increase of: | 40                     | 100       | 15/10            | 40                     | NA         |
| Minor Permit Triggered?  | No                     | No        | No               | No                     | No         |

In accordance with §50.540(k)(3)(A), the facility’s PTE does not change significantly as a result of the addition of EU IDs 28 and 30 to the ORL. PTE is calculated using EPA Tier 3, plus 25%, which is allowed in accordance with 40 CFR 1039.101(e)(3). The facility’s emissions are summarized in Table 1. Detailed emission calculations are included with this submittal in MS Excel (.xlsx) format. The manufacturer’s specification sheet and certificate of conformity for EU IDs 28 and 30 are included in Attachment A.

In accordance with §50.540(k)(3)(B), this change will require a change to Table 2 of AQ0482MSS03, as follows (additions shown in underlined text, deletions shown in ~~strikeout~~):

**Table 2: Revisions to Table 2 of AQ0483MSS03**

| EU ID         | Emission Factor<br>(lb/hr) |
|---------------|----------------------------|
| <del>1</del>  | <del>1.83</del>            |
| <del>2</del>  | <del>14.45</del>           |
| <del>3</del>  | <del>0.68</del>            |
| <del>4</del>  | <del>2.33</del>            |
| <del>5</del>  | <del>16.37</del>           |
| 5a            | 4.47                       |
| <del>6a</del> | <del>0.84</del>            |
| <del>20</del> | <del>1.63</del>            |
| <u>28</u>     | <u>0.67</u>                |
| <u>29</u>     | <u>4.47</u>                |
| <u>30</u>     | <u>0.67</u>                |

In accordance with §50.540(k)(3)(D), CRC will retain the same compliance assurance monitoring methods described in Condition 13 of AQ0482MSS03 without revision.

**Attachment A: Stationary Source Identification Form**

**Alaska Department of Environmental Conservation  
Air Quality Minor Permit Application**

**ADEC USE ONLY**  
 Receiving Date:  
 ADEC Control Number  
 AQ      MSS      :     



**STATIONARY SOURCE IDENTIFICATION FORM**

**Section 1 Stationary Source Information**

|   |  |  |  |          |                             |
|---|--|--|--|----------|-----------------------------|
| Stationary Source Name:Calder Mine                    |  |  | SIC:                                     |          |                             |
| Project Name (if different): Calder Mine Minor Permit |  |  | Stationary Source Contact:Patrick Sypher |          |                             |
| Source Physical Address:Prince of Wales Island        |  |  | City:Woodland                            | State:WA | Zip:98674                   |
|   |  |  | Telephone:360-225-4162                   |          |                             |
|   |  |  | E-Mail Address:psypher@carbonates.com    |          |                             |
| UTM Coordinates (m) or Latitude/Longitude: Lat/Long   |  |  | Northing:                                | Easting: | Zone:                       |
|   |  |  | Latitude:56° 9' 13.19" N                 |          | Longitude:133° 27' 40.17" W |

**Section 2 Legal Owner**

|   |          |           |
|---|----------|-----------|
| Name:Joerg Bleeck/Columbia River Carbonates |          |           |
| Mailing Address:<br>300 N. Pekin Rd.        |          |           |
| City:Woodland                               | State:WA | Zip:98674 |
| Telephone #:                                |          |           |
| E-Mail Address:                             |          |           |

**Section 3 Operator (if different from owner)**

|                  |        |      |
|------------------|--------|------|
| Name:same        |        |      |
| Mailing Address: |        |      |
| City:            | State: | Zip: |
| Telephone #:     |        |      |
| E-Mail Address:  |        |      |

**Section 4 Designated Agent (for service of process)**

|                   |        |      |
|-------------------|--------|------|
| Name:             |        |      |
| Mailing Address:  |        |      |
| City              | State: | Zip: |
| Physical Address: |        |      |
| City:             | State: | Zip: |
| Telephone #:      |        |      |
| E-Mail Address:   |        |      |

**Section 5 Billing Contact Person (if different from owner)**

|  |          |           |
|--|----------|-----------|
| Name:Eileen Griffiths                    |          |           |
| Mailing Address:300 N. Pekin Rd.         |          |           |
| City:Woodland                            | State:WA | Zip:98674 |
| Telephone #: 360-225-4162                |          |           |
| E-Mail Address:egriffiths@carbonates.com |          |           |
|  |          |           |
|  |          |           |

**Section 6 Application Contact**

|   |          |           |
|---|----------|-----------|
| Name:Donna MS Celia, HMH Consulting                       |          |           |
| Mailing Address:200 W. 34th Avenue<br>Anchorage, AK 99503 |          |           |
| City:Anchorage  | State:AK | Zip:99517 |
| Telephone:(907) 231-2484                                  |          |           |
| E-Mail Address:donna@hmhconsulting.org                    |          |           |

**Section 7 Desired Process Method** (Check only one – see 18 AAC 50.542(a) for process descriptions and restrictions)

- Fast Track [18 AAC 50.542(b)]       Public Comment [18 AAC 50.542(d)]

**STATIONARY SOURCE IDENTIFICATION FORM**

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**Section 8 Project Description**

Provide/attach a short narrative describing the project. Discuss the purpose for conducting this project, what emission units/activities will be added/modified under this project (i.e., project scope), and the project timeline. If the project is a modification to an existing stationary source, describe how this project will affect the existing process. Include any other discussion that may assist the Department in understanding your project or processing your application. Include a schedule of construction and the desired date for permit issuance.

If this application includes an Owner Requested Limit or a request to revise an existing permit term or condition, describe the intent of the limit, and provide sample language for the limit, and for monitoring, record keeping, and reporting for showing compliance with the limit.

*Add additional pages if necessary.*

This application is an addendum to the original application. It is being submitted under 18 AAC 50.508(6). All information required under 18 AAC 50.540(k) is included herein. This application proposes to add another new engine to the inventory (EU ID 30) and to include both EU ID 28 and 30 under the existing ORL.

## STATIONARY SOURCE IDENTIFICATION FORM

### Section 9 Source Classification(s) (Check all that apply)

[18 AAC 50.502(b)]

- Asphalt Plant [≥ 5 ton per hour]
- Thermal Soil Remediation Unit [≥ 5 ton per hour]
- Rock Crusher [≥ 5 ton per hour]
- Incinerator(s) [total rated capacity ≥ 1000 lb/hour]
- Coal preparation plant
- Port of Anchorage Facility

If you checked any of the above, is (are) the emission unit(s)  new,  relocated\*, or  existing?

[18 AAC 50.502(c)(1)]

New or relocated\* stationary source with potential emissions greater than:

- 40 tons per year (TPY) NO<sub>x</sub>
- 40 tons per year SO<sub>2</sub>
- 15 tons per year PM-10
- 0.6 tons per year lead
- 100 tons per year CO in a nonattainment area

[18 AAC 50.502(c)(2)]

Construction or relocation\* of a:

- Portable oil and gas operation
- 10 MMBtu/hr fuel burning equipment in a SO<sub>2</sub> special protection area

*\*Relocation does NOT include moving equipment from one place to another within your current stationary source boundary.*

### Section 10 Modification Classification(s) (Check all that apply)

[18 AAC 50.502(c)(3)]

- NO<sub>x</sub> Increase > 10 TPY [and existing PTE > 40 tons per year]
- SO<sub>2</sub> Increase > 10 TPY [and existing PTE > 40 tons per year]
- PM-10 Increase > 10 TPY [and existing PTE > 15 tons per year]
- CO Increase > 100 TPY [and existing PTE > 100 tons per year in a nonattainment area]

Basis for calculating modification:

- Projected actual emissions - baseline actual emissions
- New potential emissions - existing potential emissions

### Section 11 Permit Action Request (Check all that apply)

[18 AAC 50.508]

- ~~Clean Unit designation (vacated by Court)~~
- ~~Pollution Control Project designation (vacated by Court)~~
- Establish Plantwide Applicability Limitation
- Establish emission reductions to offset nonattainment pollutant
- Owner Requested Limit\*
- Revise or Rescind Title I Permit Conditions\*

Permit Number: AQ0483MSS03 Date: August 24, 2015

Condition #: 13

\*Which to use? See <http://www.dec.state.ak.us/air/ap/docs/orlrtc.pdf>

### Section 12 Existing Permits and Limits

For an existing stationary source, do you have an existing:

(Check any that apply)

- Air quality permit Number(s)\*: AQ0483MSS03
- Owner Requested Limit Number(s):
- Pre Approved (Emission) Limit Number(s)\*\*:

\* All valid construction, Title V, and minor permit numbers.

\*\*Optional. Please provide this number if possible.

See <http://www.state.ak.us/dec/air/ap/pals.htm>

### Section 13 Other Application Material

The information listed below must be included in your air quality control minor permit application. *Note: These must be attached in order for your application to be complete.*

If required to submit an analysis of ambient air quality under 18 AAC 50.540(c)(2), or if otherwise requested by the department:

- Attached are maps, plans, and/or aerial photographs as necessary to show the locations and distances of
  - emissions units, buildings, emitting activities and boundaries of the associated with the stationary source, and
  - nearby or adjacent residences, roads, other occupied structures and general topography within 15 kilometers.(Indicate compass direction and scale on each.)

- Attached is a document (eg., spreadsheet) showing coordinates and elevations of each modeled unit, along with parameters necessary to characterize each unit for dispersion modeling.

- Attached is an electronic copy of all modeling files.

If located within an approved coastal district:

- Attached is a completed Coastal Project Questionnaire (CPQ) for the stationary source

**STATIONARY SOURCE IDENTIFICATION FORM**

**Section 14 Certification**

This certification applies to the Air Quality Control Minor Permit Application for the Calder Mine  
submitted to the department on: June 2022. (Stationary Source Name)

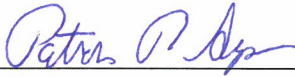
**Type of Application**

- Initial Application
- Change to Initial Application

The application is **NOT** complete unless the certification of truth, accuracy, and completeness on this form bears the **signature of a responsible official** of the firm making the application. (18 AAC 50.205)

**CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS**

“Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.”

|  |                                     |
|--|-------------------------------------|
| Signature:  | Date: <u>7/7/2022</u>               |
| Printed Name: Patrick Sypher   | Title: Manager/Responsible Official |

**Section 15 Attachments**

- Attachments Included. List attachments:
- Addendum to the Application to Revise Air Quality Permit No. AQ0483MSS03
  - Emision Calculations provided in MS Excel (.xlsx)
  - Attachemnt A: SSID Form
  - Attachemnt B: Mfg. Performance Specifiation Data and EPA Cert. of Conformity
  - \_\_\_\_\_
  - \_\_\_\_\_

**Section 16 Mailing Address**

Submit the minor permit application to the Construction Permit Supervisor in the department’s Juneau office. Submitting to a different office will delay processing. The mailing address and phone number for the Juneau office is:

ADEC, Air Permits Program  
410 Willoughby Ave., Suite 303  
P.O. Box 111800  
Juneau, AK 99811-1800

(907) 465-5100

**Attachmetn B: Manufacturer's Performance Specification Data**



GEN SET PACKAGE PERFORMANCE DATA [NAC147P]

JUNE 14, 2022

For Help Desk Phone Numbers [Click here](#)

Performance Number: P3454C

Change Level: 00

Sales Model: C4.4 DITA      Combustion: DI      Aspr: TA

Engine Power:  
40 W/F EKW      Speed: 1,800 RPM      After Cooler: AA  
69 HP

Manifold Type:      Governor Type:      After Cooler Temp(F): 187

Turbo Quantity:      Engine App: GP      Turbo Arrangement:

Hertz: 60      Application Type: PACKAGE-DIE      Engine Rating: PGS      Strategy:

Rating Type: STANDBY      Certification: EPA TIER 3 -

General Performance Data 1

| GEN W/F EKW | PERCENT LOAD | ENGINE POWER BHP | ENGINE BMEP PSI | FUEL BSFC LB/BHP-HR | FUEL RATE GPH | INTAKE MFLD P IN-HG | INTAKE AIR FLOW CFM | EXH STACK TEMP DEG F | EXH GAS FLOW CFM |
|-------------|--------------|------------------|-----------------|---------------------|---------------|---------------------|---------------------|----------------------|------------------|
| 40          | 100          | 69               | 77.28           | 0.42                | 4.09          | 28.7                | 162.45              | 906.8                | 169.51           |
| 36          | 90           | 62               | 71.91           | 0.43                | 3.82          | 26.03               | 158.92              | 864.14               | 162.45           |
| 27          | 68           | 47               | 53              | 0.47                | 3.14          | 18.89               | 144.79              | 744.8                | 148.32           |
| 18          | 45           | 31               | 34.06           | 0.59                | 2.63          | 11.99               | 130.66              | 597.2                | 130.66           |
| 9           | 22           | 16               | 16.98           | 0.78                | 1.74          | 5.57                | 113.01              | 426.74               | 116.54           |

Engine Heat Rejection Data

| GEN W/F EKW | PERCENT LOAD | REJ TO JW BTU/MN | REJ TO EXHAUST BTU/MN |
|-------------|--------------|------------------|-----------------------|
| 40          | 100          | 2,195.2          | 2,945.9               |
| 36          | 90           | 2,024.6          | 2,689.9               |
| 27          | 68           | 1,632.2          | 2,041.6               |
| 18          | 45           | 1,256.8          | 1,404.7               |
| 9           | 22           | 875.8            | 779.1                 |

EMISSIONS DATA

EPA TIER 3 - \*\*\*\*\* J1

No notes were found for this certification...

|  |             |
|--|-------------|
| REFERENCE EXHAUST STACK DIAMETER                   | 0 IN        |
| WET EXHAUST MASS                                   | 820.1 LB/HR |
| WET EXHAUST FLOW (-- STACK TEMP)                   | --          |
| WET EXHAUST FLOW RATE ( 32 DEG F AND 29.98 IN HG ) | --          |
| DRY EXHAUST FLOW RATE ( 32 DEG F AND 29.98 IN HG ) | --          |
| FUEL FLOW RATE                                     | --          |

The powers listed above and all the Powers displayed are Corrected Powers

Identification Reference and Notes

|   |            |  |          |
|---|------------|--|----------|
| <b>Engine Arrangement:</b>                    |            | <b>Lube Oil Press @ Rated Spd(PSI):</b>      | 0.0      |
| <b>Effective Serial No:</b>                   |            | <b>Piston Speed @ Rated Eng SPD(FT/Min):</b> | --       |
| <b>Primary Engine Test Spec:</b>              |            | <b>Max Operating Altitude(FT):</b>           | -3,277.6 |
| <b>Performance Parm Ref:</b>                  |            | <b>PEEC Elect Control Module Ref</b>         |          |
| <b>Performance Data Ref:</b>                  | P3454C     | <b>PEEC Personality Cont Mod Ref</b>         |          |
| <b>Aux Coolant Pump Perf Ref:</b>             |            |  |          |
| <b>Cooling System Perf Ref:</b>               |            | <b>Turbocharger Model</b>                    |          |
| <b>Certification Ref:</b>                     | EPA TIER 3 | <b>Fuel Injector</b>                         |          |
| <b>Certification Year:</b>                    |            | <b>Timing-Static (DEG):</b>                  | --       |
| <b>Compression Ratio:</b>                     | 18.2       | <b>Timing-Static Advance (DEG):</b>          | --       |
| <b>Combustion System:</b>                     | DI         | <b>Timing-Static (MM):</b>                   | --       |
| <b>Aftercooler Temperature (F):</b>           | 187        | <b>Unit Injector Timing (MM):</b>            | --       |
| <b>Crankcase Blowby Rate(CFH):</b>            | --         | <b>Torque Rise (percent)</b>                 | 0.0      |
| <b>Fuel Rate (Rated RPM) No Load(Gal/HR):</b> | --         | <b>Peak Torque Speed RPM</b>                 | 1800     |
| <b>Lube Oil Press @ Low Idle Spd(PSI):</b>    | 0.0        | <b>Peak Torque (LB.FT):</b>                  | 452.9    |

**Reference  
Number: P3454C**

EPA TIER 3 J1

**Parameters  
Reference:**

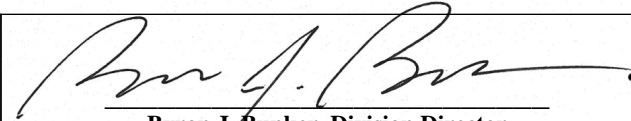


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
2020 MODEL YEAR  
CERTIFICATE OF CONFORMITY  
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION  
AND AIR QUALITY  
ANN ARBOR, MICHIGAN 48105

**Certificate Issued To:** Perkins Engines Co Ltd  
(U.S. Manufacturer or Importer)  
**Certificate Number:** LPKXL04.4NL1-019

**Effective Date:**  
10/10/2019  
**Expiration Date:**  
12/31/2020

  
Byron J. Bunker, Division Director  
Compliance Division

**Issue Date:**  
10/10/2019  
**Revision Date:**  
N/A

**Model Year:** 2020  
**Manufacturer Type:** Original Engine Manufacturer  
**Engine Family:** LPKXL04.4NL1

**Mobile/Stationary Indicator:** Stationary  
**Emissions Power Category:** 56<=kW<75  
**Fuel Type:** Diesel, Non-Standard Fuel  
**After Treatment Devices:** No After Treatment Devices Installed  
**Non-after Treatment Devices:** Smoke Puff Limiter

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

The actual engine power may lie outside the limits of the Emissions Power Category shown above. See the certificate application for details.