EMAILED
11/25/2026

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF AIR QUALITY
STATE STREET COMMONS
100 W. WATER STREET, SUITE 6A
DOVER, DELAWARE 19904

ENGINEERING & COMPLIANCE

PHONE
(302) 739-9402

November 25, 2026

Middletown Materials, LLC
10 Adel Drive
Newark, DE 19702

ATTENTION: Barry J. Baker
Member

SUBJECT: Middletown Materials, LLC Draft Permit

Dear Mr. Baker:

Attached you will find a copy of Draft Permits: **APC-2026/0215-CONSTRUCTION (NSPS)(MNSR)(FE)** to increase stack height for one (1) 355 Horsepower Volvo Engine and McCloskey J45 Jaw Crusher (GCS-28), **APC-2027/0038-CONSTRUCTION (NSPS)(MNSR)(FE)** to increase stack height for one (1) 150 Horsepower Caterpillar Engine and McCloskey 621 RE Trommel Screener (GCS-24), and **APC-2027/0039-CONSTRUCTION (NSPS)(MNSR)(FE)** to increase stack height for one (1) 100 Horsepower Caterpillar Engine and McCloskey MCB616REG Trommel Screen Plant (GCS-11). These permits are being made federally enforceable so their terms and conditions can be transferred to your facility's Facility Wide Synthetic Minor Operating Permit (**APC-2002/0738-OPERATION (Amendment 13)(SM)**) via the administrative permit amendment process.

In order to make the terms and conditions of Permits: **APC-2026/0215-CONSTRUCTION (NSPS)(MNSR)(FE)**, **APC-2027/0038-CONSTRUCTION (NSPS)(MNSR)(FE)**, and **APC-2027/0039-CONSTRUCTION (NSPS)(MNSR)(FE)** federally enforceable, notice has been sent to EPA and a Public Notice was advertised in the Sunday News Journal and Delaware State News on Wednesday, November 25, 2026 to commence a thirty (30) day comment period.

I have also enclosed a copy of Synthetic Minor Draft **Permit: APC-2002/0738-OPERATION (Amendment 13)(SM)** that was sent to EPA for review. The Draft Permit will also be advertised for public comment on Wednesday, November 25, 2026 in the Sunday News Journal and the Delaware State News.

The public comment period ends December 25, 2026. Any comments should be brought to the Department's attention on or before December 25, 2026 and mailed to the following address:

State of Delaware - DNREC
Division of Air Quality
State Street Commons

100 W. Water Street, Suite 6A
Dover, DE 19904
ATTN: Angela Marconi, Division Director

The Department requests that you mail the original and one (1) copy if you submit comments. If the Department receives significant comments on the Draft Permits, comments will be evaluated, responses will be prepared, and the permits will be revised as necessary.

Any questions concerning the attached Draft Permits may be directed to me at (302) 739-9402.

Sincerely,

Melanie A. Smith

Melanie A. Smith, P.E.
Environmental Engineer
Engineering & Compliance Section

ASM:JGM:MAS
F:\EngAndCompliance\MAS\2026\mas26121.doc

pc: Dover File
Amy Mann
Jordan Matthews

EMAILED
11/25/2026

Dear Mr. He:

As Specified in 7 **DE Admin. Code** 1102, Section 12.3, promulgated June 11, 2006, Delaware is submitting the attached federally enforceable construction permits for Middletown Materials, LLC for EPA review. DNREC believes the restrictions contained in the Draft Permits are practically enforceable and seeks federal enforceability by complying with Sections 11.2.9 and 12.3 of 7 **DE Admin. Code** 1102. Please note that the equipment covered by these permits and the associated permit conditions will be incorporated into Middletown Materials, LLC's Facility Wide Synthetic Minor permit, **Permit: APC-2002/0738-OPERATION (Amendment 13)(SM)** via the Administrative Amendment process.

The Draft Permits will be advertised on Wednesday, November 25, 2026. Please note that the public comment period ends thirty (30) days from this date. DNREC requests that the EPA submit any comments on or before Friday, December 25, 2026.

Sincerely,
Jordan Matthews

EPA Air Permits Branch Manager	He.Yongtian@epa.gov
PMII	Amy.Mann@delaware.gov
PMI	Jordan.Matthews@delaware.gov
Engineer	Melanie.Smith@delaware.gov
Management Analyst	Tracy.Mattson@delaware.gov
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DNRECtory (DNREC)	DAQ.DNRECtory@delaware.gov

STATE OF DELAWARE
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November 25, 2026

DRAFT Permit: APC-2002/0738-OPERATION (Amendment 13)(NSPS)(MNSR)(SM)

Middletown Materials, LLC
650 Horsepower Morbark Tub Grinder (GCS-04)
750 Horsepower Morbark Tub Grinder (GCS-15)
1200 Horsepower Morbark Tub Grinder (GCS-21)
425 Horsepower Portable Nordberg Lokotrack Crusher (GCS-16)
475 Horsepower Nordberg Crushing and Screening Plant (GCS-26)
350 Horsepower McCloskey 144 RV3HD Impact Crusher (GCS-32)
115 Horsepower Edge TS100 Stacker (GCS-33)
225 Horsepower McCloskey R230 Tracked Screen (GCS-29)
100 Horsepower Ezystak BF7042 Belt Feeder (GCS-25)
110 Horsepower Terex Warrior Power Screen (GCS-18)

ATTENTION: Barry J. Baker
Member

Dear Mr. Baker:

Pursuant to 7 **DE Admin. Code** 1102, Section 2, approval of the Department of Natural Resources and Environmental Control (the Department) is hereby granted for the operation of one (1) 650 horsepower Morbark Tub Grinder, GCS-04, one (1) 750 horsepower Morbark Tub Grinder, GCS-15, one (1) 1200 horsepower Morbark Tub Grinder, GCS-21, one (1) 425 horsepower portable Nordberg Lokotrack Crusher, GCS-16, one (1) 475 Horsepower Nordberg Crushing and Screening Plant (GCS-26), one (1) 350 Horsepower McCloskey 144 RV3HD Impact Crusher (GCS-32), one (1) 115 Horsepower Edge TS100 Stacker (GCS-33), one (1) 225 Horsepower McCloskey R230 Tracked Screen (GCS-29), one (1) 100 Horsepower Ezystak BF7042 Belt Feeder (GCS-25), one (1) 150 Horsepower McCloskey 621 RE Trommel Screener (GCS-24), one (1) 100 Horsepower McCloskey MCB616REG Trommel Screen Plant (GCS-11), and one (1) 110 Horsepower Terex Warrior Power Screen (GCS-18), located at 1559 Cedar Lane Road in Middletown, Delaware, in accordance with the application submitted on Form Nos. AQM-1, AQM-3.3, and AQM-5 dated September 10, 2013 signed by Barry J. Baker, Owner, and letters dated September 10, 2013 signed by Barry J. Baker with reference to GCS-15 and GCS-04. Also, in accordance with applications submitted on Form Nos. AQM-1, AQM-3.3, and AQM-3.9 dated September 10, 2013 signed by Barry J. Baker, Owner with reference to GCS-16, and Form Nos. AQM-1, AQM-2, AQM-3.3, and AQM-3.9 dated May 22, 2017 signed by Barry J. Baker, Owner with reference to GCS-21 and GCS-22. Also, in accordance with a letter submitted on September 5, 2019 signed by Barry J. Baker, Owner with reference to GCS-21, a

letter submitted on October 7, 2020 signed by Barry J. Baker, Owner with reference to GCS-16, a letter submitted May 18, 2021 with additional information received June 7, 2021 signed by Barry J. Baker, Owner with reference to GCS-16, a letter submitted October 30, 2023 with additional information received November 13, 2023 signed by Jacob R. Yohe, P.E., Vice President Operations with reference to GCS-22, letters dated July 21, 2025 and August 20, 2025 from Jessica Moore, Middletown Materials, LLC to transfer 475 HP Nordberg crushing and screening plant from Christiana Materials, LLC to Middletown Materials, LLC, application dated April 22, 2026 signed by Jessica Moore, Middletown Materials, LLC, conditional use zoning approval email dated June 17, 2026 from Amber Moore, RainWise Environmental Solutions, LLC, and emails dated August 5, 2026 and September 8, 2026 from Amber Moore, RainWise Environmental Solutions, LLC. Zoning approval for use of equipment at 20139 Lowes Rd, Millsboro in email dated June 17, 2026 from Amber Moore, Rainwise Environmental Solutions, LLC, and DelDOT Contract T201412701, Town of Georgetown in email dated September 23, 2026 from Amber Moore, Rainwise Environmental Solutions, LLC.

This permit is issued subject to the following conditions all of which are federally enforceable except Conditions 2.29, 3.2.3, 3.3.2, 3.4.2, 3.5.2, 3.6.2, 3.6.3, 3.6.4, 3.6.5, 3.7.3 and 6.1:

1. General Provisions

1.1 The operational limitations of Condition 3.7 are voluntary restrictions to limit NOx and $PM_{2.5}$ emissions to below the five (5) ton per year applicability threshold of 7 **DE Admin. Code** 1125, Section 4, Minor New Source Review. The owner and/or operator shall meet the control technology requirements of 7 **DE Admin. Code** 1125, Section 4, Minor New Source Review if an increase in the operational limitations of Condition 3.7 results in an increase in NOx or $PM_{2.5}$ potential to emit above five tons per year.

1.2 Middletown Materials, LLC agrees that all limits, restrictions, and requirements in this permit are necessary to limit their potential to emit below major source thresholds. Violation of any limit restriction or requirement contained therein may be grounds for suspension or revocation of the permit or other enforcement action for noncompliance with the permit, the failure to apply for a Title V permit, or the failure to obtain a Title V permit.

1.3. Representatives of the Department may, at any reasonable time, inspect this facility.

1.4. This permit may not be transferred to any location other than those designated under Condition 3 of this permit or to another piece of equipment or process.

1.5. This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. Approval (or disapproval) of the permit transfer will be provided by the Department in writing. A request for a permit transfer shall be received by the Department at least thirty (30) days before the date of the requested permit transfer. This request shall include:

1.5.1. Signed letters from each person stating the permit transfer is agreeable to each person, and

1.5.2. An Application Background Information Questionnaire pursuant to 7 Del C, Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.

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1.6. The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to 7 **DE Admin. Code** 1102, and, when applicable 7 **DE Admin. Code** 1125, and receiving approval of such application from the Department; except as exempted in 7 **DE Admin. Code** 1102, Section 2.2.

2. Emission Limitations

2.1 The Caterpillar engine for the McCloskey 144 RV3HD Impact Crusher (GCS-32) shall meet the applicable emissions standards set by the US EPA for non-road engines: 40 CFR Part 1039 Subpart B, 86FR34499, June 29, 2021, Tier 4.

2.2 The Caterpillar engine for the Edge TS100 Stacker (GCS-33) shall meet the applicable emissions standards set by the US EPA for non-road engines: 40 CFR Part 1039 Subpart B, 86FR34499, June 29, 2021, Tier 4.

2.3 The Caterpillar engine for the McCloskey R230 Tracked Screen (GCS-29) shall meet the applicable emissions standards set by the US EPA for non-road engines: 40 CFR Part 1039 Subpart B, 86FR34499, June 29, 2021, Tier 3.

2.4 The Caterpillar engine for the Ezystak BF7042 Belt Feeder (GCS-25) shall meet the applicable emissions standards set by the US EPA for non-road engines: 40 CFR Part 1039 Subpart B, 86FR34499, June 29, 2021, Tier 4.

2.5 The Caterpillar engine for the Terex Warrior 1800 Power Screen (GCS-18) shall meet the applicable emissions standards set by the US EPA for non-road engines: 40 CFR Part 1039 Subpart B, 86FR34499, June 29, 2021, Tier 4.

2.6. Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-04 (Caterpillar 3412 engine):

2.6.1. Nitrogen Oxide (NO_x) Emissions
NOx emissions shall not exceed 8.886 pounds per hour and 2.22 tons per twelve (12) month rolling period;

2.6.2. Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 1.001 pounds per hour and 0.25 tons per twelve (12) month rolling period;

2.6.3. Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 0.143 pounds per hour and 0.036 tons per twelve (12) month rolling period;

2.6.4. Particulate Matter (PM) Emissions
2.6.4.1 PM emissions shall not exceed 0.117 pounds per hour and 0.029 tons per twelve (12) month rolling period;

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2.6.4.2 The Caterpillar engine shall not cause the emissions of particulate matter in excess of 0.3 pounds per million BTU heat input, maximum 2-hour average.

2.6.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.117 pounds per hour and 0.029 tons per twelve (12) month rolling period;

2.6.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.117 pounds per hour and 0.029 tons per twelve (12) month rolling period; and

2.6.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.008 pounds per hour and 0.002 tons per twelve (12) month rolling period;

2.7 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-04 (tub grinder):

2.7.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.16 tons per twelve (12) month rolling period;

2.7.2 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.072 tons per twelve (12) month rolling period; and

2.7.3 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.072 tons per twelve (12) month rolling period.

2.8. Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-15 (Caterpillar 3054 engine):

2.8.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 10.253 pounds per hour and 2.56 tons per twelve (12) month rolling period;

2.8.2 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 1.155 pounds per hour and 0.289 tons per twelve (12) month rolling period;

2.8.3 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 0.165 pounds per hour and 0.041 tons per twelve (12) month rolling period;

2.8.4 Particulate Matter (PM) Emissions
2.8.4.1 PM emissions shall not exceed 0.135 pounds per hour and 0.033 tons per twelve (12) month rolling period;

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2.8.4.2 The Caterpillar engine shall not cause the emissions of particulate matter in excess of 0.3 pounds per million BTU heat input, maximum 2-hour average.

2.8.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.135 pounds per hour and 0.033 tons per twelve (12) month rolling period;

2.8.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.135 pounds per hour and 0.033 tons per twelve (12) month rolling period; and

2.8.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.009 pounds per hour and 0.002 tons per twelve (12) month rolling period;

2.9 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-15 (tub grinder):

2.9.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.09 tons per twelve (12) month rolling period;

2.9.2 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.039 tons per twelve (12) month rolling period; and

2.9.3 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.039 tons per twelve (12) month rolling period.

2.10 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-21 (Caterpillar 3412 engine):

2.10.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 18.15 pounds per hour and 7.58 tons per twelve (12) month rolling period;

2.10.2 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 22.49 pounds per hour and 9.39 tons per twelve (12) month rolling period;

2.10.3 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 2.56 pounds per hour and 1.07 tons per twelve (12) month rolling period;

2.10.4 Particulate Matter (PM) Emissions
2.10.4.1 PM emissions shall not exceed 1.07 pounds per hour and 0.44 tons per twelve (12) month rolling period;

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2.10.4.2 The Caterpillar engine shall not cause the emissions of particulate matter in excess of 0.3 pounds per million BTU heat input, maximum 2-hour average.

2.10.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 1.07 pounds per hour and 0.44 tons per twelve (12) month rolling period;

2.10.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 1.07 pounds per hour and 0.44 tons per twelve (12) month rolling period; and

2.10.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.015 pounds per hour and 0.0061 tons per twelve (12) month rolling period;

2.11 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-21 (tub grinder):

2.21.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.18 tons per twelve (12) month rolling period;

2.11.1 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.080 tons per twelve (12) month rolling period; and

2.11.2 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.080 tons per twelve (12) month rolling period.

2.12. Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-16 (Caterpillar C12 engine):

2.12.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 6.465 pounds per hour and 3.23 tons per twelve (12) month rolling period;

2.12.2 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 7.964 pounds per hour and 3.98 tons per twelve (12) month rolling period;

2.12.3 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 0.937 pounds per hour and 0.47 tons per twelve (12) month rolling period;

2.12.4 Particulate Matter (PM) Emissions
2.12.4.1 PM emissions shall not exceed 0.375 pounds per hour and 0.19 tons per twelve (12) month rolling period;

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2.12.4.2 The Caterpillar engine shall not cause the emissions of particulate matter in excess of 0.3 pounds per million BTU heat input, maximum 2-hour average.

2.12.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.375 pounds per hour and 0.19 tons per twelve (12) month rolling period;

2.12.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.375 pounds per hour and 0.19 tons per twelve (12) month rolling period; and

2.12.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.005 pounds per hour and 0.003 tons per twelve (12) month rolling period.

2.13 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-16 (crusher):

2.13.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.81 tons per twelve (12) month rolling period;

2.13.2 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.36 tons per twelve (12) month rolling period; and

2.13.3 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.36 tons per twelve (12) month rolling period.

2.14. Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-26 (Cummins CN14 engine):

2.14.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 6.7 pounds per hour and 3.8 tons per twelve (12) month rolling period;

2.14.2 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 0.82 pounds per hour and 0.46 tons per twelve (12) month rolling period;

2.14.3 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 0.21 pounds per hour and 0.12 tons per twelve (12) month rolling period;

2.14.4 Particulate Matter (PM) Emissions
2.14.4.1 PM emissions shall not exceed 0.12 pounds per hour and 0.065 tons per twelve (12) month rolling period;

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2.14.4.2 The Cummins engine shall not cause the emissions of particulate matter in excess of 0.3 pounds per million BTU heat input, maximum 2-hour average.

2.14.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.12 pounds per hour and 0.065 tons per twelve (12) month rolling period;

2.14.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.12 pounds per hour and 0.065 tons per twelve (12) month rolling period; and

2.14.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.006 pounds per hour and 0.003 tons per twelve (12) month rolling period.

2.15 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-26 (crusher and screener):

2.15.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.19 tons per twelve (12) month rolling period;

2.15.1 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.073 tons per twelve (12) month rolling period; and

2.15.2 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.0085 tons per twelve (12) month rolling period.

2.16 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-32 (Caterpillar C9.3B engine):

2.16.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 0.23 pounds per hour and 0.15 tons per twelve (12) month rolling period;

2.16.2 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 2.01 pounds per hour and 1.30 tons per twelve (12) month rolling period;

2.16.3 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 0.11 pounds per hour and 0.070 tons per twelve (12) month rolling period;

2.16.4 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.0058 pounds per hour and 0.004 tons per twelve (12) month rolling period;

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2.16.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.0058 pounds per hour and 0.004 tons per twelve (12) month rolling period;

2.16.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.0058 pounds per hour and 0.004 tons per twelve (12) month rolling period; and

2.16.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.004 pounds per hour and 0.003 tons per twelve (12) month rolling period.

2.17 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-32 (impact crusher, screen and conveyors):

2.17.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.99 tons per twelve (12) month rolling period;

2.17.2 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.366 tons per twelve (12) month rolling period; and

2.17.3 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.049 tons per twelve (12) month rolling period.

2.18. Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-33 (Caterpillar C3.4 engine):

2.18.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 0.076 pounds per hour and 0.049 tons per twelve (12) month rolling period;

2.18.2 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 0.94 pounds per hour and 0.61 tons per twelve (12) month rolling period;

2.18.3 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 0.036 pounds per hour and 0.023 tons per twelve (12) month rolling period;

2.18.4 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.004 pounds per hour and 0.003 tons per twelve (12) month rolling period;

2.18.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.004 pounds per hour and 0.003 tons per twelve (12) month rolling period;

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2.18.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.004 pounds per hour and 0.003 tons per twelve (12) month rolling period; and

2.18.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.0014 pounds per hour and 0.001 tons per twelve (12) month rolling period.

2.19 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-33 (stacker):

2.19.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.036 tons per twelve (12) month rolling period;

2.19.2 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.012 tons per twelve (12) month rolling period; and

2.19.3 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.003 tons per twelve (12) month rolling period.

2.20. Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-29 (Caterpillar C6.6 engine):

2.20.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 0.15 pounds per hour and 0.097 tons per twelve (12) month rolling period;

2.20.2 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 1.29 pounds per hour and 0.84 tons per twelve (12) month rolling period;

2.20.3 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 0.069 pounds per hour and 0.045 tons per twelve (12) month rolling period;

2.20.4 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.007 pounds per hour and 0.005 tons per twelve (12) month rolling period;

2.20.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.007 pounds per hour and 0.005 tons per twelve (12) month rolling period;

2.20.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.007 pounds per hour and 0.005 tons per twelve (12) month rolling period; and

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2.20.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.003 pounds per hour and 0.002 tons per twelve (12) month rolling period.

2.21 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-29 (screen and conveyors):

2.21.2 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.68 tons per twelve (12) month rolling period;

2.21.1 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.226 tons per twelve (12) month rolling period; and

2.21.2 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.023 tons per twelve (12) month rolling period.

2.22 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-25 (Caterpillar C4.4 engine):

2.22.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 0.066 pounds per hour and 0.043 tons per twelve (12) month rolling period;

2.22.2 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 0.816 pounds per hour and 0.53 tons per twelve (12) month rolling period;

2.22.3 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 0.031 pounds per hour and 0.020 tons per twelve (12) month rolling period;

2.22.4 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.003 pounds per hour and 0.003 tons per twelve (12) month rolling period;

2.22.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.003 pounds per hour and 0.003 tons per twelve (12) month rolling period;

2.22.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.003 pounds per hour and 0.003 tons per twelve (12) month rolling period; and

2.22.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.001 pounds per hour and 0.001 tons per twelve (12) month rolling period.

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2.23 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-25 (belt feeder):

2.23.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.11 tons per twelve (12) month rolling period;

2.23.2 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.036 tons per twelve (12) month rolling period; and

2.23.3 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.010 tons per twelve (12) month rolling period.

2.24. Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-18 (Caterpillar C4.4 engine):

2.26.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 0.073 pounds per hour and 0.047 tons per twelve (12) month rolling period;

2.26.1 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 0.897 pounds per hour and 0.58 tons per twelve (12) month rolling period;

2.26.1 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 0.034 pounds per hour and 0.022 tons per twelve (12) month rolling period;

2.26.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.004 pounds per hour and 0.0024 tons per twelve (12) month rolling period;

2.24.5 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.004 pounds per hour and 0.0024 tons per twelve (12) month rolling period;

2.24.6 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.004 pounds per hour and 0.0024 tons per twelve (12) month rolling period; and

2.24.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.001 pounds per hour and 0.0009 tons per twelve (12) month rolling period.

2.25 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following for GCS-18 (screen and conveyors):

2.25.1 Particulate Matter (PM) Emissions
PM emissions shall not exceed 1.08 tons per twelve (12) month rolling period;

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2.25.1 Particulate Matter (PM_{10}) Emissions
PM_{10} emissions shall not exceed 0.362 tons per twelve (12) month rolling period; and

2.25.2 Particulate Matter ($PM_{2.5}$) Emissions
$PM_{2.5}$ emissions shall not exceed 0.040 tons per twelve (12) month rolling period.

2.26 Facility wide emissions shall not exceed the following:

2.26.1 Nitrogen Oxide (NO_x) Emissions
NO_x emissions shall not exceed 19.776 tons per twelve (12) month rolling period;

2.26.2 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 18.23 tons per twelve (12) month rolling period;

2.26.3 Total Hydrocarbon (THC) Emissions
THC emissions shall not exceed 1.917 tons per twelve (12) month rolling period;

2.26.4 Particulate Matter (PM) Emissions
2.26.4.1 PM emissions from all engines shall not exceed 0.774 tons per twelve (12) month rolling period;

2.26.4.2 PM emissions from mechanical equipment shall not exceed 4.326 tons per twelve (12) month rolling period;

2.26.4.3 Total PM emissions shall not exceed 5.1 tons per twelve (12) month rolling period.

2.26.5 Particulate Matter (PM_{10}) Emissions
2.26.5.1 PM_{10} emissions from mechanical equipment shall not exceed 1.63 tons per twelve (12) month rolling period;

2.25.5.2 Total PM_{10} emissions shall not exceed 2.4 tons per twelve (12) month rolling period.

2.26.6 Particulate Matter ($PM_{2.5}$) Emissions
2.26.6.1 $PM_{2.5}$ emissions from mechanical equipment shall not exceed 0.685 tons per twelve (12) month rolling period;

2.26.6.2 Total $PM_{2.5}$ emissions shall not eceed 1.46 tons per twelve (12) month rolling period.

2.26.7 Sulfur Dioxide (SO_2) Emissions
SO_2 emissions shall not exceed 0.0244 tons per twelve (12) month rolling period.

2.27. The emission of visible air contaminants from these units shall not exceed the following:

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2.27.1 During the start-up and shutdown of equipment, no person shall cause or allow the emission of visible air contaminants or smoke from a stationary or mobile source, the shade or appearance of which is greater than 40% opacity for more than 6 consecutive minutes in any 1 hour period.

2.27.2 From the belt conveyor transfer points, except any stockpiles, seven percent (7%) opacity.

2.27.3 From crushers, twelve percent (12%) opacity.

2.27.4 From screeners, seven percent (7%) opacity

2.27.5 Zero percent (0%) opacity from wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to the next crusher, grinding mill or storage bin.

2.27.6 From all other sources, no person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty (20%) percent opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period. For guideline purposes only, Shade Number 1 of the Ringlemann Smoke Chart coincides with the regulatory limit of 20% opacity, when observing black smoke."

2.28 Pursuant to 40 CFR 1039.105(b), smoke opacity from compression-ignition nonroad engines must not exceed the following standards:

2.28.1 20 percent during the acceleration mode;

2.28.2 15 percent during the lugging mode;

2.28.3 50 percent during the peaks in either the acceleration or lugging modes.

2.29 Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution.

3. Operational Limitations

3.1 Equipment shall not be positioned at any site longer than twelve (12) months.

3.2 The owner or operator shall comply with the following operational limitations for the Morbark Tub Grinders GCS-04 and GCS-15:

3.2.1. The Morbark Tub Grinder, GCS-04, shall operate no more than 500 hours per rolling twelve (12) month period;

3.2.2. The Morbark Tub Grinder, GCS-15, shall operate no more than 500 hours per rolling twelve (12) month period; and

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3.2.3 This permit provides for the operation of the GCS-04 and GCS-15 tub grinder at Middletown Materials, LLC, located at 1559 Cedar Lane Road, Middletown, New Castle County and the following locations ONLY:

3.2.3.1 A-Del Construction, located at 21039 Lowes Rd, Millsboro, Sussex County.

3.3 The owner or operator shall comply with the following operational limitations for the Nordberg Lokotrack GCS-16:

3.3.1 The Nordberg Lokotrack crusher, GCS-16, shall operate no more than 1,000 hours per rolling twelve (12) month period;

3.3.2 This permit provides for the operation of the GCS-16 crusher at Middletown Materials, LLC, located at 1559 Cedar Lane Road, Middletown, New Castle County and the following locations ONLY:

3.3.2.1 A-Del Construction, located at 10 Adel Drive, Newark, New Castle County;

3.3.2.2 Christiana Materials, located at 350 Salem Church Road, Newark, New Castle County;

3.3.2.3 Heritage Concrete, located at 376 Holly Oak Lane, Cheswold, Kent County.

3.3.2.4 US113 at SR18/SR404 Grade Separated Intersection (job site T201412701), Georgetown, Sussex County.

3.3.2.5 Oyster Cove, located at Old Orchard Road, Lewes, Sussex County; with the following additional operational limitations:

3.3.2.5.1 GCS-16 shall operate no earlier than 8:00 a.m. and no later than 5:00 p.m. est.

3.3.2.5.2 GCS-16 shall not operate on Saturday or Sunday.

3.4 The owner or operator shall comply with the following operational limitations for the McCloskey International Impact Crusher GCS-32:

3.4.1 The McCloskey impact crusher, GCS-32, shall operate no more than 1,300 hours per rolling twelve (12) month period;

3.4.2 This permit provides for the operation of the GCS-32 crusher at Middletown Materials, LLC located at 1559 Cedar Lane Road, Middletown, New Castle County and the following locations ONLY:

3.4.2.1 A-Del Construction, located at 21039 Lowes Road, Millsboro, Sussex County.

3.4.2.2 A-Del Construction, located at 10 Adel Drive, Newark, New Castle County.

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3.4.2.3 Heritage Concrete, located at 376 Holly Oak Lane, Cheswold, Kent County.

3.4.2.4 Oyster Cove, located at Old Orchard Road, Lewes, Sussex County, with the following additional operational limitations:

3.4.2.4.1 GCS-32 shall operate no earlier than 8:00 a.m. and no later than 5:00 p.m. est.

3.4.2.4.2 GCS-32 shall not operate on Saturday or Sunday.

3.5 The owner or operator shall comply with the following operational limitations for the Morbark Tub Grinder GCS-21:

3.5.1 The Morbark Tub Grinder, GCS-21, shall operate no more than 835 hours per rolling twelve (12) month period;

3.5.2 This permit provides for the operation of the GCS-21 tub grinder at Middletown Materials, LLC located at 1559 Cedar Lane Road, Middletown, New Castle County and the following locations ONLY:

3.5.2.1 316 Bayview Road, Middletown, New Castle County.

3.5.2.2 157 Airport Road, New Castle, New Castle County.

3.5.2.3 A-Del Construction, 21039 Lowes Road, Millsboro, Sussex County.

3.6 The owner or operator shall comply with the following operational limitations for machines GCS-33, GCS-29, GCS-25, and GCS-18:

3.6.1 GCS-33, Edge Stacker, GCS-29, McCloskey Tracked Screen, GCS-25, Ezystak Belt Feeder, and GCS-18, Terex Warrior Power Screen, shall each operate no more than 1,300 hours per rolling twelve (12) month period.

3.6.2 This permit provides for the operation of the GCS-33 Edge Stacker at Middletown Materials, LLC located at 1559 Cedar Lane Road, Middletown, New Castle County and the following locations ONLY:

3.6.2.1 A-Del Construction, located at 10 Adel Drive, Newark, New Castle County.

3.6.2.2 A-Del Construction, located at 20139 Lowes Road, Millsboro, Sussex County.

3.6.2.3 Heritage Concrete, located at 376 Holly Oak Lane, Cheswold, Kent County.

3.6.2.4 Oyster Cove, located at Old Orchard Road, Lewes, Sussex County, with the following additional operational limitations:

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3.6.2.4.1 GCS-33 shall operate no earlier than 8:00 a.m. and no later than 5:00 p.m. est.

3.6.2.4.2 GCS-33 shall not operate on Saturday or Sunday.

3.6.2.5 US113 at SR18/SR404 Grade Separated Intersection (job site T201412701), Georgetown, Sussex County.

3.6.3 This permit provides for the operation of the GCS-29 McCloskey Tracked Screen at Middletown Materials, LLC located at 1559 Cedar Lane Road, Middletown, New Castle County and the following locations ONLY:

3.6.3.1 A-Del Construction, located at 10 Adel Drive, Newark, New Castle County.

3.6.3.2 A-Del Construction, located at 20139 Lowes Road, Millsboro, Sussex County.

3.6.3.3 Heritage Concrete, located at 376 Holly Oak Lane, Cheswold, Kent County.

3.6.3.4 Oyster Cove, located at Old Orchard Road, Lewes, Sussex County, with the following additional operational limitations:

3.6.3.4.1 GCS-29 shall operate no earlier than 8:00 a.m. and no later than 5:00 p.m. est.

3.6.3.4.2 GCS-29 shall not operate on Saturday or Sunday.

3.6.4 This permit provides for the operation of the GCS-25 Ezystak Belt Feeder at Middletown Materials, LLC, located at 1559 Cedar Lane Road, Middletown, New Castle County.

3.6.5 This permit provides for the operation of the GCS-18 Terex Warrior Power Screen at Middletown Materials, LLC located at 1559 Cedar Lane Road, Middletown, New Castle County and the following locations ONLY:

3.6.5.1 A-Del Construction, located at 10 Adel Drive, Newark, New Castle County.

3.6.5.2 A-Del Construction, located at 20139 Lowes Road, Millsboro, Sussex County.

3.6.5.3 Heritage Concrete, located at 376 Holly Oak Lane, Cheswold, Kent County.

3.6.5.4 Oyster Cove, located at Old Orchard Road, Lewes, Sussex County, with the following additional operational limitations:

3.6.5.4.1 GCS-18 shall operate no earlier than 8:00 a.m. and no later than 5:00 p.m. est.

3.6.5.4.2 GCS-18 shall not operate on Saturday or Sunday.

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3.7 The owner or operator shall comply with the following operational limitations for the GCS-26 (Nordberg Crushing and Screening Plant with 475 HP Cummins engine):

3.7.1 Diesel fuel (No. 2 fuel oil) shall be limited to 10,000 gallons in any rolling twelve (12) month period.

3.7.2 Operating hours shall be limited to 1133.5 hours in any rolling twelve (12) month period.

3.7.3 This permit provides for the operation of the GCS-26 Nordberg Crushing and Screening Plant at Middletown Materials, LLC located at 1559 Cedar Lane Road, Middletown, New Castle County.

3.8 Prior to relocating any of the machines, the facility shall submit to the Department a letter detailing the following:

3.8.1 Where the machine will be relocated;

3.8.2 How long the machine will operate at this location;

3.8.3 When operation will begin;

3.8.4 Proof of zoning for the location.

3.9 Only diesel fuel (No. 2) fuel oil shall be combusted in the engines.

3.10 Each shipment of diesel fuel must meet the following per gallon fuel standards of 40 CFR 80.510(b) for non-road diesel fuel:

3.10.1 Sulfur content, 15 ppm (0.0015% by weight) maximum.

3.10.2 A Cetane index or aromatic content, as follows:

3.10.2.1 A minimum Cetane index of 40; or

3.10.2.2 A maximum aromatic content of 35 volume percent.

3.11 No person shall cause or allow land clearing, land grading (including grading for roads), excavation, or the use of non-paved roads on private property unless methods such as the application of water or the use of other techniques approved by the Department, are employed to control dust emissions.

3.12 No person shall cause or allow visible particulate emissions of any material being transported by a motor vehicle.

3.13 Fugitive emissions shall not be emitted in such quantities as to cause or create a condition of air pollution from material-handling operations, the stockpiling of materials or vehicular traffic entering or leaving the facility. Dust control measures shall be employed on all non-paved access roads and driveways to the facility to minimize fugitive emissions from

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vehicular traffic entering or leaving. Dust control measures shall include methods such as water tanker/sprinkler trucks, water sprinkler systems, dust retardant sprays, etc.

3.14 The highly traveled roads at the facility shall be paved and swept with the Department approved equipment on a regular basis to minimize generation of dust.

3.15 The onboard manifold, piping hoses, valves and spray bars for dust suppression shall be in proper operation when the crusher and screener are operating and shall be regulated to control visible emissions.

3.16 The Company shall operate, on a daily basis, in accordance with a Department approved Dust Control Plan. The Dust Control Plan shall include:

3.16.1 Statements that proper fugitive dust control measures are being used.

3.16.2 The methods to control fugitive dust control as detailed in the required plan have been followed daily.

3.16.3 The date, time, and nature of any complaints concerning air emissions. The date and method of corrective action should also be recorded. If necessary, the corrective action should be added to the required plan.

3.16.4 Dates and descriptions of inspections and maintenance performed on dust control equipment.

3.17 No owner or operator shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission, which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with an opacity standard or with a standard, which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

3.18 At all times, including startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

3.19 All structural and mechanical components of the equipment or process covered by this permit shall be maintained in proper operating condition.

4 Testing and Monitoring Requirements

4.1 The Department reserves the right to require that the owner or operator perform emission tests using methods approved in advance by the Department. In the event that the Department requires emission testing, the owner or operator shall conduct performance

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test(s) and furnish the Department with a written report of the results of such performance test(s) in accordance with the following general provisions:

4.1.1 One (1) original hard copy and one (1) PDF copy of the test protocol shall be submitted a minimum of forty-five (45) days in advance of the tentative test date to the addresses in Condition 4.1.3. The tests shall be conducted in accordance with the State of Delaware and Federal requirements.

4.1.2 The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Company shall schedule the compliance demonstration with the Source Testing Engineer. The Department must observe the test for the results to be considered for acceptance.

4.1.3 The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original hard copy and one (1) PDF copy of the test report shall be submitted to the addresses below:

Original Hard Copy to:	PDF Copy to:
Engineering & Compliance Section	Engineering & Compliance Section
Attn: Source Testing Engineer	E-mail of Source Testing Engineer
715 Grantham Lane	E-mail of Permit Engineer
New Castle, DE 19720	dnrec_daq_stacktest@delaware.gov

4.1.4 The final report of the results must meet the following requirements to be considered valid:

4.1.4.1 The full report shall include the emissions test report (including raw data from the test) as well as a summary of the results and a statement of compliance or non-compliance with permit conditions;

4.1.4.2 Summary of Results and Statement of Compliance or Non-Compliance The owner or operator shall supplement the report from the emissions testing firm with a summary of results that includes the following information:

4.1.4.2.1 A statement that the owner or operator has reviewed the report from the emissions testing firm and agrees with the findings.

4.1.4.2.2 Permit number(s) and condition(s) which are the basis for the compliance evaluation.

4.1.4.2.3 Summary of results with respect to each permit condition.

4.1.4.2.4 Statement of compliance or non-compliance with each permit condition.

4.1.5 The results must demonstrate to the Department's satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner

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or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action.

4.2 The Company shall conduct an annual modified Reference Method 9 visible emission test for the engine exhaust stacks to establish compliance with the visible emission standard of Condition 2.3.1 in accordance with 7 **DE Admin. Code** 1120 Section 1.5.3 (i.e., "modified" 40 CFR Part 60 Appendix A Reference Method 9).

4.2.1 Compliance shall be determined by conducting observations in accordance with Reference Method 9 in Appendix A of 40 CFR Part 60, with the following additions:

4.2.1.1 The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

4.2.1.2 The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g. road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.

4.2.1.3 For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

4.3 Opacity observations pursuant to Condition 4.4 for crushers, screeners, and transfer points shall be conducted within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup.

4.4 When determining compliance with the fugitive emissions standard for the crusher, screener, and conveyor transfer points, the duration of the Method 9 (40 CFR Part 60, Appendix A-4) observations shall be thirty minutes (five 6-minute averages). Compliance with the opacity standards shall be based on the average of the five 6-minute averages.

4.5 The following applies to visible emission tests for loading:

4.5.1 The Company shall conduct a daily survey during daylight hours when the equipment is in operation to detect the presence or absence of visible emissions according to the following procedure:

4.5.1.1 "Survey of emission point for the presence or absence of visible emissions" shall be defined as a minimum period of five (5) consecutive minutes. The survey of the emission units concurrently is acceptable provided all emission points are easily observable from the observer's position.

4.5.1.2 The detection of the presence or absence of visible emissions shall be in accordance with the procedures of EPA Reference Method 22 (40 CFR 60, Appendix A) paragraphs 4 and 5.

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4.5.1.3 If visible emissions are observed from an emission point for three (3) consecutive minutes during a survey, the observation shall be stopped and corrective actions per Condition 4.4.2 shall be taken.

4.5.1.4 The procedure does not require that the opacity of the emissions be determined. Since this procedure requires only the determination of whether a visible emission occurs and does not require the determination of opacity levels, observer certification according to the procedures of EPA Reference Method 9 (40 CFR 60, Appendix A) are not required. However, it is necessary that the observer is educated on the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor).

4.5.2 If visible emissions are observed, the Company must identify and correct the cause of the excess emissions within forty-eight (48) hours. If the problem is not corrected, the Company must call the Department.

4.6 The owner or operator shall perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system.

4.6.1 If water is not flowing properly during an inspection of the water spray nozzles, the owner or operator shall initiate corrective action within 24 hours and complete corrective action as expediently as practical.

4.7 Sulfur concentrations of distillate fuels shall be determined by the following method:

4.7.1 The standard ASTM method D2622-10 "Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry," or

4.7.2 Any alternative method specified in Title 40, CFR Part 80, Section 580 (July 2012 edition), or

4.7.3 Any alternative method approved by the Department and EPA.

4.8 Compliance with the emission limitations in Condition 2.2 shall be demonstrated by calculating and recording emissions from the engines, crushers, screeners, and transfer points on a monthly and rolling twelve (12) month basis. The monthly and rolling twelve (12) month total emissions shall be calculated as follows:

4.8.1 Multiply the hours of operation by the corresponding rate for each pollutant listed in Table 1.

Source	NOx (lb/hr)	CO (lb/hr)	THC (lb/hr)	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)
GCS-04	8.88	1.00	0.14	0.77	0.41	0.41	0.008
GCS-15	10.25	1.16	0.17	0.48	0.29	0.29	0.009

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Source	NOx (lb/hr)	CO (lb/hr)	THC (lb/hr)	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)
GCS-21	18.15	22.49	2.56	1.50	1.26	1.26	0.015
GCS-16	6.465	7.964	0.937	1.995	1.095	1.095	0.005
GCS-32	0.23	2.01	0.11	1.534	0.5808	0.0814	0.004
GCS-33	0.076	0.94	0.036	0.060	0.022	0.0092	0.0014
GCS-29	0.15	1.29	0.069	1.057	0.362	0.043	0.003
GCS-26	6.7	0.82	0.21	0.46	0.248	0.135	0.006
GCS-25	0.066	0.816	0.031	0.173	0.058	0.019	0.001
GCS-24	0.942	1.224	0.050	0.817	0.321	0.0958	0.002
GCS-11	1.03	0.816	0.054	0.525	0.204	0.065	0.001
GCS-18	0.073	0.897	0.034	1.644	0.554	0.065	0.001

Table 1: Emission Factors

4.9.2 Convert the emission calculations from Condition 4.8.1 from pounds to tons.

4.10 To ensure compliance with the operating hour limits of this permit, the Company shall monitor each engine's hours of operation.

5 Record Keeping Requirements

5.1 The owner or operator shall maintain all records necessary for determining compliance with this permit in a readily accessible location for five (5) years and shall make these records available to the Department upon written or verbal request.

5.2 The following information shall be recorded and maintained in a log:

5.2.1 The daily, monthly and cumulative rolling twelve (12) month hours of operation.

5.2.2 Start and end dates of each job and location.

5.2.3 The size (kW), make, model, and emission Tier of each engine.

5.2.4 Monthly gallons of No. 2 fuel oil combusted for GCS-26.

5.2.5 Duration of equipment stay at each property including the date the equipment was brought to the site and the date the equipment is removed from the site.

5.2.6 A daily record of whether or not the dust suppression system was operating during all times that the crushing, screening, or transfer points are in operation.

5.2.7 Inspections of water spray nozzles, including date of inspection, and any corrective actions taken.

5.2.7.1 If water sprays are not being used, the control mechanism being used instead of the water sprays.

5.2.8 Any maintenance performed, including routine and non-routine maintenance.

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5.2.9 With each delivery of No. 2 fuel oil into the storage tank, records of the fuel supplier certification for each delivery that contain the following information:

5.2.9.1 Name, address and telephone number of the supplier.

5.2.9.2 Name, address and telephone number of the Company, and the address where the fuel oil is delivered.

5.2.9.3 The volume of fuel being sold or delivered, and the date of sale or delivery.

5.2.9.4 The type of fuel, and the sulfur content of the fuel as a delivered product, and expressed as one of the following:

5.2.9.4.1 The actual sulfur content in ppm or percent (%) by weight, or

5.2.9.4.2 A statement that certifies the sulfur content of the shipment is equal to or below the applicable limit.

5.2.10 As an alternative to Condition 5.2.9, the owner or operator may have the distillate fuel in the associated storage tank certified by a third party laboratory after each shipment of fuel. This certification shall identify the percentage of sulfur (by dry weight basis) and the method used to determine the sulfur content.

5.3 All observations of visible emissions made according to Condition 4.2, 4.3, 4.4, and 4.5 shall be recorded and maintained for the engines, crushers, screeners, transfer points, and loading.

5.4 A maintenance/inspection log shall be maintained detailing all routine and non-routine maintenance performed, including air pollution control equipment.

5.5 The EPA certificate for GCS-32 Caterpillar 350 HP diesel engine, GCS-33 Caterpillar 115 HP diesel engine, GCS-29 Caterpillar 225 HP diesel engine, GCS-25 Caterpillar 100 HP diesel engine, and GCS-18 Caterpillar 110 HP diesel engine shall be maintained in a file.

5.6 Compliance with Conditions 3.11 through 3.15.

5.7 The Company shall maintain a copy of the fugitive dust control plan on-site(s).

5.8 Monthly inspections of the water spray nozzles, including dates and corrective actions taken.

5.9 The Company shall keep in a file calculations supporting lb/MMBTU emissions for GCS-21, GCS-04, GCS-15, GCS-16, and GCS-26.

5.10 The rolling twelve (12) month emissions shall be calculated and recorded each month in a log for each of the following pollutants:

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5.10.1 Nitrogen Oxide (NO_x);

5.10.2 Carbon Monoxide (CO);

5.10.3 Total Hydrocarbon (THC);

5.10.4 Particulate Matter (PM);

5.10.5 Particulate Matter (PM10);

5.10.6 Particulate Matter (PM2.5); and

5.10.7 Sulfur Dioxide (SO_2).

6 **Reporting Requirements**

6.1 Emissions in excess of any permit condition or emission which create a condition of air pollution shall be reported to the Department immediately upon discovery by calling the Environmental Emergency Notification and Complaint number, (800) 662-8802.

6.2 In addition to complying with Condition 6.1 of this permit, any reporting required by 7 **DE Admin. Code** 1203 "**Reporting of a Discharge of a Pollutant or an Air Contaminant**", and any other reporting requirements mandated by the State of Delaware, the owner or operator shall for each occurrence of excess emissions, within thirty (30) calendar days of becoming aware of such occurrence, supply the Department in writing with the following information:

6.2.1 The name and location of the facility;

6.2.2 The subject source(s) that cause the excess emissions;

6.2.3 The time and date of the first observation of the excess emissions;

6.2.4 The cause and expected duration of the excess emissions;

6.2.5 For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculation used in determining the magnitude of the excess emissions; and

6.2.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

6.3 The owner or operator shall submit to the Department and EPA the following information about any replacement crusher facilities or any new equipment:

6.3.1 For a crusher:

6.3.1.1 The rated capacity in tons per hour of the existing facility being replaced; and

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6.3.1.2 The rated capacity in tons per hour of the replacement equipment.

6.3.2 For a screener:

6.3.2.1 The total surface area of the top screen of the existing screening operation being replaced; and

6.3.2.2 The total surface area of the top screen of the replacement screening operation.

6.3.3 For a conveyor belt:

6.3.3.1 The width of the existing belt being replaced; and

6.3.3.2 The width of the replacement conveyor belt.

6.4 One (1) original and one (1) copy of all required reports shall be sent to the addresses below:

State of Delaware- DNREC Division of Air Quality State Street Commons 100 W. Water Street, Suite 6A Dover, DE 19904 Attn: Director	U.S. Environmental Protection Agency Region III, Enforcement and Compliance Assurance Division Air, RCRA and Toxics Branch (3ED21) Four Penn Center 1600 John F. Kennedy Boulevard Philadelphia, PA 19103-2852
No. of Originals: **1** & No. of Copies: **1**	No. of Copies: **1**

6.5 The Company shall notify the Department at least 7 days prior to Method 9 (40 CFR part 60 appendix A-4) testing to afford the Department the opportunity to witness the test.

6.6 The Company shall furnish the Department opacity observation reports made using Method 9 (40 CFR Part 60, Appendix A-4) to demonstrate compliance with Condition 2.27.

6.7 The Dust Control Plan shall be submitted to the Department for approval thirty (30) days after receipt of this Permit. The most recent revision to the Plan shall be available on site(s) and submitted to the Department.

6.8 The Company shall submit duration of equipment stay at each property within three (3) weeks of leaving the site to show compliance with Condition 3.1; this includes downtime.

7 Administrative Conditions

7.1 This permit supersedes **Permit: APC-2002/0738-OPERATION (SM) (Amendment 12)**, dated December 5, 2023.

7.2 This permit shall be made available on the premises.

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7.3 Failure to comply with the provisions of this permit may be grounds for suspension or revocation.

Sincerely,

Amy S. Mann, P.E.
Program Administrator
Engineering & Compliance Section

ASM:MAS
F:\EngAndCompliance\MAS\2026\mas26064.doc

Pc: Dover File
Melanie Smith
Ramy S. Hassan

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MEMORANDUM

TO: Amy S. Mann, P.E.

FROM: Melanie A. Smith, P.E.

SUBJECT: **Middletown Materials, LLC**
Permit: APC-2002/0738-OPERATION (Amendment 13)(SM)
650 Horsepower Morbark Tub Grinder (GCS-04)
750 Horsepower Morbark Tub Grinder (GCS-15)
1200 Horsepower Morbark Tub Grinder (GCS-21)
425 Horsepower Portable Nordberg Lokotrack Crusher (GCS-16)
475 Horsepower Nordberg Crushing and Screening Plant (GCS-26)
350 Horsepower McCloskey 144 RV3HD Impact Crusher (GCS-32)
115 Horsepower Edge TS100 Stacker (GCS-33)
225 Horsepower McCloskey R230 Tracked Screen (GCS-29)
100 Horsepower Ezystak BF7042 Belt Feeder (GCS-25)
110 Horsepower Terex Warrior Power Screen (GCS-18)

Stack heights will be extended in the following permits:
Permit: APC-2026/0215-CONSTRUCTION (NSPS)(MNSR)(FE)
355 Horsepower McCloskey J45 Jaw Crusher (GCS-28)
Permit: APC-2027/0038-CONSTRUCTION (NSPS)(MNSR)(FE)
150 Horsepower McCloskey 621 RE Trommel Screener (GCS-24)
Permit: APC-2027/0039-CONSTRUCTION (NSPS)(MNSR)(FE)
100 Horsepower McCloskey MCB616REG Trommel Screen Plant (GCS-11)

DATE: November 12, 2026

BACKGROUND INFORMATION

Middletown Materials operates portable equipment used to process a variety of materials, including recycled asphalt pavement (RAP), recycled concrete, natural aggregate, soil, dirt, and other construction and demolition materials brought to the site. Materials may be processed in large chunks and reduced in size through crushing and screening. Materials may be crushed, screened, conveyed, and stacked for use onsite as aggregate substitute material in the manufacture of asphalt paving materials, as structural fill, or as general construction aggregate. Processed materials may also be transported offsite for use in construction and infrastructure projects. Equipment is powered by diesel-fired nonroad engines and wet suppression (represents Best Available Control Technology- BACT) is utilized to control fugitive particulate emissions at crusher, screens, conveyors, and transfer points.

The portable equipment will be based at the Middletown Materials facility at 1559 Cedar Lane Road, Middletown. Consistent with prior approvals, the equipment may also be operated at previously approved locations under existing permits, and new locations included under Condition 3 in the permit.

An application dated July 21, 2025, was received on July 25, 2025, to authorize the construction/ operation of additional portable crushing, screening, conveying, and stacking equipment, update operating locations, and establish voluntary operational limits to maintain synthetic minor source status. On April 22, 2026, Jessica Moore, Administrator, Middletown Materials, LLC and Amber Moore, RainWise Environmental Solutions, LLC, submitted additional information on behalf of Middletown Materials, LLC,

On August 26, 2025, Jessica Moore, Administrator, Middletown Materials, LLC, added GCS-28 (McCloskey International- J45) to the application.

On June 17, 2026, Rainwise Environmental Solutions, LLC emailed zoning approval from Sussex County Planning and Zoning for use of GCS-04, GCS-15, GCS-21, GSCS-32, GCS-33, GCS-29 and GCS-18 at 20139 Lowes Road, Millsboro.

On August 5, 2026, RainWise Environmental Solutions, LLC emailed community contacts for Kent and Sussex Counties, proof of the Tier certifications for the engines, a new hour restriction of 1300 hours (RT12) instead of 1800 hours (RT12) for all equipment except GCS-04, GCS-15 and GCS-16, and AERSCREEN input for crushers and screeners.

On September 8, 2026, RainWise Environmental Solutions, LLC emailed confirmation of stack height extensions for GCS-28, GCS-24, and GCS-11. They also revised operating hours for GCS-16 (1,000 hours (RT12)), GCS-04 (500 hours (RT12)), and GCS-15 (500 hours (RT12)) to stay below major source thresholds.

On September 23, 2026, Rainwise Environmental Solutions, LLC emailed confirmation that DelDOT Contract T201412701 is not subject to zoning, subdivision or building code ordinances/regulations of the Town of Georgetown. This affects GCS-16 and GCS-33.

The application requested that the following locations be removed from the current permit as projects have been completed:

- Fitzgerald Salvage & Recycling, 17115 Fitzgeralds Road, Lincoln
- 6957 Bay Road, Frederica
- Everett Meredith Middle School, Middletown
- 316 Bayview Road, Middletown
- Airport Road, New Castle
- 34611 Delaware Avenue, Frankford
- SR1 & SR16, Milton

Middletown Materials requests the existing permit be modified to:

- Authorize operation of GCS-04, GCS-15, and GCS-21 at A-Del Construction's Sussex County facility located at 21039 Lowes Road, Millsboro.
- Authorize operation of GCS-16 at US113 at SR18/SR404 Grade Separated Intersection (job site T201412701).
- Remove GCS-22 McCloskey International Jaw Crusher from permit.

To maintain synthetic minor source status, Middletown Materials requests voluntary operational limits. Unless otherwise specified, all new portable equipment will be limited to 1,300 hours of operation per rolling 12-month period.

The GCS-26 will retain the existing operating limit of 10,000 gallons of fuel. The following will have reduced hours to keep permitted emissions below major source thresholds:

- GCS-16- Nordberg Crusher- 1,000 hours (was 2,000 hours)
- GCS-04- 650 HP Morbark Tub Grinder- 500 hours (was 1,100 hours)
- GCS-15- 750 HP Morbark Tub Grinder- 500 hours (was 950 hours)

The facility currently operates according to **Permit: APC-2002/0738-OPERATION (SM) (Amendment 12)**.

No confidentiality has been requested for this application.

The facility is not located in the Coastal Zone and is, therefore, not subject to the Coastal Zone act.

The facility paid appropriate construction application fees and is currently a Synthetic Minor source in good standing.

The facility is already operating under an air permit; the Department did not request applicant background information.

Sussex County Planning and Zoning emailed Amber Moore on June 15, 2026, to approve the use of the following equipment at Adel Construction on 20139 Lowes Rd, Millsboro DE 19966:

1. GCS-04 Morbark Tub Grinder (650 HP)
2. GCS-15 Morbark Tub Grinder (750 HP)
3. GCS-21 Morbark Tub Grinder (1200 HP)
4. GCS-32 McCloskey Impact Crusher
5. GCS-33 Edge Conveyor/Belt Feeder
6. GCS-29 McCloskey Screener, and
7. GCS-18 Terex Warrior 1800 Screener

All community contacts will be notified for Equity Focus when the legal ad is published. The legal ad will be translated into Spanish and Arabic.

The following addresses have been reviewed for language translation and equity focus concerns:

- 1559 Cedar Lane Rd., Middletown- Not located in or adjacent to a Limited English or Equity Focus Area
- 21039 Lowes Rd., Millsboro- Located adjacent to a Limited English area. Translation of the legal notice to Spanish is required
- 316 Bayview Rd., Middletown- Located adjacent to an Equity Focus area. Enhanced outreach is required.
- 157 Airport Rd., New Castle- Located adjacent to a Limited English area. Translation to Spanish is required.
- 10 Adel Dr., Newark- Located adjacent to an Equity Focus Area and a Limited English area. Translation to Spanish and Arabic is required.
- 350 Salem Church Rd., Newark- Located adjacent to an Equity Focus Area and a Limited English area. Translation to Spanish and Arabic is required
- 376 Holly Oak Lane, Cheswold- Located adjacent to a Limited English and Equity Focus area. Translation to Spanish and enhanced outreach is required.
- Oyster Cove, Old Orchard Rd., Lewes- Located adjacent to a Limited English area. Translation to Spanish is required.

TECHNICAL INFORMATION

The CO_2 emission factor for engines less than 600 HP came from AP-42 Table 3.3-1, *Emission Factors For Uncontrolled Gasoline And Diesel Industrial Engines*. The CO_2 emission factor for engines 600 HP and greater came from AP-42 Table 3.4-1, *Gaseous Emission Factors For Large Stationary Diesel, And All Stationary Dual-Fuel Engines*. Mechanical emissions (crusher, screener, conveyor transfer points) came from Table 11.19.2-2, *Emission Factors For Crushed Stone Processing Operations (lb/Ton)*.

The portable crusher units are equipped with water spray dust suppression systems that apply water directly to the material during processing. The material is discharged from the crusher in a wetted condition and is transferred directly to the associated screening and conveying equipment. As a result, the moisture applied at the crusher provides effective dust suppression for the downstream screener and conveyor operations. For purposes of emissions calculations, the screener and conveying equipment are considered to process material that has already been subjected to water spray dust suppression at the crusher discharge.

Permitted hourly emissions are tabled in the Permits. Please note that total PM (PT), PM_{10} and $PM_{2.5}$ includes total particulate from the engine and respective particulate from the crusher, screener, and transfer points.

Currently Permitted (These will be permitted under Permit: APC-2002/0738-OPERATION (SM)(Amendment 13)):

GCS-21: 1200 HP Morbark Tub Grinder with Caterpillar 3412 Engine
Equipment: Morbark Model 6600 Tub Grinder, serial 186-1032, 80 TPH, no wet suppression
Engine: Caterpillar 3412, serial BDT03437 (certificate available)

The 2004 1200 hp Morbark Tub Grinder (GCS-21) has primary fuel sulfur content recorded as 15 ppm and 0.01 max% ash. The tub grinder plans on operating as necessary at the 1559 Cedar Lane Road site and additional sites within the State of Delaware.

GCS-21 emission factors from previous permits could not be substantiated. The 1200 hp tub grinder (GCS-21) has an engine power of 894.86 kW and is classified as an "old" machine, the grinder, therefore, qualifies for Tier 1 within 40 CFR Section 89.112. Emission limits listed as 9.2 for NO_x, 1.3 for HC, 11.4 for CO, and 0.54 for PM (all limits measured in g/kW-hr). The Santa Barbara Air Pollution Control District uses 3.67 x 0.0015 wt% (g/bHP-hr) for SO_2 and this factor is used in the permit.

Given the grinder's specific emissions rating data, the potential to emit (8760 hours) can be calculated and compared to federal regulations to determine whether the facility is applicable for synthetic minor regulation. Permitted emissions will be limited to 835 hr(RT12).

Potential to Emit: GCS-21				
Pollutant	**Factor Tier 1 (g/kW-hr)**	**Emissions (lb/hr)**	**PTE (TPY)**	**Permitted Emissions$_{835\ hr}$ (TPY)**
NO_x	9.2	18.15	79.50	7.58
CO	11.4	22.49	98.51	9.39

Potential to Emit: GCS-21				
Pollutant	**Factor Tier 1 (g/kW-hr)**	**Emissions (lb/hr)**	**PTE (TPY)**	**Permitted Emissions$_{835\ hr}$ (TPY)**
THC	1.3	2.56	11.23	1.07
PM	0.54	1.07	4.67	0.44
SO_2	3.67x0.0015 g/bHP-hr	0.015	0.064	0.0061
PMgrind	0.0054 lb/ton	0.43	1.89	0.18
PM10grind	0.0024 lb/ton	0.19	0.84	0.080
PM2.5grind	0.0024 lb/ton	0.19	0.84	0.080
CO_2	1.16 lb/hp-hr		6097	

Permit: APC-2002/0738-OPERATION (SM) (Amendment 5)
On June 17, 2014, all active operating permits were combined into one active synthetic minor, Amendment 4. Amendment 5 includes the following pieces of equipment: one (1) 650 horsepower Morbark Tub Grinder, GCS-04, one (1) 750 horsepower Morbark Tub Grinder, GCS-15, one (1) 475 horsepower portable Nordberg aggregate crusher and screening plant, GCS-10, and one (1) 425 horsepower Nordberg Lokotrack aggregate crusher, GCS-16. **Permit: APC-2002/0738-OPERATION (SM) (Amendment 6)** includes GCS-04, GCS-15, GCS-21, GCS-16, and GCS-22; GCS-10 will be removed from the permit and added to **Permit: APC-1982/0850-OPERATION (Amendment 9)** for Christiana Materials, LLC. GCS-22 is removed in this synthetic minor Amendment 13. Below are the potential emissions for GCS-04, GCS-15, and GCS-16:

GCS-04 650 HP Morbark Tub Grinder with Caterpillar 3412 Engine
Equipment: Morbark Model 1200 Tub Grinder, serial 565173, 120 TPH, no wet suppression
Engine: Caterpillar 3412, serial 38S15956
Permitted emissions will be limited to 500 hr(RT12).
GCS-04 had the following manufacturer's data sheet emission factors in the application for Permit: APC-2014/0025-CONSTRUCTION:

Pollutant	**NOx**	**CO**	**PM**	**HC**
Emission Factor g/hp-hr	6.2	0.7	0.08	0.1

GCS-15 750 HP Morbark Tub Grinder with Caterpillar 3054 Engine
Equipment: Morbark Model 1300 Portable Tub Grinder, serial 571258, 65 TPH, no wet suppression
Engine: Caterpillar 3054, serial 4CR01170
Permitted emissions will be limited to 500 hr(RT12).
GCS-15 had the following manufacturer's data sheet emission factors in the application for Permit: APC-2014/0024-CONSTRUCTION:

Pollutant	**NOx**	**CO**	**PM**	**HC**
Emission Factor g/hp-hr	6.2	0.7	0.08	0.1

GCS-16: 425 HP Nordberg Lokotrack Crusher with Caterpillar C12 Engine
Equipment: Nordberg Model LT1213 Lokotrack Crusher, serial 72879, 300 TPH, wet suppression
Engine: Caterpillar C12, serial BDL00773 (certificate available)
Permitted emissions will be limited to 1000 hr(RT12).

GCS-16 emission factors from previous permits could not be substantiated. The 425 hp crusher (GCS-16) is classified as an "old" machine, the crusher, therefore, qualifies for Tier 1 within 40 CFR Section 89.112. Emission limits listed as 6.9 for NO_x, 1.0 for HC, 8.5 for CO, and 0.4 for PM (all limits measured in g/HP-hr). The Santa Barbara Air Pollution Control District uses 3.67 x 0.0015 wt% (g/bHP-hr) for SO_2 and this factor is used in the permit.

Potential to Emit: GCS-04				
Pollutant	**Tier 1 Manufacturer's Data (g/hp-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permitted Emissions$_{500\ hr}$ (TPY)**
NO_x	6.2	8.88	38.91	2.22
CO	0.7	1.00	4.39	0.25
THC	0.1	0.14	0.628	0.036
PM	0.08	0.12	0.502	0.029
SO_2	3.67x0.0015	0.008	0.035	0.002
PMgrind	0.0054 lb/ton	0.65	2.84	0.16
PM10grind	0.0024 lb/ton	0.29	1.26	0.072
PM2.5grind	0.0024 lb/ton	0.29	1.26	0.072
CO_2	1.16 lb/hp-hr		3303	

Potential to Emit: GCS-15				
Pollutant	**Tier 1 Manufacturer's Data (g/hp-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permitted Emissions$_{500\ hr}$ (TPY)**
NO_x	6.2	10.25	44.90	2.56
CO	0.7	1.16	5.07	0.289
THC	0.1	0.17	0.72	0.041
PM	0.08	0.13	0.579	0.033
SO_2	3.67x0.0015	0.009	0.040	0.002
PMgrind	0.0054 lb/ton	0.35	1.54	0.09
PM10grind	0.0024 lb/ton	0.16	0.68	0.039
PM2.5grind	0.0024 lb/ton	0.16	0.68	0.039
CO_2	1.16 lb/hp-hr		3811	

Potential to Emit: GCS-16				
Pollutant	**Tier 1 (g/hp-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permitted Emissions$_{1000\ hr}$ (TPY)**
NO_x	6.9	6.465	28.32	3.23
CO	8.5	7.964	34.88	3.98

Potential to Emit: GCS-16				
Pollutant	**Tier 1 (g/hp-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permitted Emissions$_{1000\ hr}$ (TPY)**
THC	1.0	0.937	4.10	0.47
PM	0.4	0.375	1.64	0.19
SO_2	3.67x0.0015	0.005	0.023	0.003
PMcrush	0.0054 lb/ton	1.62	7.10	0.81
PM10crush	0.0024 lb/ton	0.72	3.15	0.36
PM2.5crush	0.0024 lb/ton	0.72	3.15	0.36
CO_2	1.15 lb/hp-hr		2141	

New Equipment

GCS-32: McCloskey 144RV3HD Impact Crusher and 350 HP Caterpillar Engine

Equipment: McCloskey 144RV3HD impact crusher with integrated pre-screen, serial 903718, 400 TPH, 3 conveyors, with dust suppression.

Engine: 2024 Caterpillar C9.3B Tier 4, serial NGH07749, diesel, 261 kW (certificate available).

Potential to Emit: GCS-32				
Pollutant	**Tier 4 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
NO_x	0.30	0.23	1.01	0.15
CO	2.6	2.01	8.79	1.30
THC	0.14	0.11	0.47	0.070
PM	0.01 g/kW-hr	0.0058	0.03	0.004
SO_2	3.67x0.0015	0.004	0.019	0.003
PM crush UC	0.0054 lb/ton	2.16	9.46	1.40
PM10 crush UC	0.0024 lb/ton	0.96	4.20	0.62
PM2.5 crush UC	0.0024 lb/ton	0.96	4.20	0.62
PM crush	0.0012 lb/ton	0.48	2.10	0.31
PM10 crush	0.00054 lb/ton	0.22	0.95	0.14
PM2.5 crush	0.00010 lb/ton	0.04	0.18	0.026
PM screen UC	0.025 lb/ton	10	43.8	6.5
PM10 screen UC	0.0087 lb/ton	3.48	15.2	2.26
PM2.5 screen UC	0.0087 lb/ton	3.48	15.2	2.26
PM screen	0.0022 lb/ton	0.88	3.85	0.57
PM10 screen	0.00074 lb/ton	0.30	1.30	0.19
PM2.5 screen	0.000050 lb/ton	0.020	0.088	0.013
PM tx pt (3) UC	0.0030 lb/ton	3.6	15.77	2.34
PM10 tx pt (3) UC	0.00110 lb/ton	1.32	5.78	0.86
PM2.5 tx pt (3) UC	0.00110 lb/ton	1.32	5.78	0.86
PM tx pt (3)	0.00014 lb/ton	0.168	0.74	0.11
PM10 tx pt (3)	4.6E-5 lb/ton	0.055	0.24	0.036
PM2.5 tx pt (3)	1.3E-5 lb/ton	0.0156	0.07	0.010

Potential to Emit: GCS-32				
Pollutant	**Tier 4 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
CO_2	1.15 lb/hp-hr		1763	

UC= uncontrolled
PM for engine from EPA Certificate of Conformity.

GCS-33: Edge TS100 Stacker and 115 HP Caterpillar Engine
Equipment: Edge TS100 Stacker (Belt Conveyor), serial 23TS10048225, 400 TPH, with dust suppression.
Engine: 2023 Caterpillar C3.4 Tier 4, serial CJ702289, diesel (certificate available).

Potential to Emit: GCS-33				
Pollutant	**Tier 4 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
NO_x	0.30	0.076	0.33	0.049
CO	3.7	0.94	4.11	0.61
THC	0.14	0.036	0.16	0.023
PM	0.015	0.004	0.02	0.003
SO_2	3.67x0.0015	0.0014	0.006	0.001
PM tx pt UC	0.0030 lb/ton	1.2	5.26	0.78
PM10 tx pt UC	0.00110 lb/ton	0.44	1.93	0.29
PM2.5 tx pt UC	0.00110 lb/ton	0.44	1.93	0.29
PM tx pt	0.00014 lb/ton	0.056	0.25	0.036
PM10 tx pt	4.6E-5 lb/ton	0.018	0.08	0.012
PM2.5 tx pt	1.3E-5 lb/ton	0.0052	0.02	0.003
CO_2	1.15 lb/hp-hr		579	

GCS-29: McCloskey R230 Tracked Screen with a 225 HP Caterpillar C6.6 Engine
Equipment: McCloskey R230 Tracked Screen, serial 80898, 400 TPH, 3 conveyors, with dust suppression.
Engine: 2012 Caterpillar C6.6 Tier 3, 168 kW, serial 66623631, diesel (certificate available)

Potential to Emit: GCS-29				
Pollutant	**Tier 3 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
NO_x	0.30	0.15	0.65	0.097
CO	2.6	1.29	5.65	0.84
THC	0.14	0.069	0.30	0.045
PM	0.015	0.007	0.03	0.005
SO_2	3.67x0.0015	0.003	0.012	0.002
PMscreen UC	0.025 lb/ton	10.0	43.80	6.50
PM10screen UC	0.0087 lb/ton	3.5	15.24	2.3
PM2.5screen UC	0.0087 lb/ton	3.5	15.24	2.3
PMscreen	0.0022 lb/ton	0.88	3.85	0.57
PM10screen	0.00074 lb/ton	0.30	1.30	0.19
PM2.5screen	0.000050 lb/ton	0.020	0.088	0.013

Potential to Emit: GCS-29				
Pollutant	**Tier 3 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
PM tx pt (3) UC	0.0030 lb/ton	3.6	15.77	2.34
PM10 tx pt (3) UC	0.00110 lb/ton	1.3	5.78	0.858
PM2.5 tx pt (3) UC	0.00110 lb/ton	1.3	5.78	0.858
PM tx pt (3)	0.00014 lb/ton	0.17	0.74	0.11
PM10 tx pt (3)	4.6E-5 lb/ton	0.055	0.24	0.036
PM2.5 tx pt (3)	1.3E-5 lb/ton	0.016	0.068	0.010
CO_2	1.15 lb/hp-hr		1133	

GCS-25: Ezystak BF7042 Belt Feeder with 100 HP Caterpillar C4.4 Engine

Ezystak BF7042 Belt Feeder, serial 2613. 400 TPH with 3 transfer points (hopper dump point, feeder belt loading, discharge transfer to crusher/screener) with dust suppression.
Engine: 2017 Caterpillar C4.4 Tier 4, 74.5 kW, diesel

Potential to Emit: GCS-25				
Pollutant	**Tier 4 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
NO_x	0.30	0.066	0.29	0.043
CO	3.7	0.816	3.57	0.53
THC	0.14	0.031	0.14	0.020
PM	0.015	0.003	0.01	0.003
SO_2	3.67x0.0015	0.001	0.005	0.001
PM tx pt (3) UC	0.0030 lb/ton	3.6	15.77	2.34
PM10 tx pt (3) UC	0.00110 lb/ton	1.3	5.78	0.858
PM2.5 tx pt (3) UC	0.00110 lb/ton	1.3	5.78	0.858
PM tx pt (3)	0.00014 lb/ton	0.17	0.74	0.11
PM10 tx pt (3)	4.6E-5 lb/ton	0.055	0.24	0.036
PM2.5 tx pt (3)	1.3E-5 lb/ton	0.016	0.068	0.010
CO_2	1.15 lb/hp-hr		504	

GCS-24: McCloskey 621 RE Trommel Screener with 150 HP Caterpillar C6.6 Engine

Equipment: McCloskey 621RE Trommel Screener, serial 70770, 300 TPH with 2 conveyors with dust suppression.
Engine: 2010 Caterpillar C6.6 Tier 3, serial 66614277, diesel

Potential to Emit: GCS-24				
Pollutant	**Tier 3 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
NMHC+NO_x	3.0	0.992	4.35	0.64
THC		0.050	0.22	0.032
NOx		0.942	4.13	0.613
CO	3.7	1.224	5.36	0.80
PM	0.22	0.073	0.32	0.047

Potential to Emit: GCS-24				
Pollutant	**Tier 3 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
SO_2	3.67x0.0015	0.002	0.008	0.001
PMscreen UC	0.025 lb/ton	7.5	32.85	4.9
PM10screen UC	0.0087 lb/ton	2.6	11.43	1.7
PM2.5screen UC	0.0087 lb/ton	2.6	11.43	1.7
PMscreen	0.0022 lb/ton	0.66	2.9	0.43
PM10screen	0.00074 lb/ton	0.22	0.97	0.14
PM2.5screen	0.000050 lb/ton	0.015	0.066	0.0098
PM tx pt (2) UC	0.0030 lb/ton	1.8	7.88	1.2
PM10 tx pt (2) UC	0.00110 lb/ton	0.66	2.89	0.43
PM2.5 tx pt (2) UC	0.00110 lb/ton	0.66	2.89	0.43
PM tx pt (2)	0.00014 lb/ton	0.084	0.37	0.055
PM10 tx pt (2)	4.6E-5 lb/ton	0.028	0.12	0.018
PM2.5 tx pt (2)	1.3E-5 lb/ton	0.0078	0.034	0.0051
CO_2	1.15 lb/hp-hr		756	

The emissions for NMHC+NO_x were provided as per the Tier 3 standards. This value was then broken down to 95% NO_x and 5% NMHC (or THC) by using the South Coast Air Quality District method as outlined in, "Overview Off-Road Engines Mitigation Measure Tables". This article, in Table II, page 2, (http://www.aqmd.gov/docs/default-source/ceqa/handbook/mitigation-measures-and-control-efficiencies/off-road-engines/off-road-engines-overview.pdf?sfvrsn=2), explains where NO_x and VOC standards are not separately listed (e.g., the standard is given in "NMHC + NO_x"), NO_x equals 95% and VOC (or THC) equals 5% of the "NMHC + NO_x" value. Hence, the NMHC+NO_x of 0.992 pounds per hour was broken down to 0.942 pounds per hour of NO_x and 0.050 pounds per hour of NHMC (or THC). As per EPA documentation, (http://www3.epa.gov/otaq/models/nonrdmdl/nonrdmdl2005/420r05015.pdf), the conversion from VOC, NMHC, and THC is/are 1 to 1; hence they are equivalent values, and are expressed as THC in the permit.

GCS-11: McCloskey MCB616Reg Trommel Screen Plant with 100 HP Caterpillar 3054 Engine
Equipment: McCloskey MCB616 Reg, serial 11006-P, 180 TPH with 3 conveyors with dust suppression.
Engine: 1999 Caterpillar 3054 engine, serial 5YS02719, diesel (certificate available)

Potential to Emit: GCS-11				
Pollutant	**Tier 2 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
NMHC+NO_x	4.9	1.080	4.73	0.70
THC		0.054	0.24	0.035
NOx		1.03	4.50	0.67
CO	3.7	0.816	3.57	0.53
PM	0.22	0.049	0.21	0.032
SO_2	3.67x0.0015	0.001	0.005	0.0008
PMscreen UC	0.025 lb/ton	4.5	19.71	2.9
PM10screen UC	0.0087 lb/ton	1.6	6.86	1.0
PM2.5screen UC	0.0087 lb/ton	1.6	6.86	1.0

Potential to Emit: GCS-11				
Pollutant	**Tier 2 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
PMscreen	0.0022 lb/ton	0.40	1.73	0.26
PM10screen	0.00074 lb/ton	0.13	0.58	0.087
PM2.5screen	0.000050 lb/ton	0.0090	0.039	0.0059
PM tx pt (3) UC	0.0030 lb/ton	1.6	7.10	1.1
PM10 tx pt (3) UC	0.00110 lb/ton	0.59	2.60	0.386
PM2.5 tx pt (3) UC	0.00110 lb/ton	0.59	2.60	0.386
PM tx pt (3)	0.00014 lb/ton	0.076	0.33	0.049
PM10 tx pt (3)	4.6E-5 lb/ton	0.025	0.11	0.016
PM2.5 tx pt (3)	1.3E-5 lb/ton	0.0070	0.031	0.0046
CO_2	1.15 lb/hp-hr		504	

GCS-18: Terex Warrior 1800 Power Screen with 110 HP Caterpillar C4.4 Engine
Equipment: Terex Warrior 1800 Power Screen, serial PID00123CDGB22150, 600 TPH with 4 conveyors with dust suppression.
Engine: 2011 Caterpillar C4.4, serial 44605467 Tier 4

Potential to Emit: GCS-18				
Pollutant	**Tier 4 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
NO_x	0.30	0.073	0.32	0.047
CO	3.7	0.897	3.93	0.58
THC	0.14	0.034	0.15	0.022
PM	0.015	0.004	0.02	0.0024
SO_2	3.67x0.0015	0.001	0.006	0.0009
PMscreen UC	0.025 lb/ton	15	65.70	9.8
PM10screen UC	0.0087 lb/ton	5.2	22.86	3.4
PM2.5screen UC	0.0087 lb/ton	5.2	22.86	3.4
PMscreen	0.0022 lb/ton	1.3	5.78	0.86
PM10screen	0.00074 lb/ton	0.44	1.95	0.29
PM2.5screen	0.000050 lb/ton	0.030	0.13	0.020
PM tx pt (4) UC	0.0030 lb/ton	7.2	31.54	4.7
PM10 tx pt (4) UC	0.00110 lb/ton	2.6	11.56	1.7
PM2.5 tx pt (4) UC	0.00110 lb/ton	2.6	11.56	1.7
PM tx pt (4)	0.00014 lb/ton	0.34	1.5	0.22
PM10 tx pt (4)	4.6E-5 lb/ton	0.11	0.48	0.072
PM2.5 tx pt (4)	1.3E-5 lb/ton	0.031	0.14	0.020
CO_2	1.15 lb/hp-hr		554	

Applications previously submitted:

GCS-28 McCloskey J45 Jaw Crusher with 355 HP Volvo Engine

An application dated August 26, 2025, from Middletown Materials added GCS-28 to the synthetic minor. The application was a supplement to the application dated April 22, 2026. This was not acted on until this **Permit: APC-2002/0738-OPERATION (Amendment 13)**. Locations include 1559 Cedar Lane Road, Middletown, 10 Adel Drive, Newark, 20139 Lowes Road Millsboro, and 350 Salem Church Road, Newark. Concrete and hot mix asphalt will be crushed.

Equipment: McCloskey J45 Jaw Crusher, serial 86729, 300 TPH with 2 conveyors with dust suppression.
Engine: 2017 Volvo Penta Model TAD1171VE, serial 7011382096

Potential to Emit: GCS-28				
Pollutant	**Tier 3 (g/HP-hr)**	**Emission (lb/hr)**	**PTE (TPY)**	**Permit$_{1300\ hr}$ (TPY)**
NMHC+NO_x	3.0	2.35	10.28	1.5
THC		0.12	0.52	0.076
NOx		2.23	9.77	1.4
CO	2.6	2.035	8.91	1.3
PM	0.15	0.117	0.51	0.076
SO_2	3.67x0.0015	0.004	0.019	0.0028
PM crush UC	0.0054 lb/ton	1.6	7.10	1.1
PM10 crush UC	0.0024 lb/ton	0.72	3.15	0.47
PM2.5 crush UC	0.0024 lb/ton	0.72	3.15	0.47
PMcrush	0.0012 lb/ton	0.36	1.58	0.23
PM10crush	0.00054 lb/ton	0.16	0.71	0.11
PM2.5crush	0.00010 lb/ton	0.03	0.13	0.020
PM tx pt (2) UC	0.0030 lb/ton	1.8	7.88	1.2
PM10 tx pt (2) UC	0.00110 lb/ton	0.66	2.89	0.429
PM2.5 tx pt (2) UC	0.00110 lb/ton	0.66	2.89	0.429
PM tx pt (2)	0.00014 lb/ton	0.084	0.37	0.055
PM10 tx pt (2)	4.6E-5 lb/ton	0.028	0.12	0.018
PM2.5 tx pt (2)	1.3E-5 lb/ton	0.0078	0.034	0.0051
CO_2	1.15 lb/hp-hr		1788	

GCS-26 475 HP Nordberg Crushing and Screening Plant

Letters dated July 21, 2025 and August 20, 2025 from Jessica Moore, Administrator, Middletown Materials, requested transferring the 475 HP Nordberg crushing and screening plant from Christiana Materials, LLC to Middletown Materials, LLC. It will no longer be used at Christiana Materials. The application was a supplement to the application dated April 22, 2026. This was not acted on until this **Permit: APC-2002/0738-OPERATION (Amendment 13)**. The Christiana permit was **APC-1982/0850-CONSTRUCTION (NSPS)(SM)(Amendment 10)**. Middletown Materials and Christiana Materials are owned by the same people so a second transfer letter from Christiana Materials was not required. The July 21, 2025 and August 20, 2025 letters also requested GCS-22, the 350 HP McCloskey International Jaw Crusher be removed as it is no longer operational.

Equipment: 1997 Model NW1213CC Nordberg Crushing and Screening Plant, serial 2052-2414, 100 TPH.

Engine: 1997 Cummins/CN14, serial 29386

Permitted emissions are limited to 1133.5 hours (RT12).
475 HP x 2544.48 BTU/hr-HP x gal diesel/137,000 BTU= 8.822 gal/hr. A permit limit of 10,000 gal diesel equates to 1133.5 hours.

The original application for the Cummins engine was located and complies with Tier 1 standards.

Potential to Emit: GCS-26				
Pollutant	**(g/HP-hr) from application**	**Emission (lb/hr)**	**PTE (TPY)**	**Permitted Emissions $_{1133.5hr}$ (TPY)**
NO_x	6.4	6.7	29.36	3.8
CO	0.78	0.82	3.58	0.46
THC	0.20	0.21	0.92	0.12
PM	0.11	0.12	0.50	0.065
SO_2	3.67x0.0015	0.006	0.025	0.003
PM crush UC	0.0054 lb/ton	0.54	2.37	0.31
PM10 crush UC	0.0024 lb/ton	0.24	1.05	0.14
PM2.5 crush UC	0.0024 lb/ton	0.24	1.05	0.14
PMcrush	0.0012 lb/ton	0.12	0.53	0.068
PM10crush	0.00054 lb/ton	0.054	0.24	0.031
PM2.5crush	0.00010 lb/ton	0.010	0.044	0.0057
PMscreen UC	0.025 lb/ton	2.5	10.95	1.4
PM10screen UC	0.0087 lb/ton	0.87	3.81	0.49
PM2.5screen UC	0.0087 lb/ton	0.87	3.81	0.49
PMscreen	0.0022 lb/ton	0.22	0.96	0.12
PM10screen	0.00074 lb/ton	0.074	0.32	0.042
PM2.5screen	0.000050 lb/ton	0.0050	0.022	0.0028
CO_2	1.15 lb/hp-hr		2393	

Total potential emissions for all thirteen (13) engines and mechanical equipment are listed in the table below:

Facility Wide Potential Emissions									
Pollutant	**NOx (TPY)**	**CO (TPY)**	**THC (TPY)**	**PT_{eng} (TPY)**	**PT_{mech} (TPY)**	**$PM10_{mech}$ (TPY)**	**$PM2.5_{mech}$ (TPY)**	**SO_2 (TPY)**	**CO_2 (TPY)**
GCS-21	79.50	98.51	11.23	4.67	1.89	0.84	0.84	0.064	6097
GCS-04	38.91	4.39	0.628	0.502	2.84	1.26	1.26	0.035	3303
GCS-15	44.90	5.07	0.72	0.579	1.54	0.68	0.68	0.040	3811
GCS-16	28.32	34.88	4.10	1.64	7.10	3.15	3.15	0.023	2141
GCS-32	1.01	8.79	0.47	0.03	69.03	25.18	25.18	0.019	1763
GCS-33	0.33	4.11	0.16	0.02	5.26	1.93	1.93	0.006	579
GCS-29	0.65	5.65	0.30	0.03	59.57	21.02	21.02	0.012	1133
GCS-25	0.29	3.57	0.14	0.01	15.77	5.78	5.78	0.005	504

Facility Wide Potential Emissions									
Pollutant	**NOx (TPY)**	**CO (TPY)**	**THC (TPY)**	**PT_{eng} (TPY)**	**PT_{mech} (TPY)**	**$PM10_{mech}$ (TPY)**	**$PM2.5_{mech}$ (TPY)**	**SO_2 (TPY)**	**CO_2 (TPY)**
GCS-24	4.13	5.36	0.22	0.32	40.73	14.32	14.32	0.008	756
GCS-11	4.50	3.57	0.24	0.21	26.81	9.46	9.46	0.005	504
GCS-18	0.32	3.93	0.15	0.02	97.24	34.42	34.42	0.006	554
GCS-28	9.77	8.91	0.52	0.51	14.98	6.04	6.04	0.019	1788
GCS-26	29.36	3.58	0.92	0.50	13.32	4.86	4.86	0.025	2393
TOTAL	**241.99**	**190.32**	**19.80**	**9.04**	**356.08**	**128.94**	**128.94**	**0.267**	**25326**

The permit mandates that the facility use fuel with a sulfur content of 15 ppm by weight as required by 7 **DE Admin. Code** 1108.

Facility Wide Permitted Emissions								
Pollutant	**NOx (TPY)**	**CO (TPY)**	**THC (TPY)**	**PT_{eng} (TPY)**	**PT_{mech}**	**$PM10_{mech}$ (TPY)**	**$PM2.5_{mech}$ (TPY)**	**SO_2 (TPY)**
GCS-21	7.58	9.39	1.07	0.44	0.18	0.080	0.080	0.0061
GCS-04	2.22	0.25	0.036	0.029	0.16	0.072	0.072	0.002
GCS-15	2.56	0.289	0.041	0.033	0.09	0.039	0.039	0.002
GCS-16	3.23	3.98	0.47	0.19	0.81	0.36	0.36	0.003
GCS-32	0.15	1.30	0.070	0.004	0.99	0.366	0.049	0.003
GCS-33	0.049	0.61	0.023	0.003	0.036	0.012	0.003	0.001
GCS-29	0.097	0.84	0.045	0.005	0.68	0.23	0.023	0.002
GCS-25	0.043	0.53	0.020	0.003	0.11	0.036	0.010	0.001
GCS-24	0.613	0.80	0.032	0.047	0.485	0.158	0.015	0.001
GCS-11	0.67	0.53	0.035	0.032	0.309	0.103	0.011	0.0008
GCS-18	0.047	0.58	0.022	0.0024	1.08	0.362	0.040	0.0009
GCS-28	1.4	1.3	0.076	0.076	0.285	0.128	0.025	0.0028
GCS-26	3.8	0.46	0.12	0.065	0.19	0.073	0.009	0.003
TOTAL	**22.459**	**20.86**	**2.060**	**0.929**	**5.405**	**2.019**	**0.736**	**0.029**

AERSCREEN Modeling Analysis:
For this exercise, only emissions resulting from the combustion of fuel were analyzed. While the equipment is also expected to generate fugitive dust from wood grinding, these emissions lack definable characteristics, like air flow. For sources like these, AERSCREEN does not provide an accurate model for the associated fugitive emissions.

AERSCREEN Modeling Analysis: GCS-32
In utilizing AERSCREEN, the engine stack was treated as a point source. Point source variables in AERSCREEN are air contaminant emission rates (lb/H), stack height (ft), stack inside diameter (feet), stack gas exit velocity (ft/s) or air flow rate (cfm), stack gas exit temperature (˚F), receptor height above ground level (ft), and whether the source is located in an urban or rural location. Using the National Land Cover Database, 2016 Summary Tool for Air Dispersion Modeling, developed medium intensity and developed high intensity for Newark does not account for 50% or more of the total area (3 km radius), therefore the rural option was selected. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
10	0.417	1950	700

AERSCREEN ANALYSIS AND COMPARISON TO SILs					
POLLUTANT	**Emission (lb/hr)**	**MDC (µg/m³)**	**Averaging Period**	**SIL (µg/m³)**	**MDC < SIL?**
NOx	0.23	22.17	1-hour	7.5	No
		2.22	Annual	1.0	No
NO_2	0.184	17.7	1-hour	7.5	No
		1.77	Annual	1.0	No
CO	2.01	215	1-hour	2,000	Yes
		193	8-hour	500	Yes
PM_{10}	0.0058	0.37	24-hour	5.0	Yes
		0.06	Annual	1.0	Yes
$PM_{2.5}$	0.0058	0.37	24-hour	1.2	Yes
		0.06	Annual	0.13	Yes
SO_2	0.004	0.43	1-hour	7.9	Yes
		0.43	3-hour	25	Yes
		0.26	24-hour	5	Yes
		0.043	Annual	1.0	Yes

While not previously explained, the emission rate modeled for NO_2 was derived by taking 80% of the previously calculated NOx emission rate. This assumes that 80% of the total NOx emissions are converted to NO_2 and is a technique approved by the EPA. Furthermore, NOx emissions were modeled using the Ozone Limiting Method (OLM) option available in AERSCREEN. In accordance with the guidance document's recommendations, the model was performed using the EPA recommended in-stack NO_2/NOx ratio of 0.50 and a 1-hr O_3 concentration of 0.09 ppm for New Castle County.

NO_2 emissions exceed SIL limits. As a result, additional analysis was required. In cases such as these, the EPA has approved the use of a cumulative impact analysis. This analysis is only required for the pollutants and averaging periods that did not meet the SILs criteria.

In the cumulative impact analysis, the MDC for each pollutant during each failed averaging period is added to a background concentration for the pollutant over the same averaging period, and compared to the NAAQS for that pollutant and averaging period. As long as the summed MDC and background concentration for each pollutant and each averaging period are less than the associated NAAQS, public health and safety are presumed to be protected.

The MDC for the 1-hr and annual averaging periods was used to establish an equivalent "background concentration" for NO_2. The MDC from the engine model was summed with the background concentration for each averaging period to assess the cumulative impact, and compared that concentration against the NAAQS for each averaging period in the table below:

Pollutant	Emission Rate (lb/hr)	Averaging Period	MDC (mg/m^3)	Background Concentration (mg/m^3)[1]	Cumulative Impact (mg/m^3)	NAAQS (mg/m^3)	Cumulative Impact< NAAQS?
NO_2	0.184	1-hour	0.0177	0.1274	0.1451	0.1882	Yes
		Annual	0.00177	0.0179	0.0197	0.0997	Yes

1. Background concentration of NO_2 taken from AMP450 NO2 for 2022 to 2024.

NOx emissions are below the NAAQS with the additional analysis.

The TLV for VOCs of 20.4791672 mg/m^3 is based upon the weighted average of HAPs with a TLV listed in AP-42 Table 3.3.2. It represents a combined TLV for volatile HAPs that are present as products of combustion. For VOC, the TLV:MDC ratio meets the Department criteria of TLV:MDC ratio being at least 100.

TLV: MDC TABLE			
Pollutant	**Emissions (lb/hr)**	**MDC (8 hr, $\mu g/m^3$)**	**TLV:MDC**
VOC (Combustion)	0.11	10.6	1931

AERSCREEN Modeling Analysis: GCS-33
In utilizing AERSCREEN, the engine stack was treated as a point source. Point source variables in AERSCREEN are air contaminant emission rates (lb/H), stack height (ft), stack inside diameter (feet), stack gas exit velocity (ft/s) or air flow rate (cfm), stack gas exit temperature (°F), receptor height above ground level (ft), and whether the source is located in an urban or rural location. Using the National Land Cover Database, 2016 Summary Tool for Air Dispersion Modeling, developed medium intensity and developed high intensity for Newark does not account for 50% or more of the total area (3 km radius), therefore the rural option was selected. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
8	0.3	150	700

AERSCREEN ANALYSIS AND COMPARISON TO SILs					
POLLUTANT	**Emission (lb/hr)**	**MDC ($\mu g/m^3$)**	**Averaging Period**	**SIL ($\mu g/m^3$)**	**MDC < SIL?**
NOx	0.076	25.32	1-hour	7.5	No
		2.53	Annual	1.0	No
NO_2	0.061	20.3	1-hour	7.5	No
		2.03	Annual	1.0	No
CO	0.94	347	1-hour	2,000	Yes
		313	8-hour	500	Yes
PM_{10}	0.004	0.89	24-hour	5.0	Yes
		0.15	Annual	1.0	Yes
$PM_{2.5}$	0.004	0.89	24-hour	1.2	Yes
		0.148	Annual	0.13	No

AERSCREEN ANALYSIS AND COMPARISON TO SILs					
POLLUTANT	**Emission (lb/hr)**	**MDC (µg/m³)**	**Averaging Period**	**SIL (µg/m³)**	**MDC < SIL?**
SO_2	0.0014	0.52	1-hour	7.9	Yes
		0.52	3-hour	25	Yes
		0.31	24-hour	5	Yes
		0.052	Annual	1.0	Yes

While not previously explained, the emission rate modeled for NO_2 was derived by taking 80% of the previously calculated NOx emission rate. This assumes that 80% of the total NOx emissions are converted to NO_2 and is a technique approved by the EPA. Furthermore, NOx emissions were modeled using the Ozone Limiting Method (OLM) option available in AERSCREEN. In accordance with the guidance document's recommendations, the model was performed using the EPA recommended in-stack NO_2/NOx ratio of 0.50 and a 1-hr O_3 concentration of 0.09 ppm for New Castle County.

NO_2 and $PM_{2.5}$ emissions exceed SIL limits. As a result, additional analysis was required. In cases such as these, the EPA has approved the use of a cumulative impact analysis. This analysis is only required for the pollutants and averaging periods that did not meet the SILs criteria.

In the cumulative impact analysis, the MDC for each pollutant during each failed averaging period is added to a background concentration for the pollutant over the same averaging period, and compared to the NAAQS for that pollutant and averaging period. As long as the summed MDC and background concentration for each pollutant and each averaging period are less than the associated NAAQS, public health and safety are presumed to be protected.

The MDC for the 1-hr and annual averaging periods was used to establish an equivalent "background concentration" for NO_2. The MDC for the 24-hr and annual averaging periods was used to establish an equivalent "background concentration" for $PM_{2.5}$. The MDC from the engine model was summed with the background concentration for each averaging period to assess the cumulative impact, and compared that concentration against the NAAQS for each averaging period in the table below:

Pollutant	Emission Rate (lb/hr)	Averaging Period	MDC (mg/m³)	Background Concentration (mg/m³)[1]	Cumulative Impact (mg/m³)	NAAQS (mg/m³)	Cumulative Impact< NAAQS?
NO_2	0.061	1-hour	0.0203	0.1274	0.1477	0.1882	Yes
		Annual	0.0020	0.0179	0.0199	0.0997	Yes
$PM_{2.5}$	0.004	Annual	0.000148	0.0072	0.0073	0.0090	Yes

1. Background concentration of NO_2 taken from AMP450 NO_2 for 2022 to 2024.
   Background concentration of $PM_{2.5}$ for New Castle County taken from EPA "Guidance for Ozone and Fine Particulate Matter Permit Modeling" and Delaware Design Values for 2024 (3-year avg of 2022 to 2024).

NOx and PM2.5 emissions are below the NAAQS with the additional analysis.

The TLV for VOCs of 20.4791672 mg/m³ is based upon the weighted average of HAPs with a TLV listed in AP-42 Table 3.3.2. It represents a combined TLV for volatile HAPs that are present as products of

combustion. For VOC, the TLV:MDC ratio meets the Department criteria of TLV:MDC ratio being at least 100.

TLV: MDC TABLE			
Pollutant	**Emissions (lb/hr)**	**MDC (8 hr, µg/m³)**	**TLV:MDC**
VOC (Combustion)	0.036	11.995	1707

AERSCREEN Modeling Analysis: GCS-29
In utilizing AERSCREEN, the engine stack was treated as a point source. Point source variables in AERSCREEN are air contaminant emission rates (lb/H), stack height (ft), stack inside diameter (feet), stack gas exit velocity (ft/s) or air flow rate (cfm), stack gas exit temperature (˚F), receptor height above ground level (ft), and whether the source is located in an urban or rural location. Using the National Land Cover Database, 2016 Summary Tool for Air Dispersion Modeling, developed medium intensity and developed high intensity for Newark does not account for 50% or more of the total area (3 km radius), therefore the rural option was selected. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
10	0.5	1681	875

AERSCREEN ANALYSIS AND COMPARISON TO SILs					
POLLUTANT	**Emission (lb/hr)**	**MDC (µg/m³)**	**Averaging Period**	**SIL (µg/m³)**	**MDC < SIL?**
NOx	0.15	14.61	1-hour	7.5	No
		1.46	Annual	1.0	No
NO_2	0.12	11.69	1-hour	7.5	No
		1.169	Annual	1.0	No
CO	1.29	140	1-hour	2,000	Yes
		126	8-hour	500	Yes
PM_{10}	0.007	0.45	24-hour	5.0	Yes
		0.076	Annual	1.0	Yes
$PM_{2.5}$	0.007	0.45	24-hour	1.2	Yes
		0.076	Annual	0.13	Yes
SO_2	0.003	0.32	1-hour	7.9	Yes
		0.32	3-hour	25	Yes
		0.19	24-hour	5	Yes
		0.032	Annual	1.0	Yes

While not previously explained, the emission rate modeled for NO_2 was derived by taking 80% of the previously calculated NOx emission rate. This assumes that 80% of the total NOx emissions are converted to NO_2 and is a technique approved by the EPA. Furthermore, NOx emissions were modeled using the Ozone Limiting Method (OLM) option available in AERSCREEN. In accordance with the guidance document's recommendations, the model was performed using the EPA recommended in-stack NO_2/NOx ratio of 0.50 and a 1-hr O_3 concentration of 0.09 ppm for New Castle County.

NO_2 emissions exceed SIL limits. As a result, additional analysis was required. In cases such as these, the EPA has approved the use of a cumulative impact analysis. This analysis is only required for the pollutants and averaging periods that did not meet the SILs criteria.

In the cumulative impact analysis, the MDC for each pollutant during each failed averaging period is added to a background concentration for the pollutant over the same averaging period, and compared to the NAAQS for that pollutant and averaging period. As long as the summed MDC and background concentration for each pollutant and each averaging period are less than the associated NAAQS, public health and safety are presumed to be protected.

The MDC for the 1-hr and annual averaging periods was used to establish an equivalent "background concentration" for NO_2. The MDC from the engine model was summed with the background concentration for each averaging period to assess the cumulative impact, and compared that concentration against the NAAQS for each averaging period in the table below:

Pollutant	Emission Rate (lb/hr)	Averaging Period	MDC (mg/m^3)	Background Concentration (mg/m^3)[1]	Cumulative Impact (mg/m^3)	NAAQS (mg/m^3)	Cumulative Impact< NAAQS?
NO_2	0.12	1-hour	0.01169	0.1274	0.1391	0.1882	Yes
		Annual	0.001169	0.0179	0.0191	0.0997	Yes

1. Background concentration of NO_2 taken from AMP450 NO2 for 2022 to 2024.

NOx emissions are below the NAAQS with the additional analysis.

The TLV for VOCs of 20.4791672 mg/m^3 is based upon the weighted average of HAPs with a TLV listed in AP-42 Table 3.3.2. It represents a combined TLV for volatile HAPs that are present as products of combustion. For VOC, the TLV:MDC ratio meets the Department criteria of TLV:MDC ratio being at least 100.

TLV: MDC TABLE			
Pollutant	**Emissions (lb/hr)**	**MDC (8 hr, µg/m³)**	**TLV:MDC**
VOC (Combustion)	0.069	6.723	3046

AERSCREEN Modeling Analysis: GCS-28
In utilizing AERSCREEN, the engine stack was treated as a point source. Point source variables in AERSCREEN are air contaminant emission rates (lb/H), stack height (ft), stack inside diameter (feet), stack gas exit velocity (ft/s) or air flow rate (cfm), stack gas exit temperature (°F), receptor height above ground level (ft), and whether the source is located in an urban or rural location. Using the National Land Cover Database, 2016 Summary Tool for Air Dispersion Modeling, developed medium intensity and developed high intensity for Newark does not account for 50% or more of the total area (3 km radius), therefore the rural option was selected. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
6	0.33	2211	1160

AERSCREEN ANALYSIS AND COMPARISON TO SILs					
POLLUTANT	**Emission (lb/hr)**	**MDC (µg/m³)**	**Averaging Period**	**SIL (µg/m³)**	**MDC < SIL?**
NOx	2.23	405.86	1-hour	7.5	No
		40.59	Annual	1.0	No
NO_2	1.78	323.96	1-hour	7.5	No
		32.396	Annual	1.0	No
CO	2.035	411	1-hour	2,000	Yes
		370.4	8-hour	500	Yes
PM_{10}	0.117	14.2	24-hour	5.0	No
		2.4	Annual	1.0	No
$PM_{2.5}$	0.117	14.2	24-hour	1.2	No
		2.4	Annual	0.13	No
SO_2	0.004	0.81	1-hour	7.9	Yes
		0.81	3-hour	25	Yes
		0.49	24-hour	5	Yes
		0.081	Annual	1.0	Yes

While not previously explained, the emission rate modeled for NO_2 was derived by taking 80% of the previously calculated NOx emission rate. This assumes that 80% of the total NOx emissions are converted to NO_2 and is a technique approved by the EPA. Furthermore, NOx emissions were modeled using the Ozone Limiting Method (OLM) option available in AERSCREEN. In accordance with the guidance document's recommendations, the model was performed using the EPA recommended in-stack NO_2/NOx ratio of 0.50 and a 1-hr O_3 concentration of 0.08 ppm for Sussex County (Millsboro had lowest elevation of 43 feet).

NO_2, PM_{10} and $PM_{2.5}$ emissions exceed SIL limits. As a result, additional analysis was required. In cases such as these, the EPA has approved the use of a cumulative impact analysis. This analysis is only required for the pollutants and averaging periods that did not meet the SILs criteria.

In the cumulative impact analysis, the MDC for each pollutant during each failed averaging period is added to a background concentration for the pollutant over the same averaging period, and compared to the NAAQS for that pollutant and averaging period. As long as the summed MDC and background concentration for each pollutant and each averaging period are less than the associated NAAQS, public health and safety are presumed to be protected.

The MDC for the 1-hr and annual averaging periods was used to establish an equivalent "background concentration" for NO_2. The MDC for the 24-hr averaging period was used to establish an equivalent "background concentration" for PM_{10}. The MDC for the 24-hr and annual averaging periods was used to establish an equivalent "background concentration" for $PM_{2.5}$. The MDC from the engine model was summed with the background concentration for each averaging period to assess the cumulative impact, and compared that concentration against the NAAQS for each averaging period in the table below:

Pollutant	Emission Rate (lb/hr)	Averaging Period	MDC (mg/m^3)	Background Concentration (mg/m^3)[1]	Cumulative Impact (mg/m^3)	NAAQS (mg/m^3)	Cumulative Impact< NAAQS?
NO_2	1.78	1-hour	0.32396	0.1274	0.4514	0.1882	No
		Annual	0.032396	0.0179	0.0503	0.0997	Yes
NO_2 18 ft stack	1.78	1-hour	0.0546	0.1274	0.1820	0.1882	Yes
PM_{10}	0.117	24-hour	0.0142	0.037	0.0512	0.150	Yes
		Annual	0.0024	N/A			
$PM_{2.5}$	0.117	24-hour	0.0142	0.019	0.0332	0.035	Yes
		Annual	0.0024	0.0070	0.0094	0.0090	No
$PM_{2.5}$ 18 ft stack	0.117	Annual	0.0004	0.0070	0.0074	0.0090	Yes

1. Background concentration of NO_2 taken from AMP450 NO2 for 2022 to 2024. Background concentration of $PM_{2.5}$ for Sussex County taken from EPA "Guidance for Ozone and Fine Particulate Matter Permit Modeling" and Delaware Design Values for 2024 (3-year avg of 2022 to 2024).

PM10 emissions are below the NAAQS with the additional analysis. Raising the stack height to 18 feet allowed NOx and PM2.5 emissions to comply with NAAQS. Construction **Permit: APC-2026/0215-CONSTRUCTION(NSPS)(MNSR)(FE)** was completed to allow for this construction.

The TLV for VOCs of 20.4791672 mg/m^3 is based upon the weighted average of HAPs with a TLV listed in AP-42 Table 3.3.2. It represents a combined TLV for volatile HAPs that are present as products of combustion. For VOC, the TLV:MDC ratio meets the Department criteria of TLV:MDC ratio being at least 100.

TLV: MDC TABLE			
Pollutant	**Emissions (lb/hr)**	**MDC (8 hr, µg/m³)**	**TLV:MDC**
VOC (Combustion)	0.12	21.84	937

AERSCREEN Modeling Analysis: GCS-25
In utilizing AERSCREEN, the engine stack was treated as a point source. Point source variables in AERSCREEN are air contaminant emission rates (lb/H), stack height (ft), stack inside diameter (feet), stack gas exit velocity (ft/s) or air flow rate (cfm), stack gas exit temperature (˚F), receptor height above ground level (ft), and whether the source is located in an urban or rural location. Using the National Land Cover Database, 2016 Summary Tool for Air Dispersion Modeling, developed medium intensity and developed high intensity for Newark does not account for 50% or more of the total area (3 km radius), therefore the rural option was selected. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
8	0.3	350	850

AERSCREEN ANALYSIS AND COMPARISON TO SILs					
POLLUTANT	**Emission (lb/hr)**	**MDC (µg/m³)**	**Averaging Period**	**SIL (µg/m³)**	**MDC < SIL?**
NOx	0.066	15.29	1-hour	7.5	No
		1.53	Annual	1.0	No
NO_2	0.0528	12.23	1-hour	7.5	No
		1.22	Annual	1.0	No
CO	0.816	210	1-hour	2,000	Yes
		189	8-hour	500	Yes
PM_{10}	0.003	0.46	24-hour	5.0	Yes
		0.077	Annual	1.0	Yes
$PM_{2.5}$	0.003	0.46	24-hour	1.2	Yes
		0.077	Annual	0.13	Yes
SO_2	0.001	0.26	1-hour	7.9	Yes
		0.26	3-hour	25	Yes
		0.15	24-hour	5	Yes
		0.026	Annual	1.0	Yes

While not previously explained, the emission rate modeled for NO_2 was derived by taking 80% of the previously calculated NOx emission rate. This assumes that 80% of the total NOx emissions are converted to NO_2 and is a technique approved by the EPA. Furthermore, NOx emissions were modeled using the Ozone Limiting Method (OLM) option available in AERSCREEN. In accordance with the guidance document's recommendations, the model was performed using the EPA recommended in-stack NO_2/NOx ratio of 0.50 and a 1-hr O_3 concentration of 0.09 ppm for New Castle County.

NO_2 emissions exceed SIL limits. As a result, additional analysis was required. In cases such as these, the EPA has approved the use of a cumulative impact analysis. This analysis is only required for the pollutants and averaging periods that did not meet the SILs criteria.

In the cumulative impact analysis, the MDC for each pollutant during each failed averaging period is added to a background concentration for the pollutant over the same averaging period, and compared to the NAAQS for that pollutant and averaging period. As long as the summed MDC and background concentration for each pollutant and each averaging period are less than the associated NAAQS, public health and safety are presumed to be protected.

The MDC for the 1-hr and annual averaging periods was used to establish an equivalent "background concentration" for NO_2. The MDC from the engine model was summed with the background concentration for each averaging period to assess the cumulative impact, and compared that concentration against the NAAQS for each averaging period in the table below:

Pollutant	**Emission Rate (lb/hr)**	**Averaging Period**	**MDC (mg/m³)**	**Background Concentration (mg/m³)[1]**	**Cumulative Impact (mg/m³)**	**NAAQS (mg/m³)**	**Cumulative Impact< NAAQS?**
NO_2	0.0528	1-hour	0.0123	0.1274	0.1397	0.1882	Yes
		Annual	0.00122	0.0179	0.0191	0.0997	Yes

NOx emissions are below the NAAQS with the additional analysis.

The TLV for VOCs of 20.4791672 mg/m^3 is based upon the weighted average of HAPs with a TLV listed in AP-42 Table 3.3.2. It represents a combined TLV for volatile HAPs that are present as products of combustion. For VOC, the TLV:MDC ratio meets the Department criteria of TLV:MDC ratio being at least 100.

TLV: MDC TABLE			
Pollutant	**Emissions (lb/hr)**	**MDC (8 hr, µg/m^3)**	**TLV:MDC**
VOC (Combustion)	0.031	7.183	2851

AERSCREEN Modeling Analysis: GCS-24
In utilizing AERSCREEN, the engine stack was treated as a point source. Point source variables in AERSCREEN are air contaminant emission rates (lb/H), stack height (ft), stack inside diameter (feet), stack gas exit velocity (ft/s) or air flow rate (cfm), stack gas exit temperature (˚F), receptor height above ground level (ft), and whether the source is located in an urban or rural location. Using the National Land Cover Database, 2016 Summary Tool for Air Dispersion Modeling, developed medium intensity and developed high intensity for Newark does not account for 50% or more of the total area (3 km radius), therefore the rural option was selected. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
10	0.5	1681	700

AERSCREEN ANALYSIS AND COMPARISON TO SILs					
POLLUTANT	**Emission (lb/hr)**	**MDC (µg/m^3)**	**Averaging Period**	**SIL (µg/m^3)**	**MDC < SIL?**
NOx	0.942	94.67	1-hour	7.5	No
		9.47	Annual	1.0	No
NO_2	0.754	75.78	1-hour	7.5	No
		7.578	Annual	1.0	No
CO	1.224	136.6	1-hour	2,000	Yes
		123.0	8-hour	500	Yes
PM_{10}	0.073	4.89	24-hour	5.0	Yes
		0.81	Annual	1.0	Yes
$PM_{2.5}$	0.073	4.89	24-hour	1.2	No
		0.81	Annual	0.13	No
SO_2	0.002	0.22	1-hour	7.9	Yes
		0.22	3-hour	25	Yes
		0.13	24-hour	5	Yes
		0.02	Annual	1.0	Yes

While not previously explained, the emission rate modeled for NO_2 was derived by taking 80% of the previously calculated NOx emission rate. This assumes that 80% of the total NOx emissions are

converted to NO_2 and is a technique approved by the EPA. Furthermore, NOx emissions were modeled using the Ozone Limiting Method (OLM) option available in AERSCREEN. In accordance with the guidance document's recommendations, the model was performed using the EPA recommended in-stack NO_2/NOx ratio of 0.50 and a 1-hr O_3 concentration of 0.09 ppm for New Castle County.

NO_2 and $PM_{2.5}$ emissions exceed SIL limits. As a result, additional analysis was required. In cases such as these, the EPA has approved the use of a cumulative impact analysis. This analysis is only required for the pollutants and averaging periods that did not meet the SILs criteria.

In the cumulative impact analysis, the MDC for each pollutant during each failed averaging period is added to a background concentration for the pollutant over the same averaging period, and compared to the NAAQS for that pollutant and averaging period. As long as the summed MDC and background concentration for each pollutant and each averaging period are less than the associated NAAQS, public health and safety are presumed to be protected.

The MDC for the 1-hr and annual averaging periods was used to establish an equivalent "background concentration" for NO_2. The MDC for the 24-hr and annual averaging periods were used to establish an equivalent "background concentration" for $PM_{2.5}$. The MDC from the engine model was summed with the background concentration for each averaging period to assess the cumulative impact, and compared that concentration against the NAAQS for each averaging period in the table below:

Pollutant	Emission Rate (lb/hr)	Averaging Period	MDC (mg/m^3)	Background Concentration (mg/m^3)[1]	Cumulative Impact (mg/m^3)	NAAQS (mg/m^3)	Cumulative Impact< NAAQS?
NO_2	0.754	1-hour	0.07578	0.1274	0.2032	0.1882	No
		Annual	0.007578	0.0179	0.0255	0.0997	Yes
NO_2 12 ft stack		1-hour	0.0563	0.1274	0.1837	0.1882	Yes
$PM_{2.5}$	0.073	24-hour	0.00489	0.019	0.0239	0.035	Yes
		Annual	0.00081	0.0072	0.0074	0.0090	Yes

1. Background concentration of NO_2 taken from AMP450 NO2 for 2022 to 2024.
2. Background concentration of $PM_{2.5}$ for New Castle County taken from EPA "Guidance for Ozone and Fine Particulate Matter Permit Modeling" and Delaware Design Values for 2024 (3-year avg of 2022 to 2024).

PM2.5 emissions are below the NAAQS with the additional analysis. Raising the stack height to 12 feet resulted in NOx emissions complying with the NAAQS. Construction **Permit: APC-2027/0038-CONSTRUCTION (NSPS)(MNSR)(FE)** was completed to allow for this construction.

The TLV for VOCs of 20.4791672 mg/m^3 is based upon the weighted average of HAPs with a TLV listed in AP-42 Table 3.3.2. It represents a combined TLV for volatile HAPs that are present as products of combustion. For VOC, the TLV:MDC ratio meets the Department criteria of TLV:MDC ratio being at least 100.

TLV: MDC TABLE			
Pollutant	**Emissions (lb/hr)**	**MDC (8 hr, $\mu g/m^3$)**	**TLV:MDC**
VOC (Combustion)	0.050	5.025	4075

AERSCREEN Modeling Analysis: GCS-11

In utilizing AERSCREEN, the engine stack was treated as a point source. Point source variables in AERSCREEN are air contaminant emission rates (lb/H), stack height (ft), stack inside diameter (feet), stack gas exit velocity (ft/s) or air flow rate (cfm), stack gas exit temperature (˚F), receptor height above ground level (ft), and whether the source is located in an urban or rural location. Using the National Land Cover Database, 2016 Summary Tool for Air Dispersion Modeling, developed medium intensity and developed high intensity for Newark does not account for 50% or more of the total area (3 km radius), therefore the rural option was selected. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
8	0.3	850	700

AERSCREEN ANALYSIS AND COMPARISON TO SILs					
POLLUTANT	**Emission (lb/hr)**	**MDC (µg/m³)**	**Averaging Period**	**SIL (µg/m³)**	**MDC < SIL?**
NOx	1.03	187.36	1-hour	7.5	No
		18.74	Annual	1.0	No
NO_2	0.824	149.9	1-hour	7.5	No
		14.99	Annual	1.0	No
CO	0.816	165	1-hour	2,000	Yes
		148	8-hour	500	Yes
PM_{10}	0.049	5.94	24-hour	5.0	No
		0.99	Annual	1.0	Yes
$PM_{2.5}$	0.049	5.94	24-hour	1.2	No
		0.99	Annual	0.13	No
SO_2	0.001	0.202	1-hour	7.9	Yes
		0.202	3-hour	25	Yes
		0.121	24-hour	5	Yes
		0.020	Annual	1.0	Yes

While not previously explained, the emission rate modeled for NO_2 was derived by taking 80% of the previously calculated NOx emission rate. This assumes that 80% of the total NOx emissions are converted to NO_2 and is a technique approved by the EPA. Furthermore, NOx emissions were modeled using the Ozone Limiting Method (OLM) option available in AERSCREEN. In accordance with the guidance document's recommendations, the model was performed using the EPA recommended in-stack NO_2/NOx ratio of 0.50 and a 1-hr O_3 concentration of 0.09 ppm for New Castle County.

NO_2, PM_{10}, and $PM_{2.5}$ emissions exceed SIL limits. As a result, additional analysis was required. In cases such as these, the EPA has approved the use of a cumulative impact analysis. This analysis is only required for the pollutants and averaging periods that did not meet the SILs criteria.

In the cumulative impact analysis, the MDC for each pollutant during each failed averaging period is added to a background concentration for the pollutant over the same averaging period, and compared to the NAAQS for that pollutant and averaging period. As long as the summed MDC and background

concentration for each pollutant and each averaging period are less than the associated NAAQS, public health and safety are presumed to be protected.

The MDC for the 1-hr and annual averaging periods was used to establish an equivalent "background concentration" for NO_2. The MDC for the 24-hr averaging period was used to establish an equivalent "background concentration" for PM_{10}. The MDC for the 24-hr and annual averaging periods were used to establish an equivalent "background concentration" for $PM_{2.5}$. The MDC from the engine model was summed with the background concentration for each averaging period to assess the cumulative impact, and compared that concentration against the NAAQS for each averaging period in the table below:

Pollutant	Emission Rate (lb/hr)	Averaging Period	MDC (mg/m^3)	Background Concentration (mg/m^3)[1]	Cumulative Impact (mg/m^3)	NAAQS (mg/m^3)	Cumulative Impact< NAAQS?
NO_2	0.824	1-hour	0.1499	0.1274	0.2773	0.1882	No
		Annual	0.01499	0.0179	0.0329	0.0997	Yes
NO_2 14 ft stack	0.824	1-hour	0.0602	0.1274	0.1876	0.1882	Yes
PM_{10}	0.049	24-hr	0.00594	0.037	0.0429	0.150	Yes
$PM_{2.5}$	0.049	24-hr	0.00594	0.019	0.0249	0.035	Yes
		Annual	0.00099	0.0072	0.0082	0.0090	Yes

1. Background concentration of NO_2 taken from AMP450 NO2 for 2022 to 2024.
2. Background concentration of $PM_{2.5}$ for New Castle County taken from EPA "Guidance for Ozone and Fine Particulate Matter Permit Modeling" and Delaware Design Values for 2024 (3-year avg of 2022 to 2024).

PM_{10} and $PM_{2.5}$ emissions are below the NAAQS with the additional analysis. Raising the stack height to 14 feet resulted in NOx emissions complying with the NAAQS. Construction **Permit: APC-2027/0039-CONSTRUCTION (NSPS)(MNSR)(FE)** was completed to allow for this construction.

The TLV for VOCs of 20.4791672 mg/m^3 is based upon the weighted average of HAPs with a TLV listed in AP-42 Table 3.3.2. It represents a combined TLV for volatile HAPs that are present as products of combustion. For VOC, the TLV:MDC ratio meets the Department criteria of TLV:MDC ratio being at least 100.

TLV: MDC TABLE			
Pollutant	**Emissions (lb/hr)**	**MDC (8 hr, µg/m³)**	**TLV:MDC**
VOC (Combustion)	0.054	9.823	2085

AERSCREEN Modeling Analysis: GCS-18
In utilizing AERSCREEN, the engine stack was treated as a point source. Point source variables in AERSCREEN are air contaminant emission rates (lb/H), stack height (ft), stack inside diameter (feet), stack gas exit velocity (ft/s) or air flow rate (cfm), stack gas exit temperature (°F), receptor height above ground level (ft), and whether the source is located in an urban or rural location. Using the National Land Cover Database, 2016 Summary Tool for Air Dispersion Modeling, developed medium intensity and developed high intensity for Newark does not account for 50% or more of the total area (3 km radius), therefore the rural option was selected. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
8	0.3	500	1000

AERSCREEN ANALYSIS AND COMPARISON TO SILs					
POLLUTANT	**Emission (lb/hr)**	**MDC (µg/m³)**	**Averaging Period**	**SIL (µg/m³)**	**MDC < SIL?**
NOx	0.073	14.99	1-hour	7.5	No
		1.50	Annual	1.0	No
NO_2	0.058	11.9	1-hour	7.5	No
		1.19	Annual	1.0	No
CO	0.897	204	1-hour	2,000	Yes
		184	8-hour	500	Yes
PM_{10}	0.004	0.548	24-hour	5.0	Yes
		0.091	Annual	1.0	Yes
$PM_{2.5}$	0.004	0.548	24-hour	1.2	Yes
		0.091	Annual	0.13	Yes
SO_2	0.001	0.23	1-hour	7.9	Yes
		0.23	3-hour	25	Yes
		0.14	24-hour	5	Yes
		0.023	Annual	1.0	Yes

While not previously explained, the emission rate modeled for NO_2 was derived by taking 80% of the previously calculated NOx emission rate. This assumes that 80% of the total NOx emissions are converted to NO_2 and is a technique approved by the EPA. Furthermore, NOx emissions were modeled using the Ozone Limiting Method (OLM) option available in AERSCREEN. In accordance with the guidance document's recommendations, the model was performed using the EPA recommended in-stack NO_2/NOx ratio of 0.50 and a 1-hr O_3 concentration of 0.09 ppm for New Castle County.

NO_2 emissions exceed SIL limits. As a result, additional analysis was required. In cases such as these, the EPA has approved the use of a cumulative impact analysis. This analysis is only required for the pollutants and averaging periods that did not meet the SILs criteria.

In the cumulative impact analysis, the MDC for each pollutant during each failed averaging period is added to a background concentration for the pollutant over the same averaging period, and compared to the NAAQS for that pollutant and averaging period. As long as the summed MDC and background concentration for each pollutant and each averaging period are less than the associated NAAQS, public health and safety are presumed to be protected.

The MDC for the 1-hr and annual averaging periods was used to establish an equivalent "background concentration" for NO_2. The MDC from the engine model was summed with the background concentration for each averaging period to assess the cumulative impact, and compared that concentration against the NAAQS for each averaging period in the table below:

Pollutant	Emission Rate (lb/hr)	Averaging Period	MDC (mg/m^3)	Background Concentration (mg/m^3)[1]	Cumulative Impact (mg/m^3)	NAAQS (mg/m^3)	Cumulative Impact< NAAQS?
NO_2	0.058	1-hour	0.0119	0.1274	0.1393	0.1882	Yes
		Annual	0.00119	0.0179	0.0191	0.0997	Yes

1. Background concentration of NO_2 taken from AMP450 NO2 for 2022 to 2024.

NOx emissions are below the NAAQS with the additional analysis.

The TLV for VOCs of 20.4791672 mg/m^3 is based upon the weighted average of HAPs with a TLV listed in AP-42 Table 3.3.2. It represents a combined TLV for volatile HAPs that are present as products of combustion. For VOC, the TLV:MDC ratio meets the Department criteria of TLV:MDC ratio being at least 100.

TLV: MDC TABLE			
Pollutant	**Emissions (lb/hr)**	**MDC (8 hr, µg/m³)**	**TLV:MDC**
VOC (Combustion)	0.034	6.98	2932

The following are currently permitted and have passed SCREEN3 dispersion modeling. Additional modeling is not required.
GCS-04 650 hp Morbark Tub Grinder
GCS-15 750 hp Morbark Tub Grinder
GCS-21 1200 hp Morbark Tub Grinder
GCS-16 425 hp Nordberg Lokotrack Crusher

GCS-26 (GCS-2052-2414) was previously permitted for Christiana Materials under **Permit: APC-1982/0850 (Amendment 6)**, issued March 12, 2002. It is a Nordberg Crushing and Screening Plant with a 475 hp Cummins engine. This equipment is being transferred to Middletown Materials. Research shows dispersion modeling was never conducted. However, as this equipment has been permitted for an extensive period of time, emissions from the equipment can be considered to be part of the currently measured background concentrations. Additional modeling is not required.

REGULATORY REVIEW

X 7 **DE Admin. Code** 1102: Permits
X 7 **DE Admin. Code** 1104: Particulate Emissions from Fuel Burning Equipment
X 7 **DE Admin. Code** 1106: Particulate Emissions from Construction and Materials Handling
X 7 **DE Admin. Code** 1108: Sulfur Dioxide Emissions from Fuel Burning Equipment
X 7 **DE Admin. Code** 1112: Control of Nitrogen Oxide Emissions
X 7 **DE Admin. Code** 1114: Visible Emissions
X 7 **DE Admin. Code** 1119: Control of Odorous Air Contaminants
7 **DE Admin. Code** 1120: New Source Performance Standards
7 **DE Admin. Code** 1124: Control of Volatile Organic Compound Emissions
7 **DE Admin. Code** 1125: Requirements for Preconstruction Review
7 **DE Admin. Code** 1130: Title V State Operating Permit Program
7 **DE Admin. Code** 1138: Emission Standards for Hazardous Air Pollutants for Source Categories

40 CFR 60 Subpart OOO:	Standards Of Performance For Nonmetallic Mineral Processing Plants
40 CFR Part 60 Subpart A:	General Provisions
40 CFR Part 60, Subpart IIII:	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

7 **DE Admin. Code** 1102, *Permits*, is applicable and states, "...no person shall initiate construction, install, alter or initiate operation of any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to receiving approval of his application from the Department..." With this, the Company shall obtain a 7 **DE Admin. Code** 1102 permit.

7 **DE Admin. Code** 1104, *Particulate Emissions from Fuel Burning Equipment*, is applicable and states, "No person shall cause or allow the emission of particulate matter in excess of 0.3 pound per million BTU heat input, maximum two-hour average, from any fuel burning equipment."
2.1 The provisions of this Regulation shall not apply where the heat input to the equipment is less than 1,000,000 BTU per hour (393 HP).

GCS-21
(52 gal/hr) x (7.1 lb/gal) x (19,300 BTU/lb) = 7.13 million BTU/hr
(1.07 lb PM/hr) / (7.13 million BTU/hr) = 0.15 pounds per million BTU heat input

GCS-04 (650 HP x 2544.48 BTU/hr-HP)/0.35= 4.725 MMBTU/hr
(0.573 lb PM/hr) / (4.725 MMBTU/hr)= 0.121 lb/MMBTU

GCS-15 (750 HP x 2544.48 BTU/hr-HP)/0.35= 5.453 MMBTU/hr
(0.661 lb PM/hr) / (5.453 MMBTU/hr)= 0.121 lb/MMBTU

GCS-16 (425 HP x 2544.48 BTU/hr-HP)/0.35= 3.090 MMBTU/hr
(0.375 lb PM/hr) / 3.090 MMBTU/hr= 0.121 lb/MMBTU

GCS-26 (475 HP x 2544.48 BTU/hr-HP)/0.35= 3.453 MMBTU/hr
(0.12 lb PM/hr) / (3.453 MMBTU/hr)= 0.035 lb/MMBTU

7 **DE Admin. Code** 1106, *Particulate Emissions from Construction and Materials Handling*, is applicable and requires the following particulate emission limits from material handling operations: 1) "No person shall cause or allow land clearing, land grading (including grading for roads), excavation, or use of non-paved roads on private property unless methods, as indicated in Section 2.2 are employed to control dust emissions, when the Department determines that such activities could emit dust in quantities sufficient to cause air pollution." Section 2.2 states that "Such methods may include the application of water or the use of other techniques approved by the Department." 2) "No person shall cause or allow visible particulate emissions of any material being transported by a motor vehicle." 3) "No person shall cause or allow stockpiling or other storage of material or transport to or from a storage facility in such a manner as may cause a condition of air pollution." Compliance shall be demonstrated based on a log documenting daily compliance to these emission requirements, through the Company having no contradictory knowledge of any citizen complaint, and through a satisfactory review of complaint history by the Department. A dust control plan and its recordkeeping requirements were added to the permit.

7 **DE Admin. Code** 1108, *Sulfur Dioxide Emissions from Fuel Burning Equipment*, is applicable. Section 2.3 states, "On and after July 1, 2016, no person shall offer for sale, sell, deliver, or purchase any fuel having a sulfur content greater than the limits specified in 2.3.1 through 2.3.3 of this regulation, when such fuel is intended for use in any fuel burning equipment in Delaware, and no person shall use any fuel having a sulfur content greater than the limits specified in 2.3.1 through 2.3.3 of this regulation in any fuel burning equipment in Delaware.

2.3.1 For a distillate fuel, except as provided for in 2.4 of this regulation, 15 ppm by weight"
This limit has been placed in the permit.
Section 4.2 states, "Sulfur concentrations of residual fuels and distillate fuels shall be determined by the following method:

4.2.1 The standard ASTM method D2622-10 "Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry," or
4.2.2 Any alternative method specified in Title 40, Code of Federal Regulations, Part 80, Section 580 (July 2012 edition), or
4.2.3 Any alternative method approved by the Department and the EPA."

Each shipment of diesel fuel must meet the following per gallon fuel standards of 40 CFR 80.510(b) for non-road diesel fuel: *Beginning June 1, 2010.* Except as otherwise specifically provided in this subpart, all NR and LM diesel fuel is subject to the following per-gallon standards:
(1) Sulfur content.
(i) 15 ppm maximum for NR diesel fuel.
(ii) 500 ppm maximum for LM diesel fuel.
(2) Cetane index or aromatic content, as follows:
(i) A minimum cetane index of 40; or
(ii) A maximum aromatic content of 35 volume percent.

Section 5.1 states, "Three (3) months after this revision of this regulation becomes effective, any person subject to 2.0 of this regulation, when selling or delivering any fuel oil to be used in Delaware (i.e., the transferor), shall provide to the person receiving the fuel oil (i.e., the transferee) an electronic or paper record that contains the following information:
5.1.1 Name, address and telephone number of the transferor.
5.1.2 Name, address and telephone number of the transferee, and the address where the fuel oil is delivered.
5.1.3 The volume of fuel being sold or delivered, and the date of sale or delivery.
5.1.4 The type of fuel, and the sulfur content of the fuel as a delivered product, determined pursuant to 4.3, 4.4, or 4.5 of this regulation, as applicable, and expressed as one of the following:
5.1.4.1 The actual sulfur content in ppm or percent (%) by weight, or
5.1.4.2 A statement that certifies the sulfur content of the shipment is equal to or below the applicable limit specified in 2.0 of this regulation."

7 **DE Admin. Code** 1112, *Control of Nitrogen Oxide Emissions*, is applicable to major sources of NOx, such as GCS-16, GCS-04, GCS-15, GCS-21, and GCS-26. These sources are currently permitted with reduced hours of operation to stay below major thresholds. 3.3 Maximum emission rates for nitrogen oxides from fuel burning equipment with a rated heat input capacity of less than 100 MMBTU/hr shall be as follows:

3.3.2 Less than 50 MMBTU/hr: Shall not exceed those achieved through an annual tune up performed by qualified personnel. The owner or operator shall maintain a log of the tune ups performed on each unit.
4.0 Exemptions The following source types and sizes are exempt from the demonstration of reasonable available control technology requirement:
4.3 Any fuel burning equipment with a rated heat input capacity of less than 15 MMBTU/hour.
GCS-16, GCS-04, GCS-15, GCS-21, and GCS-26 shall comply with an annual tune up.

7 **DE Admin. Code** 1114, *Visible Emissions*, is applicable to this facility. The plant is subject to the following visible emissions requirement, "No person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty (20%) percent opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period. For guideline purposes only, Shade Number 1 of the Ringlemann Smoke Chart coincides with the regulatory limit of 20% opacity, when observing black smoke."

During the start-up and shutdown of equipment, no person shall cause or allow the emission of visible air contaminants or smoke from a stationary or mobile source, the shade or appearance of which is greater than 40% opacity for more than 6 consecutive minutes in any 1 hour period.

Compliance for crusher/screener/transfer point emissions shall be demonstrated annually by a modified Reference Method 9 test.

7 **DE Admin. Code** 1119, *Control of Odorous Air Contaminants*, states "No person shall cause or allow the emission of an odorous air contaminant such as to cause a condition of air pollution." Compliance shall be demonstrated based upon an initialized log documenting daily plant compliance to this emissions requirement, through the Company having no contradictory knowledge of any citizen odor complaint, and through a satisfactory review of complaint history by the Department. This emissions requirement has been placed in the permit along with the associated monitoring and record keeping requirements.

7 **DE Admin. Code** 1120: *New Source Performance Standards*, is not applicable to crushing/screening operations. The equipment does not have a relevant Standard of Performance.

7 **DE Admin. Code** 1124, *Control of Volatile Organic Compound Emissions*, is not applicable because the source is not a solvent metal-cleaning facility and emits less than fifteen (15) pounds per day VOCs.

7 **DE Admin. Code** 1125, Section 4.3, *Minor New Source Review, Requirements for Preconstruction Review*, is applicable. All of the sources were applied for after August 11, 2005, the sources require a permit under 7 **DE Admin. Code** 1102, Section 2.1.3, and the sources are not covered by the Emission Offset Provisions (EOP) or Prevention of Significant Deterioration of Air Quality (PSD). PTE emissions from the individual crushers/screeners/transfer points or the engine itself (GCS-11, GCS-32, GCS-29, GCS-25, GCS-24, GCS-18, and GCS-28) exceed 5 TPY $PM_{2.5}$. GCS-28 also exceeds 5 TPY NOx. Hours were limited to 1300 hr(RT12) to stay below 5 TPY.

7 **DE Admin. Code** 1130, *Title V State Operating Permit Program*, is applicable. The facility exceeds major source thresholds for NOx, PM_{10}, and VOC for New Castle and Kent Counties. The facility exceeds major source thresholds for NOx and PM_{10} for Sussex County. The facility agrees to limit operating hours to remain below major source thresholds as a synthetic minor.

7 **DE Admin. Code** 1138, *Emission Standards for Hazardous Air Pollutants for Source Categories*, is not applicable because the source does not have a potential to emit HAPs that would define it as a major affected source.

40 CFR 60 Subpart OOO, *Standards Of Performance For Nonmetallic Mineral Processing Plants*, is applicable to GCS-16, GCS-32, GCS-33, GCS-29, GCS-25, GCS-24, GCS-11, GCS-18, and GCS-28.
§60.670(a)(1) states, "Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station.
§60.670(c) Facilities at the following plants are not subject to the provision of this subpart: (2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less.

GCS-21	80 TPH
GCS-04	120 TPH
GCS-15	65 TPH
GCS-16	**300 TPH**
GCS-32	**400 TPH**
GCS-33	**400 TPH**
GCS-29	**400 TPH**
GCS-25	**400 TPH**
GCS-24	**300 TPH**
GCS-11	**180 TPH**
GCS-18	**600 TPH**
GCS-28	**300 TPH**
GCS-26	100 TPH

§60.670(e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.

§60.672(b) states, "Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11. The requirements in Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems."

Table 3 to Subpart OOO of Part 60—Fugitive Emission Limits

For * * *	The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in §§60.670 and 60.671) * * *	The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	7 percent opacity	12 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart; and Periodic inspections of water sprays according to §60.674(b) and §60.676(b); and
			A repeat performance test according to §60.11 of this part and §60.675 of this subpart within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays. Affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §60.674(b) and §60.676(b) are exempt from this 5-year repeat testing requirement.

Monthly inspections of the water spray nozzles show compliance with §60.672(b).

§60.672(d) states, "Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section." *Loading/unloading are not regulated by this subpart. Daily Reference Method 22 visible emission tests shall be conducted.*

§60.674 Monitoring of Operations (b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to

check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b).
(1) If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:
(i) The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and §60.676(b), and
(ii) The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under §60.11 of this part and §60.675 of this subpart.
(2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under §60.676(b) must specify the control mechanism being used instead of the water sprays.

§60.675 *specifies test methods to be used in conducting the performance tests required under §60.8.*
§ 60.675(c)(1) states that: "In determining compliance with the particulate matter standard in §60.672(b)…, the owner or operator shall use Method 9 of appendix A-4 of this part and the procedures in §60.11, with the following additions: (i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet). (ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of appendix A-4 of this part, Section 2.1) must be followed. (iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible." *The requirements under §60.675(c)(1) have been placed in the permit.*
§60.675(c)(3) states, "When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b)… of this subpart, the duration of the Method 9 (40 CFR part 60, appendix A-4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages." *These conditions have been included in the permit.*
§60.675(g) states, "For performance test involving only Method 9 (40 CFR part 60 appendix A-4) testing, the owner or operator may reduce the 30-day advance notification of performance test in §60.7(a)(6) and 60.8(d) to a 7-day advance notification."
§60.675(i) If the initial performance test date for an affected facility falls during a seasonal shut down (as defined in §60.671 of this subpart) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

§60.676(a) identifies protocol for use of new and replacement equipment. The Department and EPA shall be notified of parameters of both existing equipment and the replacement equipment.
(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and
(ii) The rated capacity in tons per hour of the replacement equipment.
(2) For a screening operation:
(i) The total surface area of the top screen of the existing screening operation being replaced and
(ii) The total surface area of the top screen of the replacement screening operation.
(3) For a conveyor belt:
(i) The width of the existing belt being replaced and
(ii) The width of the replacement conveyor belt.
§60.676(b)(1) Owners or operators of affected facilities (as defined in §§60.670 and 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under §60.674(b)…, including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.
§60.676(f) requires the facility to submit written reports of the results of all performance tests, conducted to demonstrate compliance with the applicable standards of §60.672, including reports of opacity observations made using Method 9 (40 CFR part 60, appendix A-4) to demonstrate compliance with §60.672(b). *Visible emission tests shall be submitted to the Department only.*

§60.676(h) states, "The subpart A requirement under §60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart."

§60.676(i) states, "A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator." (i)(1) states, "For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available." *These reporting and notification requirements have been placed in the permit.*

§60.676(k) states, "Notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart need only to be sent to the EPA Region or the State which has been delegated authority according to §60.4(b)."

40 CFR Part 60 Subpart A, *General Provisions* Subpart A, 60.1 *Applicability*, 60.2 *Definitions*, 60.3 *Units and abbreviations*, 60.4 *Address*, 60.5 *Determination of construction or modification*, 60.6 *Review of plans*, 60.7 *Notification and recordkeeping*, 60.8 *Performance test*, 60.9 *Availability of information*, 60.10 *State authority*, 60.11 *Compliance with standards and maintenance requirements*, 60.12 *Circumvention*, 60.13 *Monitoring requirements*, 60.14 *Modification*, 60.15 *Reconstruction*, 60.16 *Priority list*, 60.17 *Incorporations by reference*, and 60.19 *General notification and reporting requirements*, are applicable to Subpart OOO.

Table 1 to Subpart OOO of Part 60- *Exceptions to Applicability Of Subpart A To Subpart OOO*, states, "Except §60.4(a) and (b) submittals need not be submitted to both the EPA Region and delegated state authority (§60.676(k))."

§60.7(a)(3) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

§60.7(a)(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
§60.7(a)(6) A notification of the anticipated date for conducting the opacity observations required by §60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date. *§60.675(g) allows 7 days notification.*
§60.7(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
§60.7(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows:
§60.7(f)(3) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (f) of this section, if the Administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

§60.8 *No performance test under §60.8 is required.*

§60.11(b), (c), (d), and (e)(1) are applicable. 40 CFR Part 60.11(b) states "Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in paragraph (e)(5) *(refers to continuous opacity monitoring)* of this section.
§60.11(c) states that "The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard." *This will not be put in the permit because 7 DE Admin. Code 1114 was updated 2/1/25 and removed SSM restrictions.*

§60.11(d) requires that "At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source." *These requirements have been placed in the permit. Demonstration of compliance to the requirements of §§60.11(c) and (d) will be based on records showing daily plant operation logs showing compliance to the record keeping requirements. This recordkeeping condition has been placed in the permit.*

§60.11(e)(1) states, "For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in §60.8 unless one of the following conditions apply. If no performance test under §60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility…"

§60.12 states, "No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere."

§60.13 Monitoring requirements, *does not apply because it covers continuous monitoring systems*.

§60.14(a) states, "…any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere."

40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*
§60.4200 The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

§60.4219 Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

§ 1068.30 Definitions.
40 CFR 1068.30 "Nonroad engine"
(1) Except as discussed in paragraph (2) of this definition, a nonroad engine is an internal combustion engine that meets any of the following criteria:
(i) It is (or will be) used in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers).
(ii) It is (or will be) used in or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers).
(iii) By itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

40 CFR 1068.30(1)(iii) applies. The engines are moved by a trailer and are initially defined as "Nonroad."

(2) An internal combustion engine is not a nonroad engine if it meets any of the following criteria:
(i) The engine is used to propel a motor vehicle, an aircraft, or equipment used solely for competition.
(ii) The engine is regulated under 40 CFR part 60, (or otherwise regulated by a federal New Source Performance Standard promulgated under section 111 of the Clean Air Act (42 U.S.C. 7411)). Note that this criterion does not apply for engines meeting any of the criteria of paragraph (1) of this definition that are voluntarily certified under 40 CFR part 60.
(iii) The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. For any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced, include the time period of both engines in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (*i.e.,* at least two years) and that operates at that single location approximately three months (or more) each year. See § 1068.31 for provisions that apply if the engine is removed from the location.

The facility has accepted an operational limitation of positioning their equipment less than twelve months at any location. §60.4219 defines the engines as mobile and not stationary sources. Subpart IIII does not apply.

40 CFR Part 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*
According to §63.6585, a facility is subject to this subpart if it owns or operates a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand. *10 TPY single HAP or 25 TPY of any combination of HAP constitutes a major source.*

(c) An area source of HAP emissions is a source that is not a major source.

§63.6590(a)(2)(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006. *The engine commences construction in 2026.*
(c) Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines… No further requirements apply for such engines under this part.
(1) A new or reconstructed stationary RICE located at an area source. *The engines are not stationary. They are mobile, nonroad engines. As Subpart IIII does not apply, Subpart ZZZZ does not apply. No further requirements apply for such engines under this part.*

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ

from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Part 1039 Control Of Emissions From New And In-use Nonroad Compression-Ignition Engines
Subpart A Overview and Applicability
1039.1 The regulations in this part 1039 apply for all new, compression-ignition nonroad engines (defined in § 1039.801), except as provided in § 1039.5. *§1039.5 does not exclude the proposed engines.*

Subpart B Emission Standards And Related Requirements
§ 1039.105 What smoke opacity standards must my engines meet?
(a) The smoke opacity standards in this section apply to all engines subject to emission standards under this part, except for the following engines:
(1) Single-cylinder engines.
(2) Constant-speed engines.
(3) Engines certified to a PM emission standard or FEL of 0.07 g/kW-hr or lower.
(b) Measure smoke opacity as specified in § 1039.501(c). Smoke opacity from your engines may not exceed the following standards:
(1) 20 percent during the acceleration mode.
(2) 15 percent during the lugging mode.
(3) 50 percent during the peaks in either the acceleration or lugging modes.

RECOMMENDATIONS

The proposed project and attached permit comply with all applicable zooming requirements and federal and state air pollution control laws and regulations. It is recommended that the attached DRAFT **Permit: APC-2002/0738-OPERATION (SM) (Amendment 13)**, and the applications for **Permit: APC-2026/0215-CONSTRUCTION (NSPS)(MNSR)(FE)**, **Permit: APC-2027/0038-CONSTRUCTION (NSPS)(MNSR)(FE)**, and **Permit: APC-2027/0039-CONSTRUCTION (NSPS)(MNSR)(FE)** be advertised Wednesday, November 25, 2026. The public notice period ends on December 25, 2026. If no comments are received, it is recommended that these permits be issued.

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Pc: Dover File
Ramy Hassan
Melanie Smith

Attachment A

650 Horsepower Morbark Tub Grinder (GCS-04)
750 Horsepower Morbark Tub Grinder (GCS-15)
1200 Horsepower Morbark Tub Grinder (GCS-21)
425 Horsepower Portable Nordberg Lokotrack Crusher (GCS-16)
350 Horsepower McCloskey 144 RV3HD Impact Crusher (GCS-32)
115 Horsepower Edge TS100 Stacker (GCS-33)
225 Horsepower McCloskey R230 Tracked Screen (GCS-29)
355 Horsepower McCloskey J45 Jaw Crusher (GCS-28)
475 Horsepower Nordberg Crushing and Screening Plant (GCS-26)
100 Horsepower Ezystak BF7042 Belt Feeder (GCS-25)
150 Horsepower McCloskey 621 RE Trommel Screener (GCS-24)
100 Horsepower McCloskey MCB616REG Trommel Screen Plant (GCS-11)
110 Horsepower Terex Warrior Power Screen (GCS-18)