Application for Air Quality Permit to Construct at FMC Wyoming Corporation’s Westvaco Facility

April 10, 2015
Andrew Keyfauver  
NSR Permit Engineer  
Department of Environmental Quality, Air Quality Division  
122 West 25th Street  
Herschler Building, 2-E  
Cheyenne, WY 82002  

RE: TRONOX Westvaco Project Application No. A0000713  

Dear Mr. Keyfauver:  

As discussed in our meeting of April 29, 2015 TRONOX is submitting Addendum 1 to Application No. A0000713 in order to provide additional detail to the Granger-Westvaco Pipeline Project. The application described the project in general terms (Section 2.2.2) and included the estimated emissions that may occur as a result of the project at Westvaco (Appendix A-4, Project No. 5).  

The addendum includes a narrative describing the purpose and mechanics of the project as well as a revised process flow diagram (Fig. 2-3 rev1) and a drawing indicating the pipeline corridor between the Granger and Westvaco facilities (Fig. 1). Fig. 2-3 was part of the Westvaco application; Fig. 2-3 rev1 provides more specific detail with respect to the flow of purge liquor through the ELDM deca process.  

Addendum 1 is also being submitted in IMPACT as a supplement to A0000713. The submitter is Fred von Ahrens, TRONOX Responsible Official.  

Please contact me with any questions or for additional information.  

Sincerely,  

John Lucas  
Environmental Manager
Addendum 1

GRANGER TO WESTVACO PIPELINE SUMMARY

The TRONOX Granger plant produces soda ash (sodium carbonate) by evaporating water from a solution of sodium carbonate and water (“mine water”). The mine water contains various impurities, primarily sodium chloride, sodium sulfate, and sodium bicarbonate, which are also concentrated in the evaporation process. In order to meet product specifications the level of impurities is controlled via a purge stream from the existing evaporation equipment. Unfortunately, the purge stream contains a significant concentration of sodium carbonate as well as the impurities.

Sodium carbonate can be partially separated from impurities contained in the purge stream by crystallizing sodium carbonate decahydrate (“deca”). The deca can then be returned to the main process for recovery, thus improving plant efficiency and reducing purge volume otherwise disposed to the tailings pond.

Currently, some of the purge liquor from the Granger process goes to a small deca recovery unit located at the Granger plant. This recovery equipment is inadequately sized for current and future mine water operations and it is operationally unreliable. The permitted Granger Optimization Project (GOP) will result in a further increase in the amount of evaporator purge; consequently, the GOP included a much larger deca recovery system compared to the current system.

In order to recover product from the purge stream before installation of the full deca recovery system associated with the GOP, TRONOX proposes to install a pipeline from the Granger facility to the Westvaco facility’s ELDM plant to take advantage of excess capacity in its deca system. The pipeline will be sized to handle less than fifty percent (<50%) of the design feed capacity of the proposed GOP deca system. TRONOX will use a second new pipeline to return concentrated sodium carbonate stream with a lower impurity level from the ELDM plant to the Granger plant. This project improves sodium carbonate recovery, thereby capturing valuable feedstock while reducing the volume of Granger purge to Tailings Pond No. 3.

Increasing recovery from the Granger purge stream will allow TRONOX to achieve a small increase in production from the Granger facility during construction of GOP, but well below the production rates expected by the full GOP. Similarly, any emission increases at the Granger facility occurring as a result of the production rate increase have been addressed in the GOP permitting action, which considered overall GOP project emissions to represent potential-to-emit (PTE). Use of the pipeline for the described purpose would extend no longer than five (5) years from the date upon which the pipeline commences operation.

The process is summarized in the attached block flow diagram. A drawing indicating the pipeline corridor between the Granger and Westvaco facilities is also attached.
Figure 1  Federal ROW Sought and Adjacent State-Owned and Privately Owned Land.
Application for
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at FMC Wyoming Corporation’s
Westvaco Facility

Prepared For:
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1.0 Introduction

This minor source air quality permit application is submitted by FMC Wyoming Corporation for a permit to modify operations at the company’s Westvaco trona operation located approximately 20 miles west of Green River, Wyoming. The Westvaco site includes facilities for production of sodium carbonate (soda ash), sodium sesquicarbonate, sodium bicarbonate, and sodium hydroxide (caustic) from trona ore mined at the site. An additional production plant recovers alkali from the combination of naturally occurring water that enters the underground mine, and the supernatant from trona tailings streams that are pumped back into mine voids.

For its Westvaco Optimization Project (the “Project”) TRONOX proposes incremental production increases at three of its plants for a combined increase of 109,000 tons per year of refined soda ash (RSA) from the facility. Other elements of the Project include a small increase in caustic production (less than 3 tons/year), and re-commissioning of two small flyash handling baghouses. The details relevant to each plant are described in Section 3 of this application.

The Westvaco site is a major source for particulate matter (PM$_{10}$, PM$_{2.5}$), sulfur dioxide (SO$_2$), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOC), and greenhouse gases (GHG). The activities described in this permit application will result in minor increases in these pollutants. The project net emission increase for each pollutant is less than its respective Prevention of Significant Deterioration (PSD) significant emission rate. With the exception of the re-commissioning of two small flyash handling baghouses, the emissions increases resulting from the Project are a function of increased utilization of existing downstream process equipment and the gas-fired boilers.

There are two coal-fired boilers and five gas-fired boilers at the Westvaco site and all of the boilers supply steam to a common header for distribution throughout the facility. Since TRONOX has determined that there is little, if any, increased steam production increment available from the coal-fired boilers for the Project, the steam needed to facilitate the production rate increases from each plant will be provided from increased utilization of the gas-fired boilers.
This permit application is being submitted to the Wyoming Department of Environmental Quality, Air Quality Division, to meet the requirements described in Chapter 6 of the Wyoming Air Quality Standards and Regulations. The permit application includes relevant process descriptions, emission inventories, and the proposed control method for particulate for the two re-commissioned sources. This document also provides a demonstration that project emissions contribute to ambient air impacts that are less than Wyoming's Significant Impact Levels, or are in compliance with Wyoming Ambient Air Quality Standards where a Significant Impact Level is exceeded. A listing of regulations, citations, and section numbers where the compliance demonstrations appear in this application are shown in the following table.

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2.0 Source and Project Descriptions

Site information, plans, description, and schedules are provided in this section.

2.1 Site Location

The TRONOX Westvaco facility is located approximately 20 miles west-northwest of Green River, Wyoming, in Sections 14, 15, 22, and 23, T19N/R110W. Universal Transverse Mercator (UTM) zone 12 NAD83 coordinates of the Westvaco plant are approximately 599054 meters East, 4608113 meters North. Figure 2-1 shows the regional setting of the Westvaco plant. Figure 2-2 shows the location of the various production plants within the facility.

2.2 ELDM Plant

Background
ELDM is an acronym for the major unit operations in this mine water processing plant. These operations include (E) Evaporation, (L) Lime, (D) Decahydrate crystallization, and (M) Monohydrate crystallization. The Wyoming Department of Environmental Quality, Air Quality Division, issued permit CT-1045 on September 7, 1993, for construction of the ELDM plant.

2.2.1 Process Description

Figure 2-3 is a flow diagram of the ELDM process.

Evaporation/Stripping
An alkali solution originating in the underground trona mine provides the feedstock for the ELDM plant. This solution is pumped from underground sumps to a clarifier on the surface where fine insoluble particles are removed. The clarified mine water is subsequently sent to mine water strippers/evaporators where sodium bicarbonate in the solution is converted to sodium carbonate (through steam stripping), and where the solution is concentrated to approximately 30% total alkalinity. The vent stream from the mine water
strippers/evaporators consists of carbon dioxide, water vapor, and minor amounts of hydrogen sulfide. The hydrogen sulfide emission is controlled with an alkaline spray tower scrubber.

Lime
Residual sodium bicarbonate that is in the concentrated mine water can be damaging to metal and can cause problems with subsequent crystallization steps. Consequently, the small amount of bicarbonate remaining in the solution is subsequently minimized by adding caustic produced by mixing mine water and lime. The solution is then filtered to remove any remaining fine particles.

Decahydrate Crystallization
In the next step in the process the solution is cooled in two crystallizers where sodium carbonate decahydrate crystals are formed. The decahydrate crystallization process rejects soluble impurities (e.g., chlorides, sulfates, organics) and provides the principal means of purifying mine water for the production of high purity anhydrous sodium carbonate. The precipitated crystals are subsequently melted and the resulting sodium carbonate solution provides the feed for the monohydrate crystallizers.

Monohydrate Crystallization
Water in the saturated (30%) sodium carbonate liquor is evaporated in the monohydrate crystallizers until a sodium carbonate monohydrate crystal precipitates. These crystals are then separated from the liquor and are sent to a fluidized bed dryer.

Drying
The fluidized bed dryer converts the sodium monohydrate crystals to anhydrous sodium carbonate that is subsequently conveyed to the loadout area for shipment in railcars. A cyclone and high-pressure drop venturi scrubber control particulate emissions from the fluid bed dryer.
2.2.2 Proposed ELDM Plant Process Modifications

ELDM project activities include installation of heat-exchanger equipment for pre-heating of mine water feeding the stripper/evaporators, replacement and upgrade of mine water stripper column packing, piping installation to facilitate condensate diversion around the flash tanks, and replacement of the fluid bed dryer feed screws with higher capacity units. These modifications will facilitate an incremental production increase of approximately 29 ktons per year of refined soda ash from the ELDM plant. Annual emissions from all ELDM point sources will increase slightly as a result of increased utilization of equipment.

TRONOX also proposes to utilize excess capacity of the decahydrate section of the ELDM plant to purify and concentrate the monohydrate purge stream from its Granger facility. The purge stream would be sent to the Westvaco ELDM plant, treated, and in return a concentrated, purified alkali stream will be fed to Granger’s Mono crystallizers. No production increase will occur at the ELDM plant, but a small increase in steam utilization at the Westvaco facility is required for processing the purge stream. The transfer operations would occur via pipelines that would be placed in an existing pipeline corridor permitted by the Wyoming DEQ Land Quality Division (reference Section 4.6 for Sage Grouse Core Area Management). TRONOX understands that additional permitting will be required for its Granger facility in order to accommodate any increased production.

2.3 Monohydrate Plant

Background
The monohydrate plant (Mono) consists of two parallel processing lines for the production of soda ash. Mono1 began operation in May of 1972 and Mono2 began operation in January of 1976.
2.3.1 Mono Process Description

Figure 2-4 is a flow diagram of the Mono process.

Feedstocks
Dry-mined trona ore is the primary feedstock for Mono plant. Trona ore is a double salt of sodium carbonate and sodium bicarbonate (Na$_2$CO$_3$·NaHCO$_3$·2H$_2$O) and the ore from the Westvaco mine is approximately 90% trona and 10% insoluble materials. Ore is delivered to the Mono plant from the mine via the #4 ore hoist shaft. The ore is fed directly into the process, or it is stockpiled for future use in case of a supply interruption from the mine. Other feedstocks for the Mono plant include liquor from the decahydrate crystal recovery process, clarified mine water, and concentrated mine water. These other feedstocks may supplement or replace feed liquor that is produced from trona ore.

Ore Crushing
Trona ore coming from the mine is screened with the undersized material conveyed into the plant for processing. Oversize material may be crushed prior to processing, or conveyed to the stockpile for storage and subsequent use when mine operations are not producing ore.

Calcining
Crushed trona ore is fed to the gas-fired rotary calciners where it is heated to drive off carbon dioxide and water. All of the transformations necessary to convert raw trona ore into crude soda ash are completed in the calcining step. The calcined ore is discharged into a conveying system that moves the material to the dissolving section.

Dissolving/Clarification/Filtration
The remaining portion of the process serves to remove impurities from the ore and to produce the final product. The crude soda ash produced by the calcining step is soluble in water whereas most of the impurities in the trona ore feed stock
are not. Dissolving the ore in water causes the impure soda ash to go into solution while the insoluble impurities stay suspended in the resulting mixture. These impurities are separated from the solution through classifying, clarifying and filtering the liquor.

**Evaporation and Centrifugation**

Water in the filtered liquor is evaporated in the monohydrate evaporators until sodium carbonate monohydrate crystals are formed. The crystals are separated from the mother liquor by centrifuges and are subsequently sent to the fluidized bed dryers.

**Drying**

The fluidized bed dryers use steam heat to convert the sodium monohydrate crystals to anhydrous sodium carbonate that is subsequently conveyed to the loadout area for shipment in railcars. Cyclones and high-pressure drop venturi scrubbers control particulate emissions from the fluid bed dryers.

### 2.3.2 Proposed Mono Plant Process Modifications

Mono plant project activities include replacement of filter piping, provision of de-superheating 25 lb. steam to the process, replacement of Mono2 circulating pumps, HE-3501 heat exchanger replacement, and application of variable frequency drive (VFD) technology to the Mono1 slurry pumps. These modifications will facilitate a production increase of approximately 39.5 ktons of refined soda ash per year from the Mono plant. The production increase will be achieved through use of a combination of liquor from the decahydrate crystal recovery process, clarified mine water, and concentrated mine water. Since none of the proposed activities are modifications to the Mono Plant calciners, only process equipment located downstream of the Mono calciners will see increased utilization as a result of the Mono plant projects. Annual emissions from the affected Mono plant emission sources will increase slightly as a result.
2.4 Sesquicarbonate Plant

Background
The TRONOX Westvaco sodium sesquicarbonate plant (Sesqui) began operation in 1953 and was the first plant to produce refined soda ash from trona ore mined in the Green River basin. This plant produces multiple grades of soda ash and sodium based products using the “Sesqui’ process described below.

2.4.1 Sesqui Process Description

Figure 2-5 is a flow diagram of the Sesqui process.

Ore Handling
Dry-mined trona ore is the primary feedstock for the Sesqui plant. Trona ore is a double salt of sodium carbonate and sodium bicarbonate (\(\text{Na}_2\text{CO}_3\cdot\text{NaHCO}_3\cdot2\text{H}_2\text{O}\)) and the ore from the Westvaco mine is approximately 90% trona and 10% insoluble materials. Ore is delivered to the Sesqui plant from the mine primarily via the #2 ore hoist shaft or alternatively (via overland conveyor) from the #4 ore hoist shaft. The ore is fed directly into the process, or it is stockpiled for future use in case of a supply interruption from the mine.

Ore Crushing and Dissolving
The initial processing step involves crushing the ore to a size that will quickly dissolve. In the dissolving circuit the ore is agitated with hot water and since the reaction is endothermic, steam is added to hold the solution temperature near the boiling point.

Clarification and Filtration
The next two steps in the process are used to purify the alkali solution (“liquor”) created in the dissolving circuit. The liquor is transferred to large settling tanks (clarifiers) were the coarse insoluble fraction of the trona ore is settled out. As the clear liquor overflows the clarifiers, activated carbon is added to remove soluble organics. The mixture of saturated liquor and carbon subsequently enters a series of pressure leaf filters where the carbon and remaining fine
insoluble material is removed. At this point the purified liquor is near the saturation point and it is ready for crystallization.

**Crystallization and Centrifugation**

In this step the liquor is cooled in a series of crystallizer vessels and a slurry of sodium sesquicarbonate crystals and water (C-Cake) is created. The size of the crystals can be controlled by varying the recirculation rate of the crystallizers, and by the amount and types of additives introduced. In preparation for calcining, the C-Cake material is centrifuged to remove excess water. Different centrifuge designs are used to supply feed to various types of drying units to facilitate production of soda ash with a variety of physical properties.

**Calcining and Product Handling**

A combination of natural gas-fired and steam-fired units is used in the Sesqui plant. The gas-fired units resemble a rotary kiln with concurrent gas and product flows. The steam-fired units are all fluid bed designs that use high-pressure steam to dry the product. After the crystals have been dried or calcined as required for the various product grades, the soda ash is conveyed to product storage silos or bulk loading silos.

### 2.4.2 Proposed Sesqui Plant Process Modifications

Sesqui plant project activities include upgrade of ore dissolver feed bin sensors, installation of additional piping from the ore dissolvers to the clarifiers, improvements to the flocculent addition system, modification of the scale inhibitor system including installation of a scale inhibitor system after the dissolvers, enhancement of filter performance, and a capacity increase for a wash-water tank. These modifications will facilitate a production increase of approximately 40.5 ktons of refined soda ash per year from the Sesqui plant. Annual emissions from all Sesqui emission sources will increase slightly as a result of increased utilization of equipment.

The purpose of the scale inhibitor system is to mitigate the formation of various types of sodium, calcium, magnesium scale in process pipes and vessels. The
proposed project will upgrade and relocate various components of the existing system to achieve better scale control and to improve safety. While TRONOX does not believe that the scale inhibitor system modifications are subject to air quality permitting, the emissions associated with a potential production increase from this project are included nevertheless.

2.5 Caustic Plant

Background
Chemical grade caustic soda (sodium hydroxide) is produced in the Westvaco caustic plant. The caustic plant consists of a slaker/causticizer section for production of 10% caustic, mud filters/kiln for recovery of lime, and 50% caustic production section. The 10% caustic plant and kiln were built in 1980 to supply weak caustic for the company’s solution mining project. The 50% caustic plant was constructed in 1990 to supply caustic to the Westvaco sodium cyanide plant (subsequently decommissioned) and external customers.

2.5.1 Caustic Process Description

Figure 2-6 is a flow diagram of the caustic process.

Slaker/Causticizer
The key raw materials for the caustic plant are lime, soda ash, water, and steam. The slaker combines the lime (CaO) and water (H₂O) to form hydrated lime (Ca(OH)₂). The hydrated lime is then reacted with soda ash (Na₂CO₃) and sent through two causticizers to form 10% caustic soda (NaOH) solution and calcium carbonate (CaCO₃). This liquor flows into a clarifier where the mud settles and the 10% caustic soda is sent to a storage tank. This tank is used to supply 10% caustic to the 50% caustic section and to other end-users at the Westvaco facility.

Lime Mud Filters/Kiln
The mud that settles out in the clarifier consists of calcium carbonate and some dilute caustic. This mud is processed through two mud filters to produce a
calcium carbonate mud cake. The calcium carbonate is subsequently sent through a kiln where it is converted back to calcium oxide (lime).

50% Caustic Section
The 50% caustic production section of the caustic plant uses evaporators to concentrate the 10% caustic to 50% caustic solution. This solution is centrifuged and filtered to remove carbonates and the final product is sent to a storage tank in preparation for bulk loading into trucks and railcars.

2.5.2 Proposed Caustic Plant Process Modifications

Caustic plant project activities include installation of a spare pump and line for the lime slaker, and caustic filter optimization. These modifications will facilitate production increases of approximately 2.65 ktons per year of 10% caustic, and approximately 0.1 ktons per year of 50% caustic. Annual emissions from both emission sources at the caustic plant will increase slightly as a result of increased utilization of equipment.

2.6 Utilities Plant

Background
The Westvaco facility has two coal-fired boilers (NS1A and NS1B) and five natural gas-fired boilers (PH1A, PH1B, PH2, PH3, and MW5). All of the boilers supply steam to a common header for distribution throughout the facility. The coal-fired boilers are operated as base load units for the plant and have little, if any, remaining steam production capacity. The natural gas boilers supply plant steam needs beyond the capacity of the coal boilers.
2.6.1 Steam Production and Utilization

No modifications are necessary for any of the boilers. The steam required to support the production increase from each plant will be provided through increased utilization of the gas-fired boilers. Annual emissions from the gas-fired boilers will increase slightly as a result of increased utilization of the equipment.

Figure 2-7 is a flow diagram of steam production and distribution at the Westvaco facility.

2.6.2 Proposed Utilities Project

Flyash from the two coal-fired boilers is currently landfilled at an approved facility located at the Westvaco site. However, in the past some/all of this material was shipped off-site for beneficial use. The flyash was piped directly from the boiler ash handling system to a flyash loadout facility that included two baghouses (NS10 and NS11) for dust control. Since the flyash loadout system has not operated for over ten years, it has fallen into disrepair.

Presently, there is a renewed opportunity to ship some or all of this material off site for beneficial use. TRONOX proposes to re-start the flyash loadout system and to re-condition or replace both of the ash handling baghouses to meet current BACT requirements.

2.7 Construction and Operation Schedules

Implementation of the projects described above will begin in the third quarter of 2015 pending receipt of the necessary permits.

It is assumed for this permit application that the affected emission sources will emit continuously for 52 weeks per year (8760 hours).
GRANGER... GREEN RIVER... ROCK SPRINGS, WY AREA MAP
TRONOX Westvaco
Monohydrate Process Diagram

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NAD83 UTM Easting, meters
NAD83 UTM Northing, meters
Pollutants

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Figure 2-4
TRONOX Westvaco
Caustic Process Diagram

Natural Gas

Lime Kiln
R-5501

Lime Bin
(res-burned)
T-5513

Lime Slaker
T-5506

Causticizer
Tanks (3)

Clarifier
TB-5523

Weak Caustic

Evaporators
(4)

Cooling
Tanks

Centrifuge

Filter

Product Storage

Product Loadout

Lime Bin
T-5512

CaCO3

Clarifier Underflow

Lime Unloading
(makeup)

TA
(Soda ash solution)

Steam

Evaporator

200 lb steam

Particulate,
NOx, CO,
VOC, CO2

Product Storage
(New)

Pollutants
Source ID
NAD83 UTM Easting, meters
NAD83 UTM Northing, meters

<table>
<thead>
<tr>
<th>Source</th>
<th>ID</th>
<th>Easting</th>
<th>Northing</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-1</td>
<td></td>
<td>599619.82</td>
<td>4608140.09</td>
</tr>
<tr>
<td>RD-3</td>
<td></td>
<td>599612.14</td>
<td>4608029.20</td>
</tr>
</tbody>
</table>

Figure 2-6
TRONOX Westvaco
Steam Production and Distribution Diagram

Figure 2-7
3.0 Project Emissions

Emissions from the Westvaco Optimization Project (the “Project”) will be primarily from physical changes to existing process equipment and from increased steam utilization. The Project constitutes a "modification" to an existing major stationary source as defined under the Prevention of Significant Deterioration (PSD) regulations. Emissions associated with the Project were evaluated for PSD applicability in accordance with the procedures in the Wyoming Air Quality Standards and Regulations (WAQSR) Ch. 6, Sec. 4. As documented below and in Appendix A of this permit application, the Project will not result in a significant emissions increase of any NSR regulated pollutant; therefore, it does not constitute a “major modification” subject to PSD review. This permit application is structured to meet the requirements for the issuance of a minor source permit under the WAQSR.

3.1 Emission Calculation Methodology

This application follows the procedures in WAQSR Ch. 6, Sec. 4 (b)(i)(J)(V), ‘Hybrid Test for Projects That Involve Multiple Types of Emissions Units’. Emissions from the new units are calculated using the ‘Actual-to-Potential’ (ATP) test; emissions from the modified units are calculated using the ‘Actual-to-Projected Actual’ (ATPA) test.

Project related emissions were calculated by: (1) subtracting Baseline Actual Emissions (BAE) from Potential to Emit Emissions (PTE) for new emission units, and; (2) subtracting BAE from Projected Actual Emissions (PAE) for all existing units affected by the Project. In accordance with paragraph (i)(C) under the definition of “Projected Actual Emissions” in WAQSR Ch 6, Sec 4 (a), adjustments were made to unit-specific project emissions increase estimates to exclude emissions that the unit(s) could have accommodated during the selected baseline period and that are unrelated to the Project.
3.2 Affected Emission Units

3.2.1 New Emission Units

Two emission units, NS-10 Fly Ash Silo and NS-11 Fly Ash Truck Loading, were originally constructed and commissioned in 1987 under Permit Nos. CT-603/OP-180, but have not been operated or routinely maintained for a number of years. Since the potential for recycling the coal boiler fly ash off-site has resurfaced, the Project will restore operation of the silo and loading facility. Both emission units were originally equipped with baghouses; the Project proposes to refurbish the existing baghouses or to install new baghouses. Either option chosen will meet Best Available Control Technology (BACT) for PM and PM$_{2.5}$, as discussed in Section 5.

3.2.2 Modified Emission Units

Six (6) existing emission units will undergo physical changes as a result of the Project:

- PA-6 Sesqui Dissolver Vent
- PA-7 Sesqui Dissolver Vent
- PA-8 Sesqui Dissolver Vent
- PA-9 Sesqui Dissolver Vent
- MW-3 ELDM Fluid Bed Dryer
- MW-6 ELDM H$_2$S Scrubber/C0$_2$ Stripping System

3.2.3 Rate-Affected Emission Units

Thirty-three (33) existing emission units are anticipated to have increased emissions solely as a result of increased utilization. The increased utilization will impact both process emission units and the gas-fired boilers.

3.3 Baseline Actual Emissions

Baseline actual emissions (BAE) for an existing emissions unit (other than an electric steam generating unit) is defined as “the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period
selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the Project, or the date a complete permit application is received by the Division for a Chapter 6, Section 4 permit, whichever is earlier…". The ‘look back’ period for establishing BAE for existing emissions units at the Westvaco facility is the 10-year period from January 2005 through December 2014. The calendar years 2013 and 2014 were selected as the consecutive 24-month BAE period for all NSR regulated pollutants.

BAE for the existing emissions units affected by the Project were determined using the information submitted in the 2013 and 2014 annual AQD emissions inventory reports as approved by the Division.

Emissions in excess of the allowable limitations were not included in the annual average BAE estimates. Emissions associated with startup, shutdown, and malfunction events are not expected to be impacted by the Project and were therefore not separately quantified for the purpose of determining either BAE or PAE. A summary of BAE for the affected emissions units is presented in Table 3-1. Detailed calculations and supporting documentation are contained in Appendix A.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>BAE (tons per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>210.8</td>
</tr>
<tr>
<td>PM-10</td>
<td>203.2</td>
</tr>
<tr>
<td>PM-2.5</td>
<td>105.3</td>
</tr>
<tr>
<td>SO₂</td>
<td>0.6</td>
</tr>
<tr>
<td>NOₓ</td>
<td>247.2</td>
</tr>
<tr>
<td>CO</td>
<td>63.8</td>
</tr>
<tr>
<td>VOC</td>
<td>11.2</td>
</tr>
<tr>
<td>H₂S</td>
<td>3.0</td>
</tr>
<tr>
<td>Sulfuric acid mist (H₂SO₄)</td>
<td>0.0</td>
</tr>
<tr>
<td>Fluorides (F)</td>
<td>0.0</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0.0</td>
</tr>
<tr>
<td>CO₂e</td>
<td>314339</td>
</tr>
</tbody>
</table>
3.4 Projected Actual Emissions

Projected actual emissions (PAE) for the new and existing emissions units affected by the Project were estimated consistent with the definition in the WAQSR Ch 6, Sec 4 (a). The Project will not increase the design capacity or potential to emit for any of the facility’s emission units; therefore, the PAE period is the five year period following completion of the Project and resumption of regular operation.¹

In comparison with baseline production rates, projected production increases as a result of the Project, as well as from future demand growth, per plant are as follows:

- Mono: future throughput is projected to be 12% of BAE period throughput.
- Sesqui: future throughput is projected to be 14% of BAE period throughput.
- ELDM: future throughput is projected to be 19% of BAE period throughput.
- Caustic: future throughput is projected to be 4% of BAE period throughput, and;
- Overall boiler steam demand is expected to increase by approximately 10%.

It should be noted that additional steam for the Project will be produced exclusively by the five gas-fired boilers, with MW-5 producing at least 46% of that total per year at the incremental production increase of 109K tons per year.

A summary of PAE for the affected emissions units is presented in Table 3-2. Detailed calculations and supporting documentation are contained in Appendix A.

¹ The maximum capacity or the potential to emit of the regulated NSR pollutants for the Westvaco facility and emissions units will not change as a result of the Project; therefore, consistent with the definition of PAE in WAQSR Ch 6, Sec 4 (a), projected emissions are based on any 12-month period in five years following the Project rather than 10 years.
Table 3-2. Projected Actual Emissions (PAE)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PAE (tons per year)</th>
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</thead>
<tbody>
<tr>
<td>PM</td>
<td>241.6</td>
</tr>
<tr>
<td>PM-10</td>
<td>233.0</td>
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<tr>
<td>PM-2.5</td>
<td>121.5</td>
</tr>
<tr>
<td>SO₂</td>
<td>0.8</td>
</tr>
<tr>
<td>NOx</td>
<td>300.6</td>
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<tr>
<td>CO</td>
<td>85.4</td>
</tr>
<tr>
<td>VOC</td>
<td>13.7</td>
</tr>
<tr>
<td>H₂S</td>
<td>3.6</td>
</tr>
<tr>
<td>Sulfuric acid mist (H₂SO₄)</td>
<td>0.0</td>
</tr>
<tr>
<td>Fluorides (F)</td>
<td>0.0</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0.0</td>
</tr>
<tr>
<td>CO₂e</td>
<td>375171</td>
</tr>
</tbody>
</table>

3.5 Project Emission Increase

The project emissions increases were calculated on a unit-by-unit basis by subtracting BAE from PAE for each regulated NSR pollutant and then excluding from any increase the portion of emissions that the unit could have accommodated during the BAE period, including emissions related to demand growth. Emissions that project-affected units could have accommodated in the BAE period and that are unrelated to the Project were calculated based on the maximum production rate achievable in the BAE period. A source may exclude, those emissions that the unit ‘could have accommodated’ during the BAE period and that are also otherwise unrelated to the change from the project emissions.

The average of the highest three (3) production months in 2014 was calculated for each of the three production plants: Mono, Sesqui, and ELDM. TRONOX believes that these averages represent what the project-affected units could have accommodated during the baseline period and that are unrelated to the Project.

Emissions that represent the incremental production capacity between BAE and the above production rates were excluded from projected actual emissions after the Project for the purpose of calculating emissions increases. A summary of the project emissions
increase is presented in Table 3-3. Detailed calculations and supporting documentation are contained in Appendix A.

### Table 3-3. Westvaco Optimization Project Emissions Increase

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PAE</th>
<th>BAE</th>
<th>Excludable Emissions</th>
<th>Project Emissions Increase</th>
<th>PSD SER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>tons/year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td>241.6</td>
<td>210.8</td>
<td>21.1</td>
<td>9.8</td>
<td>25</td>
</tr>
<tr>
<td>PM-10</td>
<td>233.0</td>
<td>203.2</td>
<td>20.3</td>
<td>9.5</td>
<td>15</td>
</tr>
<tr>
<td>PM-2.5</td>
<td>121.5</td>
<td>105.3</td>
<td>10.6</td>
<td>5.7</td>
<td>10</td>
</tr>
<tr>
<td>SO\textsubscript{2}</td>
<td>0.8</td>
<td>0.6</td>
<td>0.06</td>
<td>0.1</td>
<td>40</td>
</tr>
<tr>
<td>NO\textsubscript{x}</td>
<td>300.6</td>
<td>247.2</td>
<td>16.1</td>
<td>37.3</td>
<td>40</td>
</tr>
<tr>
<td>CO</td>
<td>85.4</td>
<td>63.8</td>
<td>5.7</td>
<td>15.9</td>
<td>100</td>
</tr>
<tr>
<td>VOC</td>
<td>13.7</td>
<td>11.2</td>
<td>1.0</td>
<td>1.5</td>
<td>40</td>
</tr>
<tr>
<td>H\textsubscript{2}S</td>
<td>3.6</td>
<td>3.0</td>
<td>0.5</td>
<td>0.1</td>
<td>10</td>
</tr>
<tr>
<td>Sulfuric acid mist (H\textsubscript{2}SO\textsubscript{4})</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>7</td>
</tr>
<tr>
<td>Fluorides (F)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>3</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.6</td>
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<tr>
<td>CO\textsubscript{2}e</td>
<td>375171</td>
<td>314339</td>
<td>23944</td>
<td>36888</td>
<td>75000</td>
</tr>
</tbody>
</table>

As shown, the emissions increase associated with the Project is below the PSD significant emission rate (SER) threshold for each regulated NSR pollutant; thus, the Project does not constitute a “major modification” with respect to PSD. Detailed calculations of BAE, PAE, excludable emissions, and project emissions increases with supporting documentation are contained in Appendix A.
4.0 Regulatory Analysis

This section provides a regulatory analysis of federal and Wyoming air permitting requirements that are applicable to the proposed Westvaco Optimization Project (the “Project”).

4.1 Permit Requirements for Construction or Modification

WAQSR Chapter 6, Section 2 contains permit requirements for construction, modification, and operation. As documented in Section 3.5 and Appendix A, the Project has estimated emission increases that are less than PSD significant emission rate (SER) thresholds for each affected pollutant; therefore, the Project requires a minor source pre-construction permit.

4.1.1 Minor NSR Best Available Control Technology

WAQSR Chapter 6, Section 2(c)(v) provides that no approval to construct or modify shall be granted unless the applicant shows to the satisfaction of the Division that the proposed project will utilize Best Available Control Technology (BACT). Therefore, FMC Wyoming has concluded that the minor source BACT provisions are applicable for re-construction of the NS-10 Fly Ash Silo and NS-11 Fly Ash Truck Loading sources.

Six (6) existing emission units will be modified; however, under the Wyoming minor NSR permitting program these units are not subject to BACT analysis since neither their emission limits nor their permitted capacities require revision as a result of the modifications.

4.1.2 Ambient Air Impact Analysis

Under WAQSR Chapter 6, Sec. 2(c)(ii), the applicant is required to show that the proposed project will not prevent the attainment or maintenance of any ambient air quality standard. As documented in Section 6 of this application,
the emissions increases associated with the Project will not cause nonattainment of any ambient air quality standard.

4.1.3 Monitoring and Recordkeeping

In accordance with the requirements of WAQSR Ch 6, Sec 4 (b)(i)(H), FMC Wyoming will monitor actual emissions from the emissions units affected by the Westvaco Optimization Project and will calculate and maintain annual emissions records on a calendar year basis for a period of five years following the date the Westvaco facility resumes regular operation following the Project. FMC Wyoming will also report annual emissions to the Division within 60 days of the end of each calendar year for the previous year in accordance with WAQSR Ch 6, Sec 4 (b)(i)(H)(IV).

4.2 Operating Permit Requirement

The FMC Westvaco facility currently operates under Operating Permit No. 3-1-132. The Project will require a significant Title V permit revision in accordance with WAQSR Chapter 6, Section 3 (d)(vi)(C). FMC Wyoming will submit an application to the Division for a significant modification within 12 months of post-project operation commencement.

4.3 New Source Performance Standards (NSPS)

The Federal NSPS provisions in 40 CFR Part 60 are incorporated by reference in WAQSR Chapter 5, Section 2. Although the Project will include the re-construction of NS-10 and NS-11, FMC has concluded that neither of these sources is subject to an NSPS. While Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, is generally applicable to material handling operations at the facility and addresses crushers, mills, screens, bucket elevators, belt conveyors, storage bins, and enclosed rail and truck loading equipment, the definition of “nonmetallic mineral” does not include coal fly ash or coal ash residue.
4.4 Compliance Assurance Monitoring (CAM)

The Federal CAM requirements in 40 CFR Part 64 are codified at WAQSR Chapter 7, Section 3. Generally, CAM applies to pollutant-specific emissions units (PSEU) at facilities required to obtain a Title V permit that meet specified criteria (e.g., subject to an emission limitation/standard, use of a control device to achieve compliance, and potential pre-control device emissions greater than 100 tons per year).

NS-10 and NS-11 are the only new emission units associated with the Project for which the CAM requirements are potentially applicable; however, a conservative estimate of potential pre-control device PM emissions would not exceed 100 tons per year for either unit: 0.30 tpy x (1-.995 control efficiency) = 60 tpy uncontrolled. Consequently, FMC has concluded that the CAM requirements do not apply to these two sources.

4.5 National Emission Standards for Hazardous Air Pollutants (NESHAP)

The Federal NESHAP provisions in 40 CFR Part 63 are incorporated by reference in WAQSR Chapter 5, Section 3. NESHAP (or MACT) standards for source categories (40 CFR 63) apply to existing, new, and reconstructed units (i.e., affected sources) in designated categories at major sources of Hazardous Air Pollutant (HAP) emissions. The Project itself does not involve the construction or reconstruction of any potentially affected MACT sources; therefore, the Project will not trigger any newly applicable MACT requirements.

4.6 Wyoming Game & Fish Department Sage Grouse Core Area Management

The Wyoming Game & Fish Department (WGFD) has established a ‘Sage Grouse Core Area Management Strategy’ to protect vital sage grouse habitat in the State. Core Area Boundaries were finalized in the Governor’s Executive Order 2011-5. A map depicting the Core Area Boundaries and active leks in the Green River Basin is provided in Figure 4-1. The map shows that the Westvaco facility is not included in a Core Breeding Area designation, and it is more than four miles from the nearest
active lek (Big Island 2). Therefore, FMC concludes that the Project will not impact vital sage grouse habitat.

4.7 Good Engineering Practice Stack Height

Chapter 6, Section 2(d) of the Wyoming Air Quality Standards and Regulations requires that compliance with standards not be affected by “…so much of the stack height of a source as exceeds good engineering practice …”. Neither the NS-10 nor the NS-11 vent stack will exceed GEP stack height.

4.8 Other State and Federal Regulations

Based on FMC’s review, no other State or Federal air quality regulations affect the Westvaco Optimization Project.

4.9 Proposed Permit Conditions

Table 4-1 contains a summary of proposed permit limits with corresponding regulatory basis and monitoring. FMC requests that these conditions be incorporated into the construction permit for the Westvaco Optimization Project.

Table 4-1. Summary of Proposed Permit Limits

<table>
<thead>
<tr>
<th>Emissions Unit</th>
<th>ID</th>
<th>Pollutant</th>
<th>Applicable Requirement(1)</th>
<th>Proposed Limits, lbs/hr (tons/yr)(2)</th>
<th>Proposed Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono Power Flyash Silo</td>
<td>NS-10</td>
<td>PM10</td>
<td>BACT</td>
<td>0.069 (0.30)</td>
<td>Performance test: EPA M5/202</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM2.5</td>
<td>BACT</td>
<td>0.031 (0.14)</td>
<td>Performance test: EPA M5/202</td>
</tr>
<tr>
<td>Mono Power Flyash Loadout</td>
<td>NS-11</td>
<td>PM10</td>
<td>BACT</td>
<td>0.069 (0.30)</td>
<td>Performance test: EPA M5/202</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM2.5</td>
<td>BACT</td>
<td>0.031 (0.14)</td>
<td>Performance test: EPA M5/202</td>
</tr>
</tbody>
</table>

Notes:
1. See Section 5 for the BACT analysis.
2. See Appendix B-2 for emission limit calculations.
5.0 **Best Available Control Technology Analysis**

In accordance with WAQSR Chapter 6, Sec. 2(c)(v), the application of Best Available Control Technology (BACT) is required for control of PM/PM$_{10}$/PM$_{2.5}$ from NS-10 Fly Ash Silo and NS-11 Fly Ash Truck Loading sources. The following sections describe the application of BACT to these two re-constructed emission units.

5.1 **Source Description**

NS-10 Fly Ash Silo will receive the conveyed fly ash from the two coal-fired boiler ESPs for storage; NS-11 Fly Ash Truck Loading will dispense the ash from the silo into hopper trucks for beneficial off-site use. Each of these activities has the potential to emit particulate matter (PM), with the particle size expected to range from 1 to 10 microns.

The two (2) emission units will be rebuilds of units originally constructed and commissioned in 1987 under Permit Nos. CT-603/OP-180; however, neither of these has been operated or routinely maintained for a number of years. Both emission units were originally equipped with baghouses, and the Project proposes to refurbish the existing baghouses or to install new baghouses.

Particulate emissions can be categorized as either filterable or condensable. Filterable emissions are considered to be the particles trapped in the probe and filter in a front half EPA Reference Method 5 sampling train. Vapors and particles less than 0.3 microns pass through the filter and are condensed in the back half of the sampling train. Given the type of particulate (coal fly ash), and with the material approaching ambient temperature during conveying and loading, only filterable PM is expected to be emitted.

5.2 **Identification of Potential Control Technologies**

Fabric filters/cartridge filters (FF/CF) is the only control technology represented in EPA’s RACT/BACT/LAER Clearinghouse (RBLC) for this type of operation (99.120 –
Ash Storage, Handling, Disposal) for the time period of 2005 to present. Evaluation of the RBLC information indicates PM emission rates from 0.005 gr/dscf to 0.010 gr/dscf for new or modified fly ash handling operations nation-wide. Details of the RBLC can be found in Appendix B.

5.3 Selection of BACT for PM/PM$_{10}$/PM$_{2.5}$ Control

FF/CF are generally considered the most effective control technology for material handling processes and appear to be the exclusive control technology in the RBLC for Process Type 99.120. Consequently, FMC Wyoming proposes to install fabric filter control on NS-10 and NS-11 to achieve 0.005 gr/dscf for PM/PM$_{10}$/PM$_{2.5}$. 
6.0 Ambient Air Quality Analysis

Report from McVehil-Monnett and Associates
Near-Field Air Quality Modeling Analysis for the Westvaco Optimization Project
Tronox Westvaco

April 2015
MMA Project Number 2693-15

44 Inverness Drive East, Building C
Englewood, CO 80112
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<tr>
<td>2.0</td>
<td>Air Quality Dispersion Model and Modeling Methods Overview</td>
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<td>Source Description and Model Inputs</td>
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<td>Model Description for the Significant Impact Level Analysis</td>
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<td>Model Control Options</td>
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<td>Source Parameters and Model Characterization</td>
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<td>Building Downwash</td>
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<td>Meteorological Data Selection and Processing</td>
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<td>PM$_{10}$ Impacts from the Optimization Project</td>
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<td>NO$_{2}$ Impacts from the Optimization Project</td>
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<td>CO Impacts from the Optimization Project</td>
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<td>Ozone Impacts from the Optimization Project</td>
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<td>Wyoming Ambient Air Quality Analysis Model Results</td>
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<td>Model Setup</td>
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<td>Westvaco Model Inputs</td>
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<td>Modeled NO$_{X}$ Sources</td>
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<td>Total Net Emissions Increase and Permit Applicability for the Westvaco Optimization Project</td>
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<td>Projected Emissions Increase by Individual Source for the Westvaco Optimization Project</td>
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<td>A</td>
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1.0 Introduction

FMC Wyoming Corporation (FMC), now TRONOX, contracted McVehil-Monnett Associates, Inc (MMA) to conduct air quality dispersion modeling for their Westvaco soda ash facility (Westvaco), located in the Green River Basin, Wyoming. See Figure 1-1. This modeling report provides the air quality impact analysis in support of the minor construction permit application, Application for Air Quality Permit to Construct at FMC Wyoming Corporation's Westvaco Facility (FMC, April 2015), submitted to Wyoming Department of Environmental Quality/Air Quality Division (WDEQ/AQD) under separate cover. The permit application addresses the Westvaco Optimization Project ("Project"), a minor modification to an existing major source.

This modeling report is presented as follows: Section 2.0 provides a brief description of the air dispersion model and the model methodologies used, Section 3.0 describes the Project, Sections 4.0 and 5.0 present the impact analyses, and Section 6.0 offers conclusions.

Model input and output files are provided on a CD in Appendix A.
Figure 1-1. General Site Location for Tronox (FMC) Westvaco, Green River Basin, Wyoming
2.0 Air Quality Dispersion Model and Modeling Methods Overview

Consistent with WDEQ/AQD guidance, MMA selected the air quality dispersion model AERMOD to assess impacts from Tronox Westvaco, employing the latest version (14134). AERMOD is a modeling system developed by the American Meteorological Society/EPA Regulatory Model Improvement Committee (AERMIC). The AERMIC model (AERMOD) modeling system consists of two main pre-processors: AERMAP for receptors and terrain, and AERMET for meteorology, and the AERMOD model itself. AERMOD is EPA's regulatory default model for assessing near-field impacts, defined as those impacts within 50 kilometers (km) of the source.

The modeling analysis presented herein followed MMA's modeling protocol that was submitted to WDEQ/AQD on March 17, 2015, with minor refinements. These refinements will be highlighted and explained during the applicable discussion.

Methodologies employed for the modeling analysis are based on EPA and WDEQ/AQD guidance found in the following documents:

- Wyoming Department of Environmental Quality/Air Quality Division Guidance for Conducting Near-Field Modeling Analyses for Minor Sources, November 2014 (WDEQ/AQD Minor Source Guidance)
- EPA Memorandum from R. Chris Owen and Roger Brode, "Clarification of the Use of AERMOD Dispersion Modeling for Demonstrating Compliance with the NO₂ Ambient Air Quality Standard" (September 30, 2014).
- EPA Memorandum from Tyler Fox, "Additional Clarification Regarding Application of Appendix W Guidance for the 1-hour NO₂ National Ambient Air Quality Standard" (March 1, 2011)
- EPA Memorandum from Stephen Page, "Guidance for PM₂.₅ Permit Modeling" (May 20, 2014)

Model inputs and control parameter options were selected in accordance with the protocol established in the GAQM and User’s Guide for the AMS/EPA Regulatory Model - AERMOD (EPA, November 2004, Revised May 2014).
Following WDEQ/AQD Minor Source Guidance, the air impact analysis for the Project was conducted in a two step process. First, the net emissions increase impacts for the Project alone were compared against the applicable Class II significant impact levels (SILs). If modeled impacts for a particular pollutant and averaging period were below the SIL, no further analysis was required. If modeled impacts for a particular pollutant and averaging period were above the SIL, the analysis moved to the second step and a full impact ambient air quality analysis was performed, evaluating impacts against the Wyoming Ambient Air Quality Standards (WAAQS) and increments, as applicable.
3.0 Source Description and Model Inputs

Tronox’s Westvaco site includes facilities for production of sodium carbonate (soda ash), sodium sesquicarbonate, sodium bicarbonate, and sodium hydroxide (caustic) from trona ore mined at the site. An additional production plant recovers alkali from supernatant from trona tailings streams that are pumped back into mine voids. The plot plan for the Westvaco plant is displayed in Figure 3-1.

3.1 Westvaco Optimization Project Description

As described in the Project minor source permit application, Tronox proposes incremental production increases at three of its plants at the Westvaco site for a combined increase of 109,000 tons per year of refined soda ash (RSA) from the facility. Project activities will include installation of additional piping to facilitate fluid handling, filter performance enhancements, integration of scale inhibitor equipment, energy management improvements, updated stripper column packing, various pump upgrades, and product transfer screw conveyor upgrades. Other elements of the Project include a small increase in caustic production, and re-commissioning of two small flyash baghouses.

The Westvaco site is a major source for particulate matter (PM\textsubscript{10}, PM\textsubscript{2.5}), sulfur dioxide (SO\textsubscript{2}), nitrogen oxides (NO\textsubscript{X}), carbon monoxide (CO), volatile organic compounds (VOC), and greenhouse gases (GHG). The modifications described in the permit application will result in minor increases in these pollutants. The project net emissions increase for each pollutant is less than its respective PSD significant emission rate.
3.2 Westvaco Optimization Project Emissions

The emission increases resulting from the Project are primarily a function of increased utilization of existing downstream process equipment and gas-fired boilers rather than a result of emissions from new equipment installation. There are two coal-fired boilers and five gas-fired boilers at the Westvaco site, and all of the boilers supply steam to a common header for distribution throughout the facility. Because Tronox has determined that there is little, if any, increased steam production increment available from the coal-fired boilers, the steam needed to facilitate the production rate increases from each plant will be provided from increased utilization of the gas-fired boilers.

Table 3-1 presents a summary of the calculated project emission increases derived from 2013 – 2014 baseline data. The total increases are compared to their respective PSD significant emission rate (SER) - no pollutant increase is above the respective SER. As such, the Project is a minor modification to a major source, and is not subject to PSD. Table 3-2 provides a list of all the sources at Westvaco involved with the Project, with specific emissions increases identified by pollutant. The permit application contains detailed derivation information for these values.

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<th>Pollutant</th>
<th>Project Net Emissions Increase, tons/yr</th>
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<th>Subject to Wyoming Minor Source Review</th>
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<td>CO$_{2}$e</td>
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Table 3-2
Projected Emission Increase by Individual Source for the Westvaco Optimization Project

| Plant Area | Model ID | Source Description               | PM10  | PM25  | SO2   | NOX   | CO    | VOC   | H2S
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Projected Emission Increase by Individual Source for the Westvaco Optimization Project (Continued)

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<th>CO</th>
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<td>0.0064</td>
<td>0.0014</td>
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<td>0.0014</td>
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3.3 Model Input Description for the Significant Impact Level Analysis

Model input files for the Project were developed by Schnauber Consulting LLC (Schnauber Consulting), in coordination with MMA, and with some minor modifications by MMA.

3.3.1 Model Control Options

AERMOD was set to run in regulatory default mode in a rural region with concentration as output. The pollutant ID and averaging period were set as appropriate for each pollutant modeled.

3.3.2 Source Locations and Pollutants Emitted

Table 3-3 lists the sources involved in the Project, the locations in NAD83 UTM (Zone 12), mean sea level (MSL) elevations, model source type, and the specific pollutant types emitted. For area sources, the source location represents the southwest corner of the area source. Rail switch engines were represented by volume sources. Table 3-3 lists the location of the first and last of the volume sources in each linear series placed along the respective rail. Originally characterized in the protocol as area sources, switch engine sources were converted to volume sources by placing volume sources 30 meters apart along the center of each area source.

During development of the data inputs for the Project, corrections were made to the building location and mean sea level elevations in order to upgrade the coordinate system to NAD83. These locations and elevations are presented in Table 3-3 for this modeling report.
Table 3-3
Sources for Westvaco and Pollutants With Projected Increases for the Westvaco Optimization Project

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<tr>
<th>Model ID</th>
<th>Description</th>
<th>Model Type</th>
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<th>NAD83 UTM Northing (m)</th>
<th>Elevation (m)</th>
<th>Pollutant Emitted</th>
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<td>4608520.3</td>
<td>1896.2</td>
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<td>4608520.3</td>
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<td>4608523.2</td>
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<td>4608172.3</td>
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<td>4608168.0</td>
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### Table 3-3
Source Locations for Westvaco and Pollutants Emitted for the Westvaco Optimization Project (continued)

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<th>Elevation (m)</th>
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<th>SO₂</th>
<th>NOₓ</th>
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### 3.3.3 Source Parameters and Model Characterization

Table 3-4 lists model input parameters for the point sources involved in the Project, with emission rates listed in Table 3-5. Model inputs for point sources consist of emission rate (in grams/second (g/s), as well as physical stack and plume parameters.

Table 3-6 provides model input parameters for volume and area sources involved in the Project, with emission rates listed in Table 3-7. Model inputs for area sources consist of emission rate in grams per second per square meter (g/s-m²), as well as physical size, orientation, and plume release parameters. Model inputs for volume sources are comprised of emission rate (g/s) and plume release parameters. Model characterization for the rail switch engines was refined from the modeling protocol, altering from area sources to volume sources and increasing the release height to 10 meters from 5 meters. These changes better represents the rail sources, and are consistent with previous modeling studies submitted to WDEQ/AQD.
Table 3-4
Point Source Modeled Input Parameters for the Westvaco Optimization Project

<table>
<thead>
<tr>
<th>Model ID</th>
<th>Source Description</th>
<th>Stack Height (m)</th>
<th>Exit Temperature (K)</th>
<th>Exit Velocity (m/s)</th>
<th>Stack Diameter (m)</th>
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### Table 3-5
Point Source Modeled Short- and Long-Term Net Emissions Increase for the Westvaco Optimization Project

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<th>SO$_2$ (g/s)</th>
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### Table 3-6
Area and Volume Source Modeled Input Parameters for the Westvaco Optimization Project

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<td>75</td>
<td>75</td>
<td>-1.01</td>
<td>0</td>
</tr>
<tr>
<td>SESQLOUT</td>
<td>Sesqui Loadout and Prod. Handling</td>
<td>Area</td>
<td>10</td>
<td>125</td>
<td>125</td>
<td>-1.01</td>
<td>1.16</td>
</tr>
<tr>
<td>WRAIL1_1-11</td>
<td>Switch Engines Volume¹</td>
<td>Volume¹</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>WRAIL2_1-11</td>
<td>Switch Engines Volume¹</td>
<td>Volume¹</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>WRAIL3_1-8</td>
<td>Switch Engines Volume¹</td>
<td>Volume¹</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>WRAIL4_1-8</td>
<td>Switch Engines Volume¹</td>
<td>Volume¹</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>WRAIL5_1-9</td>
<td>Switch Engines Volume¹</td>
<td>Volume¹</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>WRAIL6_1-9</td>
<td>Switch Engines Volume¹</td>
<td>Volume¹</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

1. Parameters shown are for each volume source along the respective rail segment. For example, WRAIL1 is represented by 11 volume sources (WRAIL1_1 to WRAIL1_11), and each has a release height of 10 m, a sigma-y of 13.953 and a sigma-z of 2.33.

### Table 3-7
Area and Volume Source Modeled Net Emissions Increase for the Westvaco Optimization Project

<table>
<thead>
<tr>
<th>Model ID</th>
<th>Source Description</th>
<th>Source Type</th>
<th>PM₁₀ Annual (g/s-m²) or (g/s)</th>
<th>PM₂.₅ Annual (g/s-m²) or (g/s)</th>
<th>NOX 1-Hour and Annual (g/s-m²) or (g/s)</th>
<th>SO₂ 1-, 3- and 24-Hour, Annual (g/s-m²) or (g/s)</th>
<th>CO 1-Hour and 8-Hour (g/s-m²) or (g/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SESQPILE</td>
<td>Sesqui Pile Loading/Dozing</td>
<td>Area¹</td>
<td>5.5100E-07</td>
<td>1.0700E-07</td>
<td>4.3900E-07</td>
<td>1.7800E-10</td>
<td>1.2100E-07</td>
</tr>
<tr>
<td>SESQWE</td>
<td>Sesqui Pile Wind Erosion</td>
<td>Area¹</td>
<td>1.0700E-08</td>
<td>2.1300E-09</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>SESQLOUT</td>
<td>Sesqui Loadout and Prod. Handling</td>
<td>Area¹</td>
<td>4.4800E-08</td>
<td>1.2800E-08</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>WRAIL1_1-11</td>
<td>Switch Engines Volume²</td>
<td>Volume²</td>
<td>1.8224E-05</td>
<td>1.8224E-05</td>
<td>6.6751E-04</td>
<td>3.6342E-06</td>
<td>7.0036E-05</td>
</tr>
<tr>
<td>WRAIL2_1-11</td>
<td>Switch Engines Volume²</td>
<td>Volume²</td>
<td>1.8224E-05</td>
<td>1.8224E-05</td>
<td>6.6751E-04</td>
<td>3.6342E-06</td>
<td>7.0036E-05</td>
</tr>
<tr>
<td>WRAIL3_1-8</td>
<td>Switch Engines Volume²</td>
<td>Volume²</td>
<td>2.5030E-05</td>
<td>2.5030E-05</td>
<td>9.1891E-04</td>
<td>4.9991E-06</td>
<td>9.6005E-05</td>
</tr>
<tr>
<td>WRAIL4_1-8</td>
<td>Switch Engines Volume²</td>
<td>Volume²</td>
<td>2.5030E-05</td>
<td>2.5030E-05</td>
<td>9.1891E-04</td>
<td>4.9991E-06</td>
<td>9.6005E-05</td>
</tr>
<tr>
<td>WRAIL5_1-9</td>
<td>Switch Engines Volume²</td>
<td>Volume²</td>
<td>2.2256E-05</td>
<td>2.2256E-05</td>
<td>8.1532E-04</td>
<td>4.4402E-06</td>
<td>8.5608E-05</td>
</tr>
<tr>
<td>WRAIL6_1-9</td>
<td>Switch Engines Volume²</td>
<td>Volume²</td>
<td>2.2256E-05</td>
<td>2.2256E-05</td>
<td>8.1532E-04</td>
<td>4.4402E-06</td>
<td>8.5608E-05</td>
</tr>
</tbody>
</table>

1. Emission rate for area sources are in g/s-m².
2. Emission rate for volume sources are in g/s. The emission rate shown represents the emissions for each volume source along the rail segment. For example, WRAIL1 is represented by 11 volume sources (WRAIL1_1 to WRAIL1_11), and each volume source along that rail has a NOx emission rate of 6.6751E-04 g/s.
The net emissions increase for the sources listed in Tables 3-5 and 3-7 are based on the tons per year listed in Table 3-2. Support for the calculation of the net emissions increase and modeled emission rates are described in the permit application.

3.3.4 Building Downwash

Building downwash parameters were generated for the point sources involved with the Project using BPIP-Prime (04274). The building corners and height were entered, with tiers as appropriate, as well as the stack location and height. The program generated downwash parameters for each stack, and these were incorporated into the model. The building and stack location layout used in BPIP-Prime is presented in Figure 3-2.
Figure 3-2. Building and Stack Layout for Tronox Westvaco Optimization Project and Other Sources
3.3.5 Receptor Grid

Discrete receptors in NAD83 UTM, Zone 12 coordinates for the SIL analysis for the Project were generated based on WDEQ/AQD Minor Source modeling guidance. The receptor grid was generated in a Cartesian coordinate system, with a series of nested grids centered on the Westvaco plant ambient air boundary. The placement for these nested grids and associated receptor spacing are summarized in Table 3-8, and the full grid is depicted in Figure 3-3.

<table>
<thead>
<tr>
<th>Distance From Ambient Air Boundary (km)</th>
<th>Receptor Spacing (m)</th>
<th>Grid Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Ambient Air Boundary</td>
<td>50</td>
<td>Cartesian</td>
</tr>
<tr>
<td>Ambient Boundary to 7</td>
<td>500</td>
<td>Cartesian</td>
</tr>
<tr>
<td>7 to 50</td>
<td>1000</td>
<td>Cartesian</td>
</tr>
</tbody>
</table>

Receptors were placed along the ambient air boundary at 50 meters spacing. From the ambient air boundary out to 7 kilometers (km), the spacing of the receptors was set at 500 meters. (The modeling protocol originally called for a 100-meter spaced receptor grid. During the modeling protocol meeting, WDEQ/AQD informed FMC and MMA that the 100-meter spaced grid listed in the WDEQ/AQD Minor Source Modeling Guidance is for receptors located within 1 km of the applicant sources, and as Westvaco's ambient air boundary is further than this distance, the 100-meter spaced grid was not required.) For receptors placed 7 to 50 km from the boundary, the spacing was set at 1000 meters. The total number of receptors for this analysis was about 12,100.

The discrete receptor grid generated above was processed through the most recent version of AERMAP (currently 11103), employing electronic digital elevation model (DEM) maps for the terrain analysis and MSL elevation extraction. The receptors and domain area were set in AERMAP in datum NAD83. AERMAP generated an output receptor file consisting of UTM Easting (m), UTM Northing (m), MSL elevation (m), and hill height scale (m) for each receptor.
Figure 3-3. Receptor Grid for Tronox Westvaco Optimization Project SIL Impact Analysis
3.3.6 Meteorological Data Selection and Processing

Hourly on-site meteorological data for 2008 to 2012 was employed for the modeling analysis. The parameters and collection levels are presented in Table 3-9.

<table>
<thead>
<tr>
<th>Meteorological Parameter</th>
<th>Collection Level (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>2</td>
</tr>
<tr>
<td>Wind Speed</td>
<td>10</td>
</tr>
<tr>
<td>Wind Direction</td>
<td>10</td>
</tr>
<tr>
<td>Sigma Theta</td>
<td>10</td>
</tr>
<tr>
<td>Total Precipitation</td>
<td>Ground</td>
</tr>
</tbody>
</table>

Trinity Consultants, Inc. pre-processed the hourly meteorological data for this five-year data set using the latest version of AERMET (currently 14134), with concurrent Rock Springs, Wyoming National Weather Service (NWS) surface data, and Riverton, Wyoming upper air data. NWS surface data are necessary for cloud cover; however, no substitution of NWS data for missing on-site data was performed, per WDEQ/AQD. AERMET pre-processing was conducted per WDEQ/AQD requirements, including the establishment of AERSURFACE parameters.

The wind rose for the Westvaco five-year data set is displayed in Figure 3-4. Predominant wind directions are from the west at 30.5%, west-southwest at 16.2% and west-northwest at 14.5%. The mean wind speed is 4.3 m/s, with less than 3% calm winds.
Figure 3-4. Five-Year Wind Rose for Westvaco, 2008 to 2012
4.0 Significant Impact Level Air Quality Analysis Model Results

As discussed in Section 2.0, this modeling analysis followed the WDEQ/AQD Minor Source Guidance. To review, the first step in modeling the Project involved comparing impacts from the Project alone against the applicable SILs listed in Table 4-1 for each pollutant and averaging period. If the SIL was not exceeded for a particular pollutant and averaging period, further modeling was not required. If the SIL was exceeded for a particular pollutant and averaging period, then a comprehensive impact analysis was performed to determine compliance with the WAAQS and PSD increments, as applicable. The WAAQS/increment analysis included regional sources, and was limited to those receptors with concentrations above the applicable SIL.

Table 4-1
Class II Significant Impact Levels (μg/m³)
For Criteria Pollutants

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Annual</th>
<th>24-Hour</th>
<th>8-Hour</th>
<th>3-Hour</th>
<th>1-Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM\textsubscript{10}\textsuperscript{1}</td>
<td>1</td>
<td>5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>PM\textsubscript{2.5}\textsuperscript{2}</td>
<td>0.3</td>
<td>1.2</td>
<td>NA</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>NO\textsubscript{2}\textsuperscript{3}</td>
<td>1</td>
<td>NA</td>
<td>NA</td>
<td>7.5</td>
<td></td>
</tr>
<tr>
<td>SO\textsubscript{2}\textsuperscript{4}</td>
<td>1</td>
<td>5</td>
<td>NA</td>
<td>25</td>
<td>7.9</td>
</tr>
<tr>
<td>CO\textsuperscript{5}</td>
<td>NA</td>
<td>NA</td>
<td>500</td>
<td>NA</td>
<td>2000</td>
</tr>
</tbody>
</table>

1. H1H 24-hour and annual from the five years modeled.
2. H1H of the five-year mean for 24-hour and annual.
3. Annual: H1H from the five years modeled; 1-Hour: the five-year mean of the H8H daily maximum 1-hour.
4. Annual, 3-Hour and 24-Hour: H1H from the five years modeled; 1-Hour: the five-year mean of the H4H daily maximum 1-hour.
5. H1H from the five years modeled.

To evaluate the Project impacts against the SILs, the affected sources were modeled using the source inputs and net emissions increases for the respective pollutants, as presented in Section 3.0. In addition, certain considerations were employed when modeling particulates as well as NO\textsubscript{2}.

For PM\textsubscript{10} and PM\textsubscript{2.5}, fugitive sources were not modeled when assessing 24-hour impacts per WDEQ/AQD standard methodology; the fugitive sources were included in the model when predicting annual impacts. Further, only direct PM\textsubscript{2.5} emissions were modeled. The Project is a minor modification and falls under Case 1 listed in EPA's PM\textsubscript{2.5} Guidance, with direct PM\textsubscript{2.5}...
emissions less than 10 tpy and NO\textsubscript{X} and SO\textsubscript{2} emissions less than 40 tpy, each. As a result, secondary PM\textsubscript{2.5} formation is considered negligible, and modeling of secondary PM\textsubscript{2.5} was not performed.

For modeling significant impacts from NO\textsubscript{X}, a Tier 1 level analysis was performed, i.e., 100% conversion of NO\textsubscript{X} to NO\textsubscript{2} was assumed. This methodology is required by the WDEQ/AQD Minor Source Modeling Guidance.

Project source data and building downwash parameters were entered into AERMOD, along with the receptor grid, and the model was run with the five years of pre-processed Westvaco-Rock Springs meteorological data. Modeled concentrations were compared against the Class II SILs for PM\textsubscript{10}, PM\textsubscript{2.5}, SO\textsubscript{2}, NO\textsubscript{2} and CO listed in Table 4-1. As indicated in this table, modeled concentrations used for significant impact determination were highest first-high (H1H) concentrations for short-term averages and maximum concentrations for annual averages for PM\textsubscript{10} 24-Hour and annual; SO\textsubscript{2} 3-hour, 24-hour and annual; NO\textsubscript{2} annual; and CO 1-hour and 8-hour. For PM\textsubscript{2.5}, the 24-hour and annual concentrations were the maximum five-year mean for each averaging period. For 1-hour NO\textsubscript{2}, the modeled concentration was the five-year mean of the highest 8th-high (H8H) 1-hour daily maximum. For 1-hour SO\textsubscript{2}, the modeled concentration was the five-year mean of the highest 4th-high (H4H) 1-hour daily maximum.

### 4.1 PM\textsubscript{10} Impacts from the Optimization Project

Table 4-2 presents model results for PM\textsubscript{10} for all five years for both 24-hour and annual averaging periods, and also lists the H1H for each period to compare against the SILs. The H1H 24-hour predicted concentration over the five-year period was 0.58 \( \mu \text{g/m}^3 \); the maximum modeled annual impact was 0.11 \( \mu \text{g/m}^3 \). Both the 24-hour and annual modeled concentrations are below the SILs, so no further modeling was required for this pollutant.
Table 4-2
**Modeled PM$_{10}$ Impacts from AERMOD**
*For the Westvaco Optimization Project*  
*Compared to Class II Significant Impact Levels*

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Model Year</th>
<th>Modeled Concentration ($\mu$g/m$^3$)</th>
<th>Significant Impact?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$_{10}$</td>
<td>2008</td>
<td>0.45847 0.44134 0.11388</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>0.51223 0.47407 0.10694</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>0.49030 0.39872 0.10368</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>0.58398 0.49307 0.10730</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>2012</td>
<td>0.38826 0.36642 0.10466</td>
<td>No</td>
</tr>
<tr>
<td><strong>Maximum:</strong></td>
<td></td>
<td>0.58398 0.49307 0.11388</td>
<td>No</td>
</tr>
</tbody>
</table>

4.2 **PM$_{2.5}$ Impacts from the Optimization Project**

Table 4-3 presents the modeled H1H five-year mean for PM$_{2.5}$ for both 24-hour and annual averaging periods. The maximum-modeled 24-hour mean was 0.27 $\mu$g/m$^3$, while the annual impact was 0.06 $\mu$g/m$^3$. Both the 24-hour and annual modeled concentrations are below the SILs, so no further modeling was required for this pollutant.

Table 4-3
**Modeled PM$_{2.5}$ Impacts from AERMOD**
*For the Westvaco Optimization Project*  
*Compared to Class II Significant Impact Levels*

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Model Year</th>
<th>Modeled Concentration ($\mu$g/m$^3$)</th>
<th>Significant Impact?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$_{2.5}$</td>
<td>2008-2012</td>
<td>0.26755 0.26175 0.05797</td>
<td>No</td>
</tr>
</tbody>
</table>

4.3 **NO$_2$ Impacts from the Optimization Project**

Table 4-4 presents model results for NO$_2$ for the maximum five-year mean of the H8H of the maximum daily 1-hour concentration, and the maximum annual for all five years. The maximum 5-year mean of the H8H of the daily maximum 1-hour concentration was predicted to be 7.51 $\mu$g/m$^3$, while the maximum modeled annual impact was 0.37 $\mu$g/m$^3$. The annual modeled concentration is below the SIL, so no further modeling was required for annual NO$_X$. The modeled maximum five-
year mean H8H 1-hour daily maximum concentration was above the SIL. As a result, further modeling was warranted for the WAAQS. Only one receptor was above the 1-hour NO₂ SIL, and the WAAQS analysis for that receptor is presented in Section 5.0.

Table 4-4
Modeled NO₂ Impacts from AERMOD
For the Westvaco Optimization Project
Compared to Class II Significant Impact Levels

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Model Year</th>
<th>Modeled Concentration (μg/m³)</th>
<th>Significant Impact?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1-Hour Annual 1-Hour Annual</td>
<td></td>
</tr>
<tr>
<td>NO₂</td>
<td>2008-2012</td>
<td>7.51678</td>
<td>(&gt;7.5 μg/m³) Yes No</td>
</tr>
<tr>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011 2012</td>
</tr>
<tr>
<td>0.37420</td>
<td>0.34927</td>
<td>0.36347</td>
<td>0.36370 0.34840</td>
</tr>
<tr>
<td>Maximum:</td>
<td>7.51678</td>
<td>0.37420</td>
<td>Yes No</td>
</tr>
</tbody>
</table>

4.4 SO₂ Impacts from the Optimization Project

Table 4-5 presents predicted modeled concentrations for SO₂ for all five years for 3-hour, 24-hour and annual, and also lists the maximum of the five-year mean of the H4H maximum daily 1-hour concentration. (Note that while the 24-hour and annual increment have been removed from the WDEQ/AQD standards, they are still applicable at the federal level until Wyoming is designated for the 2010 1-hour SO₂ standard.) The maximum 5-year mean of the H4H of the daily maximum 1-hour concentration was predicted to be 0.08 μg/m³. The H1H 3-hour predicted concentration over the five-year period was 0.03 μg/m³, while the H1H 24-hour predicted concentration over the five-year period was 0.01 μg/m³. The maximum modeled annual impact was 0.001 μg/m³. All modeled SO₂ concentrations are below the SILs for all averaging periods, and so no further modeling was required for this pollutant.
Table 4-5
Modeled SO₂ Impacts from AERMOD
For the Westvaco Optimization Project
Compared to Class II Significant Impact Levels

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Model Year</th>
<th>1-Hour</th>
<th>3-Hour</th>
<th>24-Hour</th>
<th>Annual</th>
<th>Significant Impact?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1-Hour</td>
<td>3-Hour</td>
<td>24-Hour</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H4H</td>
<td></td>
<td></td>
<td></td>
<td>(&gt;7.9 μg/m³)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>First</td>
<td></td>
<td></td>
<td></td>
<td>(&gt;25 μg/m³)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Second</td>
<td></td>
<td></td>
<td></td>
<td>(&gt;5 μg/m³)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td>(&gt;1 μg/m³)</td>
</tr>
<tr>
<td>SO₂</td>
<td>2008-2012</td>
<td>0.07786</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2008</td>
<td>0.02448</td>
<td>0.02034</td>
<td>0.00873</td>
<td>0.00739</td>
<td>0.00167</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>0.02186</td>
<td>0.01871</td>
<td>0.00657</td>
<td>0.00633</td>
<td>0.00157</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>0.02844</td>
<td>0.02437</td>
<td>0.00905</td>
<td>0.00750</td>
<td>0.00164</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>0.02862</td>
<td>0.02088</td>
<td>0.00968</td>
<td>0.00828</td>
<td>0.00168</td>
</tr>
<tr>
<td></td>
<td>2012</td>
<td>0.02585</td>
<td>0.02133</td>
<td>0.00674</td>
<td>0.00625</td>
<td>0.00159</td>
</tr>
<tr>
<td></td>
<td>Maximum:</td>
<td>0.07786</td>
<td>0.02862</td>
<td>0.02437</td>
<td>0.00968</td>
<td>0.00828</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>

4.5 CO Impacts from the Optimization Project

Table 4-6 presents modeled results for CO for all five years and for both the 1-hour and 8-hour averaging period. The H1H 1-hour average concentration was 6.604 $\mu$g/m$^3$ and the H1H 8-hour average concentration was 2.247 $\mu$g/m$^3$. All modeled CO concentrations are below the SILs for all averaging periods, and so further modeling was required for this pollutant.

Table 4-6
Modeled CO Impacts from AERMOD
For the Westvaco Optimization Project
Compared to Class II Significant Impact Levels

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Model Year</th>
<th>Modeled Concentration ($\mu$g/m$^3$)</th>
<th>Significant Impact?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1-Hour</td>
<td>8-Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>First High</td>
<td>Second High</td>
</tr>
<tr>
<td>CO</td>
<td>2008</td>
<td>5.53146</td>
<td>4.52431</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>5.27619</td>
<td>4.33774</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>6.60355</td>
<td>5.80631</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>5.92055</td>
<td>4.79670</td>
</tr>
<tr>
<td></td>
<td>2012</td>
<td>6.52196</td>
<td>5.18051</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>6.60355</td>
<td>5.80631</td>
</tr>
</tbody>
</table>

4.6 Ozone Impacts from the Optimization Project

Ozone formation cannot be modeled with AERMOD. Other available ground-based EPA models for ozone are not appropriate for permitting individual sources. Instead, a qualitative analysis was performed to assess the impact of the Project on regional ozone by comparing Project emission increases with those already existing in Sweetwater County, as well as assessing monitored ozone at monitors downwind of Westvaco.

Table 4-7 lists VOC and NO$_X$ emissions from the Project and emissions cataloged for Sweetwater County in the EPA Air Emissions database. Project net emission increases of VOCs and NO$_X$ are a very small fraction of Sweetwater County's inventory.
Table 4-7
Ozone Precursor Emission Increases for the Westvaco Optimization Project
Versus Existing Emissions in Sweetwater County (2011 Data)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Westvaco Optimization Project (tpy)</th>
<th>Sweetwater County (tpy)(^1)</th>
<th>% County Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO(_x)</td>
<td>37.7</td>
<td>37,799</td>
<td>0.01</td>
</tr>
<tr>
<td>VOCs</td>
<td>1.5</td>
<td>35,592</td>
<td>0.004</td>
</tr>
</tbody>
</table>

1. http://www.epa.gov/air/emissions/

Table 4-8 lists the H4H 8-hour ozone for Hiawatha and Wamsutter, two downwind stations from Westvaco, and for Moxa north-northwest of Westvaco, for the years 2012 to 2014. These data were obtained from EPA's AirData website. The current 8-hour ozone WAAQS is met at these three stations, with the three-year mean of the H4H 8-hour ozone concentration at each station below 75 ppb. The impact of the Project net emissions increase on these monitors in the future will be negligible, and thus maintenance of the ozone WAAQS for these monitors will not be threatened as a result of the Westvaco Optimization Project emissions of NO\(_x\) and VOCs.

Table 4-8
Maximum Monitored H4H 8-Hour Ozone Concentrations\(^1\)
For Years 2012 to 2014

<table>
<thead>
<tr>
<th>Station</th>
<th>H4H 8-Hour Ozone (ppb)</th>
<th>3-Year Mean</th>
<th>8-Hour Ozone WAAQS (ppb)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012</td>
<td>2013</td>
<td>2014</td>
</tr>
<tr>
<td>Moxa</td>
<td>65</td>
<td>67</td>
<td>63</td>
</tr>
<tr>
<td>Hiawatha</td>
<td>63</td>
<td>64</td>
<td>62</td>
</tr>
<tr>
<td>Wamsutter</td>
<td>63</td>
<td>64</td>
<td>60</td>
</tr>
</tbody>
</table>

1. http://www.epa.gov/airdata/
5.0 Wyoming Ambient Air Quality Analysis Model Results

As presented in Section 4.0, the Westvaco Optimization Project has significant impacts for 1-hour NO₂ only, and is not significant for annual NO₂, nor any of the other pollutants of PM₁₀, PM₂.₅, SO₂ and CO for the respective averaging periods. As a result, the only additional analysis that is required for WAAQS demonstration is the 1-hour NO₂ standard. At this time, there is no 1-hour NO₂ increment.

5.1 Model Setup

Model inputs included source data, building downwash (Westvaco sources only), receptor grid and meteorological data. Westvaco sources and background sources were included in the model. WDEQ/AQD provided MMA with the background source inventory, the details of which are discussed in Section 5.3. The provided background inventory also included WDEQ/AQD data for Westvaco, discussed in more detail in Section 5.2.

For this analysis, the model was run with PVMRM, a Tier 3 ozone limiting method. The default in-stack ratio (ISR) was set at 0.2, which was applied to the background sources. Using a 0.2 ISR is recommended for sources greater than 3 km from the applicant source in EPA's September 2014 memorandum. The equilibrium ratio was set at the default value in AERMOD of 0.9.

WDEQ/AQD provided hourly data from the Moxa Station for background ozone. These data were further processed into a seasonal hour distribution. See Section 5.4 for further discussion.

5.2 Westvaco Model Inputs

5.2.1 Modeled NOₓ Sources

Schnauber Consulting provided MMA with a NOₓ source inventory for Westvaco to be used in the modeling. As with the Project inventory, these data contain the corrected locations for the buildings and stacks, as well as the respective elevations. The inventory also contains corrections to the WDEQ/AQD data inventory for Westvaco.
Table 5-1 presents the model parameters for the point sources inventory for NO$_X$. Sources MT04 and MT05 were missing from the WDEQ/AQD inventory, but were added to this WAAQS analysis. The mine vent emissions and exit velocity found in the WDEQ/AQD inventory were corrected, as well as the stack height for SM1. The ISRs used for the point sources are based on on-site stack testing of the actual source, or testing of similar sources at this or other similar facilities.

Table 5-2 lists the modeled parameters for the area sources. As with the point sources, several parameters were modified from those found in the WDEQ/AQD inventory. These parameters include emission rates and rotation angle for all the area sources, the COALPILE dimensions, and PLANTMBL dimensions. PLANTMBL release height was increased from 5 meters to 10 meters to be more consistent with other modeling analyses in Wyoming. The ISR used for these sources is based on data from the San Joaquin Valley Air Pollution Control District for heavy diesel-fired equipment, *Modeling Compliance of the Federal 1-Hour NO$_2$ NAAQS* (California Air Pollution Control Officers Association (CAPCOA), October 2011).

Table 5-3 catalogs the modeled parameters for volume sources. Consistent with the SILs analysis, switch engine sources originally characterized as area sources were converted to volume sources by placing volume sources 30-meters apart along the center of each area source. The emission rates given by WDEQ/AQD were corrected by Schnauber Consulting, and then converted to equivalent emissions for the volume sources along the rail. Table 5-3 lists the first and last volume source along each segment, with the model source parameters for the respective volume sources in between being identical except for the UTM locations. The ISR is based on a referenced source test for locomotives, *US Locomotive After-treatment Retrofit Progress Report: SwRI Test Programs* (Fritz, S, 2007), and is similar to the heavy equipment ISR.
<table>
<thead>
<tr>
<th>Model ID</th>
<th>Description</th>
<th>Type</th>
<th>NAD83 UTM Easting (m)</th>
<th>NAD83 UTM Northing (m)</th>
<th>MSL Elevation (m)</th>
<th>NOX Emissions (g/s)</th>
<th>Stack Height (m)</th>
<th>Stack Temperature (K)</th>
<th>Exit Velocity (m/s)</th>
<th>Stack Diameter (m)</th>
<th>In-Stack Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA1</td>
<td>Baby Sesqui Calciner R-3 POINT</td>
<td>598744.4</td>
<td>4608579.1</td>
<td>1893.7</td>
<td>0.3276</td>
<td>17.22</td>
<td>350.9</td>
<td>23.27</td>
<td>0.46</td>
<td>0.024</td>
<td></td>
</tr>
<tr>
<td>RA23A</td>
<td>Sesqui Gas Fired Calciner R-13 POINT</td>
<td>598786.1</td>
<td>4608695.8</td>
<td>1892.4</td>
<td>0.7182</td>
<td>24.38</td>
<td>321.5</td>
<td>27.67</td>
<td>0.91</td>
<td>0.024</td>
<td></td>
</tr>
<tr>
<td>RA23B</td>
<td>Sesqui Gas Fired Calciner R-13 POINT</td>
<td>598792.8</td>
<td>4608695.9</td>
<td>1892.4</td>
<td>0.7182</td>
<td>24.38</td>
<td>321.5</td>
<td>27.67</td>
<td>0.91</td>
<td>0.024</td>
<td></td>
</tr>
<tr>
<td>RA24</td>
<td>Sesqui Gas Fired Calciner R-15 POINT</td>
<td>598805.6</td>
<td>4608717.5</td>
<td>1892.4</td>
<td>2.0110</td>
<td>24.38</td>
<td>337.0</td>
<td>20.76</td>
<td>1.37</td>
<td>0.024</td>
<td></td>
</tr>
<tr>
<td>MONO5</td>
<td>Mono 1 Gas Fired Calciner POINT</td>
<td>599100.0</td>
<td>4608286.4</td>
<td>1915.1</td>
<td>2.5994</td>
<td>28.96</td>
<td>348.7</td>
<td>25.61</td>
<td>1.52</td>
<td>0.024</td>
<td></td>
</tr>
<tr>
<td>NS3</td>
<td>Mono 2 Gas Fired Calciner POINT</td>
<td>599221.3</td>
<td>4608269.5</td>
<td>1915.1</td>
<td>5.2164</td>
<td>31.70</td>
<td>480.4</td>
<td>22.83</td>
<td>2.44</td>
<td>0.014</td>
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<tr>
<td>NS1A</td>
<td>Mono #6 Coal/Gas Fired Boiler POINT</td>
<td>599284.4</td>
<td>4608167.0</td>
<td>1916.9</td>
<td>35.7840</td>
<td>91.44</td>
<td>349.8</td>
<td>17.56</td>
<td>3.51</td>
<td>0.014</td>
<td></td>
</tr>
<tr>
<td>SM1</td>
<td>Gas Fired Lime Kiln POINT</td>
<td>599619.8</td>
<td>4608140.1</td>
<td>1928.2</td>
<td>4.0824</td>
<td>30.71</td>
<td>345.4</td>
<td>11.96</td>
<td>1.83</td>
<td>0.024</td>
<td></td>
</tr>
<tr>
<td>PH1A</td>
<td>Sesqui #1 Gas-fired Boiler POINT</td>
<td>598585.2</td>
<td>4608520.3</td>
<td>1896.2</td>
<td>4.8334</td>
<td>30.48</td>
<td>566.5</td>
<td>4.03</td>
<td>2.74</td>
<td>0.079</td>
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<tr>
<td>PH1B</td>
<td>Sesqui #2 Gas-fired Boiler POINT</td>
<td>598585.2</td>
<td>4608520.3</td>
<td>1896.2</td>
<td>4.8334</td>
<td>30.48</td>
<td>566.5</td>
<td>4.03</td>
<td>2.74</td>
<td>0.079</td>
<td></td>
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<tr>
<td>PH2</td>
<td>Sesqui #3 Gas-fired Boiler POINT</td>
<td>598569.8</td>
<td>4608523.2</td>
<td>1896.2</td>
<td>4.8334</td>
<td>21.34</td>
<td>394.3</td>
<td>5.17</td>
<td>2.29</td>
<td>0.079</td>
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<td>PH3</td>
<td>Sesqui #4 Gas-fired Boiler POINT</td>
<td>598565.9</td>
<td>4608520.4</td>
<td>1896.2</td>
<td>9.6680</td>
<td>21.34</td>
<td>394.3</td>
<td>8.34</td>
<td>2.29</td>
<td>0.079</td>
<td></td>
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<td>MW5</td>
<td>#8 Gas-fired Boiler POINT</td>
<td>599322.4</td>
<td>4608231.4</td>
<td>1916.9</td>
<td>3.9690</td>
<td>51.82</td>
<td>428.2</td>
<td>12.37</td>
<td>2.39</td>
<td>0.079</td>
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<tr>
<td>NS1B</td>
<td>Mono #7 Coal/Gas Fired Boiler POINT</td>
<td>599288.2</td>
<td>4608167.1</td>
<td>1916.9</td>
<td>35.7840</td>
<td>91.44</td>
<td>349.8</td>
<td>17.56</td>
<td>3.51</td>
<td>0.014</td>
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<td>Sesqui Gas-fired Calciner R-9 POINT</td>
<td>598762.2</td>
<td>4608692.3</td>
<td>1892.4</td>
<td>0.5027</td>
<td>19.51</td>
<td>335.4</td>
<td>15.05</td>
<td>1.07</td>
<td>0.024</td>
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</tr>
<tr>
<td>RA22B</td>
<td>Sesqui Gas-fired Calciner R-9 POINT</td>
<td>598765.4</td>
<td>4608692.4</td>
<td>1892.4</td>
<td>0.5027</td>
<td>19.51</td>
<td>335.4</td>
<td>15.05</td>
<td>1.07</td>
<td>0.024</td>
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<tr>
<td>MT04</td>
<td>BMT No. 1 Mill POINT</td>
<td>598186.2</td>
<td>4608651.8</td>
<td>1894.5</td>
<td>0.0680</td>
<td>22.86</td>
<td>316.5</td>
<td>20.49</td>
<td>0.61</td>
<td>0.079</td>
<td></td>
</tr>
<tr>
<td>MT05</td>
<td>BMT No. 2 Mill POINT</td>
<td>598186.8</td>
<td>4608616.8</td>
<td>1894.5</td>
<td>0.0680</td>
<td>22.86</td>
<td>316.5</td>
<td>20.49</td>
<td>0.61</td>
<td>0.079</td>
<td></td>
</tr>
<tr>
<td>MINVENT2</td>
<td>Mine Vent 2 POINT</td>
<td>598647.7</td>
<td>4608544.5</td>
<td>1894.9</td>
<td>0.1338</td>
<td>1.52</td>
<td>294.0</td>
<td>3.14</td>
<td>4.27</td>
<td>0.110</td>
<td></td>
</tr>
<tr>
<td>MINVENT3</td>
<td>Mine Vent 3 POINT</td>
<td>597678.4</td>
<td>4606753.2</td>
<td>1937.1</td>
<td>0.1190</td>
<td>0.91</td>
<td>294.0</td>
<td>1.80</td>
<td>5.49</td>
<td>0.110</td>
<td></td>
</tr>
<tr>
<td>MINVENT4</td>
<td>Mine Vent 4 POINT</td>
<td>599151.6</td>
<td>4608142.5</td>
<td>1918.1</td>
<td>0.7063</td>
<td>10.06</td>
<td>294.0</td>
<td>4.27</td>
<td>7.32</td>
<td>0.110</td>
<td></td>
</tr>
<tr>
<td>MINVENT6</td>
<td>Mine Vent 6 POINT</td>
<td>597683.0</td>
<td>4604318.0</td>
<td>1927.0</td>
<td>0.7287</td>
<td>0.91</td>
<td>294.0</td>
<td>4.68</td>
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<td>0.110</td>
<td></td>
</tr>
<tr>
<td>MINVENT9</td>
<td>Mine Vent 9 POINT</td>
<td>595797.0</td>
<td>4599174.0</td>
<td>1949.6</td>
<td>0.3941</td>
<td>0.91</td>
<td>294.0</td>
<td>5.99</td>
<td>5.49</td>
<td>0.110</td>
<td></td>
</tr>
</tbody>
</table>
### Table 5-2
**Modeled Area Sources for NOX for Tronox Westvaco**

<table>
<thead>
<tr>
<th>Model ID</th>
<th>Description</th>
<th>Type</th>
<th>NAD83 UTM Easting (m)</th>
<th>NAD83 UTM Northing (m)</th>
<th>MSL Elevation (m)</th>
<th>NOX Emissions (g/s-m^2)</th>
<th>Release Height (m)</th>
<th>X-Dimension (m)</th>
<th>Y-Dimension (m)</th>
<th>Rotation Angle</th>
<th>In-Stack Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>SESQPILE</td>
<td>Sesqui Pile Loading/Dozing</td>
<td>AREA</td>
<td>598654.2</td>
<td>4608496.9</td>
<td>1894.9</td>
<td>1.1800E-05</td>
<td>10</td>
<td>75</td>
<td>75</td>
<td>-1.01</td>
<td>0.11</td>
</tr>
<tr>
<td>MONOPILE</td>
<td>Mono Pile Loading/Dozing</td>
<td>AREA</td>
<td>599106.0</td>
<td>4607890.7</td>
<td>1918.4</td>
<td>6.2800E-06</td>
<td>21</td>
<td>200</td>
<td>200</td>
<td>-1.01</td>
<td>0.11</td>
</tr>
<tr>
<td>COALPILE</td>
<td>Coal Pile Unloading/Adding Mat./Dozing</td>
<td>AREA</td>
<td>599611.3</td>
<td>4608278.0</td>
<td>1908.4</td>
<td>4.9100E-06</td>
<td>16</td>
<td>110</td>
<td>110</td>
<td>-51</td>
<td>0.11</td>
</tr>
<tr>
<td>PLANTMBL</td>
<td>Plant Mobile Source Tailpipe</td>
<td>AREA</td>
<td>598128.9</td>
<td>4607905.9</td>
<td>1906.5</td>
<td>7.9800E-07</td>
<td>10</td>
<td>1708</td>
<td>797</td>
<td>-1.01</td>
<td>0.11</td>
</tr>
</tbody>
</table>

### Table 5-3
**Modeled Volume Sources (First and Last Volume Source) for NOX for Tronox Westvaco**

<table>
<thead>
<tr>
<th>Model ID</th>
<th>Description</th>
<th>Total Number of Volume Sources</th>
<th>Type</th>
<th>NAD83 UTM Easting (m)</th>
<th>NAD83 UTM Northing (m)</th>
<th>MSL Elevation (m)</th>
<th>NOX Emissions (g/s)</th>
<th>Release Height (m)</th>
<th>Sigma-y (m)</th>
<th>Sigma-z (m)</th>
<th>In-Stack Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRAIL1_1</td>
<td>Switch Engine 1 Vol 1</td>
<td>11</td>
<td>VOLUME</td>
<td>598339.1</td>
<td>4608736.7</td>
<td>1893.4</td>
<td>2.8396E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL1_11</td>
<td>Switch Engine 1 Vol 11</td>
<td></td>
<td>VOLUME</td>
<td>598639.0</td>
<td>4608742.0</td>
<td>1893.4</td>
<td>2.8396E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL2_1</td>
<td>Switch Engine 2 Vol 1</td>
<td>11</td>
<td>VOLUME</td>
<td>598656.1</td>
<td>4608742.3</td>
<td>1892.35</td>
<td>2.8396E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL2_11</td>
<td>Switch Engine 2 Vol 11</td>
<td></td>
<td>VOLUME</td>
<td>598956.0</td>
<td>4608747.6</td>
<td>1892.35</td>
<td>2.8396E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL3_1</td>
<td>Switch Engine 3 Vol 1</td>
<td>8</td>
<td>VOLUME</td>
<td>599147.5</td>
<td>4608717.3</td>
<td>1894.48</td>
<td>3.8951E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL3_8</td>
<td>Switch Engine 3 Vol 8</td>
<td>8</td>
<td>VOLUME</td>
<td>599356.3</td>
<td>4608695.4</td>
<td>1894.48</td>
<td>3.8951E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL4_1</td>
<td>Switch Engine 4 Vol 1</td>
<td>8</td>
<td>VOLUME</td>
<td>599358.3</td>
<td>4608694.8</td>
<td>1894.48</td>
<td>3.8951E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL4_8</td>
<td>Switch Engine 4 Vol 8</td>
<td>8</td>
<td>VOLUME</td>
<td>599567.1</td>
<td>4608672.9</td>
<td>1894.48</td>
<td>3.8951E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL5_1</td>
<td>Switch Engine 5 Vol 1</td>
<td>9</td>
<td>VOLUME</td>
<td>599410.7</td>
<td>4608555.3</td>
<td>1894.94</td>
<td>3.4596E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL5_9</td>
<td>Switch Engine 5 Vol 9</td>
<td>9</td>
<td>VOLUME</td>
<td>599649.0</td>
<td>4608584.6</td>
<td>1894.94</td>
<td>3.4596E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL6_1</td>
<td>Switch Engine 6 Vol 1</td>
<td>9</td>
<td>VOLUME</td>
<td>599724.3</td>
<td>4608593.2</td>
<td>1894.94</td>
<td>3.4596E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL6_9</td>
<td>Switch Engine 6 Vol 9</td>
<td>9</td>
<td>VOLUME</td>
<td>599940.0</td>
<td>4608698.5</td>
<td>1894.94</td>
<td>3.4596E-02</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL7_1</td>
<td>Switch Engine 7 Vol 1</td>
<td>5</td>
<td>VOLUME</td>
<td>598164.4</td>
<td>4608668.5</td>
<td>1894.5</td>
<td>3.7162E-03</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
<tr>
<td>WRAIL7_5</td>
<td>Switch Engine 7 Vol 5</td>
<td></td>
<td>VOLUME</td>
<td>598272.3</td>
<td>4608721.1</td>
<td>1894.5</td>
<td>3.7162E-03</td>
<td>10</td>
<td>13.953</td>
<td>2.33</td>
<td>0.15</td>
</tr>
</tbody>
</table>
5.2.2 Building Downwash
Building downwash parameters were re-generated for the point sources involved in the WAAQS analysis using BPIP-Prime (04274). The program generated downwash parameters for each stack, and these were incorporated into the model. The building and stack location layout used in BPIP-Prime is presented in Figure 3-2.

5.2.3 Receptor Grid
The WAAQS analysis is restricted to the receptors that exceed the SILs. For this analysis, this is limited to one single receptor with UTM location 597677.3 m East, 4608392.3 m North.

5.2.4 Meteorological Data
The same meteorological data as used in the SILs analysis was used in the WAAQS analysis.

5.3 Background Sources
WDEQ/AQD provided NOX background sources to be used in the modeling, including model source parameters. This inventory consisted of 23 sources listed in Table 5-4. All were located greater than 3 km from Westvaco.
Table 5-4
Background NOx Sources Modeled with Tronox Westvaco

<table>
<thead>
<tr>
<th>Source</th>
<th>East/West (km)</th>
<th>North/South (km)</th>
<th>Distance (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tronox Granger</td>
<td>-6.8</td>
<td>5.6</td>
<td>8.8</td>
</tr>
<tr>
<td>KA Energy - Waterfall CS</td>
<td>-51.5</td>
<td>25.2</td>
<td>57.3</td>
</tr>
<tr>
<td>DCP Midstream – Fossil Ridge GP</td>
<td>-11.3</td>
<td>-1.6</td>
<td>11.4</td>
</tr>
<tr>
<td>Enterprise Products - Pioneer Cryogenic Gas Plant</td>
<td>-42.9</td>
<td>18.1</td>
<td>46.6</td>
</tr>
<tr>
<td>Exxon - Shute Creek GP</td>
<td>-23.0</td>
<td>28.7</td>
<td>56.8</td>
</tr>
<tr>
<td>TATA/General Chemical - Green River</td>
<td>5.1</td>
<td>-3.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Mid America Pipeline – Granger</td>
<td>-13.4</td>
<td>-6.8</td>
<td>15.0</td>
</tr>
<tr>
<td>M-I SWACO – Granger</td>
<td>-12.8</td>
<td>-3.3</td>
<td>13.2</td>
</tr>
<tr>
<td>MGR – Fabian Ditch CS</td>
<td>-11.2</td>
<td>4.8</td>
<td>12.1</td>
</tr>
<tr>
<td>WGR - Granger Gas Plant</td>
<td>-11.3</td>
<td>-9.3</td>
<td>14.6</td>
</tr>
<tr>
<td>MGR - Sevenmile Gulch CS</td>
<td>-19.4</td>
<td>19.6</td>
<td>27.5</td>
</tr>
<tr>
<td>Nelson Refining - Silver Refinery</td>
<td>-12.3</td>
<td>-3.8</td>
<td>12.8</td>
</tr>
<tr>
<td>OCI - Big Island</td>
<td>10.3</td>
<td>10.8</td>
<td>14.9</td>
</tr>
<tr>
<td>Questar - Roberson Creek CS</td>
<td>-45.5</td>
<td>7.8</td>
<td>46.2</td>
</tr>
<tr>
<td>QEP - Blacks Fork GP</td>
<td>-19.2</td>
<td>-7.8</td>
<td>20.8</td>
</tr>
<tr>
<td>Questar - CKN Rock Springs Station</td>
<td>42.2</td>
<td>-10.5</td>
<td>43.5</td>
</tr>
<tr>
<td>Questar - Eakin CS</td>
<td>-35.2</td>
<td>-20.4</td>
<td>40.7</td>
</tr>
<tr>
<td>Questar - Lateral 1127</td>
<td>-18.6</td>
<td>-10.4</td>
<td>21.3</td>
</tr>
<tr>
<td>Saurus - MH-1 CS</td>
<td>24.6</td>
<td>-17.3</td>
<td>30.0</td>
</tr>
<tr>
<td>Solvay – Green River</td>
<td>5.2</td>
<td>-13.5</td>
<td>14.5</td>
</tr>
<tr>
<td>Wexpro - Church Butte Central Facility</td>
<td>-22.2</td>
<td>-25.2</td>
<td>33.6</td>
</tr>
<tr>
<td>Williams - Hams Fork CS</td>
<td>-34.3</td>
<td>27.1</td>
<td>43.7</td>
</tr>
<tr>
<td>Williams - Moxa S CS</td>
<td>-23.0</td>
<td>-2.7</td>
<td>23.2</td>
</tr>
</tbody>
</table>

The WDEQ/AQD-provided model parameters for all the background sources were used in the modeling analysis without alteration, with two exceptions. First, all locations were converted from NAD27 to NAD83. Second, the Tronox Granger Plant inventory sources were modified by Schnauber Consulting based on knowledge of the plant, and provided to MMA. The modeled source parameters for Tronox Granger are listed in Table 5-5. Only four sources operate at the site, instead of 10 indicated in the WDEQ/AQD inventory. Corrections were made to the boilers for emission rate and exit temperature, and to the mobile equipment emission rate and area source parameters. Boiler ISRs listed in Table 5-5 are based on stack testing.
### Table 5-5
Modeled Input Parameters for NO\textsubscript{x} Sources for Tronox Granger

<table>
<thead>
<tr>
<th>Model ID</th>
<th>Description</th>
<th>Type</th>
<th>NAD83 UTM Easting (m)</th>
<th>NAD83 UTM Northing (m)</th>
<th>Elevation (m)</th>
<th>Emission Rate (g/s)</th>
<th>Stack Height (m)</th>
<th>Stack Temp (K)</th>
<th>Exit Vel. (m/s)</th>
<th>Stack Diam (m)</th>
<th>ISR</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSAP_14</td>
<td>#1 Coal Fired Boiler</td>
<td>POINT</td>
<td>591657.0</td>
<td>4614113.9</td>
<td>1938.8</td>
<td>31.6197</td>
<td>45.72</td>
<td>352.4</td>
<td>21.3</td>
<td>1.98</td>
<td>0.004</td>
</tr>
<tr>
<td>GSAP_15</td>
<td>#2 Coal Fired Boiler</td>
<td>POINT</td>
<td>591670.3</td>
<td>4614100.2</td>
<td>1938.8</td>
<td>31.6197</td>
<td>45.72</td>
<td>352.4</td>
<td>21.3</td>
<td>1.98</td>
<td>0.004</td>
</tr>
<tr>
<td>GSAP_C1</td>
<td># Coal Fired Boiler</td>
<td>POINT</td>
<td>591658.0</td>
<td>4614070.2</td>
<td>1940.1</td>
<td>3.528</td>
<td>39.62</td>
<td>447.0</td>
<td>10.3</td>
<td>2.13</td>
<td>0.079</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Type</th>
<th>NAD83 UTM Easting (m)</th>
<th>NAD83 UTM Northing (m)</th>
<th>Elevation (m)</th>
<th>Emission Rate (g/s-m2)</th>
<th>Release Height</th>
<th>X-Dim (m)</th>
<th>Y-Dim (m)</th>
<th>Rota Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSAP_39</td>
<td>Plant Mobile</td>
<td>AREA</td>
<td>591789.2</td>
<td>4613681.7</td>
<td>1940.1</td>
<td>2.83E-07</td>
<td>5</td>
<td>217.0</td>
<td>563.0</td>
<td>-44</td>
</tr>
</tbody>
</table>

5.4 **Monitored Background Concentrations**

5.4.1 **Hourly Ozone Concentrations from Moxa**

WDEQ/AQD provide monitored hourly ozone data collected at Moxa for years 2008 to 2012, concurrent with the meteorological data, to be used in the Tier 3 modeling analysis. Data for years 2008 to 2011 were provided in parts per million (ppm) concentrations, and in an AERMOD-ready format. The hourly data for 2012 was pulled from WDEQ/AQD's database in parts per billion (ppb) concentrations and required minor processing. All missing data were replaced with a value of 61 ppb, which was the reported H4H 8-hour 3-year mean for this site based on a permit analysis provided by WDEQ/AQD.

The five years were combined together into one data set in ppb concentrations. Reviewing the data, the five-year one-hour mean concentration is 39 ppb, with the maximum measured 1-hour concentration at 99 ppb. Further evaluation revealed that Moxa recorded nearly 1400 hourly readings above 60 ppb, 84 readings above 70 ppb, 16 readings above 80 ppb, and 9 readings above 90 ppb. Based on this analysis, the Moxa monitor appears to be impacted at times by localized sources.
To smooth out the hourly impact spikes, but still retain the seasonal and diurnal distribution of the hourly ozone values, mean seasonal hourly concentrations were calculated over the five-year period for use in the model. The seasonal hour values were calculated by averaging the data by hour and season across the monitoring period (e.g., all five winters for hour 1). These values are presented in Table 5-6. Using seasonal hour averages for background ozone is discussed as a viable method to define background ozone in EPA’s March 2011 memorandum (U.S. EPA, 2011).

Table 5-6
Mean Seasonal\(^{1,2}\) Hour Background Ozone Concentrations for the Moxa Monitoring Station 2008 to 2012

<table>
<thead>
<tr>
<th>Hour</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ppb</td>
<td>μg/m(^3)</td>
<td>ppb</td>
<td>μg/m(^3)</td>
</tr>
<tr>
<td>1</td>
<td>35</td>
<td>68.6</td>
<td>40</td>
<td>78.4</td>
</tr>
<tr>
<td>2</td>
<td>36</td>
<td>70.6</td>
<td>39</td>
<td>76.4</td>
</tr>
<tr>
<td>3</td>
<td>34</td>
<td>66.6</td>
<td>38</td>
<td>74.5</td>
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<tr>
<td>4</td>
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<td>74.5</td>
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<td>5</td>
<td>34</td>
<td>66.6</td>
<td>37</td>
<td>72.5</td>
</tr>
<tr>
<td>6</td>
<td>34</td>
<td>66.6</td>
<td>36</td>
<td>70.6</td>
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<tr>
<td>7</td>
<td>34</td>
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<td>70.6</td>
</tr>
<tr>
<td>8</td>
<td>33</td>
<td>64.7</td>
<td>37</td>
<td>72.5</td>
</tr>
<tr>
<td>9</td>
<td>34</td>
<td>66.6</td>
<td>40</td>
<td>78.4</td>
</tr>
<tr>
<td>10</td>
<td>35</td>
<td>68.6</td>
<td>44</td>
<td>86.2</td>
</tr>
<tr>
<td>11</td>
<td>36</td>
<td>70.6</td>
<td>47</td>
<td>92.1</td>
</tr>
<tr>
<td>12</td>
<td>38</td>
<td>74.5</td>
<td>49</td>
<td>96.0</td>
</tr>
<tr>
<td>13</td>
<td>39</td>
<td>76.4</td>
<td>51</td>
<td>100.0</td>
</tr>
<tr>
<td>14</td>
<td>41</td>
<td>80.4</td>
<td>51</td>
<td>100.0</td>
</tr>
<tr>
<td>15</td>
<td>41</td>
<td>80.4</td>
<td>52</td>
<td>101.9</td>
</tr>
<tr>
<td>16</td>
<td>41</td>
<td>80.4</td>
<td>52</td>
<td>101.9</td>
</tr>
<tr>
<td>17</td>
<td>41</td>
<td>80.4</td>
<td>52</td>
<td>101.9</td>
</tr>
<tr>
<td>18</td>
<td>39</td>
<td>76.4</td>
<td>51</td>
<td>100.0</td>
</tr>
<tr>
<td>19</td>
<td>38</td>
<td>74.5</td>
<td>49</td>
<td>96.0</td>
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<tr>
<td>20</td>
<td>38</td>
<td>74.5</td>
<td>47</td>
<td>92.1</td>
</tr>
<tr>
<td>21</td>
<td>37</td>
<td>72.5</td>
<td>45</td>
<td>88.2</td>
</tr>
<tr>
<td>22</td>
<td>36</td>
<td>70.6</td>
<td>44</td>
<td>86.2</td>
</tr>
<tr>
<td>23</td>
<td>36</td>
<td>70.6</td>
<td>42</td>
<td>82.3</td>
</tr>
<tr>
<td>24</td>
<td>37</td>
<td>72.5</td>
<td>42</td>
<td>82.3</td>
</tr>
</tbody>
</table>

1. The mean concentration was calculated for each hour and season (e.g., all five winters for each hour were averaged together).
2. Winter is defined as December, January and February; Spring is March, April and May; Summer is June, July and August; and Fall is September, October and November.
5.4.2 Hourly NO₂ Concentration from Moxa

For background 1-hour NO₂, WDEQ/AQD provided a 1-hour value of 22 ppb (41.4 μg/m³) to be used in the analysis. This value also was measured at the Moxa station.

5.5 WAAQS Model Results

Table 5-7 presents the 1-hour NO₂ modeled concentration and monitored background value for comparison to the WAAQS. Compliance with the 1-hour standard is demonstrated at the one receptor identified from the SIL analysis.

Table 5-7
Results of the Modeled Concentrations in Comparison to the WAAQS

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Period</th>
<th>Statistic</th>
<th>Receptor Coordinates NAD83 UTM (m), Zone 12</th>
<th>Concentration (μg/m³)</th>
<th>Modeled</th>
<th>Background</th>
<th>Total</th>
<th>WAAQS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO₂</td>
<td>1-Hour</td>
<td>Five-Year</td>
<td>597677.3, 4608392.3</td>
<td></td>
<td>70.4</td>
<td>41.4</td>
<td>111.8</td>
<td>188</td>
</tr>
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</table>
6.0 Conclusions

An AERMOD modeling analysis was performed for the Westvaco Optimization Project, a proposed minor modification to the Tronox Westvaco plant.

Modeling results demonstrated that Project impacts were above the SILs for 1-hour NO$_2$ at one receptor, and below the SILs for all other pollutants and averaging periods. For the 1-hour NO$_2$ full-impact analysis that included all Westvaco sources as well as regional background sources, the modeling results demonstrated compliance with the 1-hour NO$_2$ WAAQS.

This modeling analysis demonstrates that Tronox Westvaco, as modified by the Westvaco Optimization Project, will comply with all applicable air quality standards.
7.0 References


Appendix A

Model Input Files
Appendix A

Westvaco Optimization Project and Net Emissions Increase Calculations
<table>
<thead>
<tr>
<th>Unit Description</th>
<th>New (N)</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>CO</th>
<th>VOC</th>
<th>H2S</th>
<th>HS/HSO4</th>
<th>F</th>
<th>Pb</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fly Ash Silo and Truck Loadout Refurbishment</td>
<td>A</td>
<td>0.30</td>
<td>0.36</td>
<td>0.14</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>New Packing in MW Stripping Columns</td>
<td>A</td>
<td>0.30</td>
<td>0.35</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>VFD Installation on Mono I Slurry Pumps</td>
<td>A</td>
<td>0.30</td>
<td>0.35</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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</tr>
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<td>Desuperheater 25# Steam to Mono</td>
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<td>0.36</td>
<td>0.14</td>
<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Drop-out Wash Water Tank Cap. Increase</td>
<td>A</td>
<td>0.30</td>
<td>0.37</td>
<td>0.15</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>0.0</td>
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</tr>
<tr>
<td>Scale Inhibitor Addition</td>
<td>A</td>
<td>0.30</td>
<td>0.35</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.0</td>
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</tr>
<tr>
<td>Session 4 Modifications</td>
<td>A</td>
<td>0.30</td>
<td>0.36</td>
<td>0.14</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
</tbody>
</table>

Post-Project Emissions, Tons

<table>
<thead>
<tr>
<th>PM tons/yr</th>
<th>PM10 tons/yr</th>
<th>PM2.5 tons/yr</th>
<th>SO2 tons/yr</th>
<th>NOx tons/yr</th>
<th>CO tons/yr</th>
<th>VOC tons/yr</th>
<th>H2S tons/yr</th>
<th>HS/HSO4 tons/yr</th>
<th>F tons/yr</th>
<th>Pb tons/yr</th>
<th>CO2e tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.0</td>
<td>29.5</td>
<td>16.1</td>
<td>6.5</td>
<td>53.4</td>
<td>31.8</td>
<td>2.5</td>
<td>0.8</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>68.3</td>
</tr>
</tbody>
</table>

2013-2014 Baseline Emissions (BASE) 201.0 | 190.3 | 105.3 | 0.6 | 247.2 | 53.8 | 11.2 | 3.0 | 0.0 | 0.0 | 374339

Projected Actual Emissions (PAE) 231.0 | 219.0 | 114.6 | 2.5 | 264.4 | 21.8 | 1.2 | 0.5 | 0.0 | 0.0 | 415367

Projected Actual Emissions (PAE) 231.0 | 219.0 | 114.6 | 2.5 | 264.4 | 21.8 | 1.2 | 0.5 | 0.0 | 0.0 | 415367

Excludable Emissions (EE) 21.1 | 20.3 | 10.6 | 0.1 | 16.1 | 5.7 | 1.0 | 0.5 | 0.0 | 0.0 | 23944

Net Project Emission Increase 9.8 | 9.5 | 5.7 | 0.1 | 37.3 | 15.9 | 1.5 | 0.1 | 0.0 | 0.0 | 92888

Significant Emission Rate, Tons 25 | 17 | 10 | 0.4 | 40 | 10 | 10 | 7 | 0.6 | 0.0 | 75000

Westvaco Optimization Project Emission Calculations App A-1
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<th>PM2.5 EMISSIONS (tpy)</th>
<th>PM10 EMISSIONS (tpy)</th>
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**Notes:****PM emissions assumed equal to PM10 for all sources except one stockpile activity.
## Caustic Project Emissions

### Caustic Project Emissions Increase Using 2013-2014 Baseline Average Emissions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
<th>Project No.</th>
<th>Emission</th>
<th>Modified?</th>
<th>Production Increase, %</th>
<th>PM tons/yr</th>
<th>PM10 tons/yr</th>
<th>PM2.5 tons/yr</th>
<th>SO2 tons/yr</th>
<th>NOx tons/yr</th>
<th>CO tons/yr</th>
<th>VOC tons/yr</th>
<th>H2S tons/yr</th>
<th>H2SO4 tons/yr</th>
<th>F tons/yr</th>
<th>Pb tons/yr</th>
<th>CO2e tons/yr</th>
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### Utilities Utilization Emissions Increase Using 2013-2014 Baseline Average Emissions

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<th>Modified?</th>
<th>Production Increase, %</th>
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<th>PM10 tons/yr</th>
<th>PM2.5 tons/yr</th>
<th>SO2 tons/yr</th>
<th>NOx tons/yr</th>
<th>CO tons/yr</th>
<th>VOC tons/yr</th>
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<th>F tons/yr</th>
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<th>CO2e tons/yr</th>
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### Total Project Emissions Increase using Gas-Fired Steam

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<th>SO2 tons/yr</th>
<th>NOx tons/yr</th>
<th>CO tons/yr</th>
<th>VOC tons/yr</th>
<th>H2S tons/yr</th>
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<th>F tons/yr</th>
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### Long Description

#### Caustic Project Emissions Increase Using 2013-2014 Baseline Average Emissions

- **PM**
- **PM10**
- **PM2.5**
- **SO2**
- **NOx**
- **CO**
- **VOC**
- **H2S**
- **H2SO4**
- **F**
- **Pb**
- **CO2e**

#### Utilities Utilization Emissions Increase Using 2013-2014 Baseline Average Emissions

- **PM**
- **PM10**
- **PM2.5**
- **SO2**
- **NOx**
- **CO**
- **VOC**
- **H2S**
- **H2SO4**
- **F**
- **Pb**
- **CO2e**

#### Total Project Emissions Increase using Gas-Fired Steam

- **PM**
- **PM10**
- **PM2.5**
- **SO2**
- **NOx**
- **CO**
- **VOC**
- **H2S**
- **H2SO4**
- **F**
- **Pb**
- **CO2e**

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### Westvaco Optimization Project Emission Calculations App A-3

Schnauber Consulting, LLC
## ELDM Project Emissions

### ELDM Production, tons

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### ELDM Steam Usage, Klbs

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### Steam Allocation

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<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>818,247</td>
<td>843,162</td>
<td>1,643,162</td>
</tr>
</tbody>
</table>

### Proposed Modifications

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New Packing in MW Stripping Columns</td>
</tr>
<tr>
<td>2</td>
<td>Preheat MW to Evaporators</td>
</tr>
<tr>
<td>3</td>
<td>Condensate Inversion Around Flash Tank</td>
</tr>
<tr>
<td>4</td>
<td>Fluid Bed Dryer Feed Screw Upgrade</td>
</tr>
<tr>
<td>5</td>
<td>Granger/Westvaco Pipeline - Deca Utilization</td>
</tr>
</tbody>
</table>

### Utilities Utilization Emissions Increase Using 2013-2014 Baseline Average Emissions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAIL</td>
<td>Switch Engine Activity</td>
</tr>
</tbody>
</table>

### Miscellaneous Emissions Increase Using 2013-2014 Baseline Average Emissions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONO9</td>
<td>Mono Railcar Loadout</td>
</tr>
<tr>
<td>MONO10</td>
<td>Mono Bulk Truck Loadout</td>
</tr>
<tr>
<td>MONO12</td>
<td>Mono Loadout Screening</td>
</tr>
</tbody>
</table>

### Production Increase, %

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH-1A</td>
<td>#1 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-1B</td>
<td>#2 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-2</td>
<td>#3 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-3</td>
<td>#4 Gas-Fired Boiler</td>
</tr>
<tr>
<td>MW-5</td>
<td>#6 Gas-Fired Boiler</td>
</tr>
</tbody>
</table>

### Utilities Utilization Emissions Increase Using 2013-2014 Baseline Average Emissions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW-5</td>
<td>#6 Gas-Fired Boiler</td>
</tr>
</tbody>
</table>

### Misc Emission Increase Using 2013-2014 Baseline Average Emissions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONO9</td>
<td>Mono Railcar Loadout</td>
</tr>
<tr>
<td>MONO10</td>
<td>Mono Bulk Truck Loadout</td>
</tr>
<tr>
<td>MONO12</td>
<td>Mono Loadout Screening</td>
</tr>
</tbody>
</table>

### Total Project Emissions Increase using Gas-Fired Steam

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH-1A</td>
<td>#1 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-1B</td>
<td>#2 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-2</td>
<td>#3 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-3</td>
<td>#4 Gas-Fired Boiler</td>
</tr>
<tr>
<td>MW-5</td>
<td>#6 Gas-Fired Boiler</td>
</tr>
</tbody>
</table>

---

**Schnauber Consulting, LLC**

1 of 1

Westvaco Optimization Project Emission Calculations App A-4
### Mono Project Emissions

#### Proposed Modifications

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mono Filter Piping Replacement Phase II</td>
</tr>
<tr>
<td>2</td>
<td>Desuperheater 25# Steam to Mono</td>
</tr>
<tr>
<td>3</td>
<td>Mono II Circ. Pump Replacement Phase I</td>
</tr>
<tr>
<td>4</td>
<td>HE-3501 Heat Exchanger Replacement</td>
</tr>
<tr>
<td>5</td>
<td>VFD Installation on Mono I Slurry Pumps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit Description</th>
<th>Gas-Fired Steam Production</th>
<th>Mono Plant Emissions Increase Using 2013-2014 Baseline Average Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013</td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td>1.565,199</td>
<td>1,611,668</td>
</tr>
<tr>
<td>Mono Steam Usage, Klbs</td>
<td>3,751,666</td>
<td>3,791,065</td>
</tr>
<tr>
<td>Steam per Ton RSA, Klbs/ton</td>
<td>2.397</td>
<td>2.352</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gas-Fired Steam Production</th>
<th>Mono Plant Emissions Increase Using 2013-2014 Baseline Average Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH1A #1 Gas-Fired Boiler, Klbs</td>
<td>120,586</td>
</tr>
<tr>
<td>PH1B #2 Gas-Fired Boiler, Klbs</td>
<td>110,428</td>
</tr>
<tr>
<td>PH2 #3 Gas-Fired Boiler, Klbs</td>
<td>86,465</td>
</tr>
<tr>
<td>PH3 #4 Gas-Fired Boiler, Klbs</td>
<td>182,535</td>
</tr>
<tr>
<td>MW-5 #6 Gas-Fired Boiler, Klbs</td>
<td>309,903</td>
</tr>
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</table>

### Steam Allocation

#### Unit Description

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONO6</td>
<td>Mono 1 Fluid Bed Dryer</td>
</tr>
<tr>
<td>MONO9</td>
<td>Mono 1 Fluid Bed Dryer</td>
</tr>
<tr>
<td>MONO10</td>
<td>Mono Bulk Truck Loading</td>
</tr>
<tr>
<td>MONO12</td>
<td>Mono Loadout Screening</td>
</tr>
<tr>
<td>MONO18</td>
<td>Mono 2 Fluid Bed Dryer</td>
</tr>
<tr>
<td>MONOCT</td>
<td>Moto Cooling Tower</td>
</tr>
<tr>
<td>MONO2CT</td>
<td>Moto Cooling Tower</td>
</tr>
</tbody>
</table>

#### Affected by Projects

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAIL</td>
<td>Switch Engine Activity</td>
</tr>
</tbody>
</table>

### Miscellaneous Emissions Increase Using 2013-2014 Baseline Average Emissions

#### Unit Description

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH-1A</td>
<td>#1 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-1B</td>
<td>#2 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-2</td>
<td>#3 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-3</td>
<td>#4 Gas-Fired Boiler</td>
</tr>
<tr>
<td>MW-5</td>
<td>#6 Gas-Fired Boiler</td>
</tr>
</tbody>
</table>

### Affected by Projects

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2S</td>
<td>Production Increase, %</td>
</tr>
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</table>

### Utilities Utilization Emissions Increase Using 2013-2014 Baseline Average Emissions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH-1A</td>
<td>#1 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-1B</td>
<td>#2 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-2</td>
<td>#3 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-3</td>
<td>#4 Gas-Fired Boiler</td>
</tr>
<tr>
<td>MW-5</td>
<td>#6 Gas-Fired Boiler</td>
</tr>
</tbody>
</table>

### Assumptions

Assumes that all feedstock to support the Mono projects will be sourced from the dredge operation and/or ELDM-supplied liquor. Consequently, no ore.
### Sesqui Project Emissions

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>1814, 57, 65 Bin Level System Upgrade</td>
</tr>
<tr>
<td>2</td>
<td>Dual Dissolver Overflow Piping</td>
</tr>
<tr>
<td>3</td>
<td>Floc Addition Improvements</td>
</tr>
<tr>
<td>4</td>
<td>Inlet Performance Improvements</td>
</tr>
<tr>
<td>5</td>
<td>Drop Out Wash Water Tank Cap. Increase</td>
</tr>
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</table>

#### Sesqui Ore Stockpile Wind Erosion

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>Avg</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>CO</th>
<th>VOC</th>
<th>H2S</th>
<th>H2SO4</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,378,454</td>
<td>2,473,510</td>
<td>Avg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sesqui Steam Usage, Klbs

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,478</td>
<td>2,476</td>
<td>2,477</td>
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</table>

#### Gas-Fired Steam Production 2013-2014

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW-5</td>
<td>#5 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH1A</td>
<td>#1 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH1B</td>
<td>#2 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH2A</td>
<td>#3 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH2B</td>
<td>#4 Gas-Fired Boiler</td>
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</tbody>
</table>

#### Utilities Utilization Emissions Increase Using 2013-2014 Baseline Average Emissions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAIL</td>
<td>Switch Engine Activity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Methane Emission Reduction</td>
</tr>
<tr>
<td>7</td>
<td>Miscellaneous Emissions Increase Using 2013-2014 Baseline Average Emissions</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA-4</td>
<td>Sesqui Hammermill Chopper Vent</td>
</tr>
<tr>
<td>PA-5</td>
<td>Sesqui Plant Ure Screening Vent</td>
</tr>
<tr>
<td>PA-6</td>
<td>Sesqui Plant Dissolver Vent</td>
</tr>
<tr>
<td>PA-7</td>
<td>Sesqui Plant Dissolver Vent</td>
</tr>
<tr>
<td>PA-8</td>
<td>Sesqui Plant Dissolver Vent</td>
</tr>
<tr>
<td>PA-9</td>
<td>Sesqui Plant Dissolver Vent</td>
</tr>
<tr>
<td>RA-1</td>
<td>P-3 Gas-Fired Calcin</td>
</tr>
<tr>
<td>RA-2</td>
<td>M-1 Gas-Fired Calcin</td>
</tr>
<tr>
<td>RA-22A</td>
<td>R-19 Gas-Fired Calcin</td>
</tr>
<tr>
<td>RA-24</td>
<td>M-17 Gas-Fired Calcin</td>
</tr>
<tr>
<td>RA-25</td>
<td>P-5 Sesqui Fluid Bed Calcin</td>
</tr>
<tr>
<td>RA-26</td>
<td>P-6 Sesqui Fluid Bed Calcin</td>
</tr>
<tr>
<td>RA-29</td>
<td>P-2 Sesqui Fluid Bed Calcin</td>
</tr>
<tr>
<td>RA-28</td>
<td>Sesqui Bagging</td>
</tr>
<tr>
<td>RA-33</td>
<td>Sesqui Silo Storage</td>
</tr>
<tr>
<td>SESQUIPILE</td>
<td>Sesqui Ore Stockpile Activity</td>
</tr>
<tr>
<td>SESQOWE</td>
<td>Sesqui Ore Stockpile Wind Erosion</td>
</tr>
<tr>
<td>SESQUILOAD</td>
<td>Sesqui Plant Radian Loading</td>
</tr>
<tr>
<td>SESQUICT</td>
<td>Sesqui Cooling Tower</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Methane Emission Reduction</td>
</tr>
<tr>
<td>9</td>
<td>Miscellaneous Emissions Increase Using 2013-2014 Baseline Average Emissions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH-1A</td>
<td>#1 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-1B</td>
<td>#2 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-2A</td>
<td>#3 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-3</td>
<td>#4 Gas-Fired Boiler</td>
</tr>
<tr>
<td>MW-5</td>
<td>#5 Gas-Fired Boiler</td>
</tr>
</tbody>
</table>

### Sesqui Production, tons

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>927,692</td>
<td>938,851</td>
<td>934,327</td>
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</table>

### Sesqui Production Increase, %

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2013</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>143%</td>
<td>100%</td>
<td>1.43</td>
</tr>
</tbody>
</table>

### Sesqui Plant Production Increase, Ktons

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>Avg</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>CO</th>
<th>VOC</th>
<th>H2S</th>
<th>H2SO4</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>387,060</td>
<td>377,060</td>
<td>Avg</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

### Miscellaneous Emissions Increase Using 2013-2014 Baseline Average Emissions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAIL</td>
<td>Switch Engine Activity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Miscellaneous Emissions Increase Using 2013-2014 Baseline Average Emissions</td>
</tr>
<tr>
<td>11</td>
<td>Miscellaneous Emissions Increase Using 2013-2014 Baseline Average Emissions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH-1A</td>
<td>#1 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-1B</td>
<td>#2 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-2A</td>
<td>#3 Gas-Fired Boiler</td>
</tr>
<tr>
<td>PH-3</td>
<td>#4 Gas-Fired Boiler</td>
</tr>
<tr>
<td>MW-5</td>
<td>#5 Gas-Fired Boiler</td>
</tr>
</tbody>
</table>

# Additional Information

**Schnauber Consulting, LLC**

**Westvaco Optimization Project Emission Calculations App A-6**
<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
<th>Emission Unit Modified?</th>
<th>Production Increase, %</th>
<th>PM tons/yr</th>
<th>PM10 tons/yr</th>
<th>PM2.5 tons/yr</th>
<th>SO2 tons/yr</th>
<th>NOx tons/yr</th>
<th>CO tons/yr</th>
<th>VOC tons/yr</th>
<th>H2S tons/yr</th>
<th>H2SO4 tons/yr</th>
<th>F tons/yr</th>
<th>Pb tons/yr</th>
<th>CO2e tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS-10</td>
<td>Fly Ash Silo</td>
<td>All</td>
<td>Y</td>
<td>100.0%</td>
<td>0.30</td>
<td>0.30</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NS-11</td>
<td>Fly Ash Truck Loading</td>
<td>All</td>
<td>Y</td>
<td>100.0%</td>
<td>0.30</td>
<td>0.30</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Totals</td>
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<td>0.6</td>
<td>0.6</td>
<td>0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Project Emissions Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM tons/yr</td>
</tr>
<tr>
<td>0.6</td>
</tr>
</tbody>
</table>
TRONOX-WESTVACO

ELDM Demand Growth Emissions

4/9/2015

2013  2014  Avg

ELDM Production, tons  819,247  887,076  843,162

ELDM Steam Usage, Kibs  1,564,043  1,721,784  Avg

Steam per Ton RSA, Kibs/ton  1.809  1.886  1.949

Highest 2014 3 month annualized, Ktons  977.0

Baseline production, Ktons  843.2

Demand Growth, Ktons  133.8

Prod. Increase from Demand Growth, %  15.87%

Add. Steam Req’d, Klbs  260,716

Steam per Ton RSA, % Inc.  1.00

Coal-Fired Steam Production  2013  2014  Avg  Fraction  Kibs  % Inc.

MW1  ELDL Lime Silo  All  N  15.87%  0.1  0.1  0.1

MW2  ELDL Per-lite Precoat Silo  All  N  15.87%  0.0  0.0  0.0

MW3  ELDL Fluid Bed Dryer  All  N  15.87%  4.4  4.4  2.5

MW4  Mine Water Housekeeping  All  N  15.87%  0.4  0.4  0.2

MW6  HS5 Scrubber/CO2 Separating System  All  N  15.87%  0.5  5843

MW7  LWP HS5 Vent  All  N  15.87%  0.1

MCON01  Mine Railcar Loadout  All  N  5.74%  0.2  0.2  0.1

MCON02  Mine Bulk Truck Loadout  All  N  5.74%  0.4  0.4  0.2

MCON12  Mine Loadout Screening  All  N  5.74%  0.4  0.4  0.2

Total 6.0  6.0  3.1  0.0  0.0  0.1  0.5  0.0  0.0  0.0  0.0  5843

Utilities Utilization Emissions Increase Using 2013-2014 Baseline Average Emissions

Unit  Description  Affected by Projects  Production Increase, %  PM tons/yr  PM10 tons/yr  PM2.5 tons/yr  SO2 tons/yr  NOx tons/yr  CO tons/yr  VOC tons/yr  H2S tons/yr  H2SO4 tons/yr  F tons/yr  Pb tons/yr  CO2e tons/yr

PH-1A  #1 Gas-Fired Boiler  All  A  2.55%  0.0  0.0  0.0  0.01  0.4  0.1  0.0

PH-1B  #2 Gas-Fired Boiler  All  A  2.55%  0.0  0.0  0.0  0.01  0.4  0.1  0.0

PH-2  #3 Gas-Fired Boiler  All  A  2.55%  0.0  0.0  0.0  0.002  0.5  0.3  0.0

PH-3  #4 Gas-Fired Boiler  All  A  2.55%  0.1  0.1  0.1  0.004  0.4  0.3  0.0

MW-5  #6 Gas-Fired Boiler  All  A  2.55%  0.1  0.1  0.1  0.004  0.4  0.3  0.0

Total 4.0  4.0  3.3  0.0  0.0  0.0  0.0  0.0  0.0  0.0  7652

Total ELDL Demand Growth Emissions Increase Using 2013-2014 Baseline Average Emissions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
<th>Affected by Projects</th>
<th>Production Increase, %</th>
<th>PM tons/yr</th>
<th>PM10 tons/yr</th>
<th>PM2.5 tons/yr</th>
<th>SO2 tons/yr</th>
<th>NOx tons/yr</th>
<th>CO tons/yr</th>
<th>VOC tons/yr</th>
<th>H2S tons/yr</th>
<th>H2SO4 tons/yr</th>
<th>F tons/yr</th>
<th>Pb tons/yr</th>
<th>CO2e tons/yr</th>
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<tbody>
<tr>
<td>MW1</td>
<td>ELDL Lime Silo</td>
<td>All</td>
<td>15.87%</td>
<td>0.1</td>
<td>0.1</td>
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<tr>
<td>MW2</td>
<td>ELDL Per-lite Precoat Silo</td>
<td>All</td>
<td>15.87%</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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<td></td>
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</tr>
<tr>
<td>MW3</td>
<td>ELDL Fluid Bed Dryer</td>
<td>All</td>
<td>15.87%</td>
<td>4.4</td>
<td>4.4</td>
<td>2.5</td>
<td></td>
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<td>MW4</td>
<td>Mine Water Housekeeping</td>
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<td>15.87%</td>
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<td>0.4</td>
<td>0.2</td>
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<td></td>
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<tr>
<td>MW6</td>
<td>HS5 Scrubber/CO2 Separating System</td>
<td>All</td>
<td>15.87%</td>
<td>0.5</td>
<td>5843</td>
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<tr>
<td>MW7</td>
<td>LWP HS5 Vent</td>
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<td>MCON01</td>
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<td>0.2</td>
<td>0.2</td>
<td>0.1</td>
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<td>MCON02</td>
<td>Mine Bulk Truck Loadout</td>
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<td>5.74%</td>
<td>0.4</td>
<td>0.4</td>
<td>0.2</td>
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<tr>
<td>MCON12</td>
<td>Mine Loadout Screening</td>
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<td>0.4</td>
<td>0.4</td>
<td>0.2</td>
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<td></td>
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Total 6.0  6.0  3.1  0.0  0.0  0.1  0.5  0.0  0.0  0.0  0.0  5843

Schnauber Consulting, LLC

1 of 1

Westvaco Optimization Project Emission Calculations App A-8
TRONOX-WESTVACO

Mono Demand Growth Emissions

4/9/2015

2013  2014  Avg
Mono Production, tons 1,561,199  1,611,668  1,588,434

Highest 2014 3-month annualized, Ktons 1,743.4
Baseline production, Ktons 1,568.4
Demand Growth, Ktons 165.0
Prod. Increase from Demand Growth, % 9.76%

Mono Steam Usage, Kibs  3,751,665  3,791,065  3,771,056
Steam per Ton RSA, Kibs/ton  2,397  2,352  2,374

Add. Steam Req'd, Klbs 367,932

Baseline production, Ktons 1,588.4
Demand Growth, Ktons 155.0
3,751,665 3,791,065 3,771,056
PM  PM10  PM2.5  SO2  NOx  CO  VOC  H2S  H2SO4  F  Pb  CO2e

2013  2014  Avg  Fraction  Klbs  % Inc.

NS-1A #6 Coal Boiler, Klbs  120,586  65,153  92,870  0.01  3,339  3.60%
NS-1B #7 Coal Boiler, Klbs  114,386  62,970  83,144  0.01  3,344  3.69%
MONO10 Mono Bulk Truck Loadout  4,578,199  5,007,911  4,793,055 0.47  172,353  3.60%
MONO12 Mono Loadout Screening  3,917,184  4,686,861  4,702,023 0.46  169,079  3.60%

Total 10,232,018 1.00

Coal-Fired Steam Production 2013  2014  Avg  Fraction  Klbs  % Inc.

PM  PM10  PM2.5  SO2  NOx  CO  VOC  H2S  H2SO4  F  Pb  CO2e

4.6  4.6  2.1  0.0  4.9  1.6  0.3  0.0  0.0  0.0  0.0  2443

Steam utilization emissions were based on all boilers supplying
steam in the same proportion as it was produced during the
baseline period. The coal boiler data in shaded font is used to
determine the remaining steam demand placed on the gas
boilers to meet demand growth production.
## Sesqui Demand Growth Emissions

### 2013, 2014, Avg

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<th>2014</th>
<th>Avg</th>
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<td>Sesqui Production, tons/yr</td>
<td>938,900</td>
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<td>Sesqui Steam Usage, Klbs</td>
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<td>Steam per Ton RSA, Klbs</td>
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### Coal-Fired Steam Production

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<td></td>
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<tr>
<td></td>
<td>Klbs</td>
<td>% Inc.</td>
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<tr>
<td>PH1A #1 Gas-Fired Boiler, Klbs</td>
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<td>96,346</td>
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<td>PH1M #3 Gas-Fired Boiler, Klbs</td>
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<td>MW-5 #8 Gas-Fired Boiler, Klbs</td>
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<td>364,225</td>
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### SESQUIPILE

### SESQUI-CT

### RA-23A&B

### RA-24

### RA-25

### RA-26

### RA-28

### RA-33

### SESQUIPILE

### SESQWE

### SESQUAL

### SESQULA

### SESQUAL

### Mechanical and Electrical

### Miscellaneous Emissions

### Production Increase

### Utilities Utilization Emissions Increase Using 2013-2014 Baseline Emissions

### Total Sesqui Demand Growth Emissions Increase
## 2014 Monthly Production Data

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<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Annualized High 3-mo. Avg</th>
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<td><strong>ELDM Production, Tons</strong></td>
<td>70150</td>
<td>60760</td>
<td>65445</td>
<td>80477</td>
<td>68656</td>
<td>72239</td>
<td>67094</td>
<td>80759</td>
<td>69158</td>
<td>74454</td>
<td>74879</td>
<td>83005</td>
<td>976964</td>
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<td><strong>Mono Production, Tons</strong></td>
<td>137581</td>
<td>129024</td>
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<td>138093</td>
<td>133513</td>
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<td><strong>Sesqui Production, Tons</strong></td>
<td>80493</td>
<td>72993</td>
<td>85434</td>
<td>78085</td>
<td>86838</td>
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<td>80555</td>
<td>81829</td>
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Appendix B

Best Available Control Technology Supporting Information
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<tr>
<th>RBLC ID</th>
<th>Company Name</th>
<th>Facility Name</th>
<th>State</th>
<th>Permit No.</th>
<th>Issue Date</th>
<th>Process Name</th>
<th>Control Type</th>
<th>PM10/PM2.5 gr/dscf</th>
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<td>SC-0149</td>
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<td>SC</td>
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<td>11-021</td>
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<td>Ash Handling</td>
<td>Baghouse</td>
<td>0.005</td>
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<td>KY-0100</td>
<td>E. Kentucky Power Cooperative</td>
<td>Smith Generating Station</td>
<td>KY</td>
<td>V-05-070 R3</td>
<td>20100409</td>
<td>Ash Handling</td>
<td>Baghouse</td>
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<td>OH-0317</td>
<td>Ohio River Clean Fuels, LLC</td>
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<td>Homeland Solutions, LLC</td>
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<td>UNITPB1015</td>
<td>20050705</td>
<td>Recycle Ash Handling</td>
<td>Baghouse</td>
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</table>
Determination of NS-10, NS-11 Emission Limits

The Project PM$_{10}$/PM$_{2.5}$ emissions for each unit were calculated based on PTE as being equivalent to the allowable emission. The BACT analysis in Section 5 indicated a PM emission rate of 0.005 gr/dscf. The original design air flows for the baghouse collection systems were 1600 dscfm per unit; it is assumed that the air flow requirements will remain the same.

For purposes of this application, all of the particulate emissions from NS-10 and NS-11 are assumed to be filterable and $\leq$ PM$_{10}$. An estimate was made as to the fraction of filterable PM$_{2.5}$ to the total filterable PM in the ESP fly ash which will be handled by the units by using AP42 Ch.1, Sec. 1: *Bituminous and Subbituminous Coal Combustion*, Table 1.1-6, which estimates that the fraction of particulate $\leq$ PM$_{2.5}$ is 29% of the total PM:

<table>
<thead>
<tr>
<th>Particle Size (µm)</th>
<th>Cumulative Mass % ≤ Stated Size</th>
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<tbody>
<tr>
<td></td>
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<td>15</td>
<td>32</td>
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<tr>
<td>10</td>
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<td>6</td>
<td>17</td>
</tr>
<tr>
<td>2.5</td>
<td>6</td>
</tr>
<tr>
<td>1.25</td>
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<tr>
<td>1.00</td>
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<tr>
<td>0.625</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
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</table>

AP42 Appendix B.2, *Generalized Particle Size Distributions*, Table B.2-3, ‘Typical Collection Efficiencies of Various Particulate Control Devices’ was then used to estimate the PM$_{2.5}$ collection efficiency of a ‘fabric filter’:

<table>
<thead>
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<th>AIRS Code</th>
<th>Type Of Collector</th>
<th>Particle Size (µm)</th>
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</thead>
<tbody>
<tr>
<td>016</td>
<td>Fabric filter - high temperature</td>
<td>99</td>
</tr>
<tr>
<td>017</td>
<td>Fabric filter - mid temperature</td>
<td>99</td>
</tr>
<tr>
<td>018</td>
<td>Fabric filter - low temperature</td>
<td>99</td>
</tr>
</tbody>
</table>
If one assumes that 29% of the PM entering the baghouse is PM$_{2.5}$ and the relative removal efficiencies of 99.5% for particulate >PM$_{2.5}$ and 99% removal of ≤ PM$_{2.5}$, the following estimate can be made. Using a theoretical uncontrolled process emission of 100 lb into the baghouse:

$\text{>PM}_{2.5} = 71 \text{ lbs}$
$\text{PM}_{2.5} = 29 \text{ lbs}$

Using the removal efficiencies from Table B.2-3:

$\text{>PM}_{2.5}$, lbs emitted = $71 \times (1-0.995)$
= 0.36 lb

$\text{PM}_{2.5}$, lbs emitted = $29 \times (1-0.990)$
= 0.29 lb

Total PM emission of 0.65 lb

One can then estimate the filterable PM$_{2.5}$ fraction to total PM emitted:

$0.29 \text{ lb} + 0.65 \text{ lb} = 0.45$, or 45% of filterable PM is PM$_{2.5}$

The proposed allowable filterable PM emission rates for NS-10 and NS-11 are calculated as follows:

$\text{PM, lb/hr} = 0.005 \text{ gr/dscf} \times 1600 \text{ dscfm} + 7000 \text{ gr/lb} \times 60 \text{ min/hr}$
$\text{PM, lb/hr} = 0.069 \text{ lb/hr}$

$\text{PM}_{2.5}, \text{ lb/hr} = 0.069 \text{ lb/hr} \times 0.45$
$\text{PM}_{2.5}, \text{ lb/hr} = 0.031 \text{ lb/hr}$

Finally, the NS-10 and NS-11 project emissions are calculated:

$\text{PM, tons} = 0.069 \text{ lb/hr} \times 8760 \text{ hr/yr} + 2000 \text{ lb/ton}$
$\text{PM, tons} = 0.30$

$\text{PM}_{2.5, \text{ tons}} = 0.031 \text{ lb/hr} \times 8760 \text{ hr/yr} + 2000 \text{ lb/ton}$
$\text{PM}_{2.5, \text{ tons}} = 0.14$
If I am claiming any information in this submission is a trade secret, I hereby swear or affirm that the trade secret request meets the requirements of Wyoming Air Quality Standards and Regulations and that the justification submitted with the trade secret request sets forth the basis for claiming that the information should be considered a trade secret as defined in Wyoming Air Quality Standards and Regulations.

a) I am a Responsible Official as defined in applicable Wyoming Air Quality Standards and Regulations; and
b) Based on information and belief formed after reasonable inquiry, I hereby affirm that all factual statements in this transmittal are true, accurate and complete to the best of my knowledge and that all judgments and estimates have been made in good faith.

Account: Fredva57
Date/time submitted: Jun 19 2015, 08:50:41
**NSR Application**

Correction to application number: A0000713
Reason for correction: Submittal of Addendum 1

**Purpose of Application**

Please summarize the reason this permit is being applied for.

TRONOX proposes to modify equipment in three (3) of its Westvaco facility processing plants: ELDM, Mono, and Sesqui. The modifications will increase utilization of existing non-modified equipment in each of the plants for an anticipated production increase of 109K tons per year of refined soda ash. TRONOX also proposes to recommission two small fly ash handling emission units and to modify the Caustic operation for a slight increase in caustic soda production.

Has the facility changed location or is it a new/greenfield facility? No
Does production at this facility contain H2S? Yes
Has the Division been contacted regarding this application? Yes

**Federal Rules Applicability - Facility Level**

**Prevention of Significant Deterioration (PSD)**
These rules are found under WAQSR Chapter 6, Section 4.
Not affected

**Non-Attainment New Source Review**
These rules are found under WAQSR Chapter 6, Section 13.
Not affected

**Trade Secret Information** - One or more Emissions Units in this application contains trade secret information.
No

**Permit Application Contact** - Newly created contacts and application contact changes will be saved when the application is saved.

<table>
<thead>
<tr>
<th>Michael Wendorf</th>
<th>Partner, Schnauber Consulting</th>
</tr>
</thead>
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<td>Title</td>
</tr>
<tr>
<td>508 Independence Circle</td>
<td>Rock Springs, WY</td>
</tr>
<tr>
<td>Street Address</td>
<td>City/Township, State</td>
</tr>
<tr>
<td>(307)382-5555</td>
<td><a href="mailto:wendorf@wyoming.com">wendorf@wyoming.com</a></td>
</tr>
<tr>
<td>Phone</td>
<td>Fax</td>
</tr>
<tr>
<td></td>
<td>E-mail</td>
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**Modeling Section**

**Ambient Air Quality Impact Analysis:** WAQSR Chapter 6, Section 2(c)(ii) requires that permit applicants demonstrate that a proposed facility will not prevent the attainment or maintenance of any ambient air quality standard.

Has the applicant contacted AQD to determine if modeling is required? Yes
Is a modeling analysis part of this application? Yes

**Application Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
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Westvaco Facility - F000349  Page 1  NSR Application - A0001209
<table>
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<td>Westvaco Project Emission Calculations</td>
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<td>Cover Letter/Project Description</td>
<td>TRONOX Westvaco Project Description</td>
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<td></td>
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<td>Hard Copy Application</td>
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<td>Other Type of Demonstration</td>
<td>Addendum 1</td>
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Section II - Specific Air Contaminant Source Information

AQD EU ID: BOL002
AQD EU description: Sesqui #1 Gas-Fired Boiler
PH-1A Sesqui Gas Fired Boiler

Company EU ID: PH-1A
Company EU Description: Sesqui No.1 Gas Fired Boiler

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased steam utilization.

- **Emission Unit Type Specific Information**

  Emission Unit Type: Boiler
  Boiler Type: Other
  Btu Content: 1,049.00 Units: Btu/scf
  Fuel Sulfur Content: 0.00 Units: %
  Fuel Ash Content (%): 0.000
  Type of Service: Industrial

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<td>Particulate emissions (PE/PM)</td>
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<td>Efficiency Standards</td>
<td>Potential to Emit (PTE)*</td>
<td>Units*</td>
<td>Potential to Emit (PTE) (tons/yr)*</td>
<td>Basis for Determination*</td>
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<td>Carbon monoxide (CO)</td>
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<td>Volatile organic compounds (VOC)</td>
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<td>Lead (Pb)</td>
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<td>Total Reduced Sulfur (TRS)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td></td>
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</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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</thead>
</table>

Greenhouse Gases (GHGs):

<table>
<thead>
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<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit?  No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit?  No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl...
chloride).

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

<table>
<thead>
<tr>
<th>Part 63 NESHAP Subpart</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDDDD - Industrial, Commercial, and Institutional Boilers and Process Heaters</td>
</tr>
</tbody>
</table>

**Prevention of Significant Deterioration (PSD)**

Not Affected

*These rules are found under WAQSR Chapter 6, Section 4.*

**Non-Attainment New Source Review**

Not Affected

*These rules are found under WAQSR Chapter 6, Section 13.*

**Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: BOL003
AQD EU description: PH-1B Sesqui Gas Fired Boiler
Company EU ID: PH-1B
Company EU Description: PH-1B No.2 Sesqui Gas Fired Boiler

- Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased steam utilization.

- Emission Unit Type Specific Information

  Emission Unit Type: Boiler
  Boiler Type: Other
  Btu Content: 1,049.00 Units: Btu/scf
  Fuel Sulfur Content: 0.00 Units: %
  Fuel Ash Content (%): 0.000

- Potential Operating Schedule – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- Emissions Information “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  Criteria Pollutants:

| Pollutant                                      | Pre-Controlled Potential Emissions (tons/yr) | Efficiency Standards | Potential to Emit (PTE)* | Potential to Emit (PTE) (lbs/hr)* | Potential to Emit (PTE) (tons/yr)* | Basis for Determination*
|------------------------------------------------|---------------------------------------------|-----------------------|---------------------------|-----------------------------------|-----------------------------------|-------------------------------
| Particulate emissions (PE/PM) (formerly particulate matter, PM) | 0                                           | 0                     | 0                         | 0                                 | 0                                 |                               
| PM # 10 microns in diameter (PE/PM10)          | 0                                           | 0                     | 0                         | 0                                 | 0                                 |                               

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tr>
<td>Nitrogen oxides (NOx)</td>
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<td>0</td>
<td></td>
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<tr>
<td>Carbon monoxide (CO)</td>
<td>0</td>
<td></td>
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<tr>
<td>Volatile organic compounds (VOC)</td>
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<tr>
<td>Lead (Pb)</td>
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<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
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<td>Fluoride (F)</td>
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<td>Hydrogen Sulfide (H2S)</td>
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</tr>
<tr>
<td>Mercury (Hg)</td>
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<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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</tr>
</tbody>
</table>

**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

**Greenhouse Gases (GHGs):**

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**
  
  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**
  
  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

<table>
<thead>
<tr>
<th>Part 63 NESHAP Subpart</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDDDD - Industrial, Commercial, and Institutional Boilers and Process Heaters</td>
</tr>
</tbody>
</table>

Prevention of Significant Deterioration (PSD)  
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review  
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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</table>

Westvaco Facility - F000349  
Page 8  
NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

AQD EU ID: BOL004
AQD EU description: PH-2 Sesqui Gas Fired Boiler

Company EU ID: PH-2
Company EU Description: PH-2 No. 3 Sesqui Gas Fired Boiler

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  **Please explain:**

  Increased steam utilization.

- **Emission Unit Type Specific Information**

  Emission Unit Type: Boiler

  Boiler Type: Other

  Btu Content: 1,049.00
  Units: Btu/scf

  Fuel Sulfur Content: 0.00
  Units: %

  Fuel Ash Content (%): 0.000
  Type of Service: Industrial

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination</th>
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<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>Pollutant</td>
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<td>Potential to Emit (PTE) (tons/yr)*</td>
<td>Basis for Determination*</td>
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<td>Mercury (Hg)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td></td>
</tr>
</tbody>
</table>

**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

**Greenhouse Gases (GHGs):**

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.
Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.
  
  Not affected

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
  
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</tbody>
</table>

Prevention of Significant Deterioration (PSD)  
Not Affected  
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review  
Not Affected  
These rules are found under WAQSR Chapter 6, Section 13.

Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Section II - Specific Air Contaminant Source Information

AQD EU ID: BOL005
AQD EU description: PH-3 Sesqui Gas Fired Boiler
Company EU ID: PH-3
Company EU Description: PH-3 No. 4 Sesqui Gas Fired Boiler

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  **Other**

  **Please explain:**

  Increased steam utilization.

- **Emission Unit Type Specific Information**

  Emission Unit Type: Boiler
  
  Boiler Type: Other
  
  Btu Content: 1,049.00 Units: Btu/scf
  
  Fuel Sulfur Content: 0.00 Units: %
  
  Fuel Ash Content (%): 0.000 Type of Service: Industrial

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:

  - **Manufacturer Data**
  - **Test results for this source**
  - **Similar source test results**
  - **GRI/Calc**
  - **Tanks Program**
  - **AP-42**
  - **Other. If this is selected, attach a document with a description of the method used.**

  **Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Efficiency Standards Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
<td>0</td>
<td>0</td>
<td></td>
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<td>Pollutant</td>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Efficiency Standards</td>
<td>Potential to Emit (PTE)</td>
<td>Potential to Emit (PTE)</td>
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<td>Basis for Determination</td>
</tr>
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<td>Sulfur dioxide (SO2)</td>
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<tr>
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<tr>
<td>Carbon monoxide (CO)</td>
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<td>Lead (Pb)</td>
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<td>Hydrogen Sulfide (H2S)</td>
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<td>Mercury (Hg)</td>
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<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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</tr>
</tbody>
</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)</th>
<th>Potential to Emit (PTE)</th>
<th>Potential to Emit (PTE)</th>
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Greenhouse Gases (GHGs):

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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  Not affected

  *New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.*

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  Not affected

  *National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

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<tbody>
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Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Westvaco Facility - F000349
Page 14
NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

- Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other
  
  Please explain:
  
  Increased steam utilization.

- Emission Unit Type Specific Information

  Emission Unit Type: Boiler
  
  Boiler Type: Other
  
  Btu Content: 1,049.00
  
  Fuel Sulfur Content: 0.00
  
  Fuel Ash Content (%): 0.000

- Potential Operating Schedule – Provide the operating schedule for this emissions unit

  Hours/day: 24
  
  Hours/year: 8760

- Emissions Information “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:

  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRI Calc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

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<tr>
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<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination</th>
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<tbody>
<tr>
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<td>0</td>
<td>0</td>
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<tr>
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<td>Pre-Controlled Potential Emissions (tons/yr)</td>
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</tr>
<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<tr>
<td>Sulfur dioxide (SO2)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
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<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
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<td>0</td>
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<tr>
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<tr>
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<td>0</td>
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<tr>
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<tr>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

Hazardous Air Pollutants (HAPS) and Toxic Air Contaminants:

Greenhouse Gases (GHGs):

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.
Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**
  - Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**
  - Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  Not affected

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  Not affected

  National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl...
chloride).

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

<table>
<thead>
<tr>
<th>Part 63 NESHAP Subpart</th>
<th>Subject to subpart</th>
</tr>
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<tbody>
<tr>
<td>DDDDDD – Industrial, Commercial, and Institutional Boilers and Process Heaters</td>
<td></td>
</tr>
</tbody>
</table>

**Prevention of Significant Deterioration (PSD)**

These rules are found under WAQSR Chapter 6, Section 4. Not Affected

**Non-Attainment New Source Review**

These rules are found under WAQSR Chapter 6, Section 13. Not Affected

- **Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: CKD001
AQD EU description: RA-1 Baby Sesqui Calciner
Company EU ID: RA-1
Company EU Description: RA-1 Baby Sesqui Calciner

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  **Please explain:**

  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace

  Btu Content: 1,049.00

  Fuel Sulfur Content: 0.00

  Type of Material Processed: Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24

  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**

  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
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<tbody>
<tr>
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<tr>
<td>PM # 2.5 microns in diameter (PE/PM10)</td>
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<td>Nitrogen oxides (NOx)</td>
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**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

<table>
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<tr>
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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

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Westvaco Facility - F000349  Page 20  NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  **Please explain:**
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  - Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  - Btu Content: 1,049.00
    
  - Fuel Sulfur Content: 0.00
  - Type of Material Processed: Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  - Hours/day: 24
  - Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:
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<tr>
<td>PM # 2.5 microns in</td>
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<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (tons/yr)</th>
<th>Basis for Determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoride (F)</td>
<td>0</td>
<td></td>
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<tr>
<td>Hydrogen Sulfide (H2S)</td>
<td>0</td>
<td></td>
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</tr>
<tr>
<td>Mercury (Hg)</td>
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<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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### Greenhouse Gases (GHGs):

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<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (tons/yr)</th>
<th>Basis for Determination</th>
</tr>
</thead>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

** Best Available Control Technology (BACT)**

- Was a BACT Analysis completed for this unit? No

** Lowest Achievable Emission Rate (LAER)**

- Was a LAER Analysis completed for this unit? No

** Federal and State Rule Applicability**

- **New Source Performance Standards (NSPS)**
  
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  Not affected

- **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- Emission Unit Attachments

<table>
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<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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</table>

Westvaco Facility - F000349
Page 23
NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

AQD EU ID: CKD004
AQD EU description: RA-24 Sesqui Gas-Fired Calciner R-15
Company EU ID: RA-24
Company EU Description: RA-24 Sesqui Gas-Fired Calciner R-15

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other

  **Please explain:**
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  
  Btu Content: 1,049.00 Units: Btu/scf
  
  Fuel Sulfur Content: 0.00 Units: %
  
  Type of Material Processed: Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
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<th>Basis for Determination*</th>
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<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>0</td>
<td>0</td>
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<td></td>
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<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>0</td>
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<td></td>
</tr>
</tbody>
</table>
### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<tr>
<td>Sulfur dioxide (SO2)</td>
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<tr>
<td>Nitrogen oxides (NOx)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide (CO)</td>
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<tr>
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<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fluoride (F)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide (H2S)</td>
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</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td></td>
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### Greenhouse Gases (GHGs):

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</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  New Source Performance Standards (NSPS) **Not affected**

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) **Not affected**

  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63. Not affected

Prevention of Significant Deterioration (PSD) These rules are found under WAQSR Chapter 6, Section 4. Not Affected

Non-Attainment New Source Review These rules are found under WAQSR Chapter 6, Section 13. Not Affected

- Emission Unit Attachments

<table>
<thead>
<tr>
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<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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</table>

Westvaco Facility - F000349  Page 26  NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other
  
  **Please explain:**
  
  Increased process utilization

- **Emission Unit Type Specific Information**
  
  **Emission Unit Type:** Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  
  **Btu Content:** 0.01
  
  **Units:** Btu/scf
  
  **Fuel Sulfur Content:** 0.00
  
  **Units:** %
  
  **Type of Material Processed:** Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit
  
  **Hours/day:** 24
  
  **Hours/year:** 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  
  - **Manufacturer Data**
  - **Test results for this source**
  - **Similar source test results**
  - **GRICalc**
  - **Tanks Program**
  - **AP-42**
  - **Other. If this is selected, attach a document with a description of the method used.**

  **Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
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<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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</tr>
<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>Potential to Emit (PTE) Basis for Determination</td>
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<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<tr>
<td>Lead (Pb)</td>
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<td></td>
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<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
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<tr>
<td>Fluoride (F)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td></td>
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</tbody>
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**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

Greenhouse Gases (GHGs):

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**
  
  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**
  
  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  
  Not affected

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  
  Not affected

  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
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Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
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<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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</table>

Westvaco Facility - F000349  Page 29  NSR Application - A0001209
**Section II - Specific Air Contaminant Source Information**

**AQD EU ID:** CKD006  
**AQD EU description:** Sesqui Fluid Bed Calciner R-6  
**Company EU ID:** RA-26  
**Company EU Description:** R-6 Sesqui fluid bed calciner (RA-26)

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other  
  Please explain:
  Increased process utilization

- **Emission Unit Type Specific Information**

  **Emission Unit Type:** Calciner/Kiln/Dryer/Smelter/Foundry Furnace  
  **Btu Content:** 0.01  
  **Units:** Btu/scf  
  **Fuel Sulfur Content:** 0.00  
  **Units:** %  
  **Type of Material Processed:** Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  - Hours/day: 24  
  - Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  - Manufacturer Data  
  - Test results for this source  
  - Similar source test results  
  - GRICalc  
  - Tanks Program  
  - AP-42  
  - Other. If this is selected, attach a document with a description of the method used.

**Criteria Pollutants**:

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<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
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<th>Basis for Determination*</th>
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<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>PM # 10 microns in diameter (PE/PM10)</td>
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### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

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<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Standards Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
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<th>Basis for Determination*</th>
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<tbody>
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<td>Sulfur dioxide (SO2)</td>
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<td>Lead (Pb)</td>
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<td>Mercury (Hg)</td>
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<td>Total Reduced Sulfur (TRS)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td></td>
</tr>
</tbody>
</table>

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

### Greenhouse Gases (GHGs):

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Standards Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

** Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? **No**

** Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? **No**

** Federal and State Rule Applicability

**New Source Performance Standards (NSPS)**

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources. Not affected

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride.) Not affected
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Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
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<th>Description</th>
</tr>
</thead>
</table>

Not affected
Not Affected
Not Affected
Section II - Specific Air Contaminant Source Information

AQD EU ID: CKD007
AQD EU description: Sesqui Fluid Bed Calciner R-2
RA-29 R-2 Sesqui Fluid Bed Calciner (RA-29)

Company EU ID: RA-29
Company EU Description: RA-29 R-2 Sesqui Fluid Bed Calciner

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  Btu Content: 0.01
  Units: Btu/scf
  Fuel Sulfur Content: 0.00
  Units: %
  Type of Material Processed: Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRI/Calc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tr>
<td>Particulate emissions (PE/PM)</td>
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<td>0</td>
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<tr>
<td>(formerly particulate matter, PM)</td>
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<td>Pollutant</td>
<td>Potential to Emit (PTE) (tons/yr)</td>
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<td>0</td>
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<tr>
<td>Nitrogen oxides (NOx)</td>
<td>0</td>
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<td>Carbon monoxide (CO)</td>
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<td>Lead (Pb)</td>
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<tr>
<td>Fluoride (F)</td>
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<tr>
<td>Hydrogen Sulfide (H2S)</td>
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<tr>
<td>Mercury (Hg)</td>
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<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
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</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
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<tr>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
</table>

Greenhouse Gases (GHGs):

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<th>Pre-Controlled Potential Emissions (tons/yr)</th>
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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**
  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**
  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  Not affected

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  Not affected

  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
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Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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</thead>
</table>

Section II - Specific Air Contaminant Source Information

**AQD EU ID:** CKD009  
**AQD EU description:** Mono 1 Fluid Bed Dryer  
**Company EU ID:** Mono-6  
**Company EU Description:** Mono 1 fluid bed dryer

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other
  
  Please explain:
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace  
  Btu Content: 0.01  
  Units: Btu/scf  
  Fuel Sulfur Content: 0.00  
  Units: %  
  Type of Material Processed: Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24  
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

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<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
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<td>0</td>
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</tr>
<tr>
<td>PM # 2.5 microns in</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Pollutant</td>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Efficiency Standards Potential to Emit (PTE)*</td>
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<td>Basis for Determination*</td>
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<td>Nitrogen oxides (NOx)</td>
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<tr>
<td>Carbon monoxide (CO)</td>
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<td>Lead (Pb)</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
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<td>Mercury (Hg)</td>
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Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

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<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
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<th>Basis for Determination*</th>
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Greenhouse Gases (GHGs):

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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- Best Available Control Technology (BACT)
  
  Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)
  
  Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS) Not affected

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. These include asbestos, benzene, beryllium, mercury, and vinyl chloride.
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
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Not affected

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- Emission Unit Attachments

<table>
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<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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Section II - Specific Air Contaminant Source Information

AQD EU ID: CKD011
AQD EU description: NS-6 Mono 2 Fluid Bed Dryer
Company EU ID: NS-6
Company EU Description: NS-6 Mono 2 Fluid Bed Dryer

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  **Please explain:**

  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  Btu Content: 0.01 Units: Btu/scf
  Fuel Sulfur Content: 0.00 Units: %
  Type of Material Processed: Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

**Basis for Determination Options:**

- Manufacturer Data
- Test results for this source
- Similar source test results
- GRICalc
- Tanks Program
- AP-42
- Other. If this is selected, attach a document with a description of the method used.

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<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Units*</th>
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<th>Potential to Emit (PTE) (tons/yr)*</th>
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<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>0</td>
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<td>0</td>
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<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Efficiency Standards Potential to Emit (PTE)*</td>
<td>Units*</td>
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<tr>
<td>Greenhouse Gases (GHGs):</td>
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Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit?  No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit?  No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  Not affected

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

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Non-Attainment New Source Review
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Emission Unit Attachments

<table>
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<th>Public Document Id</th>
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<th>Description</th>
</tr>
</thead>
</table>

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NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  Btu Content: 0.01 Units: Btu/scf
  Fuel Sulfur Content: 0.00 Units: %
  Type of Material Processed: Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
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<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td></td>
<td>0</td>
<td>0</td>
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<td></td>
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<tr>
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<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<td>Pollutant Category</td>
<td>Potential to Emit (PTE)*</td>
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<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Potential to Emit (PTE) (lbs/hr)*</td>
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<tr>
<td>Sulfur dioxide (SO2)</td>
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<tr>
<td>Nitrogen oxides (NOx)</td>
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<td></td>
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<tr>
<td>Carbon monoxide (CO)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluoride (F)</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide (H2S)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury (Hg)</td>
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<td>0</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td></td>
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</tbody>
</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Efficieny Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pollutant Category</td>
<td>Potential to Emit (PTE)*</td>
</tr>
<tr>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Potential to Emit (PTE) (lbs/hr)*</td>
</tr>
</tbody>
</table>
| Greenhouse Gases (GHGs):

** Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

* Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

<table>
<thead>
<tr>
<th>Pollutant</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Pollutant Category</td>
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  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

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<tr>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Potential to Emit (PTE) (lbs/hr)*</td>
</tr>
</tbody>
</table>

  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

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Section II - Specific Air Contaminant Source Information

AQD EU ID: CKD013
AQD EU description: SM-1 Gas Fired Lime Kiln
Company EU ID: SM-1
Company EU Description: SM-1 Gas Fired Lime Kiln

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  
  Btu Content: 1,049.00 Units: Btu/scf
  
  Fuel Sulfur Content: 0.00 Units: %

  Type of Material Processed: Calcium Carbonate

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)* Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>(formerly particulate matter, PM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Standards Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur dioxide (SO2)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide (CO)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fluoride (F)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide (H2S)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

### Greenhouse Gases (GHGs):

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Standards Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
</table>

### Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

### Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

### Federal and State Rule Applicability

** New Source Performance Standards (NSPS) Not affected

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

** National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

<table>
<thead>
<tr>
<th>Part 63 NESHAP Subpart</th>
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<tbody>
<tr>
<td>AAAAA – Lime Manufacturing Plants</td>
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</tbody>
</table>

**Prevention of Significant Deterioration (PSD)**
These rules are found under WAQSR Chapter 6, Section 4. Not Affected

**Non-Attainment New Source Review**
These rules are found under WAQSR Chapter 6, Section 13. Not Affected

**Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Westvaco Facility - F000349  
Page 47  
NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other
  
  Please explain:
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  
  Btu Content: 1,049.00
  Units: Btu/scf
  
  Fuel Sulfur Content: 0.00
  Units: %
  
  Type of Material Processed: Other

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Potential to Emit (PTE) (tons/yr)</th>
<th>Efficiency Standards Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
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<tbody>
<tr>
<td>diameter (PE/PM2.5)</td>
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<tr>
<td>Sulfur dioxide (SO2)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
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<td>0</td>
<td></td>
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<td>Lead (Pb)</td>
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<td></td>
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<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Fluoride (F)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide (H2S)</td>
<td>0</td>
<td></td>
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<td></td>
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<td>0</td>
<td></td>
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</tr>
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<td>0</td>
<td></td>
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<td>0</td>
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<td>0</td>
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Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.
  Not affected

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
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Non-Attainment New Source Review
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- **Emission Unit Attachments**

<table>
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<tr>
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<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Section II - Specific Air Contaminant Source Information

AQD EU ID: CSH001
AQD EU description: PA-4 Sesqui Plant Hammermill Crusher Vent
Company EU ID: PA-4
Company EU Description: PA-4 Sesqui Plant Hammermill Crusher Vent

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other
  
  Please explain:
  
  Increased process utilization

- **Emission Unit Type Specific Information**
  
  Emission Unit Type: Crushing/Screening/Handling
  Unit Type: Material Handling
  Number of Conveyor transfer and drop points: 4
  Type of Material being Transferred: Trona ore

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit
  
  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
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  - Tanks Program
  - AP-42
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<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Efficiency Standards Units*</th>
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<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
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<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
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</tr>
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</table>
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<th>Pollutant</th>
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<tbody>
<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
<td></td>
<td></td>
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<tr>
<td>Sulfur dioxide (SO2)</td>
<td></td>
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<tr>
<td>Nitrogen oxides (NOx)</td>
<td></td>
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</tr>
<tr>
<td>Carbon monoxide (CO)</td>
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<td>Lead (Pb)</td>
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<td></td>
<td></td>
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<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Fluoride (F)</td>
<td></td>
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<td>Hydrogen Sulfide (H2S)</td>
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<tr>
<td>Mercury (Hg)</td>
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<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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### Greenhouse Gases (GHGs):

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride.)

  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Westvaco Facility - F000349  Page 53  NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

**AQD EU ID:** CSH002  
**AQD EU description:** PA-5 Sesqui Plant Ore Screening Vent  
**Company EU ID:** PA-5  
**Company EU Description:** PA-5 Sesqui Plant Ore Screening Vent

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other  
  
  **Please explain:**  
  Increased process utilization

- **Emission Unit Type Specific Information**

  - **Emission Unit Type:** Crushing/Screening/Handling  
  - **Unit Type:** Screening  
  - **Screen:** Dry Screen  
  - **Screen Type:** Vibrating  
  - **Type of Material Screened:** Trona ore  
  - **Manufacture Date:**  
  - **Power Source:** Line Power  
  - **Operating in Conjunction with a Crusher:** Yes  
  - **Max Screening Capacity (tons/hr):** 360

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit
  
  Hours/day: 24  
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  - Manufacturer Data  
  - Test results for this source  
  - Similar source test results  
  - GRICalc  
  - Tanks Program  
  - AP-42  
  - Other. If this is selected, attach a document with a description of the method used.

**Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
</table>

Westvaco Facility - F000349 Page 54 NSR Application - A0001209
### Potential to Emit (PTE)\(^*\)

<table>
<thead>
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<th>Pollutant</th>
<th>Potential to Emit (PTE) (^*)</th>
<th>Units (^*)</th>
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</thead>
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<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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</tr>
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<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sulfur dioxide (SO2)</td>
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<td>Nitrogen oxides (NOx)</td>
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<td>0</td>
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<tr>
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</tr>
<tr>
<td>Lead (Pb)</td>
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<td>0</td>
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<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
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<td>0</td>
</tr>
<tr>
<td>Fluoride (F)</td>
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</tr>
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<td>Mercury (Hg)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<td>0</td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td>0</td>
</tr>
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</table>

### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
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<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (^<em>) Units (^</em>)</th>
<th>Potential to Emit (PTE) (^*) (tons/yr)</th>
<th>Basis for Determination (^*)</th>
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### Greenhouse Gases (GHGs):

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<th>Pollutant Category</th>
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<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (^<em>) Units (^</em>)</th>
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<th>Basis for Determination (^*)</th>
</tr>
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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**
  
  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**
  
  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  
  New Source Performance Standards are listed under 40 Not affected
**CFR 60 - Standards of Performance for New Stationary Sources.**

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**  
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

**Not affected**

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**  
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

**Not affected**

**Prevention of Significant Deterioration (PSD)**  
These rules are found under WAQSR Chapter 6, Section 4.

**Not Affected**

**Non-Attainment New Source Review**  
These rules are found under WAQSR Chapter 6, Section 13.

**Not Affected**

---

**Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

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Westvaco Facility - F000349  
Page 56  
NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

AQD EU ID: CSH003
AQD EU description: RA-33 Sesqui Silo Storage Vent
Company EU ID: RA-33
Company EU Description: RA-33 Sesqui Silo Storage Vent

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Crushing/Screening/Handling
  
  Unit Type: Material Handling

  Number of Conveyor transfer and drop points: 8

  Type of Material being Transferred: Soda ash

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - **Manufacturer Data**
  - **Test results for this source**
  - **Similar source test results**
  - **GRICalc**
  - **Tanks Program**
  - **AP-42**
  - **Other. If this is selected, attach a document with a description of the method used.**

**Criteria Pollutants :**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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### Hazardous Air Pollutants (HAPS) and Toxic Air Contaminants:

<table>
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<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
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<th>Potential to Emit (PTE)*</th>
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<th>Basis for Determination*</th>
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<td>Carbon monoxide (CO)</td>
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### Greenhouse Gases (GHGs):

### Federal and State Rule Applicability

**New Source Performance Standards (NSPS)**

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources. Not affected

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. Not affected

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

Not affected

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.
Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? No

- **State Rule Applicability**

  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

**Prevention of Significant Deterioration (PSD)**
Not Affected
These rules are found under WAQSR Chapter 6, Section 4.

**Non-Attainment New Source Review**
Not Affected
These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
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<th>Description</th>
</tr>
</thead>
</table>

Westvaco Facility - F000349   Page 59   NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

- **AQD EU ID:** CSH007
- **AQD EU description:** R-5 Sesqui Fluid Bed Calciner (RA-25)
- **Company EU ID:** Mono-12
- **Company EU Description:** MONO-12 Mono Loadout Screening

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other
  
  Please explain:
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  **Emission Unit Type:** Crushing/Screening/Handling
  **Unit Type:** Screening
  **Screen:** Dry Screen
  **Screen Type:** Oscillating
  **Type of Material Screened:** Soda Ash
  **Manufacture Date:**
  **Power Source:** Line Power
  **Operating in Conjunction with a Crusher:** No

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  - **Manufacturer Data**
  - **Test results for this source**
  - **Similar source test results**
  - **GRICalc**
  - **Tanks Program**
  - **AP-42**
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<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
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</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Greenhouse Gases (GHGs):

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  New Source Performance Standards (NSPS) Not affected

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

Emission Unit Attachments

<table>
<thead>
<tr>
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<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: CSH010
AQD EU description: RD-3 Lime Slaker Vent
Company EU ID: RD-3
Company EU Description: RD-3 Lime Slaker Vent

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other
  
  **Please explain:**
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  **Emission Unit Type**: Crushing/Screening/Handling
  
  **Unit Type**: Material Handling
  
  Number of Conveyor transfer and drop points: 1
  
  Type of Material being transferred: Slaked lime

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**: 

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>0</td>
<td>0</td>
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<td></td>
</tr>
</tbody>
</table>
### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Standards Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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</thead>
<tbody>
<tr>
<td>Sulfur dioxide (SO2)</td>
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<td>0</td>
<td>0</td>
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<td>Nitrogen oxides (NOx)</td>
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</tr>
<tr>
<td>Carbon monoxide (CO)</td>
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<tr>
<td>Volatile organic compounds (VOC)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>Lead (Pb)</td>
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<tr>
<td>Fluoride (F)</td>
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<tr>
<td>Hydrogen Sulfide (H2S)</td>
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<tr>
<td>Mercury (Hg)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
<td></td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
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### Greenhouse Gases (GHGs):

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Standards Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**
  
  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**
  
  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  Not affected

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

  Not affected

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**
  
  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

**Prevention of Significant Deterioration (PSD)**
*These rules are found under WAQSR Chapter 6, Section 4.*

**Non-Attainment New Source Review**
*These rules are found under WAQSR Chapter 6, Section 13.*

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Not Affected
Section II - Specific Air Contaminant Source Information

AQN EU ID: CSH011
AQN EU description: Mine Water Housekeeping
Company EU ID: MW-4
Company EU Description: MW-4 - Mine Water Housekeeping

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Crushing/Screening/Handling
  Unit Type: Material Handling
  Number of Conveyor transfer and drop points: 6
  Type of Material being Transferred: Soda ash

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgate thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

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<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>0</td>
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<td>0</td>
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<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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</tr>
<tr>
<td>Pollutant</td>
<td>Pollutant Category</td>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Efficiency Standards Potential to Emit (PTE)*</td>
<td>Potential to Emit (PTE) (lbs/hr)*</td>
<td>Potential to Emit (PTE) (tons/yr)*</td>
<td>Basis for Determination*</td>
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</tr>
<tr>
<td>Sulfur dioxide (SO2)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td></td>
<td>0</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide (CO)</td>
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<td>0</td>
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<td>Lead (Pb)</td>
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<td></td>
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<td></td>
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<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
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<td></td>
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<tr>
<td>Hydrogen Sulfide (H2S)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mercury (Hg)</td>
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<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

**Greenhouse Gases (GHGs):**

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.
Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**
  - Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**
  - Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

**New Source Performance Standards (NSPS)**

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

**NSPS Subpart**

OOO - Nonmetallic Mineral Processing Plants

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl
Chloride.

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

**Prevention of Significant Deterioration (PSD)**

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

**Non-Attainment New Source Review**

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: CSH014
AQD EU description:
Company EU ID: NS-10
Company EU Description: Mono Power Flyash Silo

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Reconstruction

  **Please explain:**
  Originally constructed and commissioned in 1987 under Permit Nos. CT-603/OP-180; not used or maintained for a number of years.

- **Emission Unit Type Specific Information**

  Emission Unit Type: Crushing/Screening/Handling
  Unit Type: Material Handling

  Number of Conveyor transfer and drop points: 1
  Type of Material being transferred: Fly ash

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<td>Pollutant</td>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Efficiency Standards</td>
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<td></td>
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<tr>
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<tr>
<td><strong>Sulfur dioxide (SO2)</strong></td>
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<tr>
<td><strong>Nitrogen oxides (NOx)</strong></td>
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<tr>
<td><strong>Carbon monoxide (CO)</strong></td>
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<tr>
<td><strong>Volatile organic compounds (VOC)</strong></td>
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<tr>
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<td><strong>Fluoride (F)</strong></td>
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<tr>
<td><strong>Hydrogen Sulfide (H2S)</strong></td>
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<tr>
<td><strong>Mercury (Hg)</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Total Reduced Sulfur (TRS)</strong></td>
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<tr>
<td><strong>Sulfuric Acid Mist (SAM)</strong></td>
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Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Greenhouse Gases (GHGs):</strong></td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PM10 (FIL) - Filterable Portion Only</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PM2.5 (FIL) - Filterable Portion Only</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **Yes**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Proposed BACT</th>
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</thead>
<tbody>
<tr>
<td><strong>PM10 (FIL) - Filterable Portion Only</strong></td>
<td>Baghouse at 0.005 gr/dscf</td>
</tr>
<tr>
<td><strong>PM2.5 (FIL) - Filterable Portion Only</strong></td>
<td>Baghouse at 0.005 gr/dscf</td>
</tr>
</tbody>
</table>

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  Not affected

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

  National Emissions Standards for Hazardous Air Pollutants

  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
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<td>6172</td>
<td>BACT Analysis</td>
<td>Westvaco Project BACT Analysis</td>
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</tbody>
</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: CSH015

AQD EU description:

Company EU ID: NS-11

Company EU Description: Mono Power Flyash Truck Loading

- Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Reconstruction

  Please explain:

  Originally constructed and commissioned in 1987 under Permit Nos. CT-603/OP-180; not used or maintained for a number of years.

- Emission Unit Type Specific Information

  Emission Unit Type: Crushing/Screening/Handling

  Unit Type: Material Handling

  Number of Conveyor transfer and drop points : 1

  Type of Material being Transferred: Fly ash

- Potential Operating Schedule – Provide the operating schedule for this emissions unit

  Hours/day : 24

  Hours/year : 8760

- Emissions Information

  "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:

  - Manufacturer Data
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  - Tanks Program
  - AP-42
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<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<td></td>
</tr>
</tbody>
</table>
### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) *</th>
<th>Potential to Emit (PTE) (lbs/hr) *</th>
<th>Potential to Emit (PTE) (tons/yr) *</th>
<th>Basis for Determination *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur dioxide (SO2)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nitrogen oxides (NOx)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide (CO)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Fluoride (F)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide (H2S)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
<td></td>
<td>0</td>
<td></td>
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<td></td>
</tr>
</tbody>
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### Greenhouse Gases (GHGs):

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) *</th>
<th>Potential to Emit (PTE) (lbs/hr) *</th>
<th>Potential to Emit (PTE) (tons/yr) *</th>
<th>Basis for Determination *</th>
</tr>
</thead>
</table>

*Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **Yes**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Proposed BACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM10 (FIL) - Filterable Portion Only</td>
<td>Baghouse at 0.005 gr/dscf</td>
</tr>
<tr>
<td>PM2.5 (FIL) - Filterable Portion Only</td>
<td>Baghouse at 0.005 gr/dscf</td>
</tr>
</tbody>
</table>

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  National Emissions Standards for Hazardous Air Pollutants

  Not affected
(NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

- **Prevention of Significant Deterioration (PSD)**
  These rules are found under WAQSR Chapter 6, Section 4.

- **Non-Attainment New Source Review**
  These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>6171</td>
<td>BACT Analysis</td>
<td>Westvaco Project BACT Analysis</td>
</tr>
</tbody>
</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: CTW001
AQD EU description: Sesqui Cooling Tower Cell 1
Company EU ID: ct1
Company EU Description: cooling tower

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other
  
  Please explain:
  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Cooling Tower
  Cell Flow Rate (cu. ft/min): 665000
  Circulation Rate (gallons/min): 2500
  VOC Content (%): 0.0000
  HAP Content (%): 0.0000
  Number of cells: 1

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) Units</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>(formerly particulate matter, PM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>PM # 2.5 microns in</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Pollutant Category</td>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Efficiency Standards</td>
<td>Potential to Emit (PTE)*</td>
<td>Potential to Emit (PTE) (lbs/hr)*</td>
<td>Potential to Emit (PTE) (tons/yr)*</td>
<td>Basis for Determination*</td>
</tr>
<tr>
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<td>----------------------</td>
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</tr>
<tr>
<td>Sulfur dioxide (SO2)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide (CO)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fluoride (F)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide (H2S)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Greenhouse Gases (GHGs):

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  New Source Performance Standards (NSPS) Not affected

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) Not affected

  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
(NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: CTW002
AQD EU description: Sesqui Cooling Tower Cell 2
Company EU ID: ct2
Company EU Description: Sesqui Cooling Tower Cell 2

- Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other

  Please explain:
  
  Increased process utilization

- Emission Unit Type Specific Information

  Emission Unit Type: Cooling Tower

  Cell Flow Rate (cu. ft/min): 665000
  Circulation Rate (gallons/min): 2500
  VOC Content (%): 0.0000
  Number of cells: 1

  HAP Content (%): 0.0000

- Potential Operating Schedule – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- Emissions Information "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  Criteria Pollutants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>0</td>
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<tr>
<td>Pollutant</td>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Efficiency Standards Potential to Emit (PTE)*</td>
<td>Units*</td>
<td>Potential to Emit (PTE) (tons/yr)*</td>
<td>Basis for Determination*</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------------------------------</td>
<td>---------------------------------------------</td>
<td>--------</td>
<td>-----------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Sulfur dioxide (SO2)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide (CO)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>Volatile organic compounds (VOC)</td>
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</tr>
<tr>
<td>Lead (Pb)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fluoride (F)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide (H2S)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>Mercury (Hg)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Greenhouse Gases (GHGs):

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  - **New Source Performance Standards (NSPS)**

    New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

    **Not affected**

  - **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

    National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

    **Not affected**
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)  
(NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)  
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Non-Attainment New Source Review  
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- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Other

Please explain:

Increased process utilization

**Emission Unit Type Specific Information**

- Emission Unit Type: Cooling Tower
- Cell Flow Rate (cu. ft/min): 665000
- Circulation Rate (gallons/min): 2500
- VOC Content (%): 0.0000
- HAP Content (%): 0.0000
- Number of cells: 1

**Potential Operating Schedule** – Provide the operating schedule for this emissions unit

- Hours/day: 24
- Hours/year: 8760

**Emissions Information**

"Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

**Basis for Determination Options:**

- Manufacturer Data
- Test results for this source
- Similar source test results
- GRICalc
- Tanks Program
- AP-42
- Other. If this is selected, attach a document with a description of the method used.

**Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
</tr>
</tbody>
</table>
### PM & 2.5 microns in diameter (PE/PM2.5)
<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Standards Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tbody>
<tr>
<td>Sulfur dioxide (SO2)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Carbon monoxide (CO)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
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<tr>
<td>Mercury (Hg)</td>
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<td>Sulfuric Acid Mist (SAM)</td>
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**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

<table>
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<tr>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Standards Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
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**Greenhouse Gases (GHGs):**

<table>
<thead>
<tr>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Standards Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
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</tbody>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS): Not affected

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61): Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride.)
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Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Section II - Specific Air Contaminant Source Information

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other
  Please explain:
  Increased process utilization

- **Emission Unit Type Specific Information**

  **Emission Unit Type**: Cooling Tower
  **Cell Flow Rate (cu. ft/min)**: 665000
  **Circulation Rate (gallons/min)**: 2500
  **VOC Content (%)**: 0.0000
  **HAP Content (%)**: 0.0000
  **Number of cells**: 1

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  **Hours/day**: 24
  **Hours/year**: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options**:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>Pollutant</td>
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<td>Basis for Determination*</td>
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<tr>
<td>Nitrogen oxides (NOx)</td>
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<tr>
<td>Carbon monoxide (CO)</td>
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<td>Hydrogen Sulfide (H2S)</td>
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<td>Mercury (Hg)</td>
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<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tbody>
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<td>Greenhouse Gases (GHGs):</td>
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</tbody>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**
  
  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**
  
  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
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Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
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<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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Section II - Specific Air Contaminant Source Information

AQD EU ID: CTW005
AQD EU description: Monol Cooling Tower Cell 1
Company EU ID: ct1
Company EU Description: Monol Cooling Tower Cell 1

- Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased process utilization

- Emission Unit Type Specific Information

  Emission Unit Type: Cooling Tower
  Cell Flow Rate (cu. ft/min): 500000
  Circulation Rate (gallons/min): 2790
  VOC Content (%): 0.0000
  HAP Content (%): 0.0000
  Number of cells: 1

- Potential Operating Schedule – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- Emissions Information "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:

  Manufacturer Data
  Test results for this source
  Similar source test results
  GRICalc
  Tanks Program
  AP-42
  Other. If this is selected, attach a document with a description of the method used.

  Criteria Pollutants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
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<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

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<th>Efficiency Standards Potential to Emit (PTE)*</th>
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<td>Sulfur dioxide (SO2)</td>
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<td>Hydrogen Sulfide (H2S)</td>
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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**
  - Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**
  - Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

**New Source Performance Standards (NSPS)**

*New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.*

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- Emission Unit Attachments

<table>
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<tr>
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<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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<tbody>
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</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: CTW006
AQD EU description: Mono1 Cooling Tower Cell 2
Company EU ID: ct2
Company EU Description: Mono1 Cooling Tower Cell 2

Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Other

Please explain:
Increased process utilization

Emission Unit Type Specific Information

Emission Unit Type: Cooling Tower

Cell Flow Rate (cu. ft/min): 500000
Circulation Rate (gallons/min): 2790

VOC Content (%): 0.0000
HAP Content (%): 0.0000

Number of cells: 1

Potential Operating Schedule – Provide the operating schedule for this emissions unit

Hours/day: 24
Hours/year: 8760

Emissions Information

"Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:
- Manufacturer Data
- Test results for this source
- Similar source test results
- GRICalc
- Tanks Program
- AP-42
- Other. If this is selected, attach a document with a description of the method used.

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<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
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<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>Sulfur dioxide (SO2)</td>
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<td>Hydrogen Sulfide (H2S)</td>
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<tr>
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</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Greenhouse Gases (GHGs):

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- Best Available Control Technology (BACT)
  - Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)
  - Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

  New Source Performance Standards (NSPS) Not affected
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) Not affected
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
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Prevention of Significant Deterioration (PSD) rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
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Section II - Specific Air Contaminant Source Information

AQD EU ID: CTW007
AQD EU description: Mono2 Cooling Tower Cell 1
Company EU ID: ct1
Company EU Description: Mono2 Cooling Tower Cell 1

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Cooling Tower

  Cell Flow Rate (cu. ft/min): 760000

  Circulation Rate (gallons/min): 2483

  VOC Content (%): 0.0000

  HAP Content (%): 0.0000

  Number of cells: 1

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24

  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

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<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
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**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

** Best Available Control Technology (BACT) **

Was a BACT Analysis completed for this unit? **No**

** Lowest Achievable Emission Rate (LAER) **

Was a LAER Analysis completed for this unit? **No**

** Federal and State Rule Applicability **

** New Source Performance Standards (NSPS) **

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

** National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) **

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride.)

Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
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Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

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</table>

Not affected
Not Affected
Not Affected
Section II - Specific Air Contaminant Source Information

AQD EU ID: CTW008
AQD EU description: Mono2 Cooling Tower Cell 2
Company EU ID: ct2
Company EU Description: Mono 2 cooling tower

- Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other
  Please explain:
  Increased process utilization

- Emission Unit Type Specific Information

  Emission Unit Type: Cooling Tower
  Cell Flow Rate (cu. ft/min): 760000
  Circulation Rate (gallons/min): 2483
  VOC Content (%) : 0.0000
  HAP Content (%) : 0.0000
  Number of cells : 1

- Potential Operating Schedule – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- Emissions Information

  "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

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### Pollutant Categories

**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

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<tr>
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<td>Sulfuric Acid Mist (SAM)</td>
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**Greenhouse Gases (GHGs):**

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<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

### Best Available Control Technology (BACT)

- Was a BACT Analysis completed for this unit? **No**

### Lowest Achievable Emission Rate (LAER)

- Was a LAER Analysis completed for this unit? **No**

### Federal and State Rule Applicability

**New Source Performance Standards (NSPS)**
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
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Not affected

Not affected
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Prevention of Significant Deterioration (PSD)
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Non-Attainment New Source Review
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- Emission Unit Attachments

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Section II - Specific Air Contaminant Source Information

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Cooling Tower

  Cell Flow Rate (cu. ft/min): 760000

  Circulation Rate (gallons/min): 2483

  VOC Content (%): 0.0000

  HAP Content (%): 0.0000

  Number of cells: 1

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24

  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

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  - AP-42
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**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

**Greenhouse Gases (GHGs):**

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.
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** AQD Calculated - See ‘Help’ for more information.

** Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

** Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

** Federal and State Rule Applicability**

**New Source Performance Standards (NSPS)**

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

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National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63. Not affected

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4. Not Affected

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13. Not Affected

- Emission Unit Attachments

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Section II - Specific Air Contaminant Source Information

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased process utilization

- **Emission Unit Type Specific Information**

  - **Emission Unit Type**: Fugitive
  - **Type of Fugitive Emission**: Stockpile
  - **Type of Stockpile**: Mined Material

  Material Added/Removed from Pile (tons/day):

  Material Added/Removed from Pile (tons/yr): 1,125,000.00

  Number of Stockpiles: 1

  Size of Stockpile: 7353 cu. yd

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24

  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- **Manufacturer Data**
- **Test results for this source**
- **Similar source test results**
- **GRICalc**
- **Tanks Program**
- **AP-42**
- **Other. If this is selected, attach a document with a description of the method used.**

**Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<td>Total Reduced Sulfur (TRS)</td>
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<td>Sulfuric Acid Mist (SAM)</td>
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</tbody>
</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Greenhouse Gases (GHGs):

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  
  New Source Performance Standards are not affected.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  
  National Emissions Standards for Hazardous Air Pollutants are not affected.
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD) are listed under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review are listed under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
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<th>Public Document Id</th>
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<tbody>
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</tbody>
</table>
Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Other

Please explain:

Increased process utilization

Emission Unit Type Specific Information

- Emission Unit Type: Fugitive
- Type of Fugitive Emission: Other
- Detailed Description of Fugitive Source: Soda ash rail car loading

Potential Operating Schedule – Provide the operating schedule for this emissions unit

Hours/day: 24
Hours/year: 8760

Emissions Information

“Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:
- Manufacturer Data
- Test results for this source
- Similar source test results
- GRICalc
- Tanks Program
- AP-42
- Other. If this is selected, attach a document with a description of the method used.

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<th>Efficiency Standards</th>
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<th>Potential to Emit (PTE) (lbs/hr)*</th>
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<tr>
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<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

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<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
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### Greenhouse Gases (GHGs):

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<th>Efficiency Standards</th>
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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  Not affected

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

  Not affected

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD) 
These rules are found under WAQSR Chapter 6, Section 4. 

Non-Attainment New Source Review 
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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</table>

Section II - Specific Air Contaminant Source Information

- **AQD EU ID:** FUG009
- **AQD EU description:** Sesqui Pile Wind Erosion
- **Company EU ID:** SESQUWE
- **Company EU Description:** Sesqui ore stockpile wind erosion

**Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Other

Please explain:

Increased process utilization

**Emission Unit Type Specific Information**

- **Emission Unit Type:** Fugitive
- **Type of Fugitive Emission:** Stockpile
- **Type of Stockpile:** Mined Material

Material Added/Removed from Pile (tons/day): 

Material Added/Removed from Pile (tons/yr): 1,125,000.00

Number of Stockpiles: 1

Size of Stockpile: 73553 cu. yd

**Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day: 24

Hours/year: 8760

**Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

**Basis for Determination Options:**
- Manufacturer Data
- Test results for this source
- Similar source test results
- GRI/Calc
- Tanks Program
- AP-42
- Other. If this is selected, attach a document with a description of the method used.

**Criteria Pollutants:**

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<td>Sulfur dioxide (SO2)</td>
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<td>Total Hazardous Air Pollutants (HAPs)</td>
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Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Greenhouse Gases (GHGs):

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<th>Pollutant</th>
<th>Pollutant Category</th>
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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**

  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

  National Emissions Standards for Hazardous Air Pollutants

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(NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

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**Prevention of Significant Deterioration (PSD)**
These rules are found under WAQSR Chapter 6, Section 4.

**Non-Attainment New Source Review**
These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

<table>
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<tr>
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<th>Attachment Type</th>
<th>Description</th>
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<tr>
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</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: LUD001
AQD EU description: Sesqui Bagging
Company EU ID: RA-28
Company EU Description: RA-28 Sesqui bagging

- Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  Other
  Please explain: Increased process utilization

- Emission Unit Type Specific Information

  Emission Unit Type: Loading/Unloading/Dump
  Maximum Hourly Throughput: 60 Units: tons/hr

  Detailed Description of Loading/Unloading/Dump Source:
  Automated machine bags soda ash in various sized bags. Emission calculations included in Attachment 2962.

*Provide detailed calculations documenting the potential emissions and emission factors used to calculate emissions from this source.

- Potential Operating Schedule – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- Emissions Information
  "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:
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- Tanks Program
- AP-42
- Other. If this is selected, attach a document with a description of the method used.

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<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<td>(formerly particulate matter, PM)</td>
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<td>Efficiency Standards Potential to Emit (PTE) Units</td>
<td>Basis for Determination</td>
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<tr>
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<tr>
<td>Nitrogen oxides (NOx)</td>
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<tr>
<td>Carbon monoxide (CO)</td>
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<tr>
<td>Volatile organic compounds (VOC)</td>
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</tr>
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<td>Lead (Pb)</td>
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</tr>
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</tr>
<tr>
<td>Fluoride (F)</td>
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</tr>
<tr>
<td>Hydrogen Sulfide (H2S)</td>
<td>0</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Mercury (Hg)</td>
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<td>0</td>
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<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
<td>0</td>
<td>0</td>
<td></td>
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</tr>
</tbody>
</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Greenhouse Gases (GHGs):

- **Best Available Control Technology (BACT)**
  - Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**
  - Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  New Source Performance Standards (NSPS) Subject to subpart
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  NSPS Subpart
  OOO - Nonmetallic Mineral Processing Plants

National Emission Standards for Hazardous Air Not affected

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.
  Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.
Pollutants (NESHAP Part 61)
National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Westvaco Facility - F000349  Page 113  NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

AQD EU ID: LUD003
AQD EU description: Mono-9 Mono
Company EU ID: Mono-9
Company EU Description: Mono-9 Mono
Railcar Loadout

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  **Please explain:**
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  **Emission Unit Type:** Loading/Unloading/Dump

  **Maximum Hourly Throughput:** 800

  **Units:** tons/hr

  **Detailed Description of Loading/Unloading/Dump Source:** Soda ash rail car loading; emission calculations included in Attachment 2962

  *Provide detailed calculations documenting the potential emissions and emission factors used to calculate emissions from this source.*

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  **Hours/day:** 24

  **Hours/year:** 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>Pollutant</td>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Efficiency Standards</td>
<td>Potential to Emit (PTE)*</td>
<td>Potential to Emit (PTE) (tons/yr)*</td>
<td>Basis for Determination*</td>
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<tr>
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<td>Sulfur dioxide (SO2)</td>
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<tr>
<td>Nitrogen oxides (NOx)</td>
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<td>0</td>
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</tr>
<tr>
<td>Carbon monoxide (CO)</td>
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<td>Volatile organic compounds (VOC)</td>
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<td>Lead (Pb)</td>
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<td>0</td>
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<tr>
<td>Fluoride (F)</td>
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<tr>
<td>Hydrogen Sulfide (H2S)</td>
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<tr>
<td>Mercury (Hg)</td>
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<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
<td>0</td>
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Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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Greenhouse Gases (GHGs):

<table>
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<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  Not affected
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  Not affected
  National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl
chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD) rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
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<th>Description</th>
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Not affected

Not Affected

Not Affected
Section II - Specific Air Contaminant Source Information

AQD EU ID: LUD004
AQD EU description: Mono Bulk Truck Loadout
Mono-10 Mono Bulk Truck Loadout

Company EU ID: Mono-10
Company EU Description: Mono-10 Mono Bulk Truck Loadout

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  **Please explain:**

  Increased process utilization

- **Emission Unit Type Specific Information**

<table>
<thead>
<tr>
<th>Emission Unit Type</th>
<th>Maximum Hourly Throughput</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Loading/Unloading/Dump</td>
<td>100</td>
<td>tons/hr</td>
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</tbody>
</table>

  **Detailed Description of Loading/Unloading/Dump Source:**

  Soda ash truck loading; emission calculations included in Attachment 2962

  *Provide detailed calculations documenting the potential emissions and emission factors used to calculate emissions from this source.

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day : 24
  Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<td>Pollutant</td>
<td>Pre-Controlled Potential Emissions (tons/yr)</td>
<td>Efficiency Standards Potential to Emit (PTE)*</td>
<td>Units*</td>
<td>Potential to Emit (PTE) (lbs/hr)*</td>
<td>Potential to Emit (PTE) (tons/yr)*</td>
<td>Basis for Determination*</td>
</tr>
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<td>particulate matter, PM)</td>
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<td></td>
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<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>Sulfur dioxide (SO2)</td>
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<td>0</td>
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<td>0</td>
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<td></td>
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<tr>
<td>Nitrogen oxides (NOx)</td>
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<tr>
<td>Carbon monoxide (CO)</td>
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<td>Volatile organic compounds (VOC)</td>
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<td>Lead (Pb)</td>
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<td>Fluoride (F)</td>
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<td>0</td>
<td>0</td>
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<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide (H2S)</td>
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<td>0</td>
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<td>0</td>
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<tr>
<td>Mercury (Hg)</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td>0</td>
<td>0</td>
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<td></td>
</tr>
</tbody>
</table>

**Hazardous Air Pollutants (HAPS) and Toxic Air Contaminants:**

**Greenhouse Gases (GHGs):**

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

**New Source Performance Standards (NSPS) Not affected**

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) Not affected**
National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Section II - Specific Air Contaminant Source Information

AQD EU ID: LUD006
AQD EU description: Rail Traffic Switching

Company EU ID: Rail
Company EU Description: Rail Traffic Switching

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased rail activity

- **Emission Unit Type Specific Information**

  Emission Unit Type: Loading/Unloading/Dump

  Maximum Hourly Throughput: 

  Units:

  Detailed Description of Loading/Unloading/Dump Source:

  Emissions are from switch engine and shuttle wagon activity in Westvaco switch yard; emission calculations are included in Attachment 2962.

  *Provide detailed calculations documenting the potential emissions and emission factors used to calculate emissions from this source.

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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</thead>
<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>0</td>
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<td>Units*</td>
<td>Potential to Emit (PTE) (lbs/hr)*</td>
<td>Potential to Emit (PTE) (tons/yr)*</td>
</tr>
<tr>
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<td>--------------------------</td>
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</tr>
<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<td>Sulfur dioxide (SO2)</td>
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<td>Nitrogen oxides (NOx)</td>
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<td>Carbon monoxide (CO)</td>
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<td>Lead (Pb)</td>
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<td>Total Hazardous Air Pollutants (HAPs)</td>
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<td>Fluoride (F)</td>
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<td>Hydrogen Sulfide (H2S)</td>
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<td>Mercury (Hg)</td>
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<td>Total Reduced Sulfur (TRS)</td>
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<td>Sulfuric Acid Mist (SAM)</td>
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</tbody>
</table>

**Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:**

**Greenhouse Gases (GHGs):**

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**
  
  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**
  
  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  
  National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl.

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chloride).

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

- **Prevention of Significant Deterioration (PSD)**
  These rules are found under WAQSR Chapter 6, Section 4.
  
  Not Affected

- **Non-Attainment New Source Review**
  These rules are found under WAQSR Chapter 6, Section 13.
  
  Not Affected

- **Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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<tbody>
<tr>
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</tbody>
</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK001
AQD EU description: MW-1 Lime Silo
Company EU ID: MW-1
Company EU Description: MW-1 Lime Silo

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other

  **Please explain:**
  
  Increases process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Storage Tank/Silo

  Maximum Hourly Throughput: 7.5000 units
  
  Units: tons/hr

  Is Tank Heated: No

  Operating Pressure (psig): Vapor Pressure of Material

  Stored (psig):

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24

  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants :**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<td>(formerly particulate matter, PM)</td>
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<tr>
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### Pollutant Emissions

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<th>Efficiency Standards Potential to Emit (PTE)</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tbody>
<tr>
<td>diameter (PE/PM2.5)</td>
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<td>Nitrogen oxides (NOx)</td>
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<tr>
<td>Carbon monoxide (CO)</td>
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<td>Volatile organic compounds (VOC)</td>
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<tr>
<td>Lead (Pb)</td>
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<tr>
<td>Total Hazardous Air Pollutants (HAPs)</td>
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<tr>
<td>Hydrogen Sulfide (H2S)</td>
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<tr>
<td>Mercury (Hg)</td>
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</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards Potential to Emit (PTE)</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tbody>
<tr>
<td>Greenhouse Gases (GHGs):</td>
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<td></td>
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</tr>
</tbody>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**
  - Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**
  - Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

<table>
<thead>
<tr>
<th>NSPS Subpart</th>
<th>Subject to subpart</th>
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</thead>
<tbody>
<tr>
<td>OOO - Nonmetallic Mineral Processing Plants</td>
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</table>

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These
include asbestos, benzene, beryllium, mercury, and vinyl chloride).

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

<table>
<thead>
<tr>
<th>Standard Description</th>
<th>Affected Status</th>
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<tr>
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<td>Not affected</td>
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**Prevention of Significant Deterioration (PSD)**

<table>
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<th>Standard Description</th>
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<td>These rules are found under WAQSR Chapter 6, Section 4.</td>
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**Non-Attainment New Source Review**

<table>
<thead>
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<th>Standard Description</th>
<th>Affected Status</th>
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<tbody>
<tr>
<td>These rules are found under WAQSR Chapter 6, Section 13.</td>
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### Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>
Section II - Specific Air Contaminant Source Information

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other
  
  **Please explain:**
  
  Increases process utilization

- **Emission Unit Type Specific Information**
  
  Emission Unit Type: Storage Tank/Silo
  
  Maximum Hourly Throughput: 12.0000
  
  Units: tons/hr
  
  Is Tank Heated: No
  
  Operating Pressure (psig):
  
  Vapor Pressure of Material Stored (psig):

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit
  
  Hours/day: 24
  
  Hours/year: 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants:**
  
<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>Pollutant</td>
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<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<td>Sulfur dioxide (SO2)</td>
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Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pollutant Category</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse Gases (GHGs):</td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.
Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**
  - Was a BACT Analysis completed for this unit? **No**

- **Lowest Achievable Emission Rate (LAER)**
  - Was a LAER Analysis completed for this unit? **No**

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **NSPS Subpart**
  OOO - Nonmetallic Mineral Processing Plants
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)
National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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</thead>
</table>

-
Section II - Specific Air Contaminant Source Information

AQD EU ID: VNT001
AQD EU description: PA-6 Sesqui Plant Dissolver Vent
Company EU ID: PA-6
Company EU Description: PA-6 Sesqui Plant Dissolver Vent

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other

  Please explain:

  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Process Vent

  Flow Rate or Throughput: 788400.0 Units: tons/yr

  VOC Concentration (%): 0.000

  HAPs Concentration (%): 0.000

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24

  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRI/Calc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tbody>
<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
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<tr>
<td>PM # 10 microns in diameter (PE/PM10)</td>
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<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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</table>
### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Standards Units</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tbody>
<tr>
<td>Sulfur dioxide (SO2)</td>
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</tr>
<tr>
<td>Nitrogen oxides (NOx)</td>
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<td>Hydrogen Sulfide (H2S)</td>
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<tr>
<td>Mercury (Hg)</td>
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<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td></td>
</tr>
</tbody>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

### Greenhouse Gases (GHGs):

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Standards Units</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
</tr>
</thead>
</table>

### Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? **No**

### Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? **No**

### Federal and State Rule Applicability

**New Source Performance Standards (NSPS)**

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources. Not affected

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride). Not affected

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

**Prevention of Significant Deterioration (PSD)**
*Not Affected*
*These rules are found under WAQSR Chapter 6, Section 4.*

**Non-Attainment New Source Review**
*Not Affected*
*These rules are found under WAQSR Chapter 6, Section 13.*

- **Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>
Section II - Specific Air Contaminant Source Information

AQD EU ID: VNT002
AQD EU description: PA-7 Sesqui Plant Dissolver Vent

Company EU ID: PA-7
Company EU Description: PA-7 Sesqui Plant Dissolver Vent

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other

  Please explain:
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Process Vent

  Flow Rate or Throughput: 657000.0 Units: tons/yr

  VOC Concentration (%): 0.000 HAPs Concentration (%): 0.000

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24

  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRI/Calc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**: 

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<tr>
<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<tr>
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<tr>
<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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<tr>
<td>Pollutant</td>
<td>Pre-Controlled Emissions (tons/yr)</td>
<td>Efficiency Standards</td>
<td>Potential to Emit (PTE)*</td>
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<td>Nitrogen oxides (NOx)</td>
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<td>Volatile organic compounds (VOC)</td>
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<td>Lead (Pb)</td>
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<td>0</td>
<td></td>
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<tr>
<td>Hydrogen Sulfide (H2S)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>Mercury (Hg)</td>
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<td></td>
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<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<td>0</td>
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<tr>
<td>Sulfuric Acid Mist (SAM)</td>
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<td></td>
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</tbody>
</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

**Greenhouse Gases (GHGs):**

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)
  - Was a BACT Analysis completed for this unit? **No**

- Lowest Achievable Emission Rate (LAER)
  - Was a LAER Analysis completed for this unit? **No**

- Federal and State Rule Applicability

**New Source Performance Standards (NSPS)**

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

**Not affected**

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

**Not affected**

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

**Prevention of Significant Deterioration (PSD)** Not Affected
These rules are found under WAQSR Chapter 6, Section 4.

**Non-Attainment New Source Review** Not Affected
These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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</table>

Westvaco Facility - F000349  Page 134  NSR Application - A0001209
Section II - Specific Air Contaminant Source Information

**AQD EU ID:** VNT003  
**AQD EU description:** PA-8 Sesqui Plant Dissolver Vent

**Company EU ID:** PA-8  
**Company EU Description:** PA-8 Sesqui Plant Dissolver Vent

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other
  
  **Please explain:**
  
  Increased process utilization

- **Emission Unit Type Specific Information**

  **Emission Unit Type:** Process Vent

  **Flow Rate or Throughput:** 788400.0  
  **Units:** tons/yr

  **VOC Concentration (%):** 0.000  
  **HAPs Concentration (%):** 0.000

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  **Hours/day:** 24  
  **Hours/year:** 8760

- **Emissions Information**

  "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRI/Calc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

**Criteria Pollutants :**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/hr)</th>
<th>Efficiency Standards Potential to Emit (PTE)*</th>
<th>Units*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<tr>
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<td>PM # 2.5 microns in diameter (PE/PM2.5)</td>
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### Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

<table>
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<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
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<td>Nitrogen oxides (NOx)</td>
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<tr>
<td>Carbon monoxide (CO)</td>
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<td>0</td>
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<tr>
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<tr>
<td>Hydrogen Sulfide (H2S)</td>
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<tr>
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<tr>
<td>Total Reduced Sulfur (TRS)</td>
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<td>Sulfuric Acid Mist (SAM)</td>
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</table>

### Greenhouse Gases (GHGs):

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**
  
  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**
  
  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**
  
  Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

**Prevention of Significant Deterioration (PSD)**
These rules are found under WAQSR Chapter 6, Section 4.

**Non-Attainment New Source Review**
These rules are found under WAQSR Chapter 6, Section 13.

**Emission Unit Attachments**

<table>
<thead>
<tr>
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<th>Description</th>
</tr>
</thead>
</table>

Not Affected
Section II - Specific Air Contaminant Source Information

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

  Other  
  **Please explain:**  
  Increased process utilization

- **Emission Unit Type Specific Information**

  **Emission Unit Type:** Process Vent  
  **Flow Rate or Throughput:** 788400.0  
  **Units:** tons/yr  
  **VOC Concentration (%):** 0.000  
  **HAPs Concentration (%):** 0.000

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  - **Hours/day:** 24  
  - **Hours/year:** 8760

- **Emissions Information** “Potential to emit” means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  **Basis for Determination Options:**
  - Manufacturer Data  
  - Test results for this source  
  - Similar source test results  
  - GRICalc  
  - Tanks Program  
  - AP-42  
  - Other. *If this is selected, attach a document with a description of the method used.*

**Criteria Pollutants:**

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<tr>
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<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
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<td>Particulate emissions (PE/PM) (formerly particulate matter, PM)</td>
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<tr>
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<td>Pollutant</td>
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<td>Efficiency Standards</td>
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<td>Sulfur dioxide (SO2)</td>
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<tr>
<td>Nitrogen oxides (NOx)</td>
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</tbody>
</table>

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Greenhouse Gases (GHGs):

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<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
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</thead>
</table>

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See ‘Help’ for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

  New Source Performance Standards (NSPS) Not affected
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61) Not affected
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD) rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review rules are found under WAQSR Chapter 6, Section 13.

Emission Unit Attachments

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
</tr>
</thead>
</table>

Not affected

Not Affected

Not Affected
Section II - Specific Air Contaminant Source Information

AQD EU ID: VNT010
AQD EU description:
Company EU ID: MW-6
Company EU Description: MW-6 H2S Scrubber/CO2 Stripping System

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  
  Other
  
  Please explain:
  Increased process utilization

- **Emission Unit Type Specific Information**

  Emission Unit Type: Process Vent
  
  Flow Rate or Throughput: 5755320.0
  Units: tons/yr
  
  VOC Concentration (%): 0.000
  HAPs Concentration (%): 0.000

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

  Hours/day: 24
  Hours/year: 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term “capacity factor” as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRI/Calc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

  **Criteria Pollutants**:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pre-Controlled Potential Emissions (tons/yr)</th>
<th>Efficiency Standards</th>
<th>Potential to Emit (PTE)*</th>
<th>Potential to Emit (PTE) (lbs/hr)*</th>
<th>Potential to Emit (PTE) (tons/yr)*</th>
<th>Basis for Determination*</th>
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Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

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<th>Efficiency Standards</th>
<th>Potential to Emit (PTE) (tons/yr)</th>
<th>Basis for Determination*</th>
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Greenhouse Gases (GHGs):

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<th>Efficiency Standards</th>
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<th>Basis for Determination*</th>
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* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.
Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

**New Source Performance Standards (NSPS)**

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

**National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**

Not affected
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

**Prevention of Significant Deterioration (PSD)**
These rules are found under WAQSR Chapter 6, Section 4.

**Non-Attainment New Source Review**
These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

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<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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Section II - Specific Air Contaminant Source Information

AQD EU ID: VNT011
AQD EU description:
Company EU ID: MW-7
Company EU Description: Longwall Water Project H2S vent

- Source Installation or Modification Schedule – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):
  Other
  Please explain:
  Increased process utilization

- Emission Unit Type Specific Information
  Emission Unit Type: Process Vent
  Flow Rate or Throughput: 110.0 acfm
  VOC Concentration (%): 0.000
  HAPs Concentration (%): 0.000

- Potential Operating Schedule – Provide the operating schedule for this emissions unit
  Hours/day: 24
  Hours/year: 8760

- Emissions Information
  "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

  Basis for Determination Options:
  - Manufacturer Data
  - Test results for this source
  - Similar source test results
  - GRICalc
  - Tanks Program
  - AP-42
  - Other. If this is selected, attach a document with a description of the method used.

Criteria Pollutants:

| Pollutant                              | Pre-Controlled Potential Emissions (tons/yr) | Efficiency Standards | Potential to Emit (PTE)* | Potential to Emit (PTE) (lbs/hr)* | Potential to Emit (PTE) (tons/yr)* | Basis for Determination*
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Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

**Greenhouse Gases (GHGs):**

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

  Was a BACT Analysis completed for this unit?  No

- **Lowest Achievable Emission Rate (LAER)**

  Was a LAER Analysis completed for this unit?  No

- **Federal and State Rule Applicability**

  **New Source Performance Standards (NSPS)**
  New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)**
  National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

  **National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)**
  National Emission Standards for Hazardous Air Pollutants
(NESHAP Part 63) standards are listed under 40 CFR 63.

**Prevention of Significant Deterioration (PSD)**
Not Affected
These rules are found under WAQSR Chapter 6, Section 4.

**Non-Attainment New Source Review**
Not Affected
These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

<table>
<thead>
<tr>
<th>Required Attachment</th>
<th>Public Document Id</th>
<th>Attachment Type</th>
<th>Description</th>
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</thead>
</table>


Facility Detail Report
Facility Name: Westvaco Facility
ID: F000349
Facility Detail Report (F000349): Westvaco Facility

- Facility Information
  
  Facility ID: F000349
  FacilityName: Westvaco Facility
  Facility Description: Trona Mining and Soda Ash Production
  Company Name: FMC Wyoming Corporation
  Operating Status: Operating
  Facility Class: Title V
  CERR Class: HAPCAP
  AFS: 5603700049
  Facility Type: Trona Industry

- Location

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  Longitude: -109.81715
  Quarter Quarter: Quarter:
  Section: 22
  Township: 19N
  County: Sweetwater
  Distct: District 5
  Physical Address 1: Physical Address 2:
  City: Sweetwater County
  Zip: 82935
  Effective Date: 05/08/2012

- Notes

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- NAICS Codes

  212391 Potash, Soda, and Borate Mineral Mining (SIC 1474)

- Contacts

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<th>Contact Person</th>
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<td>Compliance</td>
<td>Egeland, Jon</td>
<td>(307) 872-2225</td>
<td><a href="mailto:jon.egeland@fmc.com">jon.egeland@fmc.com</a></td>
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<tr>
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<td><a href="mailto:JULIE_LUT@fmc.com">JULIE_LUT@fmc.com</a></td>
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<td>Kozola, Cherish</td>
<td>(307) 872-2504</td>
<td><a href="mailto:cherish_kozola@fmc.com">cherish_kozola@fmc.com</a></td>
<td>05/15/2013 12/31/2014</td>
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<td>Compliance contact</td>
<td>Mattson, Dale</td>
<td>(307) 872-2431</td>
<td><a href="mailto:dale_mattson@fmc.com">dale_mattson@fmc.com</a></td>
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<td>Pearce, James M.</td>
<td>(307) 872-2501</td>
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<td>NSR Permitting contact</td>
<td>Pearce, James M.</td>
<td>(307) 872-2501</td>
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<td>Compliance contact</td>
<td>Rodway, Grant</td>
<td>(307) 872-2225</td>
<td></td>
<td>05/15/2013 12/31/2014</td>
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<tr>
<td>NSR Permitting contact</td>
<td>Shaffer, Michael</td>
<td>(307) 872-2257</td>
<td></td>
<td>05/15/2013 12/31/2014</td>
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Contact Detail For: Egeland, Jon

Prefix: Jon
Middle Name: 
Suffix: 
Company Title: FMC Wyoming Corporation
Contact's Company Name: FMC Wyoming Corporation
Address 1: Box 872
Facility Detail Report (F000349): Westvaco Facility

Address 2:
City: Green River
State: Wyoming
Zip Code: 82935

Work Phone No: (307) 872-2225
Address 2:
Mobile Phone No:
Fax No:
Email: jon.egeland@fmc.com
Email Pager Address:

Contact Detail For: Lucas, John

Prefix:
Middle Name:
Suffix:
Company Title:
Contact's Company Name: FMC Wyoming Corporation
Address 1: PO Box 872
Address 2:
City: Green River
State: Wyoming
Zip Code: 82935
Work Phone No: (307) 872-2195
Secondary Phone No:
Secondary Ext. No:
Mobile Phone No:
Fax No:
Email: john.lucas@fmc.com
Email Pager Address:

Contact Detail For: Lutz, Julie

Prefix:
Middle Name:
Suffix:
Company Title:
Contact's Company Name: FMC Wyoming Corporation
Address 1: Box 872
Address 2:
City: Green River
State: Wyoming
Zip Code: 82935
Work Phone No: (307) 872-2161
Secondary Phone No:
Secondary Ext. No:
Mobile Phone No:
Fax No:
Email: JULIE_LUTZ@fmc.com
Email Pager Address:

Contact Detail For: Martin, Kasey
Prefix: Mr.  First Name: Kasey
Middle Name:  Last Name: Martin
Suffix:  
Company Title: Environmental Engineer  Contact's Company Name: FMC Wyoming Corporation
Address 1: P.O. Box 872
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Work Phone No: (307) 872-2242
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Work Phone No: (307) 872-2111
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Work Phone No: (307) 872-2257
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Email: kasey.martin@fmc.com
Email Pager Address:  
Email Pager Address:  

Contact Detail For : Penamora, Andrew

Prefix:  
Middle Name:  
Suffix:  
Company Title: Environmental Engineer  Contact's Company Name: FMC Wyoming Corporation
Address 1: P.O. Box 872
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Work Phone No: (307) 872-2111
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Work Phone No: (307) 872-2257
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Email: andrew.penamora@fmc.com
Email Pager Address:  

Contact Detail For : Schnauber, Otto

Prefix:  
Middle Name:  
Suffix:  
Company Title:  Contact's Company Name: FMC Wyoming Corporation
Address 1: Box 872
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Work Phone No: (307) 872-2257
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Work Phone No: (307) 872-2257
Address 2:  
City: Green River  Zip Code: 82935
State: Wyoming
Email: otto.schnauber@fmc.com
Email Pager Address:  
Email Pager Address:
Contact Detail For: von Ahrens, Fred

Prefix: 
Middle Name: 
Suffix: 
Company Title: 
Contact's Company Name: FMC Wyoming Corporation
Address 1: P.O. Box 872
Address 2: 
City: Green River
State: Wyoming
Work Phone No: (307) 872-2501
Mobile Phone No: 
Fax No: 
Email: 
Email Pager Address: 

Contact Detail For: Wendorf, Michael

Prefix: 
Middle Name: 
Suffix: 
Company Title: Partner, Schnauber Consulting
Contact's Company Name: FMC Wyoming Corporation
Address 1: 508 Independence Circle
Address 2: 
City: Rock Springs
State: Wyoming
Work Phone No: (307) 382-5555
Mobile Phone No: 
Fax No: 
Email: wendorf@wyoming.com
Email Pager Address: 

Contact Detail For: Aalbers, Angela

Prefix: Ms.
Middle Name: 
Suffix: 
Company Title: ESH Business Unit Leader
Contact's Company Name: P4 Production L.L.C.
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<th><strong>Facility Detail Report (F000349): Westvaco Facility</strong></th>
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<tr>
<td><strong>Email:</strong> <a href="mailto:angela.renee.aalbers@monsanto.com">angela.renee.aalbers@monsanto.com</a></td>
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<td><strong>Email Pager Address:</strong></td>
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**Contact Detail For**: Boyd, Jordan

| **Prefix:** | **First Name:** Jordan |
| **Middle Name:** | **Last Name:** Boyd |
| **Suffix:** | **Company Title:** |
| **Company Title:** | **Contact’s Company Name:** FMC Wyoming Corporation |
| **Address 1:** PO Box 872 |
| **Address 2:** |
| **City:** Green River |
| **Zip Code:** 82935 |
| **State:** Wyoming |
| **Work Phone No:** (307) 872-2566 |
| **Secondary Phone No.:** |
| **Address 2:** |
| **Mobile Phone No.:** |
| **Fax No:** (307) 872-2568 |
| **Email:** |
| **Email Pager Address:** |

**Contact Detail For**: Clark, Dale

| **Prefix:** | **First Name:** Dale |
| **Middle Name:** | **Last Name:** Clark |
| **Suffix:** | **Company Title:** |
| **Company Title:** | **Contact’s Company Name:** FMC Wyoming Corporation |
| **Address 1:** P.O. Box 872 |
| **Address 2:** |
| **City:** Green River |
| **Zip Code:** 82935 |
| **State:** Wyoming |
| **Work Phone No:** (307) 872-2195 |
| **Secondary Phone No.:** |
| **Address 2:** |
| **Mobile Phone No.:** |
| **Fax No.:** |
| **Email:** DALE_CLARK@fmc.com |
| **Email Pager Address:** |
Contact Detail For: Crowe, Matthew

Prefix:          First Name: Matthew
Middle Name:     Last Name: Crowe
Suffix:          Company Title: Georgia-Pacific Gypsum LLC

Address 1: P.O. Box 756
City: Lovell
State: Wyoming
Zip Code: 82431
Work Phone No.: (307) 584-2283
Address 2:
City:
State:
Secondary Phone No.: 242
Mobile Phone No.:
Fax No.:
Email: Matthew.Crowe@gapac.com
Email Pager Address:

Contact Detail For: Kozola, Cherish

Prefix:          First Name: Cherish
Middle Name:     Last Name: Kozola
Suffix:          Company Title: FMC Wyoming Corporation

Address 1: P.O. Box 872
City: Green River
State: Wyoming
Zip Code: 82935
Work Phone No.: (307) 872-2504
Address 2:
City:
State:
Secondary Phone No.:
Mobile Phone No.:
Fax No.: (307) 872-2364
Email: cherish_kozola@fmc.com
Email Pager Address:

Contact Detail For: Mattson, Dale

Prefix:          First Name: Dale
Middle Name:     Last Name: Mattson
Suffix:          Company Title: FMC Wyoming Corporation

Address 1: P.O. Box 872
City: Green River
State: Wyoming
Zip Code: 82935
Contact Detail For : Pearce, James M.

Prefix: 
Middle Name: M.
Suffix: 
Company Title:
Contact's Company Name: FMC Wyoming Corporation

Address 1: P.O. Box 872
Address 2: 
City: Green River
State: Wyoming
Work Phone No: (307) 872-2501
Address 2: 
Mobile Phone No: 
Fax No: 
Email: 

Contact Detail For : Rodway, Grant

Prefix: 
Middle Name: 
Suffix: 
Company Title:
Contact's Company Name: FMC Wyoming Corporation

Address 1: P.O. Box 872
Address 2: 
City: Green River
State: Wyoming
Work Phone No: (307) 872-2225
Address 2: 
Mobile Phone No: 
Fax No: 
Email: 

Contact Detail For : Shaffer, Michael

Prefix: 
Middle Name:

Facility Detail Report (F000349): Westvaco Facility
Facility Detail Report (F000349): Westvaco Facility

Suffix:
Company Title: FMC Wyoming Corporation
Contact's Company Name: FMC Wyoming Corporation

Address 1: P.O. Box 872
Address 2:
City: Green River
State: Wyoming
Zip Code: 82935

Work Phone No:
Secondary Phone No:
Secondary Ext. No:
Mobile Phone No:
Pager No:
Fax No:
Pager PIN No:
Email:
Email Pager Address:

- Rules & Regs

Subject to Part 60 NSPS: X
Subject to 112(r) Accidental Release Prevention:
Subject to Part 61 NESHAP:
Subject to non-attainment NSR:
Subject Part 63 NESHAP: X
Subject to PSD:

Part 60 NSPS Subparts
D - Fossil-Fuel Steam Generator Constructed After August 17, 1971
Db - Industrial-Commercial-Institutional Steam Generating Units
O00 - Nonmetallic Mineral Processing Plants
Y - Coal Preparation Plants

Part 63 NESHAP Subparts
AAAAA - Lime Manufacturing Plants
DDDDD - Industrial, Commercial, and Institutional Boilers and Process Heaters

- Attachments

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- Version

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- **Emission Unit Information**

  AQD Emissions Unit ID: APT001
  Emission Unit Type: Acid Plant/Prill Tower
  Material Produced: Other
  Maximum Throughput: 1.0000 Units: tons/yr
  AQD Description: Plant Malfunctions
  Company Equipment ID: na
  Company Equipment Description: plant malfunctions
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1975
  Initial Operation Commencement Date: 01/01/1975

- **Permitted Emissions**

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<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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- **Processes**

  - **Emission Process Information**

    Process ID: PRC072
    Process Name:
    Company Process Description: Plant Malfunctions
    Source Classification Code (SCC): 3-05-999-99

    Release points(s) directly associated with this process

    VER062
Facility Detail Report (F000349): Westvaco Facility

Emission Unit : BOL001

Aug 10 2015, 08:15:36

- Emission Unit Information

  AQD Emissions Unit ID: BOL001
  Emission Unit Type: Boiler
  Heat Input Rating (MMBtu/hr): 887.0
  Primary Fuel Type: Coal
  Secondary Fuel Type: Pipeline Grade Natural Gas
  Model Name and Number: 1
  AQD Description: NS-1A Mono #6 Coal/Gas-Fired Boiler
  Company Equipment ID: NS-1A
  Company Equipment Description: Mono Coal Fired Boiler
  Operating Status: Operating
  Initial Construction Commencement Date: 08/01/1973
  Initial Operation Commencement Date: 03/01/1976

- Serial Number Tracking

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- Permitted Emissions

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- Processes

- Emission Process Information

  Process ID: PRC033
  Process Name:
  Company Process Description: Process for NS1A
  Source Classification Code (SCC): 1-02-002-21

  Control equipment(s) directly associated with this process

  ESP001
- **Emission Unit Information**

  AQD Emissions Unit ID: BOL002
  Emission Unit Type: Boiler
  Heat Input Rating (MMBtu/hr): 166.8
  Primary Fuel Type: Pipeline Grade Natural Gas
  Secondary Fuel Type: N/A
  Model Name and Number: 1
  AQD Description: Sesqui #1 Gas-Fired Boiler
  PH-1A Sesqui Gas Fired Boiler
  Company Equipment ID: PH-1A
  Company Equipment Description: Sesqui No.1 Gas Fired Boiler
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1952
  Initial Operation Commencement Date: 01/01/1952
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- **Serial Number Tracking**

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- **Permitted Emissions**

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<th>Allowable Emissions (Tons/Year)</th>
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- **Processes**

  - **Emission Process Information**

    Process ID: PRCG38
    Company Process Description: Process for PH1A
    Source Classification Code (SCC): 1-02-006-01

    Release points(s) directly associated with this process

    VER038
- Emission Unit Information

  AQD Emissions Unit ID: BOL003
  Emission Unit Type: Boiler
  Heat Input Rating (MMBtu/hr): 166.8

  Primary Fuel Type: Pipeline Grade Natural Gas
  Secondary Fuel Type: N/A

  Model Name and Number: boiler
  AQD Description: PH-1B Sesqui Gas Fired Boiler
  Company Equipment ID: PH-1B
  Company Equipment Description: PH-1B No.2 Sesqui Gas Fired Boiler

  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1952
  Initial Operation Commencement Date: 01/01/1952
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Serial Number Tracking

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- Permitted Emissions

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- Processes

  - Emission Process Information

    Process ID: PRC039
    Company Process Description: Process for PH1B
    Source Classification Code (SCC): 1-02-006-01

    Release points(s) directly associated with this process

    VER039
- **Emission Unit Information**

  AQD Emissions Unit ID: BOL004  
  Emission Unit Type: Boiler  
  Heat Input Rating (MMBtu/hr): 166.8  
  Primary Fuel Type: Pipeline Grade Natural Gas  
  Secondary Fuel Type: N/A  
  Model Name and Number: boiler  
  AQD Description: PH-2 Sesqui Gas Fired Boiler  
  Company Equipment ID: PH-2  
  Company Equipment Description: PH-2 No. 3 Sesqui Gas Fired Boiler  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1967  
  Initial Operation Commencement Date: 01/01/1967  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Serial Number Tracking**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC040  
    Process Name:  
    Company Process Description: Process for PH2  
    Source Classification Code (SCC): 1-02-006-01  

    Release points(s) directly associated with this process

    VER040
- **Emission Unit Information**

  AQD Emissions Unit ID: BOL005  
  Emission Unit Type: Boiler  
  Heat Input Rating (MMBtu/hr): 333.6  
  Primary Fuel Type: Pipeline Grade Natural Gas  
  Secondary Fuel Type: N/A  
  Model Name and Number: boiler  
  AQD Description: PH-3 Sesqui Gas Fired Boiler  
  Company Equipment ID: PH-3  
  Company Equipment Description: PH-3 No. 4 Sesqui Gas Fired Boiler  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1967  
  Initial Operation Commencement Date: 01/01/1967  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Serial Number Tracking**

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<th>Manufacturer Name</th>
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- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC041  
    Process Name:  
    Company Process Description: Process for PH3  
    Source Classification Code (SCC): 1-02-006-01  
    
    Release points(s) directly associated with this process

    VER041
- **Emission Unit Information**

  AQD Emissions Unit ID: BOL006  
  Emission Unit Type: Boiler  
  Heat Input Rating (MMBtu/hr): 315.0  
  Primary Fuel Type: Pipeline Grade Natural Gas  
  Secondary Fuel Type: N/A  
  Model Name and Number: boiler  
  AQD Description: MW-5 #8 Gas-Fired Boiler  
  MW-5 Mine Water Plant Boiler  
  Company Equipment ID: MW-5  
  Company Equipment Description: MW-5 No.8 Gas Boiler  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1996  
  Initial Operation Commencement Date: 01/01/1996  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Serial Number Tracking**

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<tr>
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- **Permitted Emissions**

- **Processes**

  - **Emission Process Information**

    Process ID: PRC042  
    Process Name:  
    Company Process Description: Process for MW5  
    Source Classification Code (SCC): 1-02-006-01  
    Release points(s) directly associated with this process  
    VER042
- **Emission Unit Information**

  AQD Emissions Unit ID: BOL007
  Emission Unit Type: Boiler
  Heat Input Rating (MMBtu/hr): 887.0
  Primary Fuel Type: Coal
  Secondary Fuel Type: Pipeline Grade Natural Gas
  Model Name and Number: boiler
  AQD Description: NS-1B Mono #7 Coal/Gas-Fired Boiler
  Company Equipment ID: NS-1B
  Company Equipment Description: NS-1B Mono #7 Coal/Gas-Fired Boiler
  Operating Status: Operating
  Initial Construction Commencement Date: 08/01/1973
  Initial Operation Commencement Date: 03/01/1976
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- **Serial Number Tracking**

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- **Permitted Emissions**

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<th>Pollutant</th>
<th>Potential Emissions (Lbs/hour)</th>
<th>Potential Emissions (Tons/Year)</th>
<th>Allowable Emissions (Lbs/Hour)</th>
<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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- **Processes**

  - **Emission Process Information**

    Process ID: PRC043
    Process Name:
    Company Process Description: Process for NS1B
    Source Classification Code (SCC): 1-02-002-21

    Control equipment(s) directly associated with this process

    ESP002
Facility Detail Report (F000349): Westvaco Facility

- Emission Unit Information

  AQD Emissions Unit ID: CKD001
  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
    Unit Type: Rotary
  Maximum Annual Throughput: 98112 Units: tons/yr
  Heat Input Rating (MMBtu/hr): 6.33
  Primary Fuel Type: Pipeline Grade Natural Gas
    Secondary Fuel Type: N/A
  AQD Description: RA-1 Baby Sesqui Calciner
  Company Equipment ID: RA-1
  Company Equipment Description: RA-1 Baby Sesqui Calciner
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1963
  Initial Operation Commencement Date: 01/01/1963

- Serial Number Tracking

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- Permitted Emissions

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<th>Allowable Emissions (Tons/Year)</th>
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</table>

- Processes

  - Emission Process Information

    Process ID: PRC007
    Company Process Description: Process for RA1
    Source Classification Code (SCC): 3-01-021-25

    Control equipment(s) directly associated with this process

    WSC003
Emission Unit : CKD002

AQB Emissions Unit ID: CKD002
Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
Unit Type: Rotary

Maximum Annual Throughput: 438000 tons/yr
Heat Input Rating (MMBtu/hr): 66.6

Primary Fuel Type: Pipeline Grade Natural Gas
Secondary Fuel Type: N/A

AQB Description: Sesqui Gas-Fired Calciner R-13
Company Equipment ID: RA-23A&B
Company Equipment Description: R-13 Sesqui gas fired calciner
Operating Status: Operating

Initial Construction Commencement Date: 01/01/1964
Initial Operation Commencement Date: 01/01/1964
Most Recent Construction/Modification Commencement Date:
Most Recent Operation Commencement Date:

Serial Number Tracking

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Processes

- Emission Process Information

  Process ID: PRC008
  Process Name:
  Company Process Description: Process for RA23A&B
  Source Classification Code (SCC): 3-01-021-25

Control equipment(s) directly associated with this process

WSC005
WSC004
Emission Unit : CKD003

- Emission Unit Information

  AQD Emissions Unit ID: CKD003
  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  Unit Type: Fixed
  Maximum Annual Throughput: 438000 Units: tons/yr
  Heat Input Rating (MMBtu/hr): 1.0
  Primary Fuel Type: Pipeline Grade Natural Gas
  Secondary Fuel Type: N/A
  AQD Description: Sesqui Gas-Fired Calciner R-13
  Company Equipment ID: RA-23A&B
  Company Equipment Description: R-13 Sesqui Gas Fired Calciner
  Operating Status: Permanently Shutdown
  Shutdown Date: 01/07/2015
  Shutdown Notification Date: 01/07/2015
  Initial Construction Commencement Date: 01/01/1979
  Initial Operation Commencement Date: 01/01/1979

- Serial Number Tracking

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- Processes

- Emission Process Information

  Process ID: PRC009
  Process Name:
  Company Process Description: Process for RA23B

  Release points(s) directly associated with this process

  VER009
Facility Detail Report (F000349): Westvaco Facility

- **Emission Unit Information**

  AQD Emissions Unit ID: CKD004
  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  Unit Type: Rotary
  Maximum Annual Throughput: 613200 tons/yr
  Heat Input Rating (MMBtu/hr): 66.1
  Primary Fuel Type: Pipeline Grade Natural Gas
  Secondary Fuel Type: N/A
  AQD Description: RA-24 Sesqui Gas-Fired Calciner R-15
  Company Equipment ID: RA-24
  Company Equipment Description: RA-24 Sesqui Gas-Fired Calciner R-15
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1966
  Initial Operation Commencement Date: 01/01/1966
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- **Serial Number Tracking**

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- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC010
    Process Name:
    Company Process Description: Process for RA24
    Source Classification Code (SCC): 3-01-021-25

    Control equipment(s) directly associated with this process

    WSC006
Emission Unit : CKD005

- Emission Unit Information

  AQD Emissions Unit ID: CKD005
  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  Unit Type: Fluidized Bed
  Maximum Annual Throughput: 628092 Units: tons/yr
  Heat Input Rating (MMBtu/hr): 0.01
  Primary Fuel Type: Other Secondary Fuel Type: N/A
  AQD Description: R-5 Sesqui Fluid Bed Calciner (RA-25)
  Company Equipment ID: RA-25
  Company Equipment Description: R-5 Sesqui Fluid Bed Calciner (RA-25)
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1969
  Initial Operation Commencement Date: 01/01/1969
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Serial Number Tracking

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- Processes

- Emission Process Information

  Process ID: PRC011
  Process Name:
  Company Process Description: Process for RA25
  Source Classification Code (SCC): 3-01-021-26

  Control equipment(s) directly associated with this process

  WSC007
Emission Unit : CKD006

- Emission Unit Information
  
  AQD Emissions Unit ID: CKD006
  
  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  
  Unit Type: Fluidized Bed
  
  Maximum Annual Throughput: 748980 Units: tons/yr
  
  Heat Input Rating (MMBtu/hr): 0.01
  
  Primary Fuel Type: Other
  
  Secondary Fuel Type: N/A
  
  AQD Description: Sesqui Fluid Bed Calciner R-6
  
  Company Equipment ID: RA-26
  
  Company Equipment Description: R-6 Sesqui fluid bed calciner (RA-26)
  
  Operating Status: Operating
  
  Initial Construction Commencement Date: 01/01/1985
  
  Initial Operation Commencement Date: 01/01/1985
  
  Most Recent Construction/Modification Commencement Date:
  
  Most Recent Operation Commencement Date:

- Serial Number Tracking

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- Processes

  - Emission Process Information

    Process ID: PRC012
    
    Process Name:
    
    Company Process Description: Process for RA26
    
    Source Classification Code (SCC): 3-01-021-26
    
    Control equipment(s) directly associated with this process
    
    WSC008
- **Emission Unit Information**

  AQD Emissions Unit ID: CKD007

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace

  Unit Type: Fluidized Bed

  Maximum Annual Throughput: 1082736 Units: tons/yr

  Heat Input Rating (MMBtu/hr): 0.01

  Primary Fuel Type: Other

  Secondary Fuel Type: N/A

  AQD Description: Sesqui Fluid Bed Calciner R-2
  RA-29 R-2 Sesqui Fluid Bed Calciner (RA-29)

  Company Equipment ID: RA-29

  Company Equipment Description: RA-29 R-2 Sesqui Fluid Bed Calciner

  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1953

  Initial Operation Commencement Date: 01/01/1953

  Most Recent Construction/Modification Commencement Date: 01/01/1997

  Most Recent Operation Commencement Date:

- **Serial Number Tracking**

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<th>Comments</th>
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</table>

- **Processes**

  **Emission Process Information**

  Process ID: PRC014

  Process Name:

  Company Process Description: Process for RA29

  Source Classification Code (SCC): 3-01-021-26

  Control equipment(s) directly associated with this process

  WSC009
Emission Unit Information

AQD Emissions Unit ID: CKD008

Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
Unit Type: Rotary

Maximum Annual Throughput: 1068720
Units: tons/yr

Heat Input Rating (MMBtu/hr): 138.0

Primary Fuel Type: Pipeline Grade Natural Gas
Secondary Fuel Type: N/A

AQD Description: Mono-5 Mono 1 Gas Fired Calciner
Company Equipment ID: Mono-5
Company Equipment Description: Mono-5 Mono 1 Gas Fired Calciner

Operating Status: Operating
Initial Construction Commencement Date: 01/01/1972
Initial Operation Commencement Date: 01/01/1972

Most Recent Construction/Modification Commencement Date: 
Most Recent Operation Commencement Date: 

Serial Number Tracking

<table>
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<th>Manufacturer Name</th>
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Permitted Emissions

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</table>

Processes

Emission Process Information

Process ID: PRC019

Company Process Description: Process for MONO5
Source Classification Code (SCC): 3-01-021-04

Control equipment(s) directly associated with this process

WSC010
- Emission Unit Information

  AQD Emissions Unit ID: CKD009
  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  Unit Type: Fluidized Bed
  Maximum Annual Throughput: 832200 Units: tons/yr
  Heat Input Rating (MMBtu/hr): 0.01
  Primary Fuel Type: Other
  Secondary Fuel Type: N/A
  AQD Description: Mono 1 Fluid Bed Dryer
  Company Equipment ID: Mono-6
  Company Equipment Description: Mono 1 fluid bed dryer
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1972
  Initial Operation Commencement Date: 01/01/1972
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Serial Number Tracking

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- Permitted Emissions

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- Processes

  - Emission Process Information

    Process ID: PRC020
    Process Name: Process for MONO6
    Company Process Description: Process for MONO6
    Source Classification Code (SCC): 3-01-021-07

    Control equipment(s) directly associated with this process
    WSC011
Facility Detail Report (F000349): Westvaco Facility

**Emission Unit Information**

- AQD Emissions Unit ID: CKD010
- Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  - Unit Type: Rotary
- Maximum Annual Throughput: 2417760 tons/yr
- Heat Input Rating (MMBtu/hr): 253.0
- Primary Fuel Type: Pipeline Grade Natural Gas
- Secondary Fuel Type: N/A
- AQD Description: Mono 2 Gas-Fired Calciner
- Company Equipment ID: NS-3
- Company Equipment Description: Mono 2 gas fired calciner
- Operating Status: Operating
- Initial Construction Commencement Date: 01/01/1975
- Initial Operation Commencement Date: 01/01/1976
- Most Recent Construction/Modification Commencement Date:
- Most Recent Operation Commencement Date:

**Serial Number Tracking**

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**Processes**

**Emission Process Information**

- Process ID: PRC026
- Process Name: 
  - Company Process Description: Process for NS3
  - Source Classification Code (SCC): 3-01-021-04

Control equipment(s) directly associated with this process

ESP003
- Emission Unit Information

AQR Emissions Unit ID: CKD011
Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
Unit Type: Fluidized Bed
Maximum Annual Throughput: 1467300 Units: tons/yr
Heat Input Rating (MMBtu/hr): 0.01
Primary Fuel Type: Other Secondary Fuel Type: N/A
AQR Description: NS-6 Mono 2 Fluid Bed Dryer
Company Equipment ID: NS-6
Company Equipment Description: NS-6 Mono 2 Fluid Bed Dryer
Operating Status: Operating
Initial Construction Commencement Date: 01/01/1975
Initial Operation Commencement Date: 01/01/1976
Most Recent Construction/Modification Commencement Date:
Most Recent Operation Commencement Date:

- Serial Number Tracking

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- Processes

- Emission Process Information

Process ID: PRC028
Company Process Description: Process for NS6
Source Classification Code (SCC): 3-01-021-07

Control equipment(s) directly associated with this process

WSC012
- Emission Unit Information

  AQD Emissions Unit ID: CKD012

  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace

    Unit Type: Fluidized Bed

  Maximum Annual Throughput: 1208000 Units: tons/yr

  Heat Input Rating (MMBtu/hr): 0.01

  Primary Fuel Type: Other

  Secondary Fuel Type: N/A

  AQD Description: ELDM Fluid Bed Dryer

  Company Equipment ID: MW-3

  Company Equipment Description: ELDM fluid bed dryer

  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1993

  Initial Operation Commencement Date: 01/01/1993

  Most Recent Construction/Modification Commencement Date:

  Most Recent Operation Commencement Date:

- Serial Number Tracking

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- Processes

  - Emission Process Information

    Process ID: PRC031

    Process Name:

    Company Process Description: Process for MW3

    Source Classification Code (SCC): 3-01-021-07

    Control equipment(s) directly associated with this process

    WSC013
Emission Unit : CKD013

- Emission Unit Information

  AQD Emissions Unit ID: CKD013
  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  Unit Type: Rotary
  Maximum Annual Throughput: 228600 Units: tons/yr
  Heat Input Rating (MMBtu/hr): 91.0
  Primary Fuel Type: Pipeline Grade Natural Gas
  Secondary Fuel Type: N/A
  AQD Description: SM-1 Gas Fired Lime Kiln
  Company Equipment ID: SM-1
  Company Equipment Description: SM-1 Gas Fired Lime Kiln
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1987
  Initial Operation Commencement Date: 01/01/1987

- Serial Number Tracking

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</table>

- Processes

  - Emission Process Information

    Process ID: PRC035
    Process Name:
    Company Process Description: Process for SM1

    Control equipment(s) directly associated with this process

    WSC014
Facility Detail Report (F000349): Westvaco Facility

- Emission Unit Information

  AQD Emissions Unit ID: CKD014
  Emission Unit Type: Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  Unit Type: Other
  Maximum Annual Throughput: 106872 Units: tons/yr
  Heat Input Rating (MMBtu/hr): 0.01
  Primary Fuel Type: Other
  Secondary Fuel Type: N/A
  AQD Description: BC-1 Bicarb Flash Dryer
  Company Equipment ID: BC-1
  Company Equipment Description: BC-1 Bicarb Flash Dryer
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1990
  Initial Operation Commencement Date: 01/01/1990

- Serial Number Tracking

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- Permitted Emissions

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</table>

- Processes

  - Emission Process Information

    Process ID: PRC036
    Company Process Description: Process for BC1
    Source Classification Code (SCC): 3-01-038-01

    Control equipment(s) directly associated with this process

    BAG002
- **Emission Unit Information**

  **AQD Emissions Unit ID:** CKD015  
  **Emission Unit Type:** Calciner/Kiln/Dryer/Smelter/Foundry Furnace  
  **Unit Type:** Rotary  
  **Maximum Annual Throughput:** 306600 tons/yr  
  **Heat Input Rating (MMBtu/hr):** 1.0  
  **Primary Fuel Type:** Pipeline Grade Natural Gas  
  **Secondary Fuel Type:** N/A  
  **AQD Description:** Sesqui Gas-Fired Calciner R-9  
  **Company Equipment ID:** RA-22A&B  
  **Company Equipment Description:** R-9 sesqui gas fired calciner  
  **Operating Status:** Operating  
  **Initial Construction Commencement Date:** 01/01/1981  
  **Initial Operation Commencement Date:** 01/01/1981

- **Serial Number Tracking**

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- **Permitted Emissions**

- **Processes**

  - **Emission Process Information**

    **Process ID:** PRC045  
    **Process Name:**  
    **Company Process Description:** Process for RA22A  
    **Source Classification Code (SCC):** 3-01-021-25

    **Release points(s) directly associated with this process**

    VER045
**Emission Unit Information**

- **AQP Emissions Unit ID:** CKD016
- **Emission Unit Type:** Calciner/Kiln/Dryer/Smelter/Foundry Furnace
  - **Unit Type:** Rotary
- **Maximum Annual Throughput:** 306600 tons/yr
- **Heat Input Rating (MMBtu/hr):** 1.0
- **Primary Fuel Type:** Pipeline Grade Natural Gas
- **Secondary Fuel Type:** N/A
- **AQP Description:** RA22A&B R-9 Sesqui Gas Fired Calciner
- **Company Equipment ID:** RA 22A&B
- **Company Equipment Description:** RA22A&B R-9 Sesqui Gas Fired Calciner
- **Operating Status:** Permanently Shutdown
  - **Shudown Date:** 01/07/2015
- **Shutdown Notification Date:** 01/07/2015
- **Initial Construction Commencement Date:** 01/01/1981
- **Initial Operation Commencement Date:** 01/01/1981
- **Most Recent Construction/Modification Commencement Date:**
- **Most Recent Operation Commencement Date:**

**Serial Number Tracking**

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**Permitted Emissions**

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**Processes**

- **Emission Process Information**
  - **Process ID:** PRC046
  - **Process Name:**
  - **Company Process Description:** Process for RA22B
  - **Source Classification Code (SCC):** 3-01-021-25

Release points(s) directly associated with this process

VER046
- Emission Unit Information

AQD Emissions Unit ID: CSH001

Emission Unit Type: Crushing/Screening/Handling

Type of Unit: Material Handling

Maximum Annual Throughput: 3153600 Units: tons/yr

Model Name and Number: XXX

AQD Description: PA-4 Sesqui Plant Hammermill Crusher Vent

Company Equipment ID: PA-4

Company Equipment Description: PA-4 Sesqui Plant Hammermill Crusher Vent

Operating Status: Operating

Initial Construction Commencement Date: 01/01/1964

Initial Operation Commencement Date: 01/01/1964

Most Recent Construction/Modification Commencement Date: 

Most Recent Operation Commencement Date: 

- Serial Number Tracking

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- Processes

- Emission Process Information

Process ID: PRC001

Process Name:

Company Process Description: Sesqui Plant Hammermill Crusher Vent

Source Classification Code (SCC): 3-01-021-03

Control equipment(s) directly associated with this process

WSC015
Emission Unit : CSH002

- Emission Unit Information

  AQD Emissions Unit ID: CSH002
  Emission Unit Type: Crushing/Screening/Handling
                      Type of Unit: Screening
  Maximum Annual Throughput: 3153600 Units: tons/yr
  Model Name and Number: XXX
  AQD Description: PA-5 Sesqui Plant Ore Screening Vent
  Company Equipment ID: PA-5
  Company Equipment Description: PA-5 Sesqui Plant Ore Screening Vent
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1964
  Initial Operation Commencement Date: 01/01/1964
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Serial Number Tracking

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- Processes

  - Emission Process Information

    Process ID: PRC002
    Process Name:
    Company Process Description: Process for PA5
    Source Classification Code (SCC): 3-01-021-03

    Control equipment(s) directly associated with this process

    WSC016
- **Emission Unit Information**

  AQD Emissions Unit ID: CSH003  
  Emission Unit Type: Crushing/Screening/Handling  
  Type of Unit: Material Handling  
  Maximum Annual Throughput: 5694000 Units: tons/yr  
  Model Name and Number: XXX  
  AQD Description: RA-33 Sesqui Silo Storage Vent  
  Company Equipment ID: RA-33  
  Company Equipment Description: RA-33 Sesqui Silo Storage Vent  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1972  
  Initial Operation Commencement Date: 01/01/1972  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Serial Number Tracking**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC016  
    Process Name:  
    Company Process Description: Process for MONO2  
    Source Classification Code (SCC): 3-01-021-03  
    
    Control equipment(s) directly associated with this process  
    WSC017
Facility Detail Report (F000349): Westvaco Facility

Emission Unit : CSH004

Aug 10 2015, 08:15:36

- **Emission Unit Information**

  AQD Emissions Unit ID: CSH004
  
  Emission Unit Type: Crushing/Screening/Handling
  
  Type of Unit: Material Handling
  
  Maximum Annual Throughput: 6132000 Units: tons/yr
  
  Model Name and Number: scrubber
  
  AQD Description: Mono-3 Mono Ore Distribution
  
  Company Equipment ID: Mono-3
  
  Company Equipment Description: Mono-3 Mono Ore Distribution
  
  Operating Status: Operating
  
  Initial Construction Commencement Date: 01/01/1972
  
  Initial Operation Commencement Date: 01/01/1972
  
  Most Recent Construction/Modification Commencement Date:
  
  Most Recent Operation Commencement Date:

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC017
    
    Process Name:
    
    Company Process Description: Process for MONO3
    
    Source Classification Code (SCC): 3-01-021-24

    Control equipment(s) directly associated with this process

    WSC018
Facility Detail Report (F000349): Westvaco Facility

- **Emission Unit Information**

  - AQD Emissions Unit ID: CSH005
  - Emission Unit Type: Crushing/Screening/Handling
    - Type of Unit: Crushing
  - Maximum Annual Throughput: 12226400 Units: tons/yr
  - Model Name and Number: XXX
  - AQD Description: Mono Secondary Crusher
  - Company Equipment ID: Mono-4
  - Company Equipment Description: Mono secondary crusher
  - Operating Status: Operating
  - Initial Construction Commencement Date: 01/01/1972
  - Initial Operation Commencement Date: 01/01/1972

- **Serial Number Tracking**

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- **Processes**

  - **Emission Process Information**

    - Process ID: PRC018
    - Process Name:
    - Company Process Description: Process for MONO4
    - Source Classification Code (SCC): 3-01-021-03

    Control equipment(s) directly associated with this process

    WSC019
- **Emission Unit Information**

  AQD Emissions Unit ID: CSH006  
  Emission Unit Type: Crushing/Screening/Handling  
  Type of Unit: Material Handling  
  Maximum Annual Throughput: 6132000 Units: tons/yr  
  Model Name and Number: XXX  
  AQD Description: Mono-11 Mono Dual Ore Reclalm  
  Company Equipment ID: Mono-11  
  Company Equipment Description: Mono-11 Mono Dual Ore Reclalm  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1990  
  Initial Operation Commencement Date: 01/01/1990  
  Most Recent Construction/Modification Commencement Date:  
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- **Serial Number Tracking**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC024  
    Process Name:  
    Company Process Description: Process for MONO11  
    Source Classification Code (SCC): 3-01-021-03  

    Control equipment(s) directly associated with this process  

    WSC020
- **Emission Unit Information**

  AQD Emissions Unit ID: CSH007
  
  Emission Unit Type: Crushing/Screening/Handling
  
  Type of Unit: Screening
  
  Maximum Annual Throughput: 7008000 Units: tons/yr
  
  Model Name and Number: XXX
  
  AQD Description: R-5 Sesqui Fluid Bed Calciner (RA-25)
  
  Company Equipment ID: Mono-12
  
  Company Equipment Description: MONO-12 Mono Loadout Screening
  
  Operating Status: Operating
  
  Initial Construction Commencement Date: 01/01/1995
  
  Initial Operation Commencement Date: 01/01/1995
  
  Most Recent Construction/Modification Commencement Date:
  
  Most Recent Operation Commencement Date:

- **Serial Number Tracking**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC025
    
    Process Name:
    
    Company Process Description: Process for MONO12
    
    Source Classification Code (SCC): 3-01-021-27
    
    Control equipment(s) directly associated with this process
    
    BAG003
**Emission Unit Information**

- AQD Emissions Unit ID: CSH008
- Emission Unit Type: Crushing/Screening/Handling
  - Type of Unit: Crushing
- Maximum Annual Throughput: 2409000 tons/yr
- Model Name and Number: XXX
- AQD Description: NS-4 Mono Secondary Crusher Scrubber
- Company Equipment ID: NS-4
- Company Equipment Description: NS-4 Mono Secondary Crusher Scrubber
- Operating Status: Operating
- Initial Construction Commencement Date: 01/01/1975
- Initial Operation Commencement Date: 01/01/1975
- Most Recent Construction/Modification Commencement Date:
- Most Recent Operation Commencement Date:

**Serial Number Tracking**

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**Processes**

- **Emission Process Information**
  
  - Process ID: PRC027
  - Process Name:
  - Company Process Description: Process for NS4
  - Source Classification Code (SCC): 3-01-021-03

  Control equipment(s) directly associated with this process

  WSC021
- **Emission Unit Information**

  - AQD Emissions Unit ID: CSH009
  - Emission Unit Type: Crushing/Screening/Handling
  - Type of Unit: Material Handling
  - Maximum Annual Throughput: 80000 tons/yr
  - Model Name and Number: baghouse
  - AQD Description: Bicarb Product Handling
  - Company Equipment ID: BC-2
  - Company Equipment Description: BC-2 Bicarb Product Handling
  - Operating Status: Operating
  - Initial Construction Commencement Date: 01/01/1990
  - Initial Operation Commencement Date: 01/01/1990
  - Most Recent Construction/Modification Commencement Date: 
  - Most Recent Operation Commencement Date: 

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- **Processes**

  - **Emission Process Information**

    - Process ID: PRC037
    - Process Name:
    - Company Process Description: Process for BC2
    - Source Classification Code (SCC): 3-01-038-01

    Control equipment(s) directly associated with this process

    BAG004
Emission Unit: CSH010

- **Emission Unit Information**

  AQD Emissions Unit ID: CSH010
  Emission Unit Type: Crushing/Screening/Handling
  Type of Unit: Material Handling
  Maximum Annual Throughput: 142788 Units: tons/yr
  Model Name and Number: XXX
  AQD Description: RD-3 Lime Slaker Vent
  Company Equipment ID: RD-3
  Company Equipment Description: RD-3 Lime Slaker Vent
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1983
  Initial Operation Commencement Date: 01/01/1983

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- **Processes**

  - **Emission Process Information**

  Process ID: PRC047
  Company Process Description: Process for RD3

  Control equipment(s) directly associated with this process

  WSC022
Emission Unit : CSH011

- Emission Unit Information

  AQD Emissions Unit ID: CSH011
  Emission Unit Type: Crushing/Screening/Handling
  Type of Unit: Material Handling
  Maximum Annual Throughput: 2350000 Units: tons/yr
  Model Name and Number: XXX
  AQD Description: Mine Water Housekeeping
  Company Equipment ID: MW-4
  Company Equipment Description: MW-4 - Mine Water Housekeeping
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1993
  Initial Operation Commencement Date: 01/01/1993

- Serial Number Tracking

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- Processes

  - Emission Process Information

    Process ID: PRC032
    Process Name:
    Company Process Description: Process for MW4
    Source Classification Code (SCC): 3-01-021-22

    Control equipment(s) directly associated with this process

    BAG005
Emission Unit : CSH012

- **Emission Unit Information**

  AQD Emissions Unit ID: CSH012
  Emission Unit Type: Crushing/Screening/Handling
  Type of Unit: Material Handling
  Maximum Annual Throughput: 380880 Units: tons/yr
  Model Name and Number: XXX
  AQD Description: Mono Power Housekeeping
  Company Equipment ID: NS-2A
  Company Equipment Description: mono powerhouse housekeeping
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1975
  Initial Operation Commencement Date: 01/01/1975
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- **Serial Number Tracking**

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- **Processes**

- **Emission Process Information**

  Process ID: PRC044
  Process Name: mono power houskeeping
  Company Process Description: Process for NS2A
  Source Classification Code (SCC): 3-05-102-03

  Control equipment(s) directly associated with this process

  BAG001
**Emission Unit Information**

- **AQD Emissions Unit ID:** CSH013
- **Emission Unit Type:** Crushing/Screening/Handling
- **Type of Unit:** Crushing
- **Maximum Annual Throughput:** 6132000 Units: tons/yr
- **Model Name and Number:** XXX
- **AQD Description:**
- **Company Equipment ID:** MONO-2
- **Company Equipment Description:** MONO-2 Primary Crusher
- **Operating Status:** Operating
- **Initial Construction Commencement Date:** 01/01/1972
- **Initial Operation Commencement Date:** 01/01/1972
- **Most Recent Construction/Modification Commencement Date:**
- **Most Recent Operation Commencement Date:**

**Serial Number Tracking**

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**Processes**

- **Emission Process Information**

  - **Process ID:** PRC075
  - **Process Name:** MONO-2 Primary Crusher
  - **Company Process Description:** Mono ore crushing
  - **Source Classification Code (SCC):** 3-01-021-21

  Control equipment(s) directly associated with this process

  WSC023
- **Emission Unit Information**

  AQD Emissions Unit ID: CSH014

  Emission Unit Type: Crushing/Screening/Handling

  Type of Unit: Material Handling

  Maximum Annual Throughput: 21900

  Units: tons/yr

  Model Name and Number: XXX

  AQD Description:

  Company Equipment ID: NS-10

  Company Equipment Description: Mono Power Flyash Silo

  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1988

  Initial Operation Commencement Date: 01/01/1988

  Most Recent Construction/Modification Commencement Date:

  Most Recent Operation Commencement Date:

- **Serial Number Tracking**

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<th>Allowable Emissions (Lbs/Hour)</th>
<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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- **Processes**

  - **Emission Process Information**

    Process ID: PRC078

    Process Name: NS-10

    Company Process Description: Mono Power Flyash Silo


    Control equipment(s) directly associated with this process

    BAG006
- **Emission Unit Information**

  AQD Emissions Unit ID: **CSH015**

  Emission Unit Type: **Crushing/Screening/Handling**

  Type of Unit: **Material Handling**

  Maximum Annual Throughput: 21900 Units: tons/yr

  Model Name and Number: **XXX**

  AQD Description:

  Company Equipment ID: **NS-11**

  Company Equipment Description: **Mono Power Flyash Truck Loading**

  Operating Status: **Operating**

  Initial Construction Commencement Date: 01/01/1988

  Initial Operation Commencement Date: 01/01/1988

  Most Recent Construction/Modification Commencement Date:

  Most Recent Operation Commencement Date:

- **Serial Number Tracking**

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- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: **PRC079**

    Process Name: **NS-10**

    Company Process Description: **Mono Power Flyash Truck Loading**

    Source Classification Code (SCC): 3-01-021-99

    Release points(s) directly associated with this process

    VER069
Facility Detail Report (F000349): Westvaco Facility

- Emission Unit Information

  AQD Emissions Unit ID: CTW001
  Emission Unit Type: Cooling Tower
  Drift Rate (%): 0.0  Total Dissolved Solids (ppm): 1.0000
  AQD Description: Sesqui Cooling Tower Cell 1
  Company Equipment ID: ct1
  Company Equipment Description: cooling tower
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1953
  Initial Operation Commencement Date: 01/01/1953
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Permitted Emissions

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- Processes
  - Emission Process Information

    Process ID: PRC048
    Process Name:
    Company Process Description: Process for SESQCT1
    Source Classification Code (SCC): 3-85-001-10

    Release points(s) directly associated with this process

      VER048
- **Emission Unit Information**

  AQD Emissions Unit ID: CTW002  
  Emission Unit Type: Cooling Tower  
  Drift Rate (%): 0.0  
  Total Dissolved Solids (ppm): 1.0000  
  AQD Description: Sesqui Cooling Tower Cell 2  
  Company Equipment ID: ct2  
  Company Equipment Description: Sesqui Cooling Tower Cell 2  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1952  
  Initial Operation Commencement Date: 01/01/1952  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC049  
    Process Name:  
    Company Process Description: Process for SESQCT2  
    Source Classification Code (SCC): 3-85-001-10  

    Release points(s) directly associated with this process

    VER049
### Emission Unit Information

- **AQD Emissions Unit ID:** CTW003
- **Emission Unit Type:** Cooling Tower
- **Drift Rate (%):** 0.0
- **Total Dissolved Solids (ppm):** 1.0000
- **AQD Description:** Sesqui Cooling Tower Cell 3
- **Company Equipment ID:** ct3
- **Company Equipment Description:** Sesqui Cooling Tower Cell 3
- **Operating Status:** Operating
- **Initial Construction Commencement Date:** 01/01/1953
- **Initial Operation Commencement Date:** 01/01/1953
- **Most Recent Construction/Modification Commencement Date:**
- **Most Recent Operation Commencement Date:**

### Permitted Emissions

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### Processes

#### Emission Process Information

- **Process ID:** PRC050
- **Process Name:**
- **Company Process Description:** Process for SESQCT3
- **Source Classification Code (SCC):** 3-85-001-10

Release points(s) directly associated with this process

VER050
Emission Unit : CTW004

- **Emission Unit Information**

  AQD Emissions Unit ID: CTW004
  
  Emission Unit Type: Cooling Tower
  
  Drift Rate (%): 0.0  
  Total Dissolved Solids (ppm): 1.0000
  
  AQD Description: Sesqui Cooling Tower Cell 4
  
  Company Equipment ID: ct4
  
  Company Equipment Description: Sesqui Cooling Tower Cell 4
  
  Operating Status: Operating
  
  Initial Construction Commencement Date: 01/01/1953
  
  Initial Operation Commencement Date: 01/01/1953
  
  Most Recent Construction/Modification Commencement Date:
  
  Most Recent Operation Commencement Date:

- **Permitted Emissions**

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<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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</table>

- **Processes**

  - **Emission Process Information**

    Process ID: PRC051
    
    Process Name:
    
    Company Process Description: Process for SESQCT4
    
    Source Classification Code (SCC): 3-85-001-10

    Release points(s) directly associated with this process

    VER051
Facility Detail Report (F000349): Westvaco Facility

- **Emission Unit Information**

  AQD Emissions Unit ID: CTW005
  Emission Unit Type: Cooling Tower
  Drift Rate (%): 0.0
  Total Dissolved Solids (ppm): 1.0000
  AQD Description: Monol Cooling Tower Cell 1
  Company Equipment ID: ct1
  Company Equipment Description: Monol Cooling Tower Cell 1
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1972
  Initial Operation Commencement Date: 01/01/1972

- **Permitted Emissions**

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<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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</thead>
</table>

- **Processes**

  - **Emission Process Information**

    Process ID: PRC052
    Process Name:
    Company Process Description: Process for MONO1CT1
    Source Classification Code (SCC): 3-85-001-10

    Release points(s) directly associated with this process

    VER052
**Facility Detail Report (F000349): Westvaco Facility**

**Emission Unit : CTW006**

**Emission Unit Information**

- AQD Emissions Unit ID: CTW006
- Emission Unit Type: Cooling Tower
- Drift Rate (%): 0.0
- Total Dissolved Solids (ppm): 1.0000
- AQD Description: Mono1 Cooling Tower Cell 2
- Company Equipment ID: ct2
- Company Equipment Description: Mono1 Cooling Tower Cell 2
- Operating Status: Operating

**Initial Construction Commencement Date:** 01/01/1972
**Initial Operation Commencement Date:** 01/01/1972

**Permitted Emissions**

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**Processes**

- **Emission Process Information**

  - **Process ID:** PRC053
  - **Process Name:**
  - **Company Process Description:** Process for MONO1CT2
  - **Source Classification Code (SCC):** 3-85-001-10

  **Release points(s) directly associated with this process**

  VER053
**Emission Unit Information**

- AQD Emissions Unit ID: CTW007
- Emission Unit Type: Cooling Tower
  - Drift Rate (%): 0.0
  - Total Dissolved Solids (ppm): 1.0000
- AQD Description: Mono2 Cooling Tower Cell 1
- Company Equipment ID: ct1
- Company Equipment Description: Mono2 Cooling Tower Cell 1
- Operating Status: Operating

Initial Construction Commencement Date: 01/01/1972
Initial Operation Commencement Date: 01/01/1972

- Permitted Emissions

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<th>Comments</th>
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</table>

- Processes
  - Emission Process Information

  - Process ID: PRC054
  - Process Name: 
  - Company Process Description: Process for MONO2CT1
  - Source Classification Code (SCC): 3-85-001-10

Release points(s) directly associated with this process

VER054
Emission Unit: CTW008

- Emission Unit Information

  AQD Emissions Unit ID: CTW008
  Emission Unit Type: Cooling Tower
  Drift Rate (%): 0.0
  Total Dissolved Solids (ppm): 1.0000
  AQD Description: Mono2 Cooling Tower Cell 2
  Company Equipment ID: ct2
  Company Equipment Description: Mono 2 cooling tower
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1975
  Initial Operation Commencement Date: 01/01/1975
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Permitted Emissions

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- Processes

  - Emission Process Information

    Process ID: PRC055
    Process Name:
    Company Process Description: Process for MONO2CT2
    Source Classification Code (SCC): 3-85-001-10

    Release points(s) directly associated with this process

    VER055
Facility Detail Report (F000349): Westvaco Facility

Emission Unit Information

AQD Emissions Unit ID: CTW009
Emission Unit Type: Cooling Tower

Drift Rate (%): 0.0
Total Dissolved Solids (ppm): 1.0000

AQD Description: Mono-2 Cooling Tower Cell 3
Company Equipment ID: ct3
Company Equipment Description: Mono-2 Cooling Tower Cell 3
Operating Status: Operating

Initial Construction Commencement Date: 01/01/1975
Initial Operation Commencement Date: 01/01/1975

Most Recent Construction/Modification Commencement Date:
Most Recent Operation Commencement Date:

Permitted Emissions

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Processes

Emission Process Information

Process ID: PRC056
Process Name:
Company Process Description: Process for MONO2CT3
Source Classification Code (SCC): 3-85-001-10

Release points(s) directly associated with this process

VER056
Emission Unit : ENG001

- Emission Unit Information

  AQD Emissions Unit ID: ENG001
  Emission Unit Type: Engine
  Name Plate Rating: 890.00 Units: hp
  Site Rating: 715.00 Units: hp
  Primary Fuel Type: Diesel
  Secondary Fuel Type: N/A
  Model Name and Number: Caterpillar 3412 CDITA
  Engine: Compression Ignition
  
  AQD Description:
  Company Equipment ID: EG-1
  Company Equipment Description: Caustic emergency generator
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1991
  Initial Operation Commencement Date: 01/01/1991

- Serial Number Tracking

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- Processes

  - Emission Process Information

    Process ID: PRC081
    Process Name: EG-1
    Company Process Description: Emergency Generator
    Source Classification Code (SCC): 2-02-001-02

    Release points(s) directly associated with this process

    VER070
Emission Unit : ENG002

- Emission Unit Information

  AQD Emissions Unit ID: ENG002
  Emission Unit Type: Engine
  Name Plate Rating: 575.00
    Units: hp
  Site Rating: 460.00
    Units: hp
  Primary Fuel Type: Diesel
  Secondary Fuel Type: N/A
  Model Name and Number: Caterpillar 3412 DIT
    Engine: Compression Ignition
  AQD Description:
  Company Equipment ID: EG-2
  Company Equipment Description: EG-2 Mono Tailings Emergency Generator
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1975
  Initial Operation Commencement Date: 01/01/1975

- Serial Number Tracking

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- Processes

  - Emission Process Information

    Process ID: PRC082
    Process Name: EG-2
    Company Process Description: Mono Tailings Emergency Generator
    Source Classification Code (SCC): 2-02-001-02

    Release points(s) directly associated with this process

      VER071
- Emission Unit Information

  AQD Emissions Unit ID: ENG003
  Emission Unit Type: Engine
  Name Plate Rating: 255.00 Units: hp
  Site Rating: 205.00 Units: hp
  Primary Fuel Type: Diesel
  Secondary Fuel Type: N/A
  Model Name and Number: Cummins NT-855-F1
  Engine: Compression Ignition
  AQD Description:
  Company Equipment ID: EG-3
  Company Equipment Description: EG-3 Sesqui Emergency Fire Pump
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1977
  Initial Operation Commencement Date: 01/01/1977
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Serial Number Tracking

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</table>

- Processes

  - Emission Process Information

    Process ID: PRC083
    Process Name: EG-3
    Company Process Description: Sesqui Emergency Fire Pump
    Source Classification Code (SCC): 2-02-001-02

    Release points(s) directly associated with this process

    VER072
- **Emission Unit Information**

  AQD Emissions Unit ID: ENG004  
  Emission Unit Type: Engine  
  Name Plate Rating: 2814.00 Units: hp  
  Site Rating: 2628.00 Units: hp  
  Primary Fuel Type: Diesel  
  Model Name and Number: Cummins Wartsila CW 270  
  AQD Description:  
  Company Equipment ID: EG-8  
  Company Equipment Description: EG-8 8 Shaft Emergency Generator  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/2008  
  Initial Operation Commencement Date: 01/01/2008  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Serial Number Tracking**

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- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC084  
    Process Name: EG-8  
    Company Process Description: 8 Shaft Emergency Generator  
    Source Classification Code (SCC): 2-02-001-02

    Release points(s) directly associated with this process

    VER073
Emission Unit : FUG001

- Emission Unit Information

  AQD Emissions Unit ID: FUG001
  Emission Unit Type: Fugitive
  AQD Description: Mono Stockpile Reclaim
  Company Equipment ID: Mono-8
  Company Equipment Description: Mono-8 Mono Stockpile Reclaim scrubber
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1978
  Initial Operation Commencement Date: 01/01/1978
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Permitted Emissions

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</table>

- Processes
  
  - Emission Process Information

    Process ID: PRC021
    Company Process Description: Process for MON08
    Source Classification Code (SCC): 3-01-021-24

    Release points(s) directly associated with this process

    VER021
- **Emission Unit Information**

  AQD Emissions Unit ID: FUG002
  Emission Unit Type: Fugitive
  AQD Description: Coal Pile Emissions (dozing, etc.)
  Company Equipment ID: Coal Pile
  Company Equipment Description: Mono power coal stockpile
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1975
  Initial Operation Commencement Date: 01/01/1975
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- **Permitted Emissions**

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<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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- **Processes**

  - **Emission Process Information**

    Process ID: PRC063
    Process Name:
    Company Process Description: Process for COALPILE
    Source Classification Code (SCC): 3-05-103-98

    Release points(s) directly associated with this process

    AVL002
- Emission Unit Information

  AQD Emissions Unit ID: FUG003
  Emission Unit Type: Fugitive
  AQD Description: Coal Pile Wind Erosion
  Company Equipment ID: Coal Pile
  Company Equipment Description: Coal Pile
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1972
  Initial Operation Commencement Date: 01/01/1972

- Permitted Emissions

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- Processes

  - Emission Process Information

    Process ID: PRC064
    Process Name:
    Company Process Description: Process for COALWE
    Source Classification Code (SCC): 3-05-103-98

    Release points(s) directly associated with this process

    AVL003
- **Emission Unit Information**

  AQD Emissions Unit ID: FUG004  
  Emission Unit Type: Fugitive  
  AQD Description: Mono Plant Ore Stockpile  
  Company Equipment ID: MONOPILE  
  Company Equipment Description: Mono Plant Ore Stockpile handling activities  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1972  
  Initial Operation Commencement Date: 01/01/1972  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Permitted Emissions**

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</table>

- **Processes**

  **Emission Process Information**

  Process ID: PRC065  
  Process Name:  
  Company Process Description: Process for MONOPILE  
  Source Classification Code (SCC): 3-05-103-98

  Release points(s) directly associated with this process

  AVL004
Facility Detail Report (F000349): Westvaco Facility

- **Emission Unit Information**

  AQD Emissions Unit ID: FUG005  
  Emission Unit Type: Fugitive  
  AQD Description: Mono Plant Ore Stockpile  
  Company Equipment ID: MONOWE  
  Company Equipment Description: Mono Plant Ore Stockpile wind erosion  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1972  
  Initial Operation Commencement Date: 01/01/1972  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Permitted Emissions**

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</table>

- **Processes**

  - **Emission Process Information**

    Process ID: PRC066  
    Process Name:  
    Company Process Description: Process for MONOWE  
    Source Classification Code (SCC): 3-05-103-98

    Release points(s) directly associated with this process

    AVL005
Emission Unit: FUG006

- Emission Unit Information
  - AQD Emissions Unit ID: FUG006
  - Emission Unit Type: Fugitive
  - AQD Description: Plant Mobile Source Tailpipe - Mobile equipment emissions
  - Company Equipment ID: Mobile
  - Company Equipment Description: Mobile equipment emissions
  - Operating Status: Operating
  - Initial Construction Commencement Date: 01/01/1972
  - Initial Operation Commencement Date: 01/01/1972
  - Most Recent Construction/Modification Commencement Date:
  - Most Recent Operation Commencement Date:

- Permitted Emissions

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Potential Emissions (Lbs/hour)</th>
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<th>Comments</th>
</tr>
</thead>
</table>

- Processes
  - Emission Process Information
    - Process ID: PRC067
    - Company Process Description: Process for PLANTMBL
    - Source Classification Code (SCC): 3-05-103-98
    - Release points(s) directly associated with this process
      - AVL006
- **Emission Unit Information**

  AQD Emissions Unit ID: FUG007  
  Emission Unit Type: Fugitive  
  AQD Description: Sesqui Plant Ore Stockpile  
  Company Equipment ID: SESQUIPILE  
  Company Equipment Description: Sesqui Plant Ore Stockpile handling activities  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1953  
  Initial Operation Commencement Date: 01/01/1953  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Permitted Emissions**

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</tr>
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- **Processes**

  - **Emission Process Information**

    Process ID: PRC068  
    Process Name: SESQUIPILE  
    Company Process Description: Sesqui ore pile handling  
    Source Classification Code (SCC): 3-05-103-98  

    Release points(s) directly associated with this process

    AVL007
Emission Unit Information

AQD Emissions Unit ID: FUG008  
Emission Unit Type: Fugitive  
AQD Description: Sesqui Plant Railcar Load Out  
Company Equipment ID: SESQUILOAD  
Company Equipment Description: Sesqui Plant Railcar Load Out  
Operating Status: Operating  

Initial Construction Commencement Date: 01/01/1953  
Initial Operation Commencement Date: 01/01/1953  

Permitted Emissions

<table>
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Processes

- Emission Process Information

  Process ID: PRC069  
  Process Name: SESQUILOAD  
  Company Process Description: Sesqui Product Loadout  
  Source Classification Code (SCC): 3-05-103-98  

Release points(s) directly associated with this process

AVL008
Facility Detail Report (F000349): Westvaco Facility

Emission Unit : FUG009

Aug 10 2015, 08:15:36

- Emission Unit Information
  
  AQD Emissions Unit ID: FUG009
  
  Emission Unit Type: Fugitive
  
  AQD Description: Sesqui Pile Wind Erosion
  
  Company Equipment ID: SESQUWE
  
  Company Equipment Description: Sesqui ore stockpile wind erosion
  
  Operating Status: Operating
  
  Initial Construction Commencement Date: 01/01/1953
  
  Initial Operation Commencement Date: 01/01/1953
  
  Most Recent Construction/Modification Commencement Date:
  
  Most Recent Operation Commencement Date:

- Permitted Emissions

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</tbody>
</table>

- Processes

  - Emission Process Information
    
    Process ID: PRC070
    
    Process Name: SESQWE
    
    Company Process Description: Process for Sesqui stockpile wind erosion
    
    Source Classification Code (SCC): 3-05-103-98
    
    Release points(s) directly associated with this process
    
    AVL009
Emission Unit: FUG010

- **Emission Unit Information**

  AQD Emissions Unit ID: FUG010
  Emission Unit Type: Fugitive
  AQD Description: Area and Road Fugitives
  Company Equipment ID: WIND/ROAD
  Company Equipment Description: Fugitives from general plant area and road
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1972
  Initial Operation Commencement Date: 01/01/1972

- **Permitted Emissions**

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</tr>
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</table>

- **Processes**

  - **Emission Process Information**

    Process ID: PRC074
    Process Name: Facility Road Emissions
    Company Process Description: WIND/ROAD
    Source Classification Code (SCC): 3-05-888-01
- **Emission Unit Information**

  AQD Emissions Unit ID: HET001  
  Emission Unit Type: Heater/Chiller  
  Firing Type: Direct  
  Heat Input Rating: 30.0  
  Units: MMBtu/hr  
  Primary Fuel Type: Pipeline Grade Natural Gas  
  Secondary Fuel Type: N/A  
  Heat Content of Fuel (BTU/scf): 1020  
  AQD Description: Mine Air Heaters  
  Company Equipment ID: MINEHTRS  
  Company Equipment Description: Mine air heaters  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1972  
  Initial Operation Commencement Date: 01/01/1972  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date: 

- **Permitted Emissions**

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</table>

- **Processes**

  - **Emission Process Information**

    Process ID: PRC073  
    Process Name:  
    Company Process Description: MNHTRS  
    Source Classification Code (SCC): 1-05-001-06  

    Release points(s) directly associated with this process

    VER063
- **Emission Unit Information**

  AQD Emissions Unit ID: LUD001
  
  Emission Unit Type: Loading/Unloading/Dump
  
  Type of Material: solid
  
  Material Description: particulate

  Maximum Annual Throughput: 525600 Units: tons/yr

  AQD Description: Sesqui Bagging
  
  Company Equipment ID: RA-28
  
  Company Equipment Description: RA-28 Sesqui bagging
  
  Operating Status: Operating

- **Permitted Emissions**

<table>
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</table>

- **Processes**

  - **Emission Process Information**

    Process ID: PRC013

    Process Name:

    Company Process Description: Process for RA28

    Source Classification Code (SCC): 3-01-021-22

    Release points(s) directly associated with this process

    VER013
- **Emission Unit Information**

  AQD Emissions Unit ID: LUD002  
  Emission Unit Type: Loading/Unloading/Dump  
  Type of Material: solid  
  Material Description: soda ash product  
  Maximum Annual Throughput: 5694000 tons/yr  
  AQD Description: RA-33 Sesqui Silo Storage Vent  
  Company Equipment ID: RA-33  
  Company Equipment Description: RA-33 Sesqui Silo Storage Vent  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1972  
  Initial Operation Commencement Date: 01/01/1972  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC015  
    Process Name:  
    Company Process Description: Process for RA33  
    Source Classification Code (SCC): 3-01-021-22  

    Release points(s) directly associated with this process

    VER015
**Facility Detail Report (F000349): Westvaco Facility**

**Emission Unit : LUD003**

**Emission Unit Information**

- **AQD Emissions Unit ID:** LUD003
- **Emission Unit Type:** Loading/Unloading/Dump
- **Type of Material:** solid
- **Material Description:** soda ash product
- **Maximum Annual Throughput:** 3285000 units/yr
- **AQD Description:** Mono-9 Mono Railcar Loadout
- **Company Equipment ID:** Mono-9
- **Company Equipment Description:** Mono-9 Mono Railcar Loadout
- **Operating Status:** Operating
- **Initial Construction Commencement Date:** 01/01/1995
- **Initial Operation Commencement Date:** 01/01/1995

**Permitted Emissions**

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</table>

**Processes**

- **Emission Process Information**

  - **Process ID:** PRC022
  - **Process Name:**
  - **Company Process Description:** Process for MONO9
  - **Source Classification Code (SCC):** 3-01-021-22

  Release points(s) directly associated with this process

  VER022
- Emission Unit Information

  AQD Emissions Unit ID: LUD004
  Emission Unit Type: Loading/Unloading/Dump
  Type of Material: solid
  Material Description: soda ash
  Maximum Annual Throughput: 876000 Units: tons/yr

  AQD Description: Mono Bulk Truck Loadout
  Mono-10 Mono Bulk Truck Loadout
  Company Equipment ID: Mono-10
  Company Equipment Description: Mono-10 Mono Bulk Truck Loadout
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1995
  Initial Operation Commencement Date: 01/01/1995

  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Permitted Emissions

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- Processes

  - Emission Process Information

    Process ID: PRC023
    Process Name:
    Company Process Description: Process for MON010
    Source Classification Code (SCC): 3-01-021-22

    Release points(s) directly associated with this process

    VER023
- Emission Unit Information

  AQD Emissions Unit ID: LUD006
  Emission Unit Type: Loading/Unloading/Dump
  Type of Material: solid
  Material Description: locomotive emissions
  Maximum Annual Throughput: 1 Units: tons/yr
  AQD Description: Rail Traffic Switching
  Company Equipment ID: Rail
  Company Equipment Description: Rail Traffic Switching
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1975
  Initial Operation Commencement Date: 01/01/1975
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Permitted Emissions

- Processes

  - Emission Process Information

    Process ID: PRC062
    Process Name:
    Company Process Description: Process for RAIL
    Source Classification Code (SCC): 3-01-021-22

    Release points(s) directly associated with this process
    AVL001
- **Emission Unit Information**

  AQD Emissions Unit ID: LUD007
  Emission Unit Type: Loading/Unloading/Dump
  Type of Material: solid
  Material Description: sodium decahydrate crystals
  Maximum Annual Throughput: 90000
  Units: tons/yr

  AQD Description:
  Company Equipment ID: DECAMINING
  Company Equipment Description: Mining deca shelves on evap lake
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/2004
  Initial Operation Commencement Date: 01/01/2004

  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- **Permitted Emissions**

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</table>

- **Processes**

  - **Emission Process Information**

    Process ID: PRC080
    Process Name: DECAMINING
    Company Process Description: Mining deca shelves on evap lake
    Source Classification Code (SCC): 3-01-021-23

    Release points(s) directly associated with this process

    AVL010
Emission Unit : SEB001

- Emission Unit Information

  AQD Emissions Unit ID: SEB001
  Emission Unit Type: Spray Booth/Electroplating/Sand Blasting
    Unit Type: Spray Booth
    Unit Description: Spray booth
    AQD Description: Sodium Carbonate Scrubber
  Company Equipment ID: na
  Company Equipment Description: Plant malfunction
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1972
  Initial Operation Commencement Date: 01/01/1972
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Permitted Emissions

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</table>

- Processes

- Emission Process Information

  Process ID: PRC071
  Process Name:

  Company Process Description: Sodium Carbonate Scrubber
  Source Classification Code (SCC): 3-05-999-99

  Release points(s) directly associated with this process

  VER062
- **Emission Unit Information**

  AQD Emissions Unit ID: TNK001
  Emission Unit Type: Storage Tank/Silo
  Material Type: Solid
  Description of Material Stored: lime

  Capacity: 1 tons
  Maximum Throughput: 65700.0000 tons/yr
  AQD Description: MW-1 Lime Silo
  Company Equipment ID: MW-1
  Company Equipment Description: MW-1 Lime Silo
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1995
  Initial Operation Commencement Date: 01/01/1995
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- **Permitted Emissions**

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</table>

- **Processes**

  - **Emission Process Information**

    Process ID: PRC029
    Process Name:
    Company Process Description: Process for MW1

    Release points(s) directly associated with this process

    VER029
- **Emission Unit Information**

  AQD Emissions Unit ID: TNK002
  
  Emission Unit Type: Storage Tank/Silo
  
  Material Type: Solid
  
  Description of Material Stored: solid material
  
  Capacity: 1 Units: tons
  
  Maximum Throughput: 105120.0000 Units: tons/yr
  
  AQD Description: ELDM Perlite Precoat Silo
  
  MW-2 Perlite Precoat Silo
  
  Company Equipment ID: MW-2
  
  Company Equipment Description: perlite precoat silo
  
  Operating Status: Operating
  
  Initial Construction Commencement Date: 01/01/1995
  
  Initial Operation Commencement Date: 01/01/1995
  
  Most Recent Construction/Modification Commencement Date:
  
  Most Recent Operation Commencement Date:

- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC030
    
    Process Name:
    
    Company Process Description: Process for MW2
    
    Source Classification Code (SCC): 3-01-021-99

    Release points(s) directly associated with this process

    VER030
- **Emission Unit Information**

  AQD Emissions Unit ID: TNK003  
  Emission Unit Type: Storage Tank/Silo  
  Material Type: Solid  
  Description of Material Stored: soda ash  
  Capacity: 1  
  Units: gallons  
  Maximum Throughput: 2190000.0000  
  Units: tons/yr  
  AQD Description: NS-2B Mono Powerhouse Housekeeping baghouse  
  Company Equipment ID: NS-2B  
  Company Equipment Description: NS-2B Mono Powerhouse Housekeeping baghouse  
  Operating Status: Operating  
  Initial Construction Commencement Date: 01/01/1975  
  Initial Operation Commencement Date: 01/01/1975  
  Most Recent Construction/Modification Commencement Date:  
  Most Recent Operation Commencement Date:  

- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC034  
    Process Name:  
    Company Process Description: Process for NS2B  
    Source Classification Code (SCC): 3-05-102-03  

    Release points(s) directly associated with this process

    VER034
Emission Unit : VNT001

- Emission Unit Information

  AQD Emissions Unit ID: VNT001
  Emission Unit Type: Process Vent
  AQD Description: PA-6 Sesqui Plant Dissolver Vent
  Company Equipment ID: PA-6
  Company Equipment Description: PA-6 Sesqui Plant Dissolver Vent
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1966
  Initial Operation Commencement Date: 01/01/1966

  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Permitted Emissions

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- Processes

  - Emission Process Information

    Process ID: PRC003
    Process Name:
    Company Process Description: Process for PA6
    Source Classification Code (SCC): 3-01-021-08

    Release points(s) directly associated with this process

    VER003
Emission Unit Information

AQS Emissions Unit ID: VNT002
Emission Unit Type: Process Vent
AQS Description: PA-7 Sesqui Plant Dissolver Vent
Company Equipment ID: PA-7
Company Equipment Description: PA-7 Sesqui Plant Dissolver Vent
Operating Status: Operating

Initial Construction Commencement Date: 01/01/1963
Initial Operation Commencement Date: 01/01/1963

Permitted Emissions

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Processes

Emission Process Information

Process ID: PRC004
Process Name: 
Company Process Description: Process for PA7
Source Classification Code (SCC): 3-01-021-08

Release points(s) directly associated with this process

VER004
Facility Detail Report (F000349): Westvaco Facility

Emission Unit : VNT003

Aug 10 2015, 08:15:36

- **Emission Unit Information**

  AQD Emissions Unit ID: VNT003
  AQD Description: PA-8 Sesqui Plant Dissolver Vent
  Company Equipment ID: PA-8
  Company Equipment Description: PA-8 Sesqui Plant Dissolver Vent
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1953
  Initial Operation Commencement Date: 01/01/1953

- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC005
    Process Name:
    Company Process Description: Process for PA8
    Source Classification Code (SCC): 3-01-021-08

    Release points(s) directly associated with this process

    VER005
- Emission Unit Information

  AQD Emissions Unit ID: VNT004
  Emission Unit Type: Process Vent
  AQD Description: Sesqui Plant Dissolver Vent
  Company Equipment ID: PA-9
  Company Equipment Description: PA-9 Sesqui Plant Dissolver Vent
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/1953
  Initial Operation Commencement Date: 01/01/1953
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Permitted Emissions

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- Processes

  - Emission Process Information

    Process ID: PRC006
    Process Name:
    Company Process Description: Process for PA9
    Source Classification Code (SCC): 3-01-021-08

    Release points(s) directly associated with this process

    VER006
- Emission Unit Information

  AQD Emissions Unit ID: VNT005
  Emission Unit Type: Process Vent
  AQD Description: Mine Vent 2
  Company Equipment ID: Mine Vent 2
  Company Equipment Description: Mine Vent 2
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1972
  Initial Operation Commencement Date: 01/01/1972

- Permitted Emissions

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- Processes

  - Emission Process Information

    Process ID: PRC057
    Process Name:
    Company Process Description: Process for MINVENT2
    Source Classification Code (SCC): 3-01-021-23

    Release points(s) directly associated with this process
    VER057
- **Emission Unit Information**

  AQD Emissions Unit ID: VNT006  
  Emission Unit Type: Process Vent  
  AQD Description: Mine Vent 3  
  Company Equipment ID: Mine Vent 3  
  Company Equipment Description: Mine Vent 3  
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1975  
  Initial Operation Commencement Date: 01/01/1975

- **Permitted Emissions**

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- **Processes**

  - **Emission Process Information**

    Process ID: PRC058  
    Process Name:  
    Company Process Description: Process for MINVENT3  
    Source Classification Code (SCC): 3-01-021-23

    Release points(s) directly associated with this process

    VER058
- **Emission Unit Information**

  AQD Emissions Unit ID: VNT007
  Emission Unit Type: Process Vent
  AQD Description: Mine Vent 4
  Company Equipment ID: Mine Vent 4
  Company Equipment Description: Mine vent 4
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1972
  Initial Operation Commencement Date: 01/01/1972

- **Permitted Emissions**

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<th>Potential Emissions (Tons/Year)</th>
<th>Allowable Emissions (Lbs/Hour)</th>
<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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</thead>
</table>

- **Processes**

  - **Emission Process Information**

    Process ID: PRC059
    Process Name:
    Company Process Description: Process for MINVENT4
    Source Classification Code (SCC): 3-01-021-23

    Release points(s) directly associated with this process

    VER059
- **Emission Unit Information**

  AQD Emissions Unit ID: VNT008
  Emission Unit Type: Process Vent
  AQD Description: Mine Vent 9
  Company Equipment ID: Mine Vent 9
  Company Equipment Description: Mine vent number 9
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1975
  Initial Operation Commencement Date: 01/01/1975

- **Permitted Emissions**

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<th>Pollutant</th>
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<th>Allowable Emissions (Lbs/Hour)</th>
<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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</thead>
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- **Processes**
  - **Emission Process Information**

    Process ID: PRC061
    Process Name:
    Company Process Description: Process for MINVENT9
    Source Classification Code (SCC): 3-01-021-23

    Release points(s) directly associated with this process

    VER061
Facility Detail Report (F000349): Westvaco Facility

- Emission Unit Information

  AQD Emissions Unit ID: VNT009
  Emission Unit Type: Process Vent
  AQD Description: Mine Vent 6
  Company Equipment ID: Mine Vent 6
  Company Equipment Description: Mine Vent 6
  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1972
  Initial Operation Commencement Date: 01/01/1972
  Most Recent Construction/Modification Commencement Date:
  Most Recent Operation Commencement Date:

- Permitted Emissions

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<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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</thead>
</table>

- Processes
  - Emission Process Information

    Process ID: PRC060
    Process Name:
    Company Process Description: Process for MINVENT6
    Source Classification Code (SCC): 3-85-001-10

    Release points(s) directly associated with this process

    VER060
- **Emission Unit Information**

  AQD Emissions Unit ID: VNT010

  Emission Unit Type: Process Vent

  AQD Description: MW-6

  Company Equipment ID: MW-6

  Company Equipment Description: MW-6 H2S Scrubber/CO2 Stripping System

  Operating Status: Operating

  Initial Construction Commencement Date: 01/01/1972

  Initial Operation Commencement Date: 01/01/1972

  Most Recent Construction/Modification Commencement Date:

  Most Recent Operation Commencement Date:

- **Permitted Emissions**

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<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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</thead>
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- **Processes**

  **Emission Process Information**

  Process ID: PRC076

  Process Name: MW-6

  Company Process Description: H2S scrubber/CO2 stripping system

  Source Classification Code (SCC): 3-01-021-10

  Control equipment(s) directly associated with this process

  WSC024
Emission Unit: VNT011

- Emission Unit Information
  
  AQD Emissions Unit ID: VNT011
  Emission Unit Type: Process Vent
  AQD Description:
  Company Equipment ID: MW-7
  Company Equipment Description: Longwall Water Project H2S vent
  Operating Status: Operating
  Initial Construction Commencement Date: 01/01/2008
  Initial Operation Commencement Date: 01/01/2008

- Permitted Emissions
  
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<th>Allowable Emissions (Tons/Year)</th>
<th>Comments</th>
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- Processes
  
  - Emission Process Information
    
    Process ID: PRCQ77
    Process Name: MW-7
    Company Process Description: LWW H2S vent
    Source Classification Code (SCC): 3-01-021-99

  Release points(s) directly associated with this process

  VER067
- **Control Equipment Information**

  
  Equipment Type: Filter/Baghouse  
  Control Equipment ID: BAG001  
  AQD Description: Mono Power Housekeeping Baghouse  
  Company Control Equipment ID: NS-2A  
  Company Control Equipment Description: Mono Power Housekeeping Baghouse  
  Operating Status: Operating  
  Initial Installation Date: 01/01/1975  
  Manufacturer: Flexkleen  
  Model: Model 100-RA-48KD

- **Specific Equipment Type Information**

  
  Filter/Baghouse Type: Pulse Jet  
  Pressure Type: negative  
  Fabric Cleaning Mechanism: pulse air  
  Operating Pressure Drop Range: 2  
  Lime Injection/fabric Coating Agent: No  
  Lime Injection/Fabric Coating Agent Type:  
  Lime Injection/Fabric Coating Feed Rate - specify units:  
  Bag Leak Detection System: No  
  Inlet Gas Temp:  
  Number of Bags: 100  
  Sec. Outlet Gas Temp: 69  
  Inlet Gas Flow Rate:  
  Outlet Gas Flow Rate: 2567

- **Pollutants Controlled**

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<th>Pollutant</th>
<th>Design Control Efficiency(%)</th>
<th>Operating Control Efficiency(%)</th>
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<th>Total Capture Control(%)</th>
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</table>

- **Associated Control Equipments And Release Points**

  Release points(s) directly associated with this control equipment

  VER044
Control Equipment : BAG002

- Control Equipment Information

  Equipment Type: Filter/Baghouse
  Control Equipment ID: BAG002
  AQD Description:
  Company Control Equipment ID: BC-1
  Company Control Equipment Description:
  Operating Status: Operating
  Initial Installation Date: 01/01/1990
  Manufacturer: Micropul
  Model: 340-S-TRH8

- Specific Equipment Type information

  Filter/Baghouse Type: Pulse Jet
  Pressure Type: negative
  Fabric Cleaning Mechanism: Pulse air
  Operating Pressure Drop Range: 2
  Lime Injection/fabric Coating Agent: No
  Lime Injection/Fabric Coating Agent Type:
  Lime Injection/Fabric Coating Feed Rate - specify units:
  Bag Leak Detection System: No
  Inlet Gas Temp:
  Number of Bags: 340
  Sec. Outlet Gas Temp: 171
  Inlet Gas Flow Rate: 11725
  Outlet Gas Flow Rate: 11725

- Pollutants Controlled

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</table>

- Associated Control Equipments And Release Points

  Release points(s) directly associated with this control equipment

  VER036
- **Control Equipment Information**

  Equipment Type: Filter/Baghouse
  Control Equipment ID: BAG003
  AQD Description:
  Company Control Equipment ID: MONO-12
  Company Control Equipment Description:
  Operating Status: Operating
  Initial Installation Date: 01/01/1995
  Manufacturer: CPE
  Model: 120TNFW361C

- **Specific Equipment Type information**

  Filter/Baghouse Type: Reverse Air
  Pressure Type: negative
  Fabric Cleaning Mechanism: reverse air
  Operating Pressure Drop Range: 2
  Lime Injection/Fabric Coating Agent: No
  Lime Injection/Fabric Coating Agent Type:
  Lime Injection/Fabric Coating Feed Rate - specify units:
  Bag Leak Detection System: No
  Inlet Gas Temp:
  Number of Bags: 69
  Sec. Outlet Gas Temp: 69
  Inlet Gas Flow Rate: 19266
  Outlet Gas Flow Rate: 19266

- **Pollutants Controlled**

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- **Associated Control Equipments And Release Points**

Release points(s) directly associated with this control equipment

VER025
- **Control Equipment Information**

  Equipment Type: Filter/Baghouse  
  Control Equipment ID: BAG004  
  AQD Description:  
  Company Control Equipment ID: BC-2  
  Company Control Equipment Description: Baghouse  
  Operating Status: Operating  
  Initial Installation Date: 01/01/1990  
  Manufacturer: Micropul  
  Model: 289-S-TRH8

- **Specific Equipment Type information**

  Filter/Baghouse Type: Pulse Jet  
  Pressure Type: negative  
  Fabric Cleaning Mechanism: pulse air  
  Operating Pressure Drop Range: 2  
  Lime Injection/fabric Coating Agent: No  
  Lime Injection/Fabric Coating Agent Type:  
  Lime Injection/Fabric Coating Feed Rate - specify units:  
  Bag Leak Detection System: No  
  Inlet Gas Temp:  
  Number of Bags: 289  
  Sec. Outlet Gas Temp:  
  Inlet Gas Flow Rate:  
  Outlet Gas Flow Rate: 7528

- **Pollutants Controlled**

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- **Associated Control Equipments And Release Points**

  Release points(s) directly associated with this control equipment

  VER037
Control Equipment : BAG005

Control Equipment Information

- Equipment Type: Filter/Baghouse
- Control Equipment ID: BAG005
- AQD Description: 
- Company Control Equipment ID: MW-4
- Company Control Equipment Description: Baghouse
- Operating Status: Operating
- Initial Installation Date: 01/01/1993
- Manufacturer: CP Environmental
- Model: Model 100TNFW100C

Specific Equipment Type information

- Filter/Baghouse Type: Pulse Jet
- Pressure Type: negative
- Fabric Cleaning Mechanism: pulse air
- Operating Pressure Drop Range: 2
- Lime Injection/fabric Coating Agent: No

Lime Injection/Fabric Coating Agent Type:
- Lime Injection/Fabric Coating Feed Rate - specify units:
- Bag Leak Detection System: No
- Inlet Gas Temp: 68
- Number of Bags: 100
- Sec. Outlet Gas Temp: 68
- Inlet Gas Flow Rate: 4000
- Outlet Gas Flow Rate: 4000

Pollutants Controlled

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</table>

Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER032
- Control Equipment Information

  Equipment Type: Filter/Baghouse
  Control Equipment ID: BAG006
  AQD Description:
  Company Control Equipment ID: NS–10
  Company Control Equipment Description: Mono Power Flyash Silo Baghouse
  Operating Status: Operating
  Initial Installation Date: 01/01/1988
  Manufacturer: Mikropul
  Model: Model 69–8–TRH

- Specific Equipment Type Information

  Filter/Baghouse Type: Pulse Jet
  Pressure Type: negative
  Fabric Cleaning Mechanism: Pulse air
  Operating Pressure Drop Range: 6
  Lime Injection/fabric Coating Agent: No
  Lime Injection/Fabric Coating Agent Type:
  Lime Injection/Fabric Coating Feed Rate - specify units:
  Bag Leak Detection System: No
  Inlet Gas Temp: 69
  Number of Bags: 
  Sec. Outlet Gas Temp: 69
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate: 1570

- Pollutants Controlled

<table>
<thead>
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<th>Operating Control Efficiency(%)</th>
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</table>

- Associated Control Equipments And Release Points

  Release points(s) directly associated with this control equipment

  VER068
Control Equipment Information

Equipment Type: Electrostatic Precipitator
Control Equipment ID: ESP001
AQD Description:
Company Control Equipment ID: NS-1A
Company Control Equipment Description:
Operating Status: Operating
Initial Installation Date: 08/01/1973
Manufacturer:
Model:

Specific Equipment Type Information

Precipitator Type: Dry
Number of Operating Fields:
Secondary Voltage Range: 1
Secondary Current Milliamps Range:
Inlet Gas Flow Rate:
Outlet Gas Flow Rate:

Pollutants Controlled

<table>
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<th>Pollutant</th>
<th>Design Control Efficiency(%)</th>
<th>Operating Control Efficiency(%)</th>
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Associated Control Equipments And Release Points

Control equipment(s) directly associated with this control equipment

WSC001
- **Control Equipment Information**

  **Equipment Type:** Electrostatic Precipitator  
  **Control Equipment ID:** ESP002  
  **AQD Description:**  
  Company Control Equipment ID: NS–1B  
  Company Control Equipment Description: Dry ESP  
  **Operating Status:** Operating  
  **Initial Installation Date:** 08/01/1973  
  **Manufacturer:**  
  **Model:**

- **Specific Equipment Type information**

  **Precipitator Type:** Dry  
  **Number of Operating Fields:** 1  
  **Secondary Voltage Range:** 1  
  **Secondary Current Milliamps Range:**  
  **Inlet Gas Flow Rate:**  
  **Outlet Gas Flow Rate:**

- **Pollutants Controlled**

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<th>Pollutant</th>
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</table>

- **Associated Control Equipments And Release Points**

  Control equipment(s) directly associated with this control equipment

  WSC002
Control Equipment : ESP003

- **Control Equipment Information**

  Equipment Type: Electrostatic Precipitator  
  Control Equipment ID: ESP003  
  AQD Description:  
  Company Control Equipment ID: NS–3  
  Company Control Equipment Description: Dry ESP  
  Operating Status: Operating  
  Initial Installation Date: 01/01/1975  
  Manufacturer: Research Cottrell  
  Model:  

- **Specific Equipment Type Information**

  Precipitator Type: Dry  
  Number of Operating Fields:  
  Secondary Voltage Range: 1  
  Secondary Current Milliamps Range:  
  Inlet Gas Flow Rate:  
  Outlet Gas Flow Rate: 225900

- **Pollutants Controlled**

<table>
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- **Associated Control Equipments And Release Points**

  Release points(s) directly associated with this control equipment

  VER026
Control Equipment : WSC001

- **Control Equipment Information**
  
  Equipment Type: Wet Scrubber  
  Control Equipment ID: WSC001  
  AQD Description:  
  Company Control Equipment ID: NS-1A  
  Company Control Equipment Description: FGD wet scrubber  
  Operating Status: Operating  
  Initial Installation Date: 08/01/1973  
  Manufacturer:  
  Model:

- **Specific Equipment Type information**
  
  Wet Scrubber Type: Spray Chamber  
  Operating Pressure Drop Range: 1  
  pH Range for Scrubbing Liquid:  
  Scrubber Liquid Recirculated:  
  Scrubber Liquid Flow Rate:  
  Scrubber Liquid Supply Pressure:  
  Inlet Gas Flow Rate:  
  Outlet Gas Flow Rate:  
  Inlet Gas Temp:  
  Sec. Outlet Gas Temp:

- **Pollutants Controlled**

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- **Associated Control Equipments And Release Points**

Release points(s) directly associated with this control equipment

VER033
Control Equipment : WSC002

- **Control Equipment Information**

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC002
  AQD Description:
  Company Control Equipment ID: NS-1B
  Company Control Equipment Description:
  Operating Status: Operating
  Initial Installation Date: 08/01/1973
  Manufacturer:
  Model:

- **Specific Equipment Type information**

  Wet Scrubber Type: Spray Chamber
  Operating Pressure Drop Range: 1
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated:
  Scrubber Liquid Flow Rate:
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate:
  Inlet Gas Temp:
  Sec. Outlet Gas Temp:

- **Pollutants Controlled**

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- **Associated Control Equipments And Release Points**

  Release points(s) directly associated with this control equipment
  VER043
- **Control Equipment Information**

  Equipment Type: Wet Scrubber  
  Control Equipment ID: WSC003  
  AQD Description:  
  Company Control Equipment ID: RA-1
  Company Control Equipment Description: Wet scrubber  
  Operating Status: Operating
  Initial Installation Date: 01/01/1963

  Manufacturer:  
  Model:

- **Specific Equipment Type information**

  Wet Scrubber Type: Venturi  
  Operating Pressure Drop Range: 3.8  
  pH Range for Scrubbing Liquid:  
  Scrubber Liquid Recirculated: Yes  
  Scrubber Liquid Flow Rate: 39  
  Scrubber Liquid Supply Pressure:  
  Inlet Gas Flow Rate: 8200  
  Outlet Gas Flow Rate: 8200  
  Inlet Gas Temp:  
  Sec. Outlet Gas Temp: 172

- **Pollutants Controlled**

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- **Associated Control Equipments And Release Points**

Release points(s) directly associated with this control equipment

VER007
Control Equipment : WSC004

Control Equipment Information

- **Equipment Type:** Wet Scrubber
- **Control Equipment ID:** WSC004
- **AQD Description:**
- **Company Control Equipment ID:** RA-23A&B
- **Company Control Equipment Description:** R-13 wet scrubber
- **Operating Status:** Operating
- **Initial Installation Date:** 01/01/1964
- **Manufacturer:**
- **Model:**

Specific Equipment Type information

- **Wet Scrubber Type:** Venturi
- **Operating Pressure Drop Range:** 17
- **pH Range for Scrubbing Liquid:**
- **Scrubber Liquid Recirculated:**
- **Scrubber Liquid Flow Rate:** 207
- **Scrubber Liquid Supply Pressure:**
- **Inlet Gas Flow Rate:**
- **Outlet Gas Flow Rate:** 77000
- **Inlet Gas Temp:**
- **Sec. Outlet Gas Temp:** 180

Pollutants Controlled

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Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER064
Control Equipment : WSC005

- Control Equipment Information

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC005
  AOD Description:
  Company Control Equipment ID: RA-23A
  Company Control Equipment Description: R-12 wet scrubber
  Operating Status: Operating
  Initial Installation Date: 01/01/1964
  Manufacturer:
  Model:

- Specific Equipment Type information

  Wet Scrubber Type: Venturi
  Operating Pressure Drop Range: 17
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated:
  Scrubber Liquid Flow Rate: 207
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate: 38500
  Inlet Gas Temp:
  Sec. Outlet Gas Temp: 180

- Pollutants Controlled

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</table>

- Associated Control Equipments And Release Points

  Release points(s) directly associated with this control equipment

  VER008
Control Equipment : WSC006

- Control Equipment Information

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC006
  AQD Description:
  Company Control Equipment ID: RA-24
  Company Control Equipment Description:
  Operating Status: Operating
  Initial Installation Date: 01/01/1966
  Manufacturer: AAT
  Model: DTV-75K

- Specific Equipment Type information

  Wet Scrubber Type: Venturi
  Operating Pressure Drop Range: 35.4
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated: Yes
  Scrubber Liquid Flow Rate: 552
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate: 65000
  Inlet Gas Temp:
  Sec. Outlet Gas Temp: 147

- Pollutants Controlled

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- Associated Control Equipments And Release Points

  Release points(s) directly associated with this control equipment

  VER010
Control Equipment : WSC007

- **Control Equipment Information**

  Equipment Type: Wet Scrubber  
  Control Equipment ID: WSC007  
  AQD Description:  
  Company Control Equipment ID: RA-25  
  Company Control Equipment Description: Multi-vane wet scrubber  
  Operating Status: Operating  
  Initial Installation Date: 01/01/1969  
  Manufacturer: Ducon  
  Model: Multi-Vane Model II

- **Specific Equipment Type information**

  Wet Scrubber Type: Other  
  Operating Pressure Drop Range: 3.3  
  pH Range for Scrubbing Liquid:  
  Scrubber Liquid Recirculated: Yes  
  Scrubber Liquid Flow Rate: 174  
  Scrubber Liquid Supply Pressure:  
  Inlet Gas Flow Rate:  
  Outlet Gas Flow Rate: 83000  
  Inlet Gas Temp:  
  Sec. Outlet Gas Temp: 170

- **Pollutants Controlled**

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- **Associated Control Equipments And Release Points**

  Release points(s) directly associated with this control equipment

  VER011
Control Equipment : WSC008

- Control Equipment Information

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC008
  AQD Description:
  Company Control Equipment ID: RA-26
  Company Control Equipment Description: Venturi wet scrubber
  Operating Status: Operating
  Initial Installation Date: 01/01/1985
  Manufacturer: FMC
  Model: Model 120K

- Specific Equipment Type information

  Wet Scrubber Type: Venturi
  Operating Pressure Drop Range: 18
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated: Yes
  Scrubber Liquid Flow Rate: 624
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate: 107000
  Inlet Gas Temp:
  Sec. Outlet Gas Temp: 150

- Pollutants Controlled

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- Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER012
Control Equipment : WSC009

- Control Equipment Information

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC009
  AQD Description:
  Company Control Equipment ID: RA-29
  Company Control Equipment Description: Venturi scrubber
  Operating Status: Operating
  Initial Installation Date: 01/01/1953
  Manufacturer: AAT
  Model: Model DTV-90

- Specific Equipment Type information

  Wet Scrubber Type: Venturi
  Operating Pressure Drop Range: 29.75
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated: Yes
  Scrubber Liquid Flow Rate: 630
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate:
  Inlet Gas Temp:
  Sec. Outlet Gas Temp: 180

- Pollutants Controlled

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- Associated Control Equipments And Release Points

  Release points(s) directly associated with this control equipment

  VER014
Control Equipment : WSC010

- **Control Equipment Information**

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC010
  AQD Description:
  Company Control Equipment ID: MONO-5
  Company Control Equipment Description: MONO-5 venturi scrubber
  Operating Status: Operating
  Initial Installation Date: 01/01/1972
  Manufacturer: Ducon
  Model: Type VVO

- **Specific Equipment Type information**

  Wet Scrubber Type: Venturi
  Operating Pressure Drop Range: 26
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated: Yes
  Scrubber Liquid Flow Rate: 721
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate: 99000
  Outlet Gas Flow Rate:
  Inlet Gas Temp:
  Sec. Outlet Gas Temp: 168

- **Pollutants Controlled**

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- **Associated Control Equipments And Release Points**

  Release points(s) directly associated with this control equipment

  VER019
Control Equipment Information

- Equipment Type: Wet Scrubber
- Control Equipment ID: WSC011
- AQD Description:
  - Company Control Equipment ID: MONO-6
  - Company Control Equipment Description: Venturi scrubber
- Operating Status: Operating
  - Initial Installation Date: 01/01/1972
  - Manufacturer: Ducon
  - Model: Type VVO

Specific Equipment Type Information

- Wet Scrubber Type: Venturi
- Operating Pressure Drop Range: 20
- pH Range for Scrubbing Liquid:
- Scrubber Liquid Recirculated: Yes
- Scrubber Liquid Flow Rate: 740
- Scrubber Liquid Supply Pressure:
- Inlet Gas Flow Rate:
- Outlet Gas Flow Rate: 100000
- Inlet Gas Temp:
- Sec. Outlet Gas Temp: 174

Pollutants Controlled

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Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER020
Control Equipment Information

- Equipment Type: Wet Scrubber
- Control Equipment ID: WSC012
- AQD Description: NS-6
- Company Control Equipment Description: Venturi scrubber
- Operating Status: Operating
- Initial Installation Date: 01/01/1975
- Manufacturer: FMC
- Model: Model 120K

Specific Equipment Type Information

- Wet Scrubber Type: Venturi
- Operating Pressure Drop Range: 21
- pH Range for Scrubbing Liquid: Yes
- Scrubber Liquid Flow Rate: 955
- Scrubber Liquid Recirculated: Yes
- Scrubber Liquid Supply Pressure:
- Inlet Gas Flow Rate: 122000
- Outlet Gas Flow Rate: 158
- Inlet Gas Temp: 158

Pollutants Controlled

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Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER028
Control Equipment : WSC013

- Control Equipment Information

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC013
  AQD Description:
  Company Control Equipment ID: MW-3
  Company Control Equipment Description:
  Operating Status: Operating
  Initial Installation Date: 01/01/1993
  Manufacturer: AAT
  Model: Model DTV-125

- Specific Equipment Type information

  Wet Scrubber Type: Venturi
  Operating Pressure Drop Range: 21
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated: Yes
  Scrubber Liquid Flow Rate: 736
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate: 120000
  Inlet Gas Temp:
  Sec. Outlet Gas Temp: 150

- Pollutants Controlled

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- Associated Control Equipments And Release Points

  Release points(s) directly associated with this control equipment
  VER031
Control Equipment : WSC014

- Control Equipment Information
  
  Equipment Type: Wet Scrubber  
  Control Equipment ID: WSC014  
  AQD Description:  
  Company Control Equipment ID: SM-1  
  Company Control Equipment Description: Venturi scrubber  
  Operating Status: Operating  
  Initial Installation Date: 01/01/1987  
  Manufacturer: Neptune  
  Model: Air-Pol

- Specific Equipment Type information
  
  Wet Scrubber Type: Venturi  
  Operating Pressure Drop Range: 16.1  
  pH Range for Scrubbing Liquid:  
  Scrubber Liquid Recirculated: Yes  
  Scrubber Liquid Flow Rate: 707  
  Scrubber Liquid Supply Pressure:  
  Inlet Gas Flow Rate: 66570  
  Inlet Gas Temp:  
  Sec. Outlet Gas Temp: 162

- Pollutants Controlled

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- Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER035
Control Equipment : WSC015

Control Equipment Information

Equipment Type: Wet Scrubber
Control Equipment ID: WSC015
AQD Description:
Company Control Equipment ID: PA-4
Company Control Equipment Description:
Operating Status: Operating
Initial Installation Date: 01/01/1964
Manufacturer: FMC
Model: Model 20K

Specific Equipment Type Information

Wet Scrubber Type: Venturi
Operating Pressure Drop Range: 0.01
pH Range for Scrubbing Liquid:
Scrubber Liquid Recirculated: Yes
Scrubber Liquid Flow Rate: 240
Scrubber Liquid Supply Pressure:
Inlet Gas Flow Rate: 20245
Outlet Gas Flow Rate: 20245
Inlet Gas Temp:
Sec. Outlet Gas Temp: 142

Pollutants Controlled

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Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER001
Control Equipment : WSC016

- Control Equipment Information

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC016
  AQD Description:
  Company Control Equipment ID: PA-5
  Company Control Equipment Description: Venturi scrubber
  Operating Status: Operating
  Initial Installation Date: 01/01/1964
  Manufacturer: FMC
  Model: Model 40K

- Specific Equipment Type information

  Wet Scrubber Type: Venturi
  Operating Pressure Drop Range: 0.01
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated: Yes
  Scrubber Liquid Flow Rate: 240
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate: 40000
  Inlet Gas Temp:
  Sec. Outlet Gas Temp: 94

- Pollutants Controlled

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- Associated Control Equipments And Release Points

  Release points(s) directly associated with this control equipment

  VER002
Control Equipment : WSC017

- Control Equipment Information

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC017
  AQD Description:
  Company Control Equipment ID: RA-33
  Company Control Equipment Description: Venturi scrubber
  Operating Status: Operating
  Initial Installation Date: 01/01/1972
  Manufacturer: Ducon
  Model: Type VVO

- Specific Equipment Type information

  Wet Scrubber Type: Venturi
  Operating Pressure Drop Range: 0.01
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated: Yes
  Scrubber Liquid Flow Rate: 210
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate: 40000
  Inlet Gas Temp:
  Sec. Outlet Gas Temp: 74

- Pollutants Controlled

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- Associated Control Equipments And Release Points

  Release points(s) directly associated with this control equipment

  VER016
Control Equipment : WSC018

- Control Equipment Information

  Equipment Type: Wet Scrubber
  Control Equipment ID: WSC018
  AQD Description: MONO-3
  Company Control Equipment Description: Venturi scrubber
  Operating Status: Operating
  Initial Installation Date: 01/01/1972
  Manufacturer: FMC
  Model: Model 15K

- Specific Equipment Type information

  Wet Scrubber Type: Venturi
  Operating Pressure Drop Range: 0.01
  pH Range for Scrubbing Liquid:
  Scrubber Liquid Recirculated: Yes
  Scrubber Liquid Flow Rate: 90
  Scrubber Liquid Supply Pressure:
  Inlet Gas Flow Rate:
  Outlet Gas Flow Rate: 11000
  Inlet Gas Temp:
  Sec. Outlet Gas Temp: 57

- Pollutants Controlled

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- Associated Control Equipments And Release Points

  Release points(s) directly associated with this control equipment

  VER017
Control Equipment Information

- **Equipment Type:** Wet Scrubber
- **Control Equipment ID:** WSC019
- **AQD Description:**
- **Company Control Equipment ID:** MONO-4
- **Company Control Equipment Description:** Venturi scrubber
- **Operating Status:** Operating
- **Initial Installation Date:** 01/01/1972
- **Manufacturer:** AAF
- **Model:** No. 72 Kinpactor

Specific Equipment Type Information

- **Wet Scrubber Type:** Venturi
- **Operating Pressure Drop Range:** 0.01
- **pH Range for Scrubbing Liquid:**
- **Scrubber Liquid Recirculated:** Yes
- **Scrubber Liquid Flow Rate:** 175
- **Scrubber Liquid Supply Pressure:**
- **Inlet Gas Flow Rate:**
- **Outlet Gas Flow Rate:** 25000
- **Inlet Gas Temp:**
- **Sec. Outlet Gas Temp:** 84

Pollutants Controlled

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Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER018
- **Control Equipment Information**

  Equipment Type: Wet Scrubber  
  Control Equipment ID: WSC020  
  AQP Description:  
  Company Control Equipment ID: MONO-11  
  Company Control Equipment Description: Venturi scrubber  
  Operating Status: Operating  
  Initial Installation Date: 01/01/1990  
  Manufacturer: Ducon  
  Model: Type VVO

- **Specific Equipment Type Information**

  Wet Scrubber Type: Venturi  
  Operating Pressure Drop Range: 13  
  pH Range for Scrubbing Liquid:  
  Scrubber Liquid Recirculated: Yes  
  Scrubber Liquid Flow Rate: 118  
  Scrubber Liquid Supply Pressure:  
  Inlet Gas Flow Rate:  
  Outlet Gas Flow Rate: 20000  
  Inlet Gas Temp:  
  Sec. Outlet Gas Temp: 64

- **Pollutants Controlled**

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<th>Capture Efficiency(%)</th>
<th>Total Capture Control(%)</th>
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</tbody>
</table>

- **Associated Control Equipments And Release Points**

  Release points(s) directly associated with this control equipment

  VER024
Control Equipment : WSC021

Control Equipment Information

Equipment Type: Wet Scrubber
Control Equipment ID: WSC021
AQD Description:
Company Control Equipment ID: NS–4
Company Control Equipment Description: Venturi scrubber
Operating Status: Operating
Initial Installation Date: 01/01/1975
Manufacturer: FMC
Model: Model 30K

Specific Equipment Type Information

Wet Scrubber Type: Venturi
Operating Pressure Drop Range: 0.01
pH Range for Scrubbing Liquid:
Scrubber Liquid Recirculated: Yes
Scrubber Liquid Flow Rate: 180
Scrubber Liquid Supply Pressure:
Inlet Gas Flow Rate:
Outlet Gas Flow Rate: 21000
Inlet Gas Temp:
Sec. Outlet Gas Temp: 81

Pollutants Controlled

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Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER027
Control Equipment Information

- Equipment Type: Wet Scrubber
- Control Equipment ID: WSC022
- AQD Description:
- Company Control Equipment ID: RD-3
- Company Control Equipment Description: Venturi scrubber
- Operating Status: Operating
- Initial Installation Date: 01/01/1983
- Manufacturer: Neptune
- Model: Air-Pol

Specific Equipment Type Information

- Wet Scrubber Type: Venturi
- Operating Pressure Drop Range: 0.01
- pH Range for Scrubbing Liquid:
- Scrubber Liquid Recirculated:
- Scrubber Liquid Flow Rate:
- Scrubber Liquid Supply Pressure:
- Inlet Gas Flow Rate:
- Outlet Gas Flow Rate:
- Inlet Gas Temp: 70
- Sec. Outlet Gas Temp: 5228

Pollutants Controlled

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Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER047
Control Equipment Information

- Equipment Type: Wet Scrubber
- Control Equipment ID: WSC023
- AQD Description:
- Company Control Equipment ID: MONO-2
- Company Control Equipment Description: Venturi scrubber
- Operating Status: Operating
- Initial Installation Date: 01/01/1972
- Manufacturer: FMC
- Model: Model 20K Dual Throat

Specific Equipment Type Information

- Wet Scrubber Type: Venturi
- Operating Pressure Drop Range: 0.01
- pH Range for Scrubbing Liquid:
- Scrubber Liquid Recirculated: Yes
- Scrubber Liquid Flow Rate: 120
- Scrubber Liquid Supply Pressure:
- Inlet Gas Flow Rate:
- Outlet Gas Flow Rate: 16000
- Inlet Gas Temp:
- Sec. Outlet Gas Temp: 79

Pollutants Controlled

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Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER065
Control Equipment Information

Equipment Type: Wet Scrubber
Control Equipment ID: WSC024
AQD Description:
Company Control Equipment ID: MW-6
Company Control Equipment Description:
Operating Status: Operating
Initial Installation Date: 01/01/2007
Manufacturer: Macrotek
Model:

Specific Equipment Type information

Wet Scrubber Type: Spray Chamber
Operating Pressure Drop Range: 0.01
pH Range for Scrubbing Liquid:
Scrubber Liquid Recirculated: Yes
Scrubber Liquid Flow Rate: 700
Scrubber Liquid Supply Pressure:
Inlet Gas Flow Rate:
Outlet Gas Flow Rate:
Inlet Gas Temp:
Sec. Outlet Gas Temp:

Pollutants Controlled

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<th>Pollutant</th>
<th>Design Control Efficiency(%)</th>
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<td>Hydrogen Sulfide</td>
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Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER066
- **Release Point Information**

  Release Point ID: VER036  
  Release Type: Vertical  
  AQD Description: BC-1 Bicarb Flash Dryer  
  Company Release Point ID: BC-2  
  Company Release Point Description: BC-1 Bicarb Flash Dryer  
  Operating Status: Operating  
  Base Elevation (ft): 6225.07

- **Stack Details**

  Stack Height (ft): 59.71  
  Stack Diameter (ft): 2.49  
  Exit Gas Velocity (ft/s): 61.12  
  Exit Gas Temp (F): 171.0  
  Exit Gas Flow Rate (acfm): 21166.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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  Aug 10 2015, 08:15:37
Release Point: VER037

Release Point Information

Release Point ID: VER037
Release Type: Vertical
AQD Description: BC-2 Bicarb Product Handling
Company Release Point ID: BC-2
Company Release Point Description: BC-2 Bicarb Product Handling
Operating Status: Operating
Base Elevation (ft): 6225.07

Stack Details

Stack Height (ft): 59.71
Stack Diameter (ft): 2.49
Exit Gas Velocity (ft/s): 91.0
Exit Gas Flow Rate (acfm): 10000.0
Exit Gas Temp (F): 103.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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</table>


- **Release Point Information**

  Release Point ID: AVL002  
  Release Type: Fugitive (Area, Volume, Line)  
  AQD Description: COALPILE  
  Company Release Point ID: COALPILE  
  Company Release Point Description: Fugitive emissions from coal handling activities  
  Operating Status: Operating  
  Release Height (ft): 1.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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  **Facility Detail Report (F000349): Westvaco Facility**
Release Point: AVL003

- Release Point Information

  Release Point ID: AVL003
  Release Type: Fugitive (Area, Volume, Line)
  AQD Description: Coal Pile
  Company Release Point ID: COALWE
  Company Release Point Description: Coal Pile wind erosion
  Operating Status: Operating
  Release Height (ft): 23.0

- Release Latitude and Longitude

  Latitude: 41.61277            Longitude: -109.81715

- CEM Data

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<th>CO2</th>
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</table>

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Facility Detail Report (F000349): Westvaco Facility
Release Point : VER054

- **Release Point Information**

  Release Point ID: VER054
  Release Type: Vertical
  AQD Description: Mono2 Cooling Tower Cell 1
  Company Release Point ID: ct1
  Company Release Point Description: Mono2 Cooling Tower Cell 1
  Operating Status: Operating
  Base Elevation (ft): 6292.65

- **Stack Details**

  Stack Height (ft): 66.01
  Stack Diameter (ft): 24.02
  Exit Gas Velocity (ft/s): 27.99
  Exit Gas Flow Rate (acfm): 760000.0
  Exit Gas Temp (F): 100.0

- **Release Latitude and Longitude**

  Latitude: 41.61277
  Longitude: -109.81715

- **CEM Data**

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<th>TRS</th>
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</thead>
</table>


- **Release Point Information**

  Release Point ID: VER052
  Release Type: Vertical
  AQD Description: MONO1CT1
  Company Release Point ID: ct1
  Company Release Point Description: ct1
  Operating Status: Operating
  Base Elevation (ft): 6292.65

- **Stack Details**

  Stack Height (ft): 66.01
  Stack Diameter (ft): 18.01
  Exit Gas Velocity (ft/s): 32.74
  Exit Gas Temp (F): 100.0
  Exit Gas Flow Rate (acfm): 500000.0

- **Release Latitude and Longitude**

  Latitude: 41.61277
  Longitude: -109.81715

- **CEM Data**

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*Facility Detail Report (F000349): Westvaco Facility*
Release Point Information

- Release Point ID: VER048
- Release Type: Vertical
- AQD Description: SESQCT1
- Company Release Point ID: ct1
- Company Release Point Description: Sesqui Cooling Tower
- Operating Status: Operating
- Base Elevation (ft): 6279.53

Stack Details

- Stack Height (ft): 58.01
- Stack Diameter (ft): 25.98
- Exit Gas Velocity (ft/s): 20.87
- Exit Gas Temp (F): 100.0
- Exit Gas Flow Rate (acfm): 665000.0

Release Latitude and Longitude

- Latitude: 41.61277
- Longitude: −109.81715

CEM Data

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</table>
Release Point : VER049

- Release Point Information

  Release Point ID: VER049
  Release Type: Vertical
  AQD Description: SESQCT2
  Company Release Point ID: ct2
  Company Release Point Description: Sesqui Cooling Tower Cell 2
  Operating Status: Operating
  Base Elevation (ft): 6279.53

- Stack Details

  Stack Height (ft): 58.01                      Stack Diameter (ft): 25.98
  Exit Gas Velocity (ft/s): 20.87               Exit Gas Flow Rate (acfm): 665000.0
  Exit Gas Temp (F): 100.0

- Release Latitude and Longitude

  Latitude: 41.61277                             Longitude: -109.81715

- CEM Data

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Facility Detail Report (F000349): Westvaco Facility
- **Release Point Information**

  Release Point ID: VER053  
  Release Type: Vertical  
  AQD Description: MONO1CT2  
  Mono1 Cooling Tower Cell 2  
  Company Release Point ID: ct2  
  Company Release Point Description: Mono1 Cooling Tower Cell 2  
  Operating Status: Operating  
  Base Elevation (ft): 6292.65

- **Stack Details**

  Stack Height (ft): 66.01  
  Stack Diameter (ft): 18.01  
  Exit Gas Velocity (ft/s): 32.74  
  Exit Gas Flow Rate (acfm): 500000.0  
  Exit Gas Temp (F): 100.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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</table>

Release Point Information

- Release Point ID: VER055
- Release Type: Vertical
- AQD Description: Mono2 Cooling Tower Cell 2
- Company Release Point ID: ct2
- Company Release Point Description: Mono2 Cooling Tower Cell 2
- Operating Status: Operating
- Base Elevation (ft): 6292.65

Stack Details

- Stack Height (ft): 66.01
- Stack Diameter (ft): 24.02
- Exit Gas Velocity (ft/s): 27.99
- Exit Gas Flow Rate (acfm): 760000.0
- Exit Gas Temp (F): 100.0

Release Latitude and Longitude

- Latitude: 41.61277
- Longitude: -109.81715

CEM Data

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Facility Detail Report (F000349): Westvaco Facility
Release Point : VER056

- **Release Point Information**

  Release Point ID: VER056  
  Release Type: Vertical  
  AQD Description: MONO2CT3  
  Company Release Point ID: ct3  
  Company Release Point Description: ct3  
  Operating Status: Operating  
  Base Elevation (ft): 6292.65

- **Stack Details**

  Stack Height (ft): 66.01  
  Stack Diameter (ft): 24.02  
  Exit Gas Velocity (ft/s): 27.99  
  Exit Gas Flow Rate (acfm): 760000.0  
  Exit Gas Temp (F): 100.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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</table>
Release Point: VER050

- **Release Point Information**
  
  Release Point ID: VER050  
  Release Type: Vertical  
  AQD Description: SESQCT3  
  Company Release Point ID: ct3  
  Company Release Point Description: Sesqui Cooling Tower Cell 3  
  Operating Status: Operating  
  Base Elevation (ft): 6279.53

- **Stack Details**
  
  Stack Height (ft): 58.01  
  Stack Diameter (ft): 25.98  
  Exit Gas Velocity (ft/s): 20.87  
  Exit Gas Flow Rate (acfm): 665000.0  
  Exit Gas Temp (F): 100.0

- **Release Latitude and Longitude**
  
  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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Release Point Information

Release Point ID: VER051
Release Type: Vertical
AQD Description: SESQCT4
Sesqui Cooling Tower Cell 4
Company Release Point ID: ct4
Company Release Point Description: Sesqui Cooling Tower Cell 4
Operating Status: Operating
Base Elevation (ft): 6279.53

Stack Details

Stack Height (ft): 58.01
Exit Gas Velocity (ft/s): 20.87
Exit Gas Temp (°F): 100.0
Stack Diameter (ft): 25.98
Exit Gas Flow Rate (acfm): 665000.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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</table>
Release Point : AVL010

- Release Point Information

  Release Point ID: AVL010
  Release Type: Fugitive (Area, Volume, Line)
  AQD Description:

  Company Release Point ID: DECAMINING
  Company Release Point Description: Fugitive PM from mining, hauling deca crystals
  Operating Status: Operating
  Release Height (ft): 10.0

- Release Latitude and Longitude

  Latitude: 41.61277  Longitude: -109.81715

- CEM Data

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<th>OPACITY</th>
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</table>
Release Point : VER070

- Release Point Information

  Release Point ID: VER070
  Release Type: Vertical
  AQD Description:
  Company Release Point ID: EG-1
  Company Release Point Description: Engine exhaust stack
  Operating Status: Operating
  Base Elevation (ft): 6326.12

- Stack Details

  Stack Height (ft): 10.0
  Stack Diameter (ft): 0.33
  Exit Gas Velocity (ft/s): 1.0
  Exit Gas Flow Rate (acfm): 1.0
  Exit Gas Temp (F): 1.0

- Release Latitude and Longitude

  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data

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<th>CO2</th>
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</thead>
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Release Point Information

Release Point ID: VER071
Release Type: Vertical
AQP Description:
Company Release Point ID: EG-2
Company Release Point Description: Engine exhaust stack
Operating Status: Operating
Base Elevation (ft): 6296.92

Stack Details

Stack Height (ft): 10.0
Stack Diameter (ft): 0.33
Exit Gas Velocity (ft/s): 1.0
Exit Gas Flow Rate (acfm): 1.0
Exit Gas Temp (F): 1.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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<th>OPACITY</th>
<th>PM</th>
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</table>


Release Point : VER072

Release Point Information

Release Point ID: VER072
Release Type: Vertical
AQD Description:
Company Release Point ID: EG-3
Company Release Point Description: Engine exhaust stack
Operating Status: Operating
Base Elevation (ft): 6224.74

Stack Details

Stack Height (ft): 10.0
Stack Diameter (ft): 0.33
Exit Gas Velocity (ft/s): 1.0
Exit Gas Flow Rate (acfm): 1.0
Exit Gas Temp (F): 1.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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Facility Detail Report (F000349): Westvaco Facility
Release Point Information

Release Point ID: VER073
Release Type: Vertical
AQD Description:
Company Release Point ID: EG-8
Company Release Point Description: Engine exhaust stack
Operating Status: Operating
Base Elevation (ft): 6350.0

Stack Details

Stack Height (ft): 15.0
Stack Diameter (ft): 0.5
Exit Gas Velocity (ft/s): 1.0
Exit Gas Flow Rate (acfm): 1.0
Exit Gas Temp (F): 1.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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- **Release Point Information**

  Release Point ID: VER057  
  Release Type: Vertical  
  AQD Description: Mine Vent 2  
  Company Release Point ID: Mine Vent 2  
  Company Release Point Description: Mine Vent 2  
  Operating Status: Operating  
  Base Elevation (ft): 6226.05

- **Stack Details**

  Stack Height (ft): 4.99  
  Stack Diameter (ft): 14.01  
  Exit Gas Velocity (ft/s): 9.74  
  Exit Gas Flow Rate (acfm): 1700000.0  
  Exit Gas Temp (F): 70.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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*Facility Detail Report (F000349): Westvaco Facility*
Release Point: VER058

- Release Point Information

  Release Point ID: VER058
  Release Type: Vertical
  AQD Description: MINVENT3
  Company Release Point ID: Mine Vent 3
  Company Release Point Description: Mine vent 3
  Operating Status: Operating
  Base Elevation (ft): 6355.31

- Stack Details

  Stack Height (ft): 2.99
  Stack Diameter (ft): 18.01
  Exit Gas Velocity (ft/s): 5.25
  Exit Gas Flow Rate (acfm): 1700000.0
  Exit Gas Temp (F): 70.0

- Release Latitude and Longitude

  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data

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Release Point : VER060

Release Point Information

Release Point ID: VER060
Release Type: Vertical
AQD Description: Mine Vent 6
Company Release Point ID: Mine Vent 6
Company Release Point Description: Mine Vent 6
Operating Status: Operating
Base Elevation (ft): 6322.18

Stack Details

Stack Height (ft): 2.99
Stack Diameter (ft): 22.01
Exit Gas Velocity (ft/s): 21.49
Exit Gas Temp (F): 70.0
Exit Gas Flow Rate (acfm): 1700000.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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</table>
Release Point: VER061

Release Point Information

- Release Point ID: VER061
- Release Type: Vertical
- AQD Description: MINVENT9
- Company Release Point ID: Mine Vent 9
- Company Release Point Description: Mine vent 9
- Operating Status: Operating
- Base Elevation (ft): 6396.33

Stack Details

- Stack Height (ft): 2.99
- Stack Diameter (ft): 18.01
- Exit Gas Velocity (ft/s): 17.36
- Exit Gas Flow Rate (acfm): 1700000.0
- Exit Gas Temp (F): 70.0

Release Latitude and Longitude

- Latitude: 41.61277
- Longitude: -109.81715

CEM Data

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Release Point : VER063

- Release Point Information
  
  Release Point ID: VER063
  Release Type: Vertical
  AQD Description: Mine Air Heater
  Company Release Point ID: MINEVENT
  Company Release Point Description: Mine shafts 2, 3, 4, 6, 9 (MINEVENT)
  Operating Status: Operating
  Base Elevation (ft): 6318.16

- Stack Details
  
  Stack Height (ft): 9.4
  Stack Diameter (ft): 19.2
  Exit Gas Velocity (ft/s): 14.3
  Exit Gas Flow Rate (acfm): 1242122.0
  Exit Gas Temp (F): 70.0

- Release Latitude and Longitude
  
  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data
  
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</table>
- **Release Point Information**

  Release Point ID: VER059  
  Release Type: Vertical  
  AQD Description: MINVENT4  
  Company Release Point ID: MineVent4  
  Company Release Point Description: Mine vent  
  Operating Status: Operating  
  Base Elevation (ft): 6291.01

- **Stack Details**

  Stack Height (ft): 33.01  
  Stack Diameter (ft): 24.02  
  Exit Gas Velocity (ft/s): 17.49  
  Exit Gas Flow Rate (acfm): 1700.0  
  Exit Gas Temp (F): 70.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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**Facility Detail Report (F000349): Westvaco Facility**
Release Point : AVL006

- **Release Point Information**
  
  Release Point ID: AVL006  
  Release Type: Fugitive (Area, Volume, Line)  
  AQD Description: Plant fugitive emissions - Mobile equipment emissions  
  Company Release Point ID: MOBILEQUIP  
  Company Release Point Description: Mobile equipment emissions  
  Operating Status: Operating  
  Release Height (ft): 7.0  

- **Release Latitude and Longitude**
  
  Latitude: 41.61277  
  Longitude: -109.81715  

- **CEM Data**

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*Facility Detail Report (F000349): Westvaco Facility*
Release Point : VER023

- **Release Point Information**

  Release Point ID: VER023  
  Release Type: Vertical  
  AQD Description: Mono-10 Mono Bulk Truck Loadout  
  Company Release Point ID: Mono-10  
  Company Release Point Description: Mono-10 Mono Bulk Truck Loadout  
  Operating Status: Operating  
  Base Elevation (ft): 6248.69

- **Stack Details**

  Stack Height (ft): 89.01  
  Stack Diameter (ft): 2.0  
  Exit Gas Velocity (ft/s): 65.26  
  Exit Gas Flow Rate (acfm): 12300.0  
  Exit Gas Temp (F): 80.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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Release Point Information

Release Point ID: VER024
Release Type: Vertical
AQD Description: Mono-11 Mono Dual Ore Reclaim
Company Release Point ID: Mono-11
Company Release Point Description: Mono-11 Mono Dual Ore Reclaim
Operating Status: Operating
Base Elevation (ft): 6308.73

Stack Details

Stack Height (ft): 64.99
Stack Diameter (ft): 2.49
Exit Gas Velocity (ft/s): 67.91
Exit Gas Flow Rate (acfm): 20000.0
Exit Gas Temp (F): 64.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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</table>
Release Point : VER025

Release Point Information

Release Point ID: VER025
Release Type: Vertical
AQD Description: Mono-12 Mono Loadout Screening
Company Release Point ID: Mono-12
Company Release Point Description: R-5 Sesqui Fluid Bed Calciner (RA-25)
Operating Status: Operating
Base Elevation (ft): 6242.78

Stack Details

Stack Height (ft): 60.01
Stack Diameter (ft): 2.99
Exit Gas Velocity (ft/s): 56.59
Exit Gas Flow Rate (acfm): 24000.0
Exit Gas Temp (F): 69.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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- **Release Point Information**

  Release Point ID: VER016  
  Release Type: Vertical  
  AQD Description: Mono-2 Mono Primary Crusher  
  Company Release Point ID: Mono-2  
  Company Release Point Description: RA-33 Sesqui Silo Storage Vent  
  Operating Status: Operating  
  Base Elevation (ft): 6308.07

- **Stack Details**

  Stack Height (ft): 64.99  
  Stack Diameter (ft): 2.0  
  Exit Gas Velocity (ft/s): 84.88  
  Exit Gas Flow Rate (acfm): 15980.0  
  Exit Gas Temp (F): 79.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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*Facility Detail Report (F000349): Westvaco Facility*
Release Point Information

- Release Point ID: VER065
- Release Type: Vertical
- AQD Description:
- Company Release Point ID: MONO-2
- Company Release Point Description: Vertical stack
- Operating Status: Operating
- Base Elevation (ft): 6308.07

Stack Details

- Stack Height (ft): 65.0
- Stack Diameter (ft): 2.0
- Exit Gas Velocity (ft/s): 84.88
- Exit Gas Flow Rate (acfm): 16000.0
- Exit Gas Temp (F): 79.0

Release Latitude and Longitude

- Latitude: 41.61277
- Longitude: -109.81715

CEM Data

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Facility Detail Report (F000349): Westvaco Facility

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- **Release Point Information**
  
  Release Point ID: VER017  
  Release Type: Vertical  
  AQD Description: Mono-3 Mono Ore Distribution  
  Company Release Point ID: Mono-3  
  Company Release Point Description: Mono-3 Mono Ore Distribution  
  Operating Status: Operating  
  Base Elevation (ft): 6298.56

- **Stack Details**
  
  Stack Height (ft): 85.01  
  Stack Diameter (ft): 2.0  
  Exit Gas Velocity (ft/s): 58.37  
  Exit Gas Flow Rate (acfm): 11000.0  
  Exit Gas Temp (F): 57.0

- **Release Latitude and Longitude**
  
  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**
  
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- **Release Point Information**

  Release Point ID: VER018  
  Release Type: Vertical  
  AQD Description: Mono-4 Mono Secondary Crusher Scrubber  
  Company Release Point ID: Mono-4  
  Company Release Point Description: Mono-4 Mono Secondary Crusher Scrubber  
  Operating Status: Operating  
  Base Elevation (ft): 6305.12

- **Stack Details**

  Stack Height (ft): 106.0  
  Stack Diameter (ft): 3.0  
  Exit Gas Velocity (ft/s): 58.95  
  Exit Gas Flow Rate (acfm): 25000.0  
  Exit Gas Temp (F): 84.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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- **Release Point Information**

  Release Point ID: VER019  
  Release Type: Vertical  
  AQD Description: Mono-5 Mono 1 Gas Fired Calciner  
  Company Release Point ID: Mono-5  
  Company Release Point Description: Mono-5 Mono 1 Gas Fired Calciner  
  Operating Status: Operating  
  Base Elevation (ft): 6300.52

- **Stack Details**

  Stack Height (ft): 95.0  
  Stack Diameter (ft): 5.0  
  Exit Gas Velocity (ft/s): 84.03  
  Exit Gas Flow Rate (acfm): 99000.0  
  Exit Gas Temp (F): 168.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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  Facility Detail Report (F000349): Westvaco Facility
Release Point Information

Release Point ID: VER020
Release Type: Vertical
AQD Description: Mono-6 Mono 1 Fluid Bed Dryer

Company Release Point ID: Mono-6
Company Release Point Description: Mono-6 Mono 1 Fluid Bed Dryer
Operating Status: Operating
Base Elevation (ft): 6296.92

Stack Details

Stack Height (ft): 95.01
Stack Diameter (ft): 4.99
Exit Gas Velocity (ft/s): 84.88
Exit Gas Flow Rate (acfm): 108650.0
Exit Gas Temp (F): 174.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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[continued on next page]
- **Release Point Information**

  Release Point ID: VER021
  Release Type: Vertical
  AQD Description: Mono-8 Mono Stockpile Reclaim scrubber
  Company Release Point ID: Mono-8
  Company Release Point Description: mono stockpile reclaim scrubber
  Operating Status: Operating
  Base Elevation (ft): 6311.35

- **Stack Details**

  Stack Height (ft): 58.01
  Stack Diameter (ft): 2.49
  Exit Gas Velocity (ft/s): 54.72
  Exit Gas Flow Rate (acfm): 16118.0
  Exit Gas Temp (F): 88.0

- **Release Latitude and Longitude**

  Latitude: 41.61277
  Longitude: -109.81715

- **CEM Data**

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</table>
- **Release Point Information**

  Release Point ID: VER022  
  Release Type: Vertical  
  AQD Description: Mono-9 Mono Railcar Loadout  
  Company Release Point ID: Mono-9  
  Company Release Point Description: Mono-9 Mono Railcar Loadout  
  Operating Status: Operating  
  Base Elevation (ft): 6249.67

- **Stack Details**

  Stack Height (ft): 39.99  
  Stack Diameter (ft): 2.0  
  Exit Gas Velocity (ft/s): 47.74  
  Exit Gas Flow Rate (acfm): 8800.0  
  Exit Gas Temp (F): 70.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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`Facility Detail Report (F000349): Westvaco Facility`
Release Point: AVL004  

Release Point Information

Release Point ID: AVL004
Release Type: Fugitive (Area, Volume, Line)
AQD Description: Mono Plant Ore Stockpile
Company Release Point ID: MONOPILE
Company Release Point Description: Mono Plant Ore Stockpile handling activities
Operating Status: Operating
Release Height (ft): 1.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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- **Release Point Information**

  Release Point ID: AVL005
  Release Type: Fugitive (Area, Volume, Line)
  AQD Description: Mono Plant Ore Stockpile
  Company Release Point ID: MONOWE
  Company Release Point Description: Mono Plant Ore Stockpile wind erosion
  Operating Status: Operating
  Release Height (ft): 53.0

- **Release Latitude and Longitude**

  Latitude: 41.61277
  Longitude: -109.81715

- **CEM Data**

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</table>
Release Point : VER029

Release Point Information

Release Point ID: VER029
Release Type: Vertical
AQD Description: MW-1 Lime Silo
Company Release Point ID: MW-1
Company Release Point Description: MW-1 Lime Silo
Operating Status: Operating
Base Elevation (ft): 6301.51

Stack Details

Stack Height (ft): 89.99
Exit Gas Velocity (ft/s): 42.45
Exit Gas Temp (F): 75.0
Stack Diameter (ft): 0.98
Exit Gas Flow Rate (acfm): 1.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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Page 165  Facility Detail Report (F000349): Westvaco Facility
Release Point : VER030

Release Point Information

- Release Point ID: VER030
- Release Type: Vertical
- AQD Description: MW-2 Perlite Precoat Silo
- Company Release Point ID: MW-2
- Company Release Point Description: MW-2 Perlite Precoat Silo
- Operating Status: Operating
- Base Elevation (ft): 6299.87

Stack Details

- Stack Height (ft): 70.01
- Stack Diameter (ft): 0.98
- Exit Gas Velocity (ft/s): 29.72
- Exit Gas Flow Rate (acfm): 1400.0
- Exit Gas Temp (F): 75.0

Release Latitude and Longitude

- Latitude: 41.61277
- Longitude: -109.81715

CEM Data

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Release Point : VER031

- Release Point Information
  
  Release Point ID: VER031
  Release Type: Vertical
  AQD Description: MW3
  Company Release Point ID: MW-3
  Company Release Point Description: Fluid Bed Dryer scrubber
  Operating Status: Operating
  Base Elevation (ft): 6287.73

- Stack Details
  
  Stack Height (ft): 129.99
  Stack Diameter (ft): 6.5
  Exit Gas Velocity (ft/s): 60.3
  Exit Gas Flow Rate (acfm): 104261.0
  Exit Gas Temp (F): 150.0

- Release Latitude and Longitude
  
  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data

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- **Release Point Information**

  Release Point ID: VER032
  Release Type: Vertical
  AQD Description: MW-4 – Mine Water Housekeeping
  Company Release Point ID: MW-4
  Company Release Point Description: MW-4 – Mine Water Housekeeping
  Operating Status: Operating
  Base Elevation (ft): 6241.47

- **Stack Details**

  Stack Height (ft): 129.99  
  Stack Diameter (ft): 1.41  
  Exit Gas Velocity (ft/s): 52.62  
  Exit Gas Flow Rate (acfm): 5000.0  
  Exit Gas Temp (F): 68.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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  Facility Detail Report (F000349): Westvaco Facility
- **Release Point Information**

  Release Point ID: VER042  
  Release Type: Vertical  
  AQD Description: MW-5 Mine Water Plant Boiler  
  Company Release Point ID: MW-5  
  Company Release Point Description: No. 8 Gas Boiler stack  
  Operating Status: Operating  
  Base Elevation (ft): 6295.6

- **Stack Details**

  Stack Height (ft): 170.0  
  Stack Diameter (ft): 7.83  
  Exit Gas Velocity (ft/s): 40.6  
  Exit Gas Flow Rate (acfm): 117286.0  
  Exit Gas Temp (F): 311.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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- **Release Point Information**

  Release Point ID: VER066  
  Release Type: Vertical  
  AQD Description:  
  Company Release Point ID: MW-6  
  Company Release Point Description: Vertical stack for H2S and CO2 emissions from CO2 stripping system  
  Operating Status: Operating  
  Base Elevation (ft): 6287.73

- **Stack Details**

  Stack Height (ft): 140.0  
  Stack Diameter (ft): 1.0  
  Exit Gas Velocity (ft/s): 59.4  
  Exit Gas Flow Rate (acfm): 2800.0  
  Exit Gas Temp (F): 100.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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- Facility Detail Report (F000349): Westvaco Facility
**Release Point : VER067**

**Release Point Information**

- **Release Point ID:** VER067
- **Release Type:** Vertical
- **AQD Description:**
- **Company Release Point ID:** MW-7
- **Company Release Point Description:** LW Process H2S vent
- **Operating Status:** Operating
- **Base Elevation (ft):** 6224.75

**Stack Details**

- **Stack Height (ft):** 70.0
- **Stack Diameter (ft):** 0.5
- **Exit Gas Velocity (ft/s):** 1.0
- **Exit Gas Flow Rate (acfm):** 1.0
- **Exit Gas Temp (F):** 1.0

**Release Latitude and Longitude**

- **Latitude:** 41.61277
- **Longitude:** -109.81715

**CEM Data**

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Release Point : VER062

- Release Point Information

  Release Point ID: VER062
  Release Type: Vertical
  AQD Description: Plant Malfunctions (excess emissions reported by company)
  Company Release Point ID: na
  Company Release Point Description: Plant Malfunctions (excess emissions reported by company)
  Operating Status: Operating
  Base Elevation (ft): 3101.0

- Stack Details

  Stack Height (ft): 0.0
  Stack Diameter (ft): 0.0
  Exit Gas Velocity (ft/s): 0.0
  Exit Gas Flow Rate (acfm): 0.0
  Exit Gas Temp (F): 0.0

- Release Latitude and Longitude

  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data

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Release Point : VER068

- **Release Point Information**

  Release Point ID: VER068  
  Release Type: Vertical  
  AQD Description:  
  Company Release Point ID: NS-10  
  Company Release Point Description: Vertical stack on silo  
  Operating Status: Operating  
  Base Elevation (ft): 6305.45

- **Stack Details**

  Stack Height (ft): 100.0  
  Stack Diameter (ft): 0.82  
  Exit Gas Velocity (ft/s): 63.11  
  Exit Gas Flow Rate (acfm): 2000.0  
  Exit Gas Temp (F): 69.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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*Facility Detail Report (F000349): Westvaco Facility*
- **Release Point Information**

  Release Point ID: VER069  
  Release Type: Vertical  
  AQD Description:  
  Company Release Point ID: NS-11  
  Company Release Point Description: Vertical baghouse stack  
  Operating Status: Operating  
  Base Elevation (ft): 6305.45

- **Stack Details**

  Stack Height (ft): 10.0  
  Stack Diameter (ft): 0.82  
  Exit Gas Velocity (ft/s): 63.11  
  Exit Gas Flow Rate (acfm): 2000.0  
  Exit Gas Temp (F): 69.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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Release Point Information

Release Point ID: VER033
Release Type: Vertical
AQR Description: NS-1A Mono Coal Fired Boiler

Company Release Point ID: NS-1A
Company Release Point Description: NS-1A Mono Coal Fired Boiler
Operating Status: Operating
Base Elevation (ft): 6305.45

Stack Details

Stack Height (ft): 300.0
Stack Diameter (ft): 11.5
Exit Gas Velocity (ft/s): 57.61
Exit Gas Flow Rate (acfm): 360000.0
Exit Gas Temp (F): 170.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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Release Point Information

- Release Point ID: VER043
- Release Type: Vertical
- AQD Description: NS-1B
- Company Release Point ID: NS-1B
- Company Release Point Description: NS-1B No. 7 Coal Boiler
- Operating Status: Operating
- Base Elevation (ft): 6305.45

Stack Details

- Stack Height (ft): 300.0
- Stack Diameter (ft): 11.5
- Exit Gas Velocity (ft/s): 57.61
- Exit Gas Flow Rate (acfm): 359000.0
- Exit Gas Temp (F): 170.0

Release Latitude and Longitude

- Latitude: 41.61277
- Longitude: -109.81715

CEM Data

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Release Point : VER034

- **Release Point Information**

  Release Point ID: VER034  
  Release Type: Vertical  
  AQD Description: NS-2B Mono Powerhouse Housekeeping baghouse  
  Company Release Point ID: NS-2B  
  Company Release Point Description: NS-2B Mono Powerhouse Housekeeping baghouse  
  Operating Status: Operating  
  Base Elevation (ft): 6297.57

- **Stack Details**

  Stack Height (ft): 141.01  
  Stack Diameter (ft): 1.18  
  Exit Gas Velocity (ft/s): 48.75  
  Exit Gas Flow Rate (acfm): 3199.0  
  Exit Gas Temp (F): 69.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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Release Point Information

Release Point ID: VER026
Release Type: Vertical
AQD Description: NS-3 Mono 2 Gas Fired Calciner
Company Release Point ID: NS-3
Company Release Point Description: NS-3 Mono 2 Gas Fired Calciner
Operating Status: Operating
Base Elevation (ft): 6300.85

Stack Details

Stack Height (ft): 104.0
Stack Diameter (ft): 8.0
Exit Gas Velocity (ft/s): 74.9
Exit Gas Flow Rate (acfm): 225900.0
Exit Gas Temp (F): 405.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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- **Release Point Information**

  Release Point ID: VER027  
  Release Type: Vertical  
  AQD Description: NS-4 Mono Secondary Crusher Scrubber  
  Company Release Point ID: NS-4  
  Company Release Point Description: NS-4 Mono Secondary Crusher Scrubber  
  Operating Status: Operating  
  Base Elevation (ft): 6305.45

- **Stack Details**

  Stack Height (ft): 77.99  
  Stack Diameter (ft): 2.99  
  Exit Gas Velocity (ft/s): 49.51  
  Exit Gas Flow Rate (acfm): 21000.0  
  Exit Gas Temp (F): 81.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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  **Facility Detail Report (F000349): Westvaco Facility**
- **Release Point Information**

  Release Point ID: VER028  
  Release Type: Vertical  
  AQD Description: NS-6 Mono 2 Fluid Bed Dryer  
  Company Release Point ID: NS-6  
  Company Release Point Description: NS-6 Mono 2 Fluid Bed Dryer  
  Operating Status: Operating  
  Base Elevation (ft): 6297.9

- **Stack Details**

  Stack Height (ft): 95.01  
  Stack Diameter (ft): 6.5  
  Exit Gas Velocity (ft/s): 61.29  
  Exit Gas Flow Rate (acf/m): 123090.0  
  Exit Gas Temp (F): 158.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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Release Point : VER044

- Release Point Information

  Release Point ID: VER044
  Release Type: Vertical
  AQD Description: NS2A Mono Power Housekeeping Stack
  Company Release Point ID: NS2A
  Company Release Point Description: Mono Power Housekeeping Stack
  Operating Status: Operating
  Base Elevation (ft): 6297.57

- Stack Details

  Stack Height (ft): 141.01
  Stack Diameter (ft): 1.18
  Exit Gas Velocity (ft/s): 48.75
  Exit Gas Flow Rate (acfm): 3200.0
  Exit Gas Temp (F): 69.0

- Release Latitude and Longitude

  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data

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Release Point: VER001

- Release Point Information

  Release Point ID: VER001
  Release Type: Vertical
  AQD Description: PA4
  Company Release Point ID: PA-4
  Company Release Point Description: Sesqui plant hammermill crusher vent
  Operating Status: Operating
  Base Elevation (ft): 6224.74

- Stack Details

  Stack Height (ft): 77.0
  Stack Diameter (ft): 2.99
  Exit Gas Velocity (ft/s): 47.74
  Exit Gas Flow Rate (acfm): 20248.0
  Exit Gas Temp (F): 142.0

- Release Latitude and Longitude

  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data

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  Facility Detail Report (F000349): Westvaco Facility
- **Release Point Information**

  Release Point ID: VER002  
  Release Type: Vertical  
  AQD Description: PA-5 Sesqui Plant Ore Screening Vent  
  Company Release Point ID: PA-5  
  Company Release Point Description: PA-5 Sesqui Plant Ore Screening Vent  
  Operating Status: Operating  
  Base Elevation (ft): 6231.3

- **Stack Details**

  Stack Height (ft): 89.01  
  Stack Diameter (ft): 2.99  
  Exit Gas Velocity (ft/s): 94.32  
  Exit Gas Flow Rate (acfm): 32810.0  
  Exit Gas Temp (F): 94.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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*Facility Detail Report (F000349): Westvaco Facility*
Release Point : VER003

Release Point Information

Release Point ID: VER003
Release Type: Vertical
AQD Description: PA-6 Sesqui Plant Dissolver Vent
Company Release Point ID: PA-6
Company Release Point Description: PA-6 Sesqui Plant Dissolver Vent
Operating Status: Operating
Base Elevation (ft): 6223.75

Stack Details

Stack Height (ft): 70.01
Exit Gas Velocity (ft/s): 29.72
Exit Gas Temp (F): 142.0

Stack Diameter (ft): 0.98
Exit Gas Flow Rate (acfm): 1347.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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Page 184 Facility Detail Report (F000349): Westvaco Facility
- **Release Point Information**

  Release Point ID: VER004  
  Release Type: Vertical  
  AQD Description: PA-7  
  Company Release Point ID: PA-7  
  Company Release Point Description: Sesqui Plant Disolver Vent  
  Operating Status: Operating  
  Base Elevation (ft): 6223.75

- **Stack Details**

  Stack Height (ft): 70.01  
  Stack Diameter (ft): 0.98  
  Exit Gas Velocity (ft/s): 29.72  
  Exit Gas Flow Rate (acfm): 1400.0  
  Exit Gas Temp (F): 142.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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- **Release Point Information**

  | Release Point ID: VER005
  | Release Type: Vertical
  | AQD Description: PA-8 Sesqui Plant Dissolver Vent
  | Company Release Point ID: PA-8
  | Company Release Point Description: PA-8 Sesqui Plant Dissolver Vent
  | Operating Status: Operating
  | Base Elevation (ft): 6224.74

- **Stack Details**

  | Stack Height (ft): 75.0
  | Stack Diameter (ft): 0.98
  | Exit Gas Velocity (ft/s): 29.72
  | Exit Gas Flow Rate (acfm): 1400.0
  | Exit Gas Temp (F): 142.0

- **Release Latitude and Longitude**

  | Latitude: 41.61277
  | Longitude: -109.81715

- **CEM Data**

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Release Point : VER006

- Release Point Information

  Release Point ID: VER006
  Release Type: Vertical
  AQD Description: PA-9 Sesqui Plant Dissolver Vent
  Company Release Point ID: PA-9
  Company Release Point Description: PA-9 Sesqui Plant Dissolver Vent
  Operating Status: Operating
  Base Elevation (ft): 6225.07

- Stack Details

  Stack Height (ft): 75.0
  Stack Diameter (ft): 0.98
  Exit Gas Velocity (ft/s): 29.72
  Exit Gas Flow Rate (acfm): 1400.0
  Exit Gas Temp (F): 142.0

- Release Latitude and Longitude

  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data

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Release Point : VER038

- Release Point Information

  Release Point ID: VER038
  Release Type: Vertical
  AQD Description: PH-1A Sesqui Gas Fired Boiler
  Company Release Point ID: PH-1A
  Company Release Point Description: PH-1A Sesqui Gas Fired Boiler
  Operating Status: Operating
  Base Elevation (ft): 6230.0

- Stack Details

  Stack Height (ft): 100.0
  Stack Diameter (ft): 9.0
  Exit Gas Velocity (ft/s): 13.22
  Exit Gas Flow Rate (acfm): 50450.0
  Exit Gas Temp (F): 560.0

- Release Latitude and Longitude

  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data

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Release Point : VER039

- **Release Point Information**

  Release Point ID: VER039
  Release Type: Vertical
  AQD Description: PH-1B Sesqui Gas Fired Boiler

  Company Release Point ID: PH-1B
  Company Release Point Description: PH-1B No.2 Sesqui Gas Fired Boiler
  Operating Status: Operating
  Base Elevation (ft): 6230.0

- **Stack Details**

  Stack Height (ft): 100.0
  Stack Diameter (ft): 9.0
  Exit Gas Velocity (ft/s): 13.22
  Exit Gas Flow Rate (acfm): 50450.0
  Exit Gas Temp (F): 560.0

- **Release Latitude and Longitude**

  Latitude: 41.61277
  Longitude: -109.81715

- **CEM Data**

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*Facility Detail Report (F000349): Westvaco Facility*
Release Point Information

Release Point ID: VER040
Release Type: Vertical
AQD Description: PH-2 Sesqui Gas Fired Boiler

Company Release Point ID: PH-2
Company Release Point Description: PH-2 No.3 Sesqui Gas Fired Boiler
Operating Status: Operating
Base Elevation (ft): 6229.0

Stack Details

Stack Height (ft): 70.0
Stack Diameter (ft): 7.5
Exit Gas Velocity (ft/s): 16.98
Exit Gas Flow Rate (acfm): 45000.0
Exit Gas Temp (F): 250.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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Release Point : VER041

- **Release Point Information**
  
  Release Point ID: VER041
  Release Type: Vertical
  AQD Description: PH-3 Sesqui Gas Fired Boiler
  Company Release Point ID: PH-3
  Company Release Point Description: PH-3 No. 4 Sesqui Gas Fired Boiler
  Operating Status: Operating
  Base Elevation (ft): 6229.3

- **Stack Details**
  
  Stack Height (ft): 70.01
  Stack Diameter (ft): 7.5
  Exit Gas Velocity (ft/s): 27.35
  Exit Gas Flow Rate (acfm): 72500.0
  Exit Gas Temp (F): 250.0

- **Release Latitude and Longitude**
  
  Latitude: 41.61277
  Longitude: -109.81715

- **CEM Data**

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**Release Point Information**

- **Release Point ID:** VER045  
- **Release Type:** Vertical  
- **AQD Description:** RA22A&B  
- **Company Release Point ID:** RA 22A&B  
- **Company Release Point Description:** R-9 Sesqui Gas Fired Calciner  
- **Operating Status:** Operating  
- **Base Elevation (ft):** 6222.44

**Stack Details**

- **Stack Height (ft):** 64.01  
- **Stack Diameter (ft):** 3.51  
- **Exit Gas Velocity (ft/s):** 49.38  
- **Exit Gas Flow Rate (acfm):** 46094.0  
- **Exit Gas Temp (F):** 144.0

**Release Latitude and Longitude**

- **Latitude:** 41.61277  
- **Longitude:** -109.81715

**CEM Data**

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- Release Point Information

  Release Point ID: VER046
  Release Type: Vertical
  AQD Description: RA22A&B R-9 Sesqui Gas Fired Calciner
  Company Release Point ID: RA 22A&B
  Company Release Point Description: RA22A&B R-9 Sesqui Gas Fired Calciner
  Operating Status: Operating
  Base Elevation (ft): 6222.44

- Stack Details

  Stack Height (ft): 64.01  Stack Diameter (ft): 3.51
  Exit Gas Velocity (ft/s): 49.38  Exit Gas Flow Rate (acfm): 46094.0
  Exit Gas Temp (F): 144.0

- Release Latitude and Longitude

  Latitude: 41.61277  Longitude: -109.81715

- CEM Data

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- **Release Point Information**

  Release Point ID: VER009  
  Release Type: Vertical  
  AQD Description: RA23A&B  
  Company Release Point ID: RA 23A&B  
  Company Release Point Description: RA23A&B  
  Operating Status: Operating  
  Base Elevation (ft): 6222.44

- **Stack Details**

  Stack Height (ft): 79.99  
  Stack Diameter (ft): 2.99  
  Exit Gas Velocity (ft/s): 90.78  
  Exit Gas Flow Rate (acfm): 67215.0  
  Exit Gas Temp (F): 119.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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Release point Information

- Release Point ID: VER064
- Release Type: Vertical
- AQD Description: RA23A&B  R-13 Sesqui Gas Fired Calciner
- Company Release Point ID: RA 23A&B
- Company Release Point Description: R-13 Sesqui Gas Fired Calciner
- Operating Status: Operating
- Base Elevation (ft): 6222.44

Stack Details

- Stack Height (ft): 79.99
- Stack Diameter (ft): 2.99
- Exit Gas Velocity (ft/s): 90.78
- Exit Gas Flow Rate (acfm): 67215.0
- Exit Gas Temp (F): 119.0

Release Latitude and Longitude

- Latitude: 41.61277
- Longitude: -109.81715

CEM Data

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Release Point Information

Release Point ID: VER008
Release Type: Vertical
AQD Description: RA23A&B  R-13 Sesqui Gas Fired Calciner
Company Release Point ID: RA 23A&B
Company Release Point Description: R-13 Sesqui Gas Fired Calciner
Operating Status: Operating
Base Elevation (ft): 6222.44

Stack Details

Stack Height (ft): 79.99
Exit Gas Velocity (ft/s): 90.78
Exit Gas Temp (F): 119.0
Stack Diameter (ft): 2.99
Exit Gas Flow Rate (acfm): 67215.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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Facility Detail Report (F000349): Westvaco Facility
Release Point : VER007

Release Point Information

Release Point ID: VER007
Release Type: Vertical
AQD Description: RA-1 Baby Sesqui Calciner
Company Release Point ID: RA-1
Company Release Point Description: RA-1 Baby Sesqui Calciner
Operating Status: Operating
Base Elevation (ft): 6230.31

Stack Details

Stack Height (ft): 56.5
Stack Diameter (ft): 1.5
Exit Gas Velocity (ft/s): 76.34
Exit Gas Flow Rate (acfm): 8200.0
Exit Gas Temp (F): 172.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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Release Point : VER010

- **Release Point Information**

  Release Point ID: VER010
  Release Type: Vertical
  AQD Description: RA-24 Sesqui Gas-Fired Calciner R-15
  Company Release Point ID: RA-24
  Company Release Point Description: RA-24 Sesqui Gas-Fired Calciner R-15
  Operating Status: Operating
  Base Elevation (ft): 6219.49

- **Stack Details**

  Stack Height (ft): 80.0
  Stack Diameter (ft): 4.5
  Exit Gas Velocity (ft/s): 68.12
  Exit Gas Flow Rate (acfm): 65000.0
  Exit Gas Temp (F): 147.0

- **Release Latitude and Longitude**

  Latitude: 41.61277
  Longitude: -109.81715

- **CEM Data**

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Facility Detail Report (F000349): Westvaco Facility
Release Point Information

Release Point ID: VER011
Release Type: Vertical
AQD Description: R-5 Sesqui Fluid Bed Calciner (RA-25)
Company Release Point ID: RA-25
Company Release Point Description: R-5 Sesqui Fluid Bed Calciner (RA-25)
Operating Status: Operating
Base Elevation (ft): 6224.41

Stack Details

Stack Height (ft): 50.0
Stack Diameter (ft): 4.99
Exit Gas Velocity (ft/s): 70.44
Exit Gas Flow Rate (acfm): 83000.0
Exit Gas Temp (F): 170.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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Release Point : VER012  

- **Release Point Information**

  Release Point ID: VER012  
  Release Type: Vertical  
  AQD Description: RA-26  R-6 Sesqui Fluid Bed Calciner  
  Company Release Point ID: RA-26  
  Company Release Point Description: RA-26  R-6 Sesqui Fluid Bed Calciner  
  Operating Status: Operating  
  Base Elevation (ft): 6222.11

- **Stack Details**

  Stack Height (ft): 95.0  
  Stack Diameter (ft): 5.0  
  Exit Gas Velocity (ft/s): 90.82  
  Exit Gas Flow Rate (acfm): 107000.0  
  Exit Gas Temp (F): 150.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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Release Point ID: VER013
Release Type: Vertical
AQD Description: RA-28 Sesqui Bagging
Company Release Point ID: RA-28
Company Release Point Description: RA-28 Sesqui Bagging
Operating Status: Operating
Base Elevation (ft): 6224.74

Stack Details
Stack Height (ft): 60.01
Stack Diameter (ft): 2.0
Exit Gas Velocity (ft/s): 39.8
Exit Gas Flow Rate (aftm): 1.0
Exit Gas Temp (F): 77.0

Release Latitude and Longitude
Latitude: 41.61277
Longitude: -109.81715

CEM Data

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Release Point : VER014

- **Release Point Information**
  
  Release Point ID: VER014
  Release Type: Vertical
  AQD Description: RA-29 R-2 Sesqui Fluid Bed Calciner (RA-29)
  Company Release Point ID: RA-29
  Company Release Point Description: RA-29 R-2 Sesqui Fluid Bed Calciner (RA-29)
  Operating Status: Operating
  Base Elevation (ft): 6221.46

- **Stack Details**
  
  Stack Height (ft): 80.0
  Stack Diameter (ft): 6.0
  Exit Gas Velocity (ft/s): 53.05
  Exit Gas Flow Rate (acfm): 90000.0
  Exit Gas Temp (F): 180.0

- **Release Latitude and Longitude**
  
  Latitude: 41.61277
  Longitude: -109.81715

- **CEM Data**

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Facility Detail Report (F000349): Westvaco Facility
Release Point : VER015

- Release Point Information
  - Release Point ID: VER015
  - Release Type: Vertical
  - AQD Description: RA-33 Sesqui Silo Storage Vent
  - Company Release Point ID: RA-33
  - Company Release Point Description: RA-33 Sesqui Silo Storage Vent
  - Operating Status: Operating
  - Base Elevation (ft): 6215.22

- Stack Details
  - Stack Height (ft): 58.99
  - Stack Diameter (ft): 4.0
  - Exit Gas Velocity (ft/s): 53.05
  - Exit Gas Flow Rate (acfm): 40905.0
  - Exit Gas Temp (F): 74.0

- Release Latitude and Longitude
  - Latitude: 41.61277
  - Longitude: -109.81715

- CEM Data

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Facility Detail Report (F000349): Westvaco Facility
Release Point : AVL001

- Release Point Information

  Release Point ID: AVL001
  Release Type: Fugitive (Area, Volume, Line)
  AQD Description: RAIL Rail Traffic Switching
  Company Release Point ID: rail
  Company Release Point Description: Rail Traffic Switching
  Operating Status: Operating
  Release Height (ft): 1.0

- Release Latitude and Longitude

  Latitude: 41.61277
  Longitude: -109.81715

- CEM Data

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</tr>
</thead>
</table>

Page 204  Facility Detail Report (F000349): Westvaco Facility
Release Point Information

- Release Point ID: VER047
- Release Type: Vertical
- AOD Description: RD-3 Lime Slaker Vent
- Company Release Point ID: RD-3
- Company Release Point Description: RD-3 Lime Slaker Vent
- Operating Status: Operating
- Base Elevation (ft): 6326.12

Stack Details

- Stack Height (ft): 110.01
- Stack Diameter (ft): 1.84
- Exit Gas Velocity (ft/s): 33.01
- Exit Gas Flow Rate (acfm): 5228.0
- Exit Gas Temp (F): 70.0

Release Latitude and Longitude

- Latitude: 41.61277
- Longitude: -109.81715

CEM Data

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Release Point Information

Release Point ID: AVL008
Release Type: Fugitive (Area, Volume, Line)
AQD Description: Sesqui Plant Railcar Load Out
Company Release Point ID: SESQUILOAD
Company Release Point Description: Sesqui Plant Railcar Load Out
Operating Status: Operating
Release Height (ft): 10.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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</table>
- **Release Point Information**

  Release Point ID: AVL007  
  Release Type: Fugitive (Area, Volume, Line)  
  AQD Description: SESQLOUT  
  Company Release Point ID: SESQUIPILE  
  Company Release Point Description: Sesqui Plant Ore Stockpile handling activities  
  Operating Status: Operating  
  Release Height (ft): 1.0

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715

- **CEM Data**

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</thead>
</table>

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*Facility Detail Report (F000349): Westvaco Facility*
Release Point Information

Release Point ID: AVL009
Release Type: Fugitive (Area, Volume, Line)
AQD Description: SESQWE
   Sesqui pile wind erosion
Company Release Point ID: SESQWE
Company Release Point Description: Sesqui ore stockpile wind erosion
Operating Status: Operating
Release Height (ft): 38.0

Release Latitude and Longitude

Latitude: 41.61277
Longitude: -109.81715

CEM Data

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</table>

- **Release Point Information**

  Release Point ID: VER035  
  Release Type: Vertical  
  AQD Description: SM-1 Gas Fired Lime Kiln  
  Company Release Point ID: SM-1  
  Company Release Point Description: SM-1 Gas Fired Lime Kiln  
  Operating Status: Operating  
  Base Elevation (ft): 6326.12  

- **Stack Details**

  Stack Height (ft): 60.01  
  Stack Diameter (ft): 6.0  
  Exit Gas Velocity (ft/s): 39.24  
  Exit Gas Flow Rate (acfm): 66575.0  
  Exit Gas Temp (F): 162.0  

- **Release Latitude and Longitude**

  Latitude: 41.61277  
  Longitude: -109.81715  

- **CEM Data**

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*Facility Detail Report (F000349): Westvaco Facility*