P4 Production, LLC

Soda Springs Plant
1853 Highway 34
P.O. Box 816
Soda Springs, Idaho 83276-0816
Phone: (208) 547-4300
Fax: (208) 547-3312

RECEIVED
APR 29 2016
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

April 25, 2016

Air Quality Program Office – Application Processing
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

Subject: P4 Quartzite Quarry Permit to Construct Application

To Whom it May Concern:

P4 Production, LLC (P4) is hereby submitting the enclosed permit to construct application for the P4 Quartzite Quarry. The complete application is provided as an enclosure to this letter.

In addition, a paid receipt for $1,000 for the Application Fee is provided.

P4 appreciates your review of this application. Should you have any questions or require additional information, please feel free to contact me at (208) 547-1395.

Sincerely,

Molly Prickett
Environmental Engineer
Monsanto

Enclosure 1: Receipt for PTC Application Fee

Enclosure 2: P4 Quartzite Quarry Permit to Construct Application

cc: Sabrina Pryor, Air Sciences Inc.
Randy Vranes, P4
Cody Allen, P4
Randy Cooper, Monsanto

Enclosure 1: Receipt for PTC Application Fee

From: Access Idaho (Secure) [mailto:qa@accessidaho.org]
Sent: Thursday, April 14, 2016 4:40 PM
To: PRICKETT, MOLLY [AG/1850]
Subject: Idaho.gov Department of Environmental Quality Order PP3ID3778608SID17256868-3778608 Confirmation

Thank you for ordering from Idaho.gov Department of Environmental Quality!
Your purchase information appears below.

Order Number: PP3ID3778608SID17256868-3778608
Order Date: Apr 14, 2016 4:38:37 PM

BILLING AND SHIPPING INFORMATION
Email Address: molly.prickett@monsanto.com

Billing Address:
Molly Prickett
Monsanto Co
Soda Springs, ID 83276

Order Grand Total: $1,030.00

ORDER DETAILS
1 x PTC Application Fee: $1,000.00

Shipping: $0.00
Convenience Fee: $30.00
Sales Tax: $0.00

Idaho.gov Department of Environmental Quality
https://www.idaho.gov/ai/payport/deq/online/index.html

Enclosure 2:
P4 Quartzite Quarry Permit to Construct Application

AIR SCIENCES INC.

DENVER • PORTLAND • LOS ANGELES

P4 Quartzite Quarry Permit to Construct Application

PREPARED FOR:
P4 PRODUCTION, LLC

PROJECT NO. 303-2
APRIL 2016

TABLE OF CONTENTS

Tables

Appendices

1.0 PERMIT TO CONSTRUCT APPLICATION

1.1 Introduction

P4 Production, LLC (P4) proposes to modify equipment at the P4 Quartzite Quarry located in Soda Springs, Caribou County, Idaho. The P4 Quartzite Quarry is a grandfather facility operating since the early 1970s, engaged with nonmetallic mineral crushing and screening activities. P4 intends to replace a grandfathered primary crusher rated at 713 tons per hour (ton/hr), which broke down in August 2015, with a new jaw crusher rated at 970 ton/hr and equipped with a baghouse to control dust emissions.

This facility-wide Permit to Construct (PTC) application is submitted to obtain approval from the Idaho Department of Environmental Quality (IDEQ) for the proposed primary crusher replacement at the P4 Quartzite Quarry.

The following sections provide the information required by IDAPA 58.01.01.202 – Application Procedures; IDAPA 58.01.01.203 – Permit Requirements for New and Modified Stationary Sources; and IDAPA 58.01.01.210 – Demonstration of Preconstruction Compliance with Toxic Standards.

1.2 Process Description

Raw quartzite material is hauled from the pit via 60-ton-capacity haul trucks and directly dumped into a hopper. This hopper contains a vibrating pan feeder with 6-inch-spaced finger tines to screen pit material. Material larger than 6 inches passes through the primary crusher rated at 970 ton/hr for size reduction. Material smaller than 6 inches bypasses the primary crusher and directly goes to a conveyor underneath the primary crusher that also receives the crushed material from the primary crusher. This conveyor transfers the two streams of material (crushed and bypassed) onto an inclined coarse stockpile feed conveyor that discharges the material onto a coarse stockpile. The primary crusher is equipped with a baghouse (Baghouse #1) that collects dust from the crusher and associated material transfer points except for the transfer onto the coarse stockpile. This coarse stockpile accommodates the bottleneck created by the difference in throughput rates between the primary crushing and screening equipment.

The coarse stockpile gravity feeds an underground pan feeder located underneath the stockpile. The underground feeder discharges the coarse material onto a primary screen feed conveyor that transfers material to the primary triple deck dry screens rated at approximately 713 ton/hr. These screens consist of 1½-inch-square, ¾-inch-square, and $^{3}/_{16}$-inch-slotted opening decks in descending order. Oversized material that does not pass through the top screen is sent to the secondary cone crusher via a conveyor for further crushing. The overflow material from the bottom screen is conveyed to the wet screens, and the underflow material is transferred to a rejects stockpile that is eventually utilized for pit backfill and reclamation. The crushed

material from the secondary cone crusher reenters the screening stream at the screen feed conveyor.

Screen feed transfer, screening, and secondary crushing dust emissions are controlled by two baghouses (Baghouse #1 and Baghouse #2) and wet suppression. Screen discharge transfer points (secondary crusher feed, wet screens feed, and rejects stream) are not controlled.

Material sized from $^{3}/_{16}$ of an inch to 1½ inches is conveyed to the triple deck wet screens for washing. The wet screens consist of $^{7}/_{8}$-inch-square, ½-inch-square, and ¼-inch-by-$^{1}/_{8}$-inch-slotted opening decks in descending order. Each deck contains sprayers for washing off fines of sized material. Underflow material from the bottom wet screen is transferred to the rejects stockpile via a screw conveyor. Overflow from the bottom wet screen is classified as product and is transferred to the product stockpile via an inclined conveyor belt. An underground pan feeder draws the product material onto a conveyor that feeds into two 30-ton-capacity overhead hopper bins. These bins offload the product material into open-top, belly dump trailer trucks for offsite shipment.

A facility location map also showing the plot plan is provided in Appendix A, and a process flow diagram for the P4 Quartzite Quarry is presented in Figure 1.

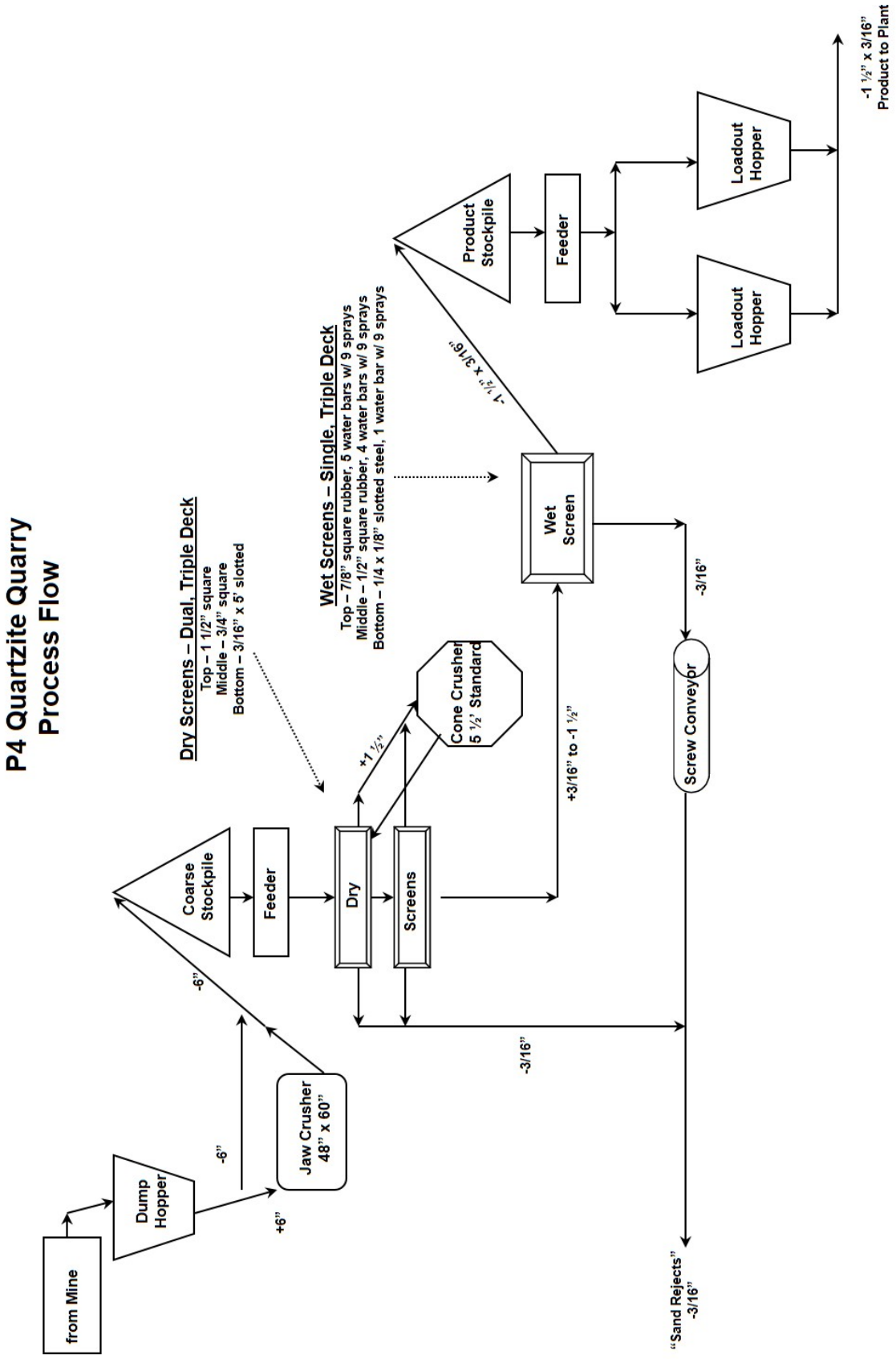
1.3 Equipment List

The process equipment at the P4 Quartzite Quarry facility is provided in Table 1.

Table 1. P4 Quartzite Quarry Process Equipment

Equipment	Manufacturer	Model/Size	Year Manufactured	Design Capacity
Primary Jaw Crusher	Metso	Nordberg C150	2015	970 ton/hr
Secondary Cone Crusher	Metso	Nordberg Symons	1968	410 ton/hr
Primary Triple Deck Screens	JCI	6203S-32LT	2011-2012	713 ton/hr

Figure 1. P4 Quartzite Quarry Process Flow Diagram



1.4 Regulated Pollutants – Potential to Emit

Combustion emissions are not expected at the P4 Quartzite Quarry because all equipment is line-powered. Therefore, the only regulated criteria pollutants associated with this facility are particulate matter less than 2.5 and 10 microns in aerometric diameter ($PM_{2.5}$ and PM_{10}, respectively) generated during the crushing, screening, handling, and storage of the quartzite rock.

The proposed equipment-specific and facility-wide potential to emit (PTE) emissions are provided in Table 2, and the uncontrolled PTE emissions are provided in Table 3. These emissions are provided in the units of pounds per hour (lb/hr) and tons per year (ton/yr).

Table 2. P4 Quartzite Quarry PTE Emissions for Regulated Pollutants

Source/Activity	$PM_{2.5}$		PM_{10}	
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Primary Jaw Crusher	1.20	0.55	1.20	0.55
Secondary Cone Crusher	0.05	0.02	0.29	0.13
Primary Triple Deck Screens	0.03	0.01	0.40	0.18
Facility Total	1.28	0.59	1.89	0.87

The PTE emissions provided in Table 2 take into consideration the emissions reduction achieved by air pollution control equipment and restriction on hours of operation or amount of material processed. These operational restrictions were estimated based on the historical facility operation records.

Table 3. P4 Quartzite Quarry Uncontrolled PTE Emissions for Regulated Pollutants

Source/Activity	$PM_{2.5}$		PM_{10}	
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Primary Jaw Crusher	0.43	1.89	2.33	10.20
Secondary Cone Crusher	0.18	0.80	0.98	4.31
Primary Triple Deck Screens	0.42	1.84	6.20	27.17
Facility Total	1.03	4.52	9.52	41.68

The uncontrolled emissions provided in Table 3 are based on the equipment-specific maximum design throughput rates without considering reduction achieved by air pollution control equipment or restriction on hours of operation or amount of material processed (i.e., uncontrolled continuous operation throughout a year). Table 3 shows that the uncontrolled PTE emissions from the P4 Quartzite Quarry facility are less than the applicable major source threshold (250 ton/yr) for both $PM_{2.5}$ and PM_{10}; therefore, this facility is categorized as a true minor source.

1.5 Hazardous Air Pollutants (HAP)

There are trace amounts of metals and minerals in the particulate emissions associated with nonmetallic mineral processing activities that may generate insignificant quantities of HAP emissions. Generally, particulate-related HAP emissions associated with rock-crushing operations are several orders of magnitude smaller than the particulate emissions. The PM_{10} PTE emissions from the point and fugitive sources at P4 Quartzite Quarry are approximately 1.6 ton/yr, and therefore HAP emissions are expected to be orders of magnitude less than 1.6 ton/yr, and thus significantly less than the major source thresholds of 10 ton/yr of a single HAP and 25 ton/yr of combined HAP.

1.6 Toxic Air Pollutants (TAP)

The TAP of concern from the P4 Quartzite Quarry operations is crystalline silica in quartz form. Like HAP emissions, TAP emissions are also proportional to TAP-specific concentration in the processed material and particulate emissions.

IDAPA 58.01.01.210 requires that all sources applying for a PTC must demonstrate preconstruction compliance with toxic standards. According to methods specified in IDAPA 58.01.01.007, 203, and 210, P4 is able to demonstrate that the proposed primary crusher replacement will result in a net emissions decrease for crystalline silica; therefore, no further procedures for demonstrating preconstruction compliance are required for crystalline silica per IDAPA 58.01.01.210.09.

A detailed analysis demonstrating preconstruction compliance for crystalline silica is provided in Appendix B.

1.7 Estimates of Ambient Concentrations and Compliance with National Ambient Air Quality Standards (NAAQS)

The P4 Quartzite Quarry facility-wide PTE emissions provided in Table 2 are less than ten percent of the significant emission rates for both $PM_{2.5}$ and PM_{10} provided in IDAPA 58.01.01.006.108. Thus, the P4 Quartzite Quarry facility-wide emissions are considered Below Regulatory Concern as defined by IDAPA 58.01.01.221. The proposed permitting action does not require an air dispersion modeling analysis to estimate ambient concentrations and demonstrate compliance with the applicable NAAQS per guidance provided during the pre-application conference call[1] and Section 3.1 of the IDEQ modeling guidelines.[2]

[1] Pre-application conference call. April 14, 2016. Attended by T. Burnham, D. Pitman, C. Gentry, M. Simon (IDEQ); M. Prickett, C. Allen (P4 Production, LLC); and E. Memon and S. Pryor (Air Sciences Inc.).

[2] State of Idaho Guideline for Performing Air Quality Impact Analyses. State of Idaho Department of Environmental Quality. Doc. IDAQ-011. September 2013.

1.8 Regulatory Analysis

1.8.1 Code of Federal Regulations Title 40, Part 60 – Standards of Performance for New Stationary Sources (40CFR60)

The 40CFR60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants is applicable to the new/replacement primary jaw crusher proposed at the P4 Quartzite Quarry per §60.670(a)(1) and (e) as it will commence construction or modification after August 31, 1983. The remaining equipment at the facility, including a secondary crusher, screens, belt conveyors, and storage bins, commenced construction before August 31, 1983, and are therefore not subject to this regulation.

The complete regulatory analysis, as required by IDEQ, is provided in Appendix A, along with IDEQ Form FRA.

1.8.2 Prevention of Significant Deterioration (PSD)

The P4 Quartzite Quarry does not have facility-wide emissions of any criteria pollutant that exceed 250 ton/yr, nor is it a major stationary source as defined in 40CFR52.21(b)(1)(i). Therefore, in accordance with 40CFR52.21(a)(2), PSD requirements are not applicable to the P4 Quartzite Quarry.

1.8.3 Operating Permit Applicability

The P4 Quartzite Quarry is not required to obtain a Tier I operating permit because it is not a Major Facility as defined in IDAPA 58.01.01.008.10, nor is it a Tier I Source as defined in IDAPA 58.01.01.006.122. In addition, the P4 Quartzite Quarry is not required to obtain a Tier II operating permit pursuant to IDAPA 58.01.01.401.02.

1.9 Certification of PTC Application

Pursuant to IDAPA 58.01.01.123, all documents submitted to IDEQ including, but not limited to, application forms for PTC and supporting information, shall contain a certification by a responsible official. This application certification can be found in Appendix A, Form GI, and it states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Appendix A – IDEQ Permit to Construct Application Forms

Form GI – General Information

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

General Information - **Form GI**
4/7/16

Please see instructions on second page before filling out the form.

FACILITY AND PERMIT INFORMATION

1. Facility Name:	2. Facility ID Number:
P4 Quartzite Quarry	029-00043

3. Brief Project Description:	Stationary rock crushing plant consisting of a primary jaw crusher, a secondary cone crusher, and screening, material transfers and storage activities, located in Soda Springs, Caribou County, Idaho.

4. Facility Contact Name:	5. Facility Contact Title:
Molly R. Prickett	Environmental Engineer
6. Facility Contact Telephone Number:	**7. Facility Contact Email:**
208-547-1395	molly.prickett@monsanto.com
8. Mailing address where permit will be sent (street/city/state/zip code):	**9. Physical address of facility (if different than mailing address) (street/city/state/zip code):**
1853 Hwy. 34/P.O. Box 816 Soda Springs, ID 83276	1973 Government Dam Road Soda Springs, ID 83276

10. County Facility is located	Caribou	
11. Is the equipment portable?	☒ No ☐ Yes	
12. NAICS codes	Primary NAICS: 212322	Secondary NAICS (if applicable):
13. Brief business description and principal product produced:	Quartzite is mined at the facility for use at the P4 Production, LLC elemental phosphorus plant. The mined raw quartzite material is first dumped into a hopper which contains a vibrating pan feeder with 6" spaced finger tines to screen pit material. Material larger than 6" passes through the primary crusher rated at 970 tons per hour for size reduction. Material then passes through the secondary cone crusher and is then sent to the loadout facility. Quartzite (silica)	
14. Describe any contiguous or adjacent facility this company owns or operates:	None	
15. Permit Application Type. Provide Permit Number for existing permit. For a PTC, an application fee is required.	☒ Initial Permit to Construct (PTC) ☐ PTC Modification	PTC No. ____ Issued Date ____
	☐ Initial Tier II ☐ Tier II Modification ☐ Tier II Renewal	Tier II No. ____ Issued Date ____
	☐ Initial Tier I ☐ Tier I Administrative Amendment ☐ Tier I Minor Modification ☐ Tier I Significant Modification ☐ Tier I Renewal	Tier I No. ____ Issued Date ____

16. **For Tier I permitted facilities only:** If you are applying for a PTC then you must specify how the PTC will be incorporated into the Tier I permit.	☐ Incorporate PTC at the time of Tier I renewal (IDAPA 58.01.01.209.05.a) ☐ Co-process PTC with Tier I Modification (IDAPA 58.01.01.209.05.b) ☐ Administrative amend the Tier I to incorporate PTC upon applicant's request (IDAPA 58.01.01.209.05.c)
17. ☒ Check here to request facility draft permit before final issuance.	

Certification of Truth, Accuracy, and Completeness (by Responsible Official)
I hereby certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this and any attached and/or referenced document(s) are true, accurate, and complete in accordance with IDAPA 58.01.01.123 124.

Responsible Official Signature	V.P. Operations *Responsible Official Title*	4/26/16 *Date*

Roger W. Gibson
Print or Type Responsible Official Name

Form EU0 – Emission Unit - General (3 forms)

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
P4 Production, LLC	P4 Quartzite Quarry	029-00043

4. Brief Project Description:	Stationary rock crushing and screening plant.

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	PRIMARY JAW CRUSHER
6.	EU ID Number:	EU-01
7.	EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
8.	Manufacturer:	METSO
9.	Model:	NORDBERG C150
10..	Maximum Capacity:	970 TON/HR
11.	Date of Construction:	UPON APPROVAL
12.	Date of Modification (if any):	N/A
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	Baghouse No. 1 (BH-01)		
15. Date of Installation:	TBD	16. Date of Modification (if any):	N/A
17. Manufacturer and Model Number:	OptiFlo, Model #1646868-001, Size: 3RC24		
18. ID(s) of Emission Unit Controlled:	EU-01		
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N/A	N/A	N/A	N/A	N/A	N/A

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	915 HR/YR
23.	Maximum Operation:	24 HR/DAY

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☒ Yes ☐ No (If Yes, indicate all that apply below)
	☒ Operation Hour Limit(s):	915 HR/YR
	☒ Production Limit(s):	494,564 TON/YR
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	

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1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
P4 Production, LLC	P4 Quartzite Quarry	029-00043

4. Brief Project Description:	Stationary rock crushing and screening plant.

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	SECONDARY CONE CRUSHER
6.	EU ID Number:	EU-02
7.	EU Type:	☐ New Source ☒ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
8.	Manufacturer:	METSO
9.	Model:	NORDBERG SYMONS
10..	Maximum Capacity:	410 TON/HR
11.	Date of Construction:	1976-80
12.	Date of Modification (if any):	N/A
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	Baghouse No. 2 (BH-02)		
15. Date of Installation:	2004	16. Date of Modification (if any):	N/A
17. Manufacturer and Model Number:	OptiFlo, Model #1646892-001,Size: 4RC16		
18. ID(s) of Emission Unit Controlled:	EU-02		
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N/A	N/A	N/A	N/A	N/A	N/A

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	915 HR/YR
23.	Maximum Operation:	24 HR/DAY

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☒ Yes ☐ No (If Yes, indicate all that apply below)
	☒ Operation Hour Limit(s):	915 HR/YR
	☒ Production Limit(s):	494,564 TON/YR
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	

DEQ AIR QUALITY PROGRAM
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For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
P4 Production, LLC	P4 Quartzite Quarry	029-00043

4. Brief Project Description:	Stationary rock crushing and screening plant.

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	PRIMARY TRIPLE DECK SCREENS
6.	EU ID Number:	EU-03
7.	EU Type:	☐ New Source ☒ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
8.	Manufacturer:	JCI
9.	Model:	6203S-32LT
10..	Maximum Capacity:	713 TON/HR
11.	Date of Construction:	1976-80, REPLACED WITH SAME KIND IN 2011-12
12.	Date of Modification (if any):	N/A
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	Baghouse No. 3 (BH-03)		
15. Date of Installation:	2004	16. Date of Modification (if any):	N/A
17. Manufacturer and Model Number:	OptiFlo, Model#1646892-001, Size: 3RC12		
18. ID(s) of Emission Unit Controlled:	EU-03		
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N/A	N/A	N/A	N/A	N/A	N/A

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	915 HR/YR
23.	Maximum Operation:	24 HR/DAY

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☒ Yes ☐ No (If Yes, indicate all that apply below)
	☒ Operation Hour Limit(s):	915 HR/YR
	☒ Production Limit(s):	494,564 TON/YR
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	

Form BCE – Baghouse Control Equipment (3 forms)

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment **Form BCE**

Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
P4 Production, LLC	P4 Quartzite Quarry

3. Brief Project Description: Stationary rock crushing and screening plant.
This form is for the Primary Jaw Crusher (EU-01) Baghouse No. 1 (BH-01).

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: OptiFlo	5. Baghouse Model: 1646868-001	6. Baghouse Equipment ID: BH-01

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	0.014 gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	100 % 0.014 gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
7 (c). Baghouse flow rate	10,000 dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	N/A % PM control N/A % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
P4 Production, LLC	P4 Quartzite Quarry

3. Brief Project Description: Stationary rock crushing and screening plant.
This form is for the Secondary Cone Crusher (EU-02) Baghouse No. 2 (BH-02).

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: OptiFlo	5. Baghouse Model: 1646892-001	6. Baghouse Equipment ID: BH-02

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.** This baghouse is not subject to NSPS, Subpart OOO, 60.670. Therefore, AP42, Chapter 11.19.2, Table 11.19.2-2 controlled emission factors were used.	N/A gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} AP42, Table 11.19.2-2 provides a controlled PM10 emission factor. Or Provide PM_{10} Emission Concentration	N/A % N/A gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
7 (c). Baghouse flow rate	7,150 dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	N/A % PM control N/A % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
P4 Production, LLC	P4 Quartzite Quarry

3. Brief Project Description: Stationary rock crushing and screening plant.
This form is for the Primary Triple Deck Screens (EU-03) Baghouse No. 3 (BH-03).

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: OptiFlo	5. Baghouse Model: 1646892-001	6. Baghouse Equipment ID: BH-03

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.** This baghouse is not subject to NSPS, Subpart OOO, 60.670. Therefore, AP42, Chapter 11.19.2, Table 11.19.2-2 controlled emission factors were used.	N/A gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} AP42, Table 11.19.2-2 provides a controlled PM10 emission factor. Or Provide PM_{10} Emission Concentration	N/A % N/A gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
7 (c). Baghouse flow rate	6,200 dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	N/A % PM control N/A % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

Emissions Inventory

NSR Pollutant PTE Summaries

Table 1. POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Emissions Unit	PM_{10}	$PM_{2.5}$
	ton/yr	ton/yr
Point Sources		
Primary Jaw Crusher	0.55	0.55
Secondary Cone Crusher	0.13	2.5E-2
Primary Triple Deck Screens	0.18	1.2E-2
Fugitive Sources		
Truck dump at primary crusher	4.0E-3	1.1E-3
Material transfer to coarse stockpile	0.27	7.7E-2
Screen discharge (3 streams combined)	0.27	7.7E-2
Material transfer to rejects stockpile	9.1E-2	2.6E-2
Material transfer to product stockpile	7.6E-3	2.1E-3
Material transfer to product bins	7.6E-3	2.1E-3
Truck loadout	1.6E-2	4.7E-3
Totals	**1.54**	**0.78**

Toxic Air Pollutant Emissions Inventory

Table 2: PRE- AND POST PROJECT NON-CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Non-Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Average Emissions Rates for Units at the Facility (lb/hr)	Change in Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
TAP emissions are addressed qualitatively to demonstrate that the proposed primary crusher replacement will not result in a net emissions increase for TAP emissions. Details are provided in Section 1.6 and Appendix B.					

Table 3: PRE- AND POST PROJECT CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Average Emissions Rates for Units at the Facility (lb/hr)	Change in Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
N/A					

Facility Wide Hazardous Air Pollutant Potential to Emit

Table 4: HAP POTENTIAL TO EMIT EMISSIONS SUMMARY

HAP Pollutants	PTE (ton/yr)
In the absence of HAP emission factors the HAP PTE emissions are addressed qualitatively to demonstrate that the facility-wide HAP emissions will be significantly less than the major source thresholds of 10 ton/yr of a single HAP and 25 ton/yr of combined HAP. Details are provided in Section 1.5.	

Air Sciences Inc.	PROJECT TITLE: P4 Quartzite Quarry	BY: Ejaz Memon
	PROJECT NO: 303-2-1	PAGE: 1 OF: 4 SHEET: P4ProcEI
AIR EMISSION CALCULATIONS	SUBJECT: Facility-Wide Emissions Summary	DATE: April 25, 2016

P4 QUARTZITE QUARRY POINT SOURCE EMISSIONS

Facility-Wide Uncontrolled Potential to Emit for Regulated Pollutants

	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}
Point Sources	(lb/hr)		(ton/yr)	
Primary Jaw Crusher	0.43	2.33	1.89	10.20
Secondary Cone Crusher	0.18	0.98	0.80	4.31
Primary Triple Deck Screens	0.42	6.20	1.84	27.17
Total Point Sources	1.03	9.52	4.52	41.68

Facility-Wide Potential to Emit for Regulated Pollutants

	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}
Point Sources	(lb/hr)		(ton/yr)	
Primary Jaw Crusher	1.20	1.20	0.55	0.55
Secondary Cone Crusher	5.4E-2	0.29	2.5E-2	0.13
Primary Triple Deck Screens	2.7E-2	0.40	1.2E-2	0.18
Total Point Sources	1.28	1.89	0.59	0.87

Conversion(s):

2,000	lb/ton
7,000	gr/lb
60	min/hr
8,760	hr/yr

Air Sciences Inc.	PROJECT TITLE: P4 Quartzite Quarry	BY: Ejaz Memon
	PROJECT NO: 303-2-1	PAGE: 2 OF: 4 SHEET: P4ProcEI
AIR EMISSION CALCULATIONS	SUBJECT: Primary Crushing Emissions	DATE: April 25, 2016

PRIMARY CRUSHING

Activity Information

Primary Jaw Crusher	EU-01	metso/Nordberg C150		
Design Capacity		970	ton/hr	
Average Throughput		540.4	ton/hr	Hourly average based on 24-month period (7/2013-6/2015)
		494,564	ton/yr	Annual average based on 24-month period (7/2013-6/2015)
Average Operation		915	hr/yr	Annual average based on 24-month period (7/2013-6/2015)

Control Equipment

Baghouse No. 1 (BH-01)	OptiFlo 3RC24		
Exhaust Flow	10,000	ft^3/min	Email to K. Daneff, P4, 12/11/15

Emission Factors

Control Status	$PM_{2.5}$	PM_{10}	PM		
Controlled	0.014	0.014	0.014	gr/ft^3	40 CFR 60, Subpart OOO baghouse grain loading standard
Uncontrolled	4.44E-4	2.40E-3	5.40E-3	lb/ton	AP-42 Table 11.19.2-2, 8/04 (Tertiary Crushing, uncontrolled) (1)

(1) $PM_{2.5}$ emission factor is not available for uncontrolled crushing. It was derived from $PM_{2.5}$ to PM_{10} ratio of controlled emission factors as:
$PM_{2.5}$ (uncontrolled) = $PM_{2.5}$ (controlled) ÷ PM_{10} (controlled) × PM_{10} (uncontrolled)

Emissions - Potential to Emit (PTE)(1)

	Controlled	
Pollutant	**(lb/hr)**	**(ton/yr)**
$PM_{2.5}$	1.20	0.55
PM_{10}	1.20	0.55
PM	1.20	0.55

(1) Based on 915 hours per year operation.

Emissions - Uncontrolled PTE(1)

	Uncontrolled	
Pollutant	**(lb/hr)**	**(ton/yr)**
$PM_{2.5}$	0.43	1.89
PM_{10}	2.33	10.20
PM	5.24	22.94

(1) Based on 8,760 hours per year operation at design rate.

Sample Calculations:

PM_{10} - PTE

	(Baghouse standard)	(Exhaust flow)	(Conversion)	(Conversion)
1.20 lb/hr	0.014 ~~gr~~ / ~~ft^3~~	10,000 ~~ft^3~~ / ~~min~~	60 ~~min~~ / ~~hr~~	~~lb~~ / 7,000 ~~gr~~

	(Hourly emission)	(Annual operation)	(Conversion)
0.55 ton/yr	1.20 ~~lb~~ / ~~hr~~	915 ~~hr~~ / ~~yr~~	~~ton~~ / 2,000 ~~lb~~

PM_{10} - Uncontrolled PTE

	(Emission factor)	(Throughput)
2.33 lb/hr	2.40E-3 lb / ~~ton~~	970.0 ~~ton~~ / hr

	(Hourly emission)	(Annual operation)	(Conversion)
10.20 ton/yr	2.33 ~~lb~~ / ~~hr~~	8,760 ~~hr~~ / ~~yr~~	~~ton~~ / 2,000 ~~lb~~

Numbers in blue are direct entries.

Air Sciences Inc.	PROJECT TITLE: P4 Quartzite Quarry	BY: Ejaz Memon
	PROJECT NO: 303-2-1	PAGE: 3 OF: 4 SHEET: P4ProcEI
AIR EMISSION CALCULATIONS	SUBJECT: Secondary Crushing Emissions	DATE: April 25, 2016

SECONDARY CRUSHING

Activity Information

Secondary Cone Crusher	EU-02	metso/Nordberg Symons		
Design Throughput		410	ton/hr	
Average Throughput		540.4	ton/hr	Hourly average based on 24-month period (7/2013-6/2015)
		494,564	ton/yr	Annual average based on 24-month period (7/2013-6/2015)
Average Operation		915	hr/yr	Annual average based on 24-month period (7/2013-6/2015)
Control Equipment				
Baghouse No. 2 (BH-02)		OptiFlo 4RC16		This baghouse is exempt from Subpart OOO standard

Emission Factors

Control Status	$PM_{2.5}$	PM_{10}	PM		
Controlled	1.00E-4	5.40E-4	1.20E-3	lb/ton	AP-42 Table 11.19.2-2, 8/04, Tertiary Crushing (controlled)
Uncontrolled	4.44E-4	2.40E-3	5.40E-3	lb/ton	AP-42 Table 11.19.2-2, 8/04 (Tertiary Crushing, uncontrolled) (1)

(1) $PM_{2.5}$ emission factor is not available for uncontrolled crushing. It was derived from $PM_{2.5}$ to PM_{10} ratio of controlled emission factors as:
$PM_{2.5}$ (uncontrolled) = $PM_{2.5}$ (controlled) ÷ PM_{10} (controlled) × PM_{10} (uncontrolled)

Emissions - PTE(1)

Pollutant	Controlled (lb/hr)	Controlled (ton/yr)
$PM_{2.5}$	5.4E-2	2.5E-2
PM_{10}	0.29	0.13
PM	0.65	0.30

(1) Based on average hourly and annual throughput rates.

Emissions - Uncontrolled PTE(1)

Pollutant	Uncontrolled (lb/hr)	Uncontrolled (ton/yr)
$PM_{2.5}$	0.18	0.80
PM_{10}	0.98	4.31
PM	2.21	9.70

(1) Based on 8,760 hours per year operation at design rate.

Sample Calculations:

PM_{10} - PTE

$$0.29 \text{ lb/hr} = \frac{\text{(Emission factor) } 5.40\text{E-}4 \text{ lb/ton} \times \text{(Throughput) } 540.4 \text{ ton/hr}}{}$$

$$0.13 \text{ ton/yr} = \frac{\text{(Emission factor) } 5.40\text{E-}4 \text{ lb/ton} \times \text{(Throughput) } 494{,}564 \text{ ton/yr} \times \text{(Conversion) } 1 \text{ ton}/2{,}000 \text{ lb}}{}$$

PM_{10} - Uncontrolled PTE

$$0.98 \text{ lb/hr} = \frac{\text{(Emission factor) } 2.40\text{E-}3 \text{ lb/ton} \times \text{(Throughput) } 410.0 \text{ ton/hr}}{}$$

$$4.31 \text{ ton/yr} = \frac{\text{(Hourly emission) } 0.98 \text{ lb/hr} \times \text{(Annual operation) } 8{,}760 \text{ hr/yr} \times \text{(Conversion) } 1 \text{ ton}/2{,}000 \text{ lb}}{}$$

Numbers in blue are direct entries.

Air Sciences Inc.	PROJECT TITLE: P4 Quartzite Quarry	BY: Ejaz Memon
	PROJECT NO: 303-2-1	PAGE: 4 OF: 4 SHEET: P4ProcEI
AIR EMISSION CALCULATIONS	SUBJECT: Screening Emissions	DATE: April 25, 2016

PRIMARY TRIPLE DECK SCREENING

Activity Information

Primary Triple Deck Screens	EU-03	JCI/6203S-32LT		
Design Throughput		713	ton/hr	
Average Throughput		540.4	ton/hr	Hourly average based on 24-month period (7/2013-6/2015)
		494,564	ton/yr	Annual average based on 24-month period (7/2013-6/2015)
Average Operation		915	hr/yr	Annual average based on 24-month period (7/2013-6/2015)
Control Equipment				
Baghouse No. 3 (BH-03)		OptiFlo 3RC12		This baghouse is exempt from Subpart OOO standard

Emission Factors

Control Status	$PM_{2.5}$	PM_{10}	PM		
Controlled	5.00E-5	7.40E-4	2.20E-3	lb/ton	AP-42 Table 11.19.2-2, 8/04, Screening (controlled)
Uncontrolled	5.88E-4	8.70E-3	2.50E-2	lb/ton	AP-42 Table 11.19.2-2, 8/04 (Screening, uncontrolled) [1]

[1] $PM_{2.5}$ emission factor is not available for uncontrolled screening. It was derived from $PM_{2.5}$ to PM_{10} ratio of controlled emission factors as:
$PM_{2.5}$ (uncontrolled) = $PM_{2.5}$ (controlled) ÷ PM_{10} (controlled) × PM_{10} (uncontrolled)

Emissions - PTE[1]

	Controlled	
Pollutant	**(lb/hr)**	**(ton/yr)**
$PM_{2.5}$	2.7E-2	1.2E-2
PM_{10}	0.40	0.18
PM	1.19	0.54

[1] Based on average hourly and annual throughput rates.

Emissions - Uncontrolled PTE[1]

	Uncontrolled	
Pollutant	**(lb/hr)**	**(ton/yr)**
$PM_{2.5}$	0.42	1.84
PM_{10}	6.20	27.17
PM	17.83	78.07

[1] Based on 8,760 hours per year operation at design rate.

Sample Calculations:

PM_{10} - PTE

$$0.40 \text{ lb/hr} = \frac{\text{(Emission factor)}\ 7.40\text{E-}4 \text{ lb/ton}}{\text{(Throughput)}\ 540.4 \text{ ton/hr}}$$

$$0.18 \text{ ton/yr} = \frac{\text{(Emission factor)}\ 7.40\text{E-}4 \text{ lb/ton} \times \text{(Throughput)}\ 494{,}564 \text{ ton/yr}}{\text{(Conversion)}\ 2{,}000 \text{ lb/ton}}$$

PM_{10} - Uncontrolled PTE

$$6.20 \text{ lb/hr} = \frac{\text{(Emission factor)}\ 8.70\text{E-}3 \text{ lb/ton}}{\text{(Throughput)}\ 713.0 \text{ ton/hr}}$$

$$27.17 \text{ ton/yr} = \frac{\text{(Hourly emission)}\ 6.20 \text{ lb/hr} \times \text{(Annual operation)}\ 8{,}760 \text{ hr/yr}}{\text{(Conversion)}\ 2{,}000 \text{ lb/ton}}$$

Numbers in blue are direct entries.

Air Sciences Inc.	PROJECT TITLE: P4 Quartzite Quarry	BY: Ejaz Memon	
	PROJECT NO: 303-2-1	PAGE: 1	OF: 2 SHEET: P4FugEI
AIR EMISSION CALCULATIONS	SUBJECT: Fugitive Emissions Summary	DATE: April 25, 2016	

P4 QUARTZITE QUARRY FUGITIVE EMISSIONS

Activity Information

Truck dump at primary crusher	540.4 ton/hr	494,564 ton/yr	Hourly and annual averages based on 24-month period (7/2013-6/2015)
Material transfer to coarse stockpile	540.4 ton/hr	494,564 ton/yr	Hourly and annual averages based on 24-month period (7/2013-6/2015)
Screen discharge (3 streams combined)	540.4 ton/hr	494,564 ton/yr	Hourly and annual averages based on 24-month period (7/2013-6/2015)
Material transfer to rejects stockpile	540.4 ton/hr	164,854 ton/yr	Approximately one-thirds of total material processed
Material transfer to product stockpile	540.4 ton/hr	329,710 ton/yr	Approximately two-thirds of total material processed
Material transfer to product bins	540.4 ton/hr	329,710 ton/yr	Approximately two-thirds of total material processed
Truck loadout	540.4 ton/hr	329,710 ton/yr	Approximately two-thirds of total material processed

Emission Factors[1]

Activity	$PM_{2.5}$	PM_{10}	PM		
Truck dump at primary crusher	4.52E-6	1.60E-5	4.87E-5	lb/ton	AP-42, Table 11.19.2-2, 8/04 (truck unloading)
Material transfer to coarse stockpile	3.11E-4	1.10E-3	3.00E-3	lb/ton	AP-42, Table 11.19.2-2, 8/04 (conveyor transfer, uncontrolled)
Screen discharge (3 streams combined)	3.11E-4	1.10E-3	3.00E-3	lb/ton	AP-42, Table 11.19.2-2, 8/04 (conveyor transfer, uncontrolled)
Material transfer to rejects stockpile	3.11E-4	1.10E-3	3.00E-3	lb/ton	AP-42, Table 11.19.2-2, 8/04 (conveyor transfer, uncontrolled)
Material transfer to product stockpile	1.30E-5	4.60E-5	1.40E-4	lb/ton	AP-42, Table 11.19.2-2, 8/04 (conveyor transfer, controlled)[2]
Material transfer to product bins	1.30E-5	4.60E-5	1.40E-4	lb/ton	AP-42, Table 11.19.2-2, 8/04 (conveyor transfer, controlled)[2]
Truck loadout	2.83E-5	1.00E-4	3.04E-4	lb/ton	AP-42, Table 11.19.2-2, 8/04 (truck loading)

[1] Where PM or $PM_{2.5}$ emission factors are not available they are calculated based on the following ratios:

PM_{10} to PM ratio	0.33	AP-42, Table 11.19.2-2, 8/04 (conveyor transfer, controlled)
$PM_{2.5}$ to PM_{10} ratio	0.28	AP-42, Table 11.19.2-2, 8/04 (conveyor transfer, controlled)

[2] Material passes through wet screens downstream of screening process, therefore material is sufficiently wet.

Emissions - Potential to Emit (PTE)[1]

Activity	$PM_{2.5}$ (lb/hr)	PM_{10} (lb/hr)	PM (lb/hr)	$PM_{2.5}$ (ton/yr)	PM_{10} (ton/yr)	PM (ton/yr)
Truck dump at primary crusher	2.4E-3	8.6E-3	2.6E-2	1.1E-3	4.0E-3	1.2E-2
Material transfer to coarse stockpile	0.17	0.59	1.62	7.7E-2	0.27	0.74
Screen discharge (3 streams combined)	0.17	0.59	1.62	7.7E-2	0.27	0.74
Material transfer to rejects stockpile	0.17	0.59	1.62	2.6E-2	9.1E-2	0.25
Material transfer to product stockpile	7.0E-3	2.5E-2	7.6E-2	2.1E-3	7.6E-3	2.3E-2
Material transfer to product bins	7.0E-3	2.5E-2	7.6E-2	2.1E-3	7.6E-3	2.3E-2
Truck loadout	1.5E-2	5.4E-2	0.16	4.7E-3	1.6E-2	5.0E-2
Fugitive Total	0.54	1.90	5.21	0.19	0.67	1.84

[1] Based on average hourly and annual throughput rates.

Emissions - Uncontrolled PTE[1]

Activity	$PM_{2.5}$ (lb/hr)	PM_{10} (lb/hr)	PM (lb/hr)	$PM_{2.5}$ (ton/yr)	PM_{10} (ton/yr)	PM (ton/yr)
Truck dump at primary crusher	3.2E-3	1.1E-2	3.5E-2	1.4E-2	5.0E-2	0.15
Material transfer to coarse stockpile	0.22	0.78	2.14	0.97	3.44	9.37
Screen discharge (3 streams combined)	0.22	0.78	2.14	0.97	3.44	9.37
Material transfer to rejects stockpile	0.22	0.78	2.14	0.97	3.44	9.37
Material transfer to product stockpile	9.3E-3	3.3E-2	1.0E-1	4.1E-2	0.14	0.44
Material transfer to product bins	9.3E-3	3.3E-2	1.0E-1	4.1E-2	0.14	0.44
Truck loadout	2.0E-2	7.1E-2	0.22	8.8E-2	0.31	0.95
Fugitive Total	0.71	2.50	6.87	3.10	10.96	30.08

[1] Based on 8,760 hours per year operation at design rate of 713 ton/hr

Air Sciences Inc.	PROJECT TITLE: P4 Quartzite Quarry	BY: Ejaz Memon
	PROJECT NO: 303-2-1	PAGE: 2 OF: 2 SHEET: P4FugEI
AIR EMISSION CALCULATIONS	SUBJECT: Fugitive Emissions	DATE: April 25, 2016

FUGITIVE EMISSIONS

Sample Calculations:

PM_{10} - PTE

Truck dump at primary crusher

	(Emission factor)	(Throughput)	
8.6E-3 lb/hr	1.60E-5 lb / ~~ton~~	540.4 ~~ton~~ / hr	
	(Emission factor)	(Throughput)	(Conversion)
4.0E-3 ton/yr	1.60E-5 ~~lb~~ / ~~ton~~	494,564 ~~ton~~ / yr	ton / 2,000 ~~lb~~

PM_{10} - Uncontrolled PTE

Truck dump at primary crusher

	(Emission factor)	(Throughput)	
8.6E-3 lb/hr	1.60E-5 lb / ~~ton~~	540.4 ~~ton~~ / hr	
	(Hourly emission)	(Annual operation)	(Conversion)
3.8E-2 ton/yr	8.6E-3 ~~lb~~ / ~~hr~~	8,760 ~~hr~~ / ~~yr~~	~~ton~~ / 2,000 ~~lb~~

Conversion(s):

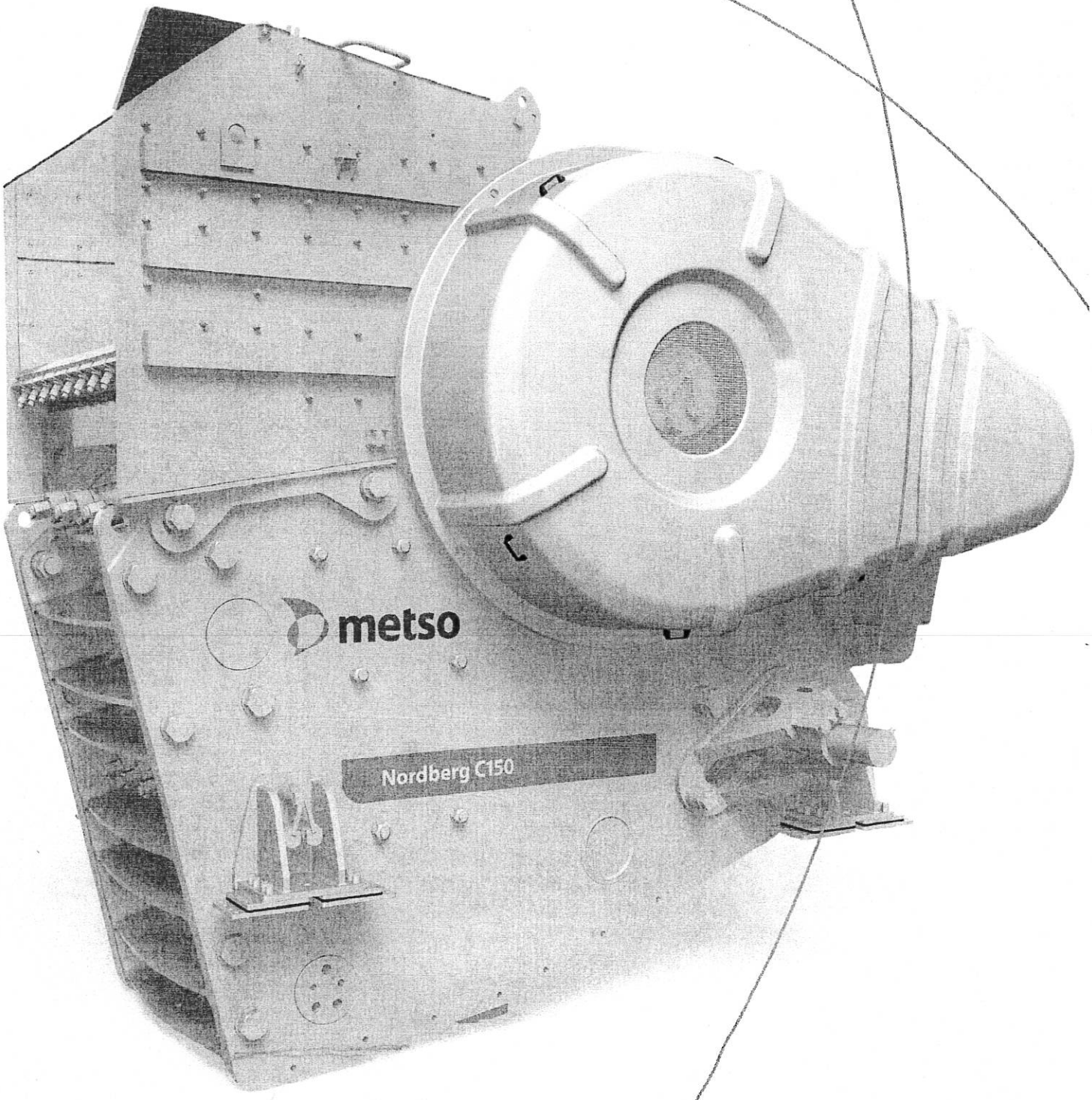
2,000	lb/ton
7,000	gr/lb
60	min/hr
8,760	hr/yr

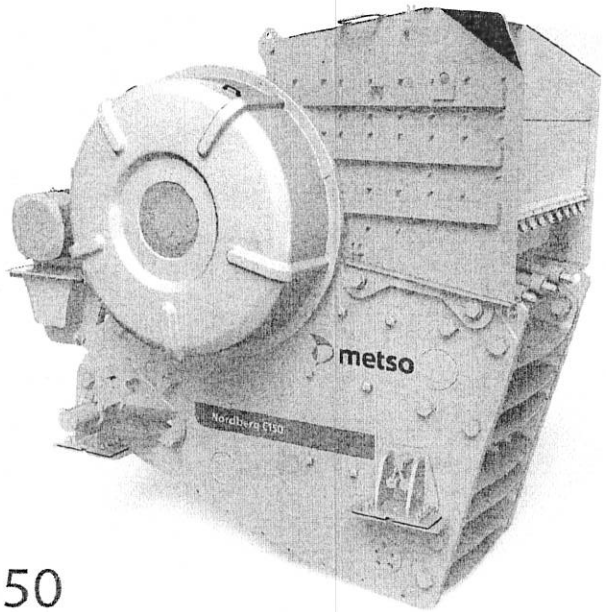
Numbers in blue are direct entries.

Supporting Documentation

Jaw crusher
Nordberg® C150™

metso
Expect results





Jaw crusher
Nordberg C150

The Nordberg C150 jaw crusher is designed without compromise to be the leading jaw crusher in the 50 ton weight class. The unit has been developed for the most demanding large scale mining and quarrying applications. The great feed opening with long steep crushing cavity allows large coarse feed material up to one meter (40") size.

High long term performance and reliable design

The Nordberg C150 jaw crusher offers outstanding performance in terms of operating lifetime and its ability to crush large feed material to required product sizes at high capacity rates. An extended feed opening not only accepts material up to one meter (40"), but also easily breaks it by the increased stroke at the top of the cavity. The tight nip angle in the middle of the cavity ensures the material is quickly transferred to the bottom of the cavity where the legendary Nordberg C jaw's long stroke finishes the job.

Like all C series jaw crushers the Nordberg C150 is built out of premium quality components. The main frame structure is based on unique pinned and bolted connections without welded seams, the way only Metso can do it.

Safe to operate and maintain

The Nordberg C150 is engineered for safe operation and easy maintenance. There are limited number of service points, all with easy and safe access.

The operation, condition monitoring and greasing can be fully automated. Lifting tools for components are supplied as standard to ensure the safest possible maintenance procedures.

Easy to install

The modular design enables wide range of bolt on options like motor base, feed chute and composite guards. Multiple installation alternatives from low profile to surface installation either on steel or concrete structure are possible. The Nordberg C150 can be dismantled for transport and reassembled for example on the underground site if preferred.

Benefits:
- Extremely reliable design
- Outstanding performance
- Safe to operate and maintain
- Easy to install

Technical specification	
Feed opening width	1 400 mm (55")
Feed opening depth	1 200 mm (47")
Weight (Basic unit)	51 200 kg (113 000 lbs)
Nominal power	200 kW (300 hp)
Operating speed	220 rpm
Minimum c.s.s.	125 mm (5")
Maximum c.s.s.	250 mm (10")

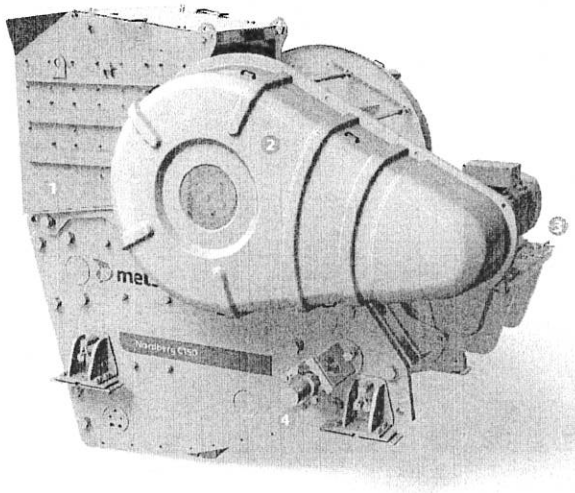
Capacity			
Product size mm (in)	Closed side setting mm (in)		Mtph (Stph)
0-185	125		340 - 470
0-7		5	375 - 515
0-225	150		400 - 555
0-9		6	440 - 610
0-260	175		460 - 635
0-10		7	505 - 700
0-300	200		520 - 720
0-12		8	570 - 790
0-340	225		580 - 800
0-13		9	640 - 880
0-375	250		640 - 880
0-15		10	705 - 970

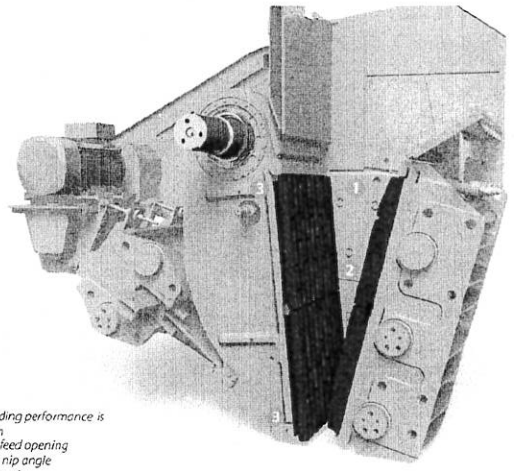
The above figures represent through the crusher capacities, which are based on a feed material with an average specific gravity of 2.7 t/m3, a maximum feed size that will enter the crusher without bridging and material finer than the crushers closed side setting removed. The capacities may vary depending on the feeding method and on feed characteristics such as gradation, bulk density, moisture, clay content and crushability.

Measurement of the crusher's closed side setting varies depending on the jaw profile that is being used and has an impact on the crusher's capacity and product gradation. The following factors will enhance crusher capacity and performance:

1. Proper selection of the jaws.
2. Proper feed gradation.
3. Controlled feed rate.
4. Sufficient feeder capacity and width.
5. Adequate crusher discharge area.
6. Discharge conveyor sized to convey maximum crusher capacity.

C150 is equipped with optional user friendly
① wear protected feed chute
② composite guards for flywheels and drive
③ integrated motor base with electric drive
④ hydraulic setting adjustment





Outstanding performance is based on
① large feed opening
② steep nip angle
③ long stroke

Secondary [redacted] Install Date unKnown

Standard cone crusher capacity

Standard Symons cone crushers — cavities • feed openings • product sizes

Open circuit — capacities in tons (2000 lb) per hour passing through the crusher at indicated discharge

Size	Type of cavity	Recommended minimum discharge setting A	Feed opening with min. recommended discharge setting A: B Closed side	Feed opening with min. recommended discharge setting A: B Open side	1/4" (6mm)	3/8" (9mm)	1/2" (13mm)	5/8" (16mm)	3/4" (19mm)
2 Ft. (600mm)	Fine	1/4" (6mm)	2 1/4" (57mm)	2 7/8" (72mm)	18	20	25	30	35
	Coarse	3/8" (9mm)	3 1/4" (83mm)	4 3/8" (109mm)		20	25	30	35
	Extra Coarse	1/2" (13mm)	4" (100mm)	4 3/8" (109mm)			25	30	40
3 Ft. (900mm)	Fine	3/8" (9mm)	3 5/16" (83mm)	4 1/16" (102mm)		50	65	80	90
	Coarse	1/2" (13mm)	6 3/8" (159mm)	7" (175mm)			65	80	100
	Extra Coarse	1" (25mm)	6 1/2" (163mm)	7 1/16" (178mm)					
4 Ft. (1200mm)	Fine	3/8" (9mm)	5" (127mm)	5 1/4" (131mm)		70	100	120	140
	Medium	1/2" (13mm)	6 1/8" (156mm)	6 1/4" (156mm)			110	130	150
	Coarse	3/4" (19mm)	7 1/8" (178mm)	7 5/8" (191mm)					155
	Extra Coarse	1" (25mm	9 1/4" (231mm)	10" (250mm)					
4 1/4 Ft. (1275mm)	Fine	1/2" (13mm)	4 3/8" (109mm)	5 3/8" (137mm)			120	140	160
	Medium	5/8" (16mm)	7 1/2" (188mm)	8 1/4" (210mm)				145	175
	Coarse	3/4" (19mm)	8 5/8" (216mm)	9 5/8" (241mm)					190
	Extra Coarse	1" (25mm)	9 1/2" (238mm)	10 3/8" (259mm)					
5 1/2 Ft. (1650mm)	Fine	5/8" (16mm)	7 1/2" (188mm)	8 3/8" (209mm)				200	225
	Medium	7/8" (22mm)	8 1/2" (213mm)	9 5/8" (241mm)					
	Coarse	1" (25mm)	9 5/8" (241mm)	10 3/4" (269mm)					
	Extra Coarse	1 1/2" (38mm)	13 1/4" (331mm)	14 1/2" (368mm)					
7 Ft. HD (2100mm)	Fine	3/4" (19mm)	10 1/8" (253mm)	11 1/8" (278mm)					420
	Medium	1" (25mm)	12 1/8" (303mm)	13 3/8" (334mm)					
	Coarse	1 1/4" (31mm)	13 3/8" (334mm)	14 3/4" (369mm)					
	Extra Coarse	1 1/2" (38mm)	16 3/4" (425mm)	18 1/2" (460mm)					
7 Ft. X HD					Consult factory for capacities				
10 Ft. (3048mm)	Fine	7/8" (22mm)	12 1/2" (317mm)	14" (356mm)					
	Medium	1" (25mm)	15 1/2" (394mm)	17" (432mm)					
	Coarse	1 1/2" (38mm)	18 1/2" (470mm)	20" (508mm)					
	Extra Coarse	1 1/2" (38mm)	24 1/2" (622mm)	26" (660mm)					

Closed circuit — capacities in tons (2000 lb) per hour based on closed circuit operation

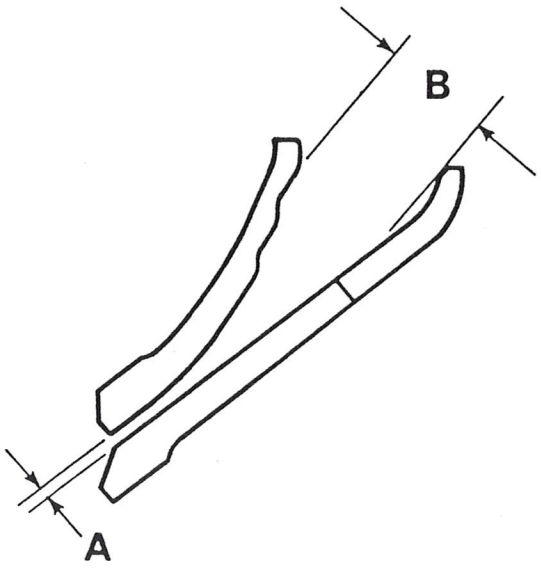
Size	Type of cavity	Recommended minimum discharge setting A	Feed opening with min. recommended discharge setting A: B Closed side	Feed opening with min. recommended discharge setting A: B Open side	Effective square opening on circuit screen: 1/4" (6mm) Recommended closed side settings: 1/4" (6mm) Note 1	1/4" (6mm) Note 2	3/8" (10mm) Note 1	3/8" (10mm) Note 2	1/2" (13mm) 3/8" (10mm) Note 1	1/2" (13mm) 3/8" (10mm) Note 2
2 Ft. (600mm)	Fine	1/4" (6mm)	2 1/4" (57mm)	2 7/8" (72mm)	10	20	12	24	16	28
	Coarse	3/8" (9mm)	3 1/4" (83mm)	3 3/4" (95mm)			12	24	16	28
	Extra Coarse	1/2" (13mm)	4" (100mm)	4 3/8" (109mm)						
3 Ft. (900mm)	Fine	3/8" (9mm)	3 5/16" (83mm)	4 1/16" (102mm)			35	65	40	70
	Coarse	1/2" (13mm)	6 3/8" (159mm)	7" (175mm)						
	Extra Coarse	1" (25mm)	6 1/2" (163mm)	7 1/16" (178mm)						
4 Ft. (1200mm)	Fine	3/8" (9mm)	5" (127mm)	5 1/4" (131mm)			50	95	55	95
	Medium	1/2" (13mm)	6 1/8" (156mm)	6 1/4" (156mm)						
	Coarse	3/4" (19mm)	7 1/8" (178mm)	7 5/8" (191mm)						
	Extra Coarse	1" (25mm)	9 1/4" (231mm)	10" (250 mm)						
4 1/4 Ft. (1275mm)	Fine	1/2" (13mm)	4 3/8" (109mm)	5 3/8" (137mm)						
	Medium	5/8" (16mm)	7 1/2" (188mm)	8 1/4" (210mm)						
	Coarse	3/4" (19mm)	8 5/8" (216mm)	9 5/8" (241mm)						
	Extra Coarse	1" (25mm)	9 1/2" (238mm)	10 3/8" (259mm)						
5 1/2 Ft. (1650mm)	Fine	5/8" (16mm)	7 1/2" (188mm)	8 3/8" (209mm)						
	Medium	7/8" (22mm)	8 1/2" (213mm)	9 5/8" (241mm)						
	Coarse	1" (25mm)	9 5/8" (241mm)	10 3/4" (269mm)						
	Extra Coarse	1 1/2" (38mm)	13 1/4" (331mm)	14 1/2" (368mm)						
7 Ft. HD (2100mm)	Fine	3/4" (19mm)	10 1/8" (253mm)	11 1/8" (278mm)	Consult factory for capacities					
	Medium	1" (25mm)	12 1/8" (303mm)	13 3/8" (334mm)						
	Coarse	1 1/4" (31mm)	13 3/8" (334mm)	14 3/4" (369mm)						
	Extra Coarse	1 1/2" (38mm)	16 3/4" (425mm)	18 1/8" (460mm)						
7 Ft. X HD					Consult factory for capacities					
10 Ft. (3048mm)	Fine	7/8" (22mm)	12 1/2" (317mm)	14" (356mm)	Consult factory for capacities					
	Medium	1" (25mm)	15 1/2" (394mm)	17" (432mm)						
	Coarse	1 1/4" (38mm)	18 1/2" (470mm)	20" (508mm)						
	Extra Coarse	1 1/2" (38mm)	24 1/2" (622mm)	26" (660mm)						

Secondary

• capacities

setting "A"

7/8" 22mm)	1" (25mm)	1-1/4" (31mm)	1-1/2" (38mm)	2" (51mm)	2-1/2" (64mm)
40 45 50	45 50 55	50 60 70	60 75 80		
100 120	130 130	150 150	180 180		
155 160 170	170 180 200 210	185 200 220 230	220 270 280	340 350	
170 190 215	180 220 240 260	200 250 275 300	280 325 335	385 395	
250 285	285 320 330	325 370 390	360 420 460 475	460 500 525	700 750
450	550 670	680 800 870	800 890 930 970	1100 1200 1300	1400 1500
1030	1300 1570	1620 1800	1800 2000 2100 2200	2500 2700 2900	3150 3400



Note 1 Net finished product (screen undersize)

Note 2 Tons per hour passing through crusher (net finished product plus recirculating load)

(16mm)		3/4" (19mm)		7/8" (22mm)		1" (25mm)		1-1/4" (31mm)		1½" (38mm)		2" (50mm)		2½" (63mm)	
closed circuit operation															
(13mm)		5/8" (16mm)		3/4" (19mm)		3/4" (19mm)		7/8" (22mm)		1" (25mm)		1¼" (32mm)		1½" (38mm)	
1	Note 2	Note 1	Note 2	Note 1	Note 2	Note 1	Note 2	Note 1	Note 2	Note 1	Note 2	Note 1	Note 2	Note 1	Note 2
	30 30 30	24 24 24	35 35 35	28 28 28	42 42 42	32 32 32	42 42 45	40 40 40	50 50 55	48 48 48	58 58 65				
	75 75	60 60	90 90	70 75 75	105 110 110	80 85	105 110	95 100	120 125	120 120	150 150	145 145	170 170		
	105 110	85 100	125 145	100 110 115	150 160 175 175	120 125 130	155 165 175 175	130 140 150	160 170 185 185	165 170 170	200 210 210	195 195	235 235		
	135	105 120	155 175	125 135 140	185 200 210	145 155 165	190 205 215	175 190 190	220 235 245	205 215 220 225	205 260 270 275	235 250 260	280 295 310		
		160	235	180	265	210	270	240 250	300 310	300 310 315	360 375 380	330 340 350	390 400 410	400 420	465 490

Sabrina Pryor

From: Shaw, Shawna [SSHAW@aafintl.com]
Sent: Friday, December 11, 2015 9:31 AM
To: DANEFF, KYLE J [AG/1850]
Subject: RE: Optiflo

See below information I found on the fan paperwork. That the only mention of cfm and such. This was sold to your company by our local rep K&P Sales listed below. They would have been the ones that would have helped determine the appropriate size for the application and may be able to assist you further if the information provided doesn't help.

K & P SALES ENGINEERS, INC.
9448 South 1210 East
P.O. Box 577
Sandy , UT 84091
United States
Phone: 801-571-8322
Fax: 801-571-0297
Email: kpsaleseng@email.msn.com

Thanks

Shawna Shaw
AAF International
Inside Sales
502-637-0415

Do you have an AAF or competitor's dust collector? Call me for a x-ref and pricing. We have a new top of the line cartridge design with lower pressure drop and longer life.

From: DANEFF, KYLE J [AG/1850] [mailto:kyle.j.daneff@monsanto.com]
Sent: Thursday, December 10, 2015 5:54 PM
To: Shaw, Shawna
Subject: RE: Optiflo

Shawna
Thank you for getting back to me, here is all the info I have. I am looking for rated flow rate, can be expressed in and units like cfm, acfm, scfm, ft^3/min, ect..

#1
Model # 1646868-001
Serial # op06-0016
Size: 3RC24
Control # 504674

ACFM	SP	Temp.	Altitude	Density	Fan RPM
10000	10 in.wg	70 °F	6600 ft	0.059 lb/ft³	3500

#2
Model # 1646892-001
Serial # op06-0015
Size: 4RC16
Control # 504674

ACFM	SP	Temp.	Altitude	Density	Fan RPM
7150	10 in.wg	70 °F	6600 ft	0.059 lb/ft³	3500

#3
Model # 1646892-001
Serial op06-0015 – Duplicate of above…..
Size: 4RC16
Control 504674
I think this one is wrong and should be Serial #OP060014 which is a 3RC12.

ACFM	SP	Temp.	Altitude	Density	Fan RPM
6200	10 in.wg	70 °F	6600 ft	0.059 lb/ft³	3500

Thank you again

Kyle Daneff
Environmental Engineer
Monsanto – Soda Springs, ID
Office: 208-547-1408
Cell: 208-339-0123

MONSANTO

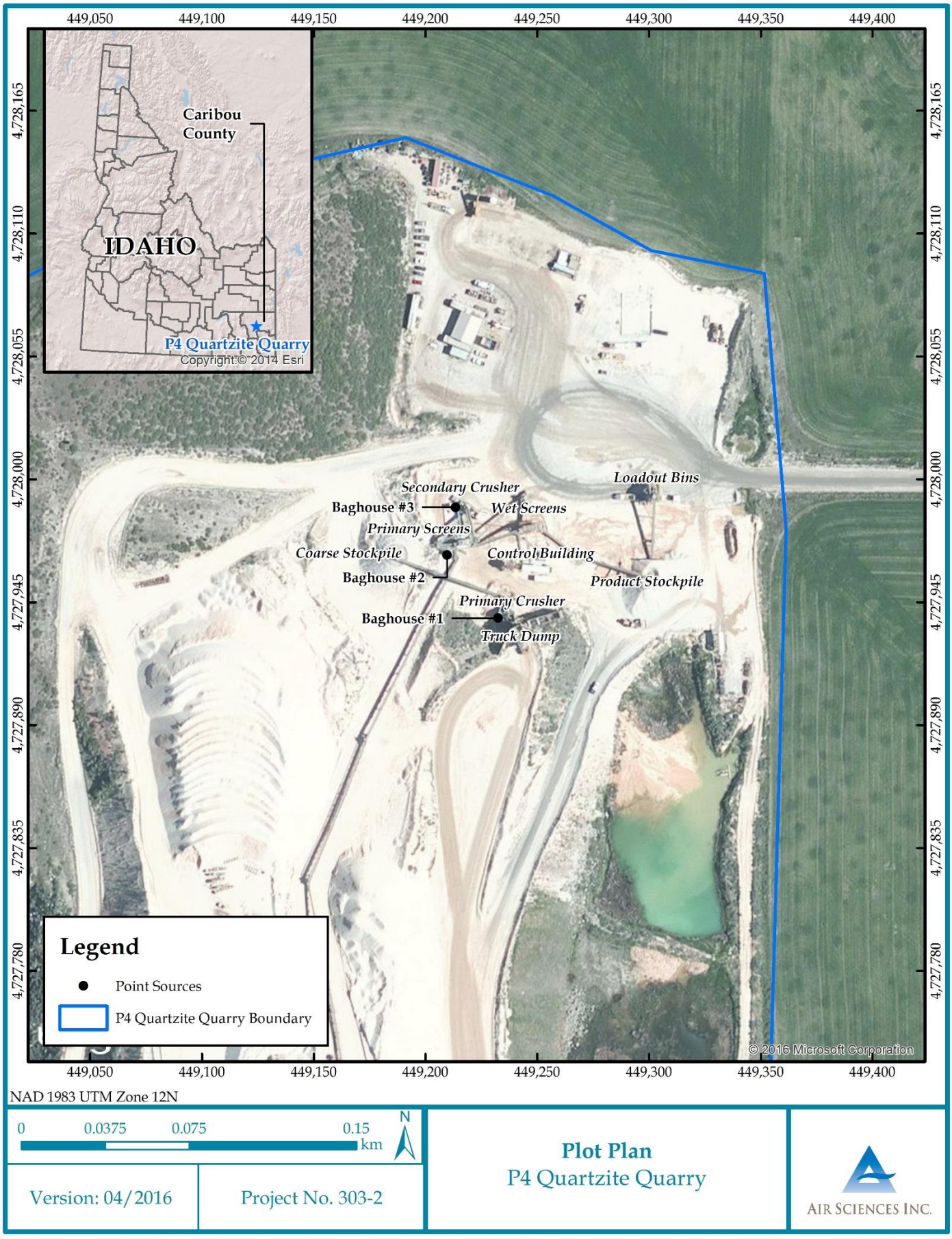
From: Shaw, Shawna [mailto:SSHAW@aafintl.com]
Sent: Thursday, December 10, 2015 3:31 PM
To: DANEFF, KYLE J [AG/1850]
Subject: Optiflo

Here is some info I have handy. Let me know if tells you what you need, or send me details and I will see what I can find.

Thanks

Shawna Shaw
AAF International
P&I Sales & Aftermarket
9920 Corporate Campus Drive, Suite 2200
Lousiville, KY 40223
P 502-637-0415
F 800-254-3019

Plot Plan



NAD 1983 UTM Zone 12N

0 0.0375 0.075 0.15 km

N

Version: 04/2016	Project No. 303-2

Plot Plan
P4 Quartzite Quarry

AIR SCIENCES INC.

Form FRA – Federal Requirements Applicability – Regulatory Review

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Preapplication Meeting Information
Form FRA (Federal Requirements Applicability) - Regulatory Review

In each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name:	2. Facility Name:
P4 Production, LLC	P4 Quartzite Quarry
3. Brief Project Description:	Stationary rock crushing plant consisting of a primary jaw crusher, a secondary cone crusher, and screening, material transfers and storage activities, located in Soda Springs, Caribou County, Idaho.

APPLICABILITY DETERMINATION	
4. List all applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). List all non-applicable subparts of the NSPS which may appear to apply to the facility but do not. Examples of NSPS-affected emissions units include internal combustion engines, boilers, turbines, etc. Applicant must thoroughly review the list of affected emissions units.	List of all applicable subpart(s): 40 CFR Part 60, Subpart OOO List of all non-applicable subpart(s) which may appear to apply but do not: ☑ Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR part 61 and 40 CFR part 63). List all non-applicable subparts of the NESHAP which may appear to apply to the facility but do not. Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. Reference EPA's webpage on NESHAPs for more information.	List of all applicable subpart(s): List of all non-applicable subpart(s) which may appear to apply but do not: ☑ Not Applicable
6. For each subpart identified above, conduct a complete regulatory analysis using the instructions and referencing the example on the following pages. **Note** - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation does or does not apply. Regulatory reviews submitted with insufficient detail will be determined incomplete.	☑ A detailed regulatory review is provided (Follow instructions and example). ☐ DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.

Regulatory Analysis

The following regulatory analysis is for P4 Production, LLC's Quartzite Quarry.

Highlighted text indicates applicability to the source.

Struck-out text indicates inapplicability to the source.

Blue italic text is annotation describing why the source is or is not subject to the section.

ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR data is current as of March 8, 2016

Title 40 → Chapter I → Subchapter C → Part 60 → Subpart OOO

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants

SOURCE: 74 FR 19309, Apr. 28, 2009, unless otherwise noted.

§60.670 Applicability and designation of affected facility.

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, ~~grinding mill,~~ screening operation, ~~bucket elevator,~~ belt conveyor, ~~bagging operation,~~ storage bin, ~~enclosed truck or railcar loading station~~. ~~Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart~~.

See comment under §60.670(e).

~~(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations (as defined in §60.671).~~

~~(b) An affected facility that is subject to the provisions of subparts F or I of this part or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.~~

~~(c) Facilities at the following plants are not subject to the provisions of this subpart.~~

~~(1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 23 megagrams per hour (25 tons per hour) or less;~~

~~(2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less; and~~

~~(3) Common clay plants and pumice plants with capacities, as defined in §60.671, of 9 megagrams per hour (10 tons per hour) or less.~~

~~(d)(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.~~

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.

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

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

The proposed new/replacement primary crusher at P4 Quartzite Quarry is an affected facility per §60.670(a)(1) and meets the requirement of §60.670(e) and therefore is subject to this subpart.

The existing secondary crusher, screens, conveying system and storage bins at P4 Quartzite Quarry were installed prior to August 31, 1983, and therefore not subject to this subpart.

§60.671 Definitions.

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

Bagging operation means the mechanical process by which bags are filled with nonmetallic minerals.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capacity means the cumulative rated capacity of all initial crushers that are part of the plant.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more affected facilities to a control device.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a nonmetallic mineral processing plant.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

Crush or *Crushing* means to reduce the size of nonmetallic mineral material by means of physical impaction of the crusher or grinding mill upon the material.

Crusher means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: Jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

Enclosed truck or railcar loading station means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

Fixed plant means any nonmetallic mineral processing plant at which the processing equipment specified in §60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Grinding mill means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: Hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

Initial crusher means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

(1) Crushed and Broken Stone, including ~~Limestone, Dolomite, Granite, Traprock, Sandstone,~~ Quartz, Quartzite, ~~Marl, Marble, Slate, Shale, Oil Shale, and Shell~~.

~~(2) Sand and Gravel.~~

~~(3) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.~~

~~(4) Rock Salt.~~

~~(5) Gypsum (natural or synthetic).~~

~~(6) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.~~

~~(7) Pumice.~~

~~(8) Gilsonite.~~

~~(9) Talc and Pyrophyllite.~~

~~(10) Boron, including Borax, Kernite, and Colemanite.~~

~~(11) Barite.~~

~~(12) Fluorospar.~~

~~(13) Feldspar.~~

~~(14) Diatomite.~~

~~(15) Perlite.~~

~~(16) Vermiculite.~~

~~(17) Mica.~~

~~(18) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.~~

Nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c).

~~*Portable plant* means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.~~

~~*Production line* means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.~~

~~*Saturated material* means, for purposes of this subpart, mineral material with sufficient surface moisture such that particulate matter emissions are not generated from processing of the material through screening operations, bucket elevators and belt conveyors. Material that is wetted solely by wet suppression systems is not considered to be "saturated" for purposes of this definition.~~

~~*Screening operation* means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens). Grizzly feeders associated with truck dumping and static (non-moving) grizzlies used anywhere in the nonmetallic mineral processing plant are not considered to be screening operations.~~

Seasonal shut down means shut down of an affected facility for a period of at least 45 consecutive days due to weather or seasonal market conditions.

Size means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

~~*Stack emission* means the particulate matter that is released to the atmosphere from a capture system.~~

~~*Storage bin* means a facility for storage (including surge bins) of nonmetallic minerals prior to further processing or loading.~~

~~*Transfer point* means a point in a conveying operation where the nonmetallic mineral is transferred to or from a~~

belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: Trucks, front end loaders, skip hoists, and railcars.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

Wet material processing operation(s) means any of the following:

(1) Wet screening operations (as defined in this section) and subsequent screening operations, bucket elevators and belt conveyors in the production line that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line; or

(2) Screening operations, bucket elevators and belt conveyors in the production line downstream of wet mining operations (as defined in this section) that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line.

Wet mining operation means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

Wet screening operation means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

P4 Production, LLC has read and understands these definitions and used them in providing this regulatory analysis.

§60.672 Standard for particulate matter (PM).

(a) Affected facilities must meet the stack emission limits and compliance requirements in Table 2 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.8. The requirements in Table 2 of this subpart apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.

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

(c) [Reserved]

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

(e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

(1) Fugitive emissions from the building openings (except for vents as defined in §60.671) must not exceed 7 percent opacity; and

(2) Vents (as defined in §60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of this subpart.

(f) Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of this subpart but must meet the applicable stack opacity limit and compliance requirements in Table 2 of this subpart. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

The proposed new/replacement primary crusher at P4 Quartzite Quarry is subject to §60.672(a) and will meet the stack emission limits and compliance requirements in Table 2 of this subpart.

§60.673 Reconstruction.

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.

(b) Under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

§60.674 Monitoring of operations.

(a) The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

(1) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±250 pascals ±1 inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(2) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expediently as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b).

(1) If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:

(i) The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and §60.676(b), and

(ii) The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under §60.11 of this part and §60.675 of this subpart.

(2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under §60.676(b) must specify the control mechanism being used instead of the water sprays.

(c) Except as specified in paragraph (d) ~~or (e)~~ of this section, the owner or operator of any affected facility for which ~~construction,~~ modification, ~~or reconstruction~~ commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, appendix A-7). The Method 22 (40 CFR part 60, appendix A-7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, appendix A-7) test, including the date and any corrective actions taken, in the logbook required under §60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to §60.675(b) simultaneously with a Method 22 (40 CFR part 60, appendix A-7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of this subpart. The revised visible emissions success level must be incorporated into the permit for the affected facility.

(d) As an alternative to the periodic Method 22 (40 CFR part 60, appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to paragraphs (d)(1) through (3) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (d)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.*, using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (d)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (d)(1)(vi) of this section.

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (d)(2) of this section.

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator of the affected facility must develop and submit to the Administrator or delegated authority for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (d)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (d)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (d)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

~~(c) As an alternative to the periodic Method 22 (40 CFR part 60, appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility that is subject to the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) may follow the continuous compliance requirements in row 1 items (i) through (iii) of table 6 to subpart AAAAA of 40 CFR part 63.~~

The proposed new/replacement primary crusher at P4 Quartzite Quarry is subject to §60.674(c) as it will be constructed after April 22, 2008, and it uses a baghouse to control particulate emissions. It will meet the monitoring requirements in accordance with §60.674(c) or §60.674(d).

§60.675 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendices A-1 through A-7 of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the PM standards in §60.672(a) as follows:

(1) Except as specified in paragraphs (e)(3) and (4) of this section, Method 5 of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, appendix A-3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121°C (250°F), to prevent water condensation on the filter.

(2) Method 9 of appendix A-4 of this part and the procedures in §60.11 shall be used to determine opacity

~~(c) (1) In determining compliance with the particulate matter standards in §60.672(b) or §60.672(e)(1), the owner or operator shall use Method 9 of appendix A-4 of this part and the procedures in §60.11, with the following additions:~~

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

~~(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (*e.g.*, road dust). The required observer position relative to the sun (Method 9 of appendix A-4 of this part, Section 2.1) must be followed.~~

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

~~(2) (i) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under §60.672(f) of this subpart, using Method 9 (40 CFR part 60, appendix A-4), the duration of the Method 9 (40 CFR part 60, appendix A-4) observations shall be 1 hour (ten 6-minute averages).~~

~~(ii) The duration of the Method 9 (40 CFR part 60, appendix A-4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.~~

~~(3) When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b) or §60.672(e)(1) of this subpart, the duration of the Method 9 (40 CFR part 60, appendix A-4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.~~

~~(d) To demonstrate compliance with the fugitive emission limits for buildings specified in §60.672(e)(1), the owner or operator must complete the testing specified in paragraph (d)(1) and (2) of this section. Performance tests must be conducted while all affected facilities inside the building are operating.~~

~~(1) If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR part 60, appendix A-4) performance test according to this section and §60.11.~~

~~(2) If the building encloses only affected facilities that commenced construction, modification, or reconstruction before April 22, 2008, and the owner or operator has previously conducted an initial Method 22 (40 CFR part 60, appendix A-7) performance test showing zero visible emissions, then the owner or operator has demonstrated compliance with the opacity limit in §60.672(e)(1). If the owner or operator has not conducted an initial performance~~

~~test for the building before April 22, 2008, then the owner or operator must conduct an initial Method 9 (40 CFR part 60, appendix A-4) performance test according to this section and §60.11 to show compliance with the opacity limit in §60.672(e)(1).~~

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

~~(1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:~~

~~(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.~~

~~(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.~~

(2) A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:

(i) No more than three emission points may be read concurrently.

(ii) All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.

(3) Method 5I of appendix A-3 of this part may be used to determine the PM concentration as an alternative to the methods specified in paragraph (b)(1) of this section. Method 5I (40 CFR part 60, appendix A-3) may be useful for affected facilities that operate for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.

~~(4) In some cases, velocities of exhaust gases from building vents may be too low to measure accurately with the type S pitot tube specified in EPA Method 2 of appendix A-1 of this part [*i.e.*, velocity head <1.3 mm H_2O (0.05 in. H_2O)] and referred to in EPA Method 5 of appendix A-3 of this part. For these conditions, the owner or operator may determine the average gas flow rate produced by the power fans (*e.g.*, from vendor-supplied fan curves) to the building vent. The owner or operator may calculate the average gas velocity at the building vent measurement site using Equation 1 of this section and use this average velocity in determining and maintaining isokinetic sampling rates.~~

$$v_e = \frac{Q_f}{A_e} \qquad \text{(Eq 1)}$$

~~Where:~~

~~V_e = average building vent velocity (feet per minute);~~

~~Q_f = average fan flow rate (cubic feet per minute); and~~

~~A_e = area of building vent and measurement location (square feet).~~

~~(f) To comply with §60.676(d), the owner or operator shall record the measurements as required in §60.676(c) using the monitoring devices in §60.674 (a)(1) and (2) during each particulate matter run and shall determine the averages.~~

~~(g) For performance tests involving only Method 9 (40 CFR part 60 appendix A-4) testing, the owner or operator may reduce the 30-day advance notification of performance test in §60.7(a)(6) and 60.8(d) to a 7-day advance notification.~~

(h) [Reserved]

(i) If the initial performance test date for an affected facility falls during a seasonal shut down (as defined in §60.671 of this subpart) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

The proposed new/replacement primary crusher at P4 Quartzite Quarry will meet the test methods and procedures requirements in accordance with §60.675(a) and (e) or §60.675(b); and §60.675(i).

§60.676 Reporting and recordkeeping.

~~(a) Each owner or operator seeking to comply with §60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.~~

~~(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:~~

~~(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and~~

~~(ii) The rated capacity in tons per hour of the replacement equipment.~~

~~(2) For a screening operation:~~

~~(i) The total surface area of the top screen of the existing screening operation being replaced and~~

~~(ii) The total surface area of the top screen of the replacement screening operation.~~

~~(3) For a conveyor belt:~~

~~(i) The width of the existing belt being replaced and~~

~~(ii) The width of the replacement conveyor belt.~~

~~(4) For a storage bin:~~

~~(i) The rated capacity in megagrams or tons of the existing storage bin being replaced and~~

~~(ii) The rated capacity in megagrams or tons of replacement storage bins.~~

(b)(1) Owners or operators of affected facilities (as defined in §§60.670 and 60.671) for which ~~construction, modification, or reconstruction~~ commenced on or after April 22, 2008, must record each periodic inspection required under §60.674~~(b)~~ or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.

(2) For each bag leak detection system installed and operated according to §60.674(d), the owner or operator must keep the records specified in paragraphs (b)(2)(i) through (iii) of this section.

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

~~(3) The owner or operator of each affected facility demonstrating compliance according to §60.674(e) by following the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) must maintain records of visible emissions observations required by §63.7132(a)(3) and (b) of 40 CFR part 63, subpart AAAAA.~~

~~(c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.~~

~~(d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss and liquid flow rate decrease by more than 30 percent from the average determined during the most recent performance test.~~

~~(e) The reports required under paragraph (d) of this section shall be postmarked within 30 days following end of the second and fourth calendar quarters.~~

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including reports of opacity observations made using Method 9 (40 CFR part 60, appendix A-4) to demonstrate compliance with §60.672(b), (e) and (f).

~~(g) The owner or operator of any wet material processing operation that processes saturated and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. At the time of such change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in §60.672(b) and the emission test requirements of §60.11.~~

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

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

~~(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.~~

~~(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.~~

(j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.

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

The proposed new/replacement primary crusher at P4 Quartzite Quarry will meet the applicable reporting and recordkeeping requirements of §60.676(b), (f), (h), (i), (j), and (k).

Table 1 to Subpart OOO of Part 60—Exceptions to Applicability of Subpart A to Subpart OOO

Subpart A reference	Applies to subpart OOO	Explanation
60.4, Address	Yes	Except in §60.4(a) and (b) submittals need not be submitted to both the EPA Region and delegated State authority (§60.676(k)).
60.7, Notification and recordkeeping	Yes	Except in (a)(1) notification of the date construction or reconstruction commenced (§60.676(h)).
		Also, except in (a)(6) performance tests involving only Method 9 (40 CFR part 60, appendix A-4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.8, Performance tests	Yes	Except in (d) performance tests involving only Method 9 (40 CFR part 60, appendix A-4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.11, Compliance with standards and maintenance requirements	Yes	Except in (b) under certain conditions (§§60.675(c)), Method 9 (40 CFR part 60, appendix A-4) observation is reduced from 3 hours to 30 minutes for fugitive emissions.
60.18, General control device	No	Flares will not be used to comply with the emission limits.

P4 Production, LLC acknowledges that this table applies to the proposed new/replacement primary crusher at P4 Quartzite Quarry.

Table 2 to Subpart OOO of Part 60—Stack Emission Limits for Affected Facilities With Capture Systems

For * * *	The owner or operator must meet a PM limit of * * *	And the owner or operator must meet an opacity limit of * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
~~Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008~~	~~0.05 g/dscm (0.022 gr/dscf)[a]~~	~~7 percent for dry control devices[b]~~	~~An initial performance test according to §60.8 of this part and §60.675 of this subpart; and Monitoring of wet scrubber parameters according to §60.674(a) and §60.676(c), (d), and (e).~~
Affected facilities (as defined in §§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	0.032 g/dscm (0.014 gr/dscf)[a]	Not applicable ~~(except for individual enclosed storage bins) 7 percent for dry control devices on individual enclosed storage bins~~	An initial performance test according to §60.8 of this part and §60.675 of this subpart; ~~and Monitoring of wet scrubber parameters according to §60.674(a) and §60.676(c), (d), and (e); and~~
			Monitoring of baghouses according to §60.674(c), (d), ~~or (e) and §60.676(b)~~.

~~[a]Exceptions to the PM limit apply for individual enclosed storage bins and other equipment. See §60.672(d) through (f).~~
~~[b]The stack opacity limit and associated opacity testing requirements do not apply for affected facilities using wet scrubbers.~~

The proposed new/replacement primary crusher at P4 Quartzite Quarry will be an affected facility with a capture system and commence modification after April 22, 2008. Therefore it will be subject to a PM limit of 0.032 g/dscm (0.014 gr/dscf) and an initial performance test requirements in accordance with applicable sections of §60.8 of this part and §60.675 of his subpart. Baghouse monitoring will comply with §60.674(c) or (d).

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

~~**For * * ***~~	~~**The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in §§60.670 and 60.671) * * ***~~	~~**The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used * * ***~~	~~**The owner or operator must demonstrate compliance with these limits by conducting * * ***~~
~~Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008~~	~~10 percent opacity~~	~~15 percent opacity~~	~~An initial performance test according to §60.11 of this part and §60.675 of this subpart.~~

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

The proposed new/replacement primary crusher at P4 Quartzite Quarry is not a fugitive source and therefore not subject to Table 3 of this subpart.

Appendix B – Preconstruction Compliance Demonstration with Toxic Standards

PRECONSTRUCTION COMPLIANCE DEMONSTRATION WITH TOXIC STANDARDS

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PROJECT NO.: 303-2-1

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DATE: April 26, 2016

1.0 Summary

In accordance with the IDAPA 58.01.01.007, 203, and 210 methods for evaluating toxic air pollutant (TAP) emissions from a modified stationary source, Air Sciences Inc. believes that by demonstrating that the proposed primary crusher modification/replacement results in a net emissions decrease for TAP, no further procedures for demonstrating preconstruction compliance will be required for TAP per IDAPA 58.01.01.210.09 for the P4 Production, LLC (P4) Quartzite Quarry facility located in Soda Springs, Idaho.

2.0 TAP Analysis for Permitting

Evaluation of TAP emissions is required by IDAPA 58.01.01.203 [***emphasis added***]:

> ***PERMIT REQUIREMENTS FOR NEW AND MODIFIED STATIONARY SOURCES.***
>
> ***No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:***
>
> *01. Emission Standards. The stationary source or modification would comply with all applicable local, state or federal emission standards.*
>
> *02. NAAQS. The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.*
>
> ***03. Toxic Air Pollutants. Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction***

compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.

The methods for evaluating TAP emissions and compliance demonstration are provided in IDAPA 58.01.01.210 [***emphasis added***]:

DEMONSTRATION OF PRECONSTRUCTION COMPLIANCE WITH TOXIC STANDARDS.

In accordance with Subsection 203.03, the applicant shall demonstrate preconstruction compliance with Section 161 to the satisfaction of the Department. The accuracy, completeness, execution and results of the demonstration are all subject to review and approval by the Department.

01. Identification of Toxic Air Pollutants….

02. Quantification of Emission Rates….

03. Quantification of Ambient Concentrations….

04. Preconstruction Compliance Demonstration. The applicant may use any of the Department approved standard methods described in Subsections 210.05 through 210.08, and may use any applicable specialized method described in Subsections 210.09 through 210.12 to demonstrate preconstruction compliance for each identified toxic air pollutant.

05. Uncontrolled Emissions….

06. Uncontrolled Ambient Concentration….

07. Controlled Emission and Uncontrolled Ambient Concentration ….

08. Controlled Ambient Concentration ….

09. Net Emissions.

a. ***As provided in Section 007 (definition of net emissions increase)*** *and Sections 460 and 461,* ***the owner or operator may net [sic] emissions to demonstrate preconstruction compliance****.*

b. ***Compare the modification's approved net emissions increase (expressed as an emission rate) for the toxic air pollutant to the applicable screening emission level listed in Sections 585 or 586.***

c. ***If the modification's approved net emissions increase is less than or equal to the applicable screening emission level, no further procedures for demonstrating preconstruction compliance will be required for that toxic air pollutant as part of the application process.***

d. The Department shall include emission limits and other permit terms for the toxic air pollutant in the permit to construct that assure that the facility will be operated in the manner described in the preconstruction compliance demonstration.

The definition of Net Emissions Increase from IDAPA 58.01.01.007.06 is as follows [***emphasis added***]:

Net Emissions Increase*. For purposes of Sections 204 and 205, a net emissions increase shall be defined by the federal regulations incorporated by reference.* ***For purposes of Section 210, a net emissions increase shall be an emissions increase from a particular modification plus any other increases and decreases in actual emissions at the facility that are creditable and contemporaneous with the particular modification, where:***

a. A creditable increase or decrease in actual emissions is contemporaneous with a particular modification if it occurs between the date five (5) years before the commencement of construction or modification on the particular change and the date that the increase from the particular modification occurs. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed one hundred and eighty (180) days;

b. A decrease in actual emissions is creditable only if it satisfies the requirements for emission reduction credits (Section 460) and has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular modification, and is federally enforceable at and after the time that construction of the modification commences.

c. The increase in toxic air pollutant emissions from an already operating or permitted source is not included in the calculation of the net emissions increase for a proposed new source or modification if:

i. The already operating or permitted source commenced construction or modification prior to July 1, 1995; or

ii. The uncontrolled emission rate from the already operating or permitted source is ten per cent (10%) or less of the applicable screening emissions level listed in Section 585 or 586; or

iii. The already operating or permitted source is an environmental remediation source subject to or regulated by the Resource Conservation and Recovery Act (42 U.S.C. Sections 6901-6992k) and IDAPA 58.01.05, "Idaho Rules and Standards for Hazardous Waste," (IDAPA 58.01.05.000 et seq.) or the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 6901-6992k) or a consent order.

3.0 Net Emissions Increase Analysis for TAP

P4 is proposing to replace a grandfathered primary crusher rated at 713 tons per hour (ton/hr) with a new crusher rated at 970 ton/hr and equipped with a baghouse that is subject to the emission and compliance standards of 40 CFR 60, Subpart OOO. The emission calculations provided herein for net emissions increase purposes are based on an actual average hourly throughput rate of 540.4 tons per hour (ton/hr) of material processed. This operation rate was derived from actual activity spanning over a 24-month consecutive period from July 2013 through June 2015 (see Attachment A). This analysis is provided based on hourly emissions because the TAP screening limits provided in IDAPA 58.01.01.585 and 586 are hourly emission rates.

Using the actual hourly throughput rate of 540.4 ton/hr and the PM_{10} emission factor of 0.0024 pounds per ton from AP-42, Table 11.19.2-2, the estimated actual PM_{10} emissions for the old crusher are as follows:

$$\mathrm{PM}_{10} = 1.3\frac{\mathrm{lb}}{\mathrm{hr}} = 0.0024\frac{\mathrm{lb}}{\cancel{\mathrm{ton}}} \times 540.4\frac{\cancel{\mathrm{ton}}}{\mathrm{hr}}$$

For the new crusher, using the baghouse design flow rate of 10,000 standard cubic feet per minute and the applicable 40 CFR 60, Subpart OOO emission standard of 0.014 grains per dry standard cubic foot, a conservative estimate of the actual PM_{10} emissions is:

$$\mathrm{PM}_{10} = 1.2\frac{\mathrm{lb}}{\mathrm{hr}} = \frac{0.014\frac{\cancel{\mathrm{gr}}}{\cancel{\mathrm{ft}^3}}}{7{,}000\frac{\cancel{\mathrm{gr}}}{\mathrm{lb}}} \times 10{,}000\frac{\cancel{\mathrm{ft}^3}}{\cancel{\mathrm{min}}} \times 60\frac{\cancel{\mathrm{min}}}{\mathrm{hr}}$$

Therefore, this replacement will result in a net emissions increase of (1.2 – 1.3) -0.1 lb/hr, or a decrease in emissions. The TAP of concern for this activity is crystalline silica. Crystalline silica

emissions are a function of particulate or PM_{10} emissions; therefore, a decrease in PM_{10} emissions will result in a decrease in crystalline silica emissions.

It is important to note that the replacement crusher has a higher design rate than the old crusher; however, the projected average hourly process rate is not expected to increase from the historical actual average hourly process rate presented in this analysis. Therefore, the projected actual emissions associated with the other existing equipment—that is, the secondary crusher, and the primary screening and transfers at this facility—are not expected to change. Also, there are no additional process fugitive emissions associated with this modification or any other emission increases at this facility during last five years.

This analysis shows that the proposed primary crusher replacement at the P4 Quartzite Quarry facility is expected to result in a net emissions decrease of crystalline silica emissions. Thus, no further procedures for demonstrating preconstruction compliance are required for crystalline silica as part of the application process per IDAPA 58.01.01.210.09.

Attachment A – Actual Operations Data

Table A-1. Actual Operations Data (July 2013 to June 2015)

Month	Year	Total Primary Crusher Tons	Total Primary Crusher Hours
7	2013	90,576	178
8	2013	105,672	172
9	2013	82,688	142
10	2013	3,060	10
11	2013	0	0
12	2013	0	0
1	2014	0	0
2	2014	0	0
3	2014	0	0
4	2014	9,316	20
5	2014	69,632	140
6	2014	83,368	157
7	2014	91,528	162
8	2014	66,028	125
9	2014	66,096	130
10	2014	27,540	55
11	2014	0	0
12	2014	0	0
1	2015	0	0
2	2015	0	0
3	2015	4,692	11
4	2015	91,936	163
5	2015	85,136	153
6	2015	111,860	215
Total (24 months)		989,128	1,831
Average (12 months)		494,564	915
Average Hourly (ton/hr)		**540.4**	