

Special Conditions

Permit Number 147392L001

Emission Limitations

1. This permit authorizes only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and those sources are limited to the emission limits and other conditions specified in the table. In addition, this permit authorizes all emissions from planned startup and shutdown activities associated with facilities or groups of facilities that are authorized by this permit.

Fuel Specifications

2. Fuel for the internal combustion engines shall be pipeline-quality natural gas or liquid fuel with a maximum sulfur content of not more than 0.0015 percent by weight and shall not consist of a blend containing waste oils or solvents. Use of any other fuel will require prior approval of the Executive Director of the Texas Commission on Environmental Quality (TCEQ).
3. Upon request by the Executive Director of the TCEQ or the TCEQ Regional Director or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel(s) used in the internal combustion of these engines or shall allow air pollution control program representatives to obtain a sample for analysis.

Federal Applicability

4. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) Regulations on Standards of Performance for New Stationary Sources (NSPS) promulgated in Title 40 Code of Federal Regulations (40 CFR) Part 60, specifically the following:
 - A. Subpart A - General Provisions;
 - B. Subpart OOO - Nonmetallic Mineral Processing Plants; and
 - C. Subpart IIII - Stationary Compression Ignition Internal Combustion Engines

Opacity/Visible Emission Limitations

5. Visible fugitive emissions shall not leave the property for more than 30 cumulative seconds in any six-minute period as determined according to Special Condition No 16.
6. In accordance with 40 CFR Part 60, Appendix A, Test Method 9 or equivalent, and except for those periods described in 30 Texas Administrative Code (30 TAC) § 101.201 and § 101.211, opacity of emissions from any transfer point on belt conveyors or from any screen shall not exceed 7 percent and from any crusher shall not exceed 12 percent for facilities (as defined in 40 CFR §§ 60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008. The opacity of emissions shall not exceed the indicated percent averaged over a six-minute period.

Operational Limitations, Work Practices, and Plant Design

7. The facility shall be limited to the following hourly and annual throughput rates:

Table 1: Hourly and Annual Throughput Limits

Source	Tons per hour	Tons per year in any rolling 12-month period
Plant-wide Throughput	800	1,500,000
Crusher #1 (EPN 3)	800	1,500,000
Crusher #2 (EPN 7)	100	187,500
Crusher #3 (EPN 11)	200	375,000
Screen #1 (EPN 5)	900	1,687,500
Screen #2 (EPN 9)	500	937,500

8. The facilities are authorized to operate up to 8,760 hours per year.
9. Permanently mounted spray bars shall be installed at the inlet and outlet of all crushers, at all shaker screens, and at all material transfer points. A dedicated water truck or area-type water sprays shall be available or installed at all stockpiles and active work areas. All water spray systems shall be operated as necessary to maintain compliance with TCEQ rules and regulations.
10. All unpaved in-plant roads and traffic areas, active work areas, and aggregate stockpiles shall be sprayed with water or an environmentally safe dust suppressant using an installed area type sprayer or a dedicated truck upon detection of visible particulate matter emissions to maintain compliance with all applicable TCEQ rules and regulations.

All paved in-plant roads and traffic areas shall either be sprayed with water or an environmentally safe dust suppressant using an installed area type sprayer or a dedicated truck or be cleaned using a dustless vacuum truck with a manufacturer's specified removal efficiency of at least 90%, upon detection of visible particulate matter emissions to maintain compliance with all applicable TCEQ rules and regulations.

11. Stockpiles shall not exceed 45 feet in height.
12. All stationary equipment authorized by this permit shall be prominently marked to show the assigned TCEQ regulated entity number or permit number, excluding the location suffix (example: L001). These markings must be clearly visible. These identification markings shall be removed from the equipment when it is no longer authorized by the TCEQ.

Movement of a Portable Facility

13. Movement of a portable facility to a site that is subject to the requirements of federal Prevention of Significant Deterioration (PSD) and/or Nonattainment programs under 30 TAC Chapter 116, Subchapter B, Divisions 5 and 6, requires the submission of an application to the TCEQ Air Permits Division, Air Permits Initial Review Team, MC-161, P.O. Box 13087, Austin, Texas 78711-3087 using Form PI-1, along with all supporting documents. In accordance with the Texas Health and Safety Code § 382.056, the applicant may be required to publish public notice.
14. The following are requirements for movement of this portable facility:

- A. Prior to moving permitted facilities or sources to any new site (even if authorization for the site has previously been granted), the holder of the permit shall request relocation or change of location authorization and obtain written approval from the TCEQ Executive Director or designated representative. Additionally, once construction has begun at any site, the applicant shall notify the appropriate TCEQ Regional Office and local air pollution control programs in writing of the actual dates of start of construction and operation.
- B. The appropriate TCEQ Regional Office may approve the following types of relocations:
- (1) A permitted facility and associated equipment to be located temporarily* in the right-of-way, or contiguous to the right-of-way, of a public works project, or
***Note: A temporary facility is one that occupies a designated site for not more than 180 consecutive days or supplies materials for a single project (single contract or same contractor for related project segments, but not other unrelated projects.)**
 - (2) A portable facility moving to a site in which a portable facility has been located at the site at any time during the previous two years and public notice was accomplished at the site as required under 30 TAC Chapter 39 (relating to Public Notice).
- C. If the holder of the permit meets either 13.B.(1) or 13.B.(2) above, the permit holder shall submit a complete written request to the TCEQ Regional Office for the new location and obtain written approval before the start of construction and commencement of operations at the new site. The permit holder is responsible for providing proof of submittal for all relocation requests. Construction may begin after receipt of approval from the appropriate TCEQ Regional Office or 12 business days after the date of postmark or the date of personal delivery of the request, whichever occurs first, unless disapproval is sent within the 12 business days. The permit holder's request is considered approved if the appropriate TCEQ Regional Office does not provide approval or denial of a complete submittal within 12 business days; however, the presumed approval does not exempt the applicant from ensuring that public notice was accomplished at the new site as required under 30 TAC Chapter 39. The relocation request shall contain all of the following information:
- (1) The company name, address, company contact, and telephone number;
 - (2) A copy of the existing permit conditions and the maximum allowable emission rates table that are in effect for the permitted facility;
 - (3) The regulated entity number (RN), customer reference number (CN), applicable permit or registration numbers and, if available, TCEQ account number;
 - (4) The location from which the facility is moving (current location);
 - (5) A location description of the proposed site (city, county, and exact physical location description);
 - (6) A scaled plot plan that identifies the location of all equipment and stockpiles, and also indicates that the required distances to the property lines can be met;
 - (7) A scaled area map that identifies the distance and direction to the closest off-property receptor (if required) and clearly indicates how the proposed site is contiguous or adjacent to the right-of-way of a public works project (if required);
 - (8) The proposed date for start of construction and expected date for start of operation;
 - (9) The expected time period at the proposed site;

- (10) The permit or registration number of the portable facility that was located at the proposed site any time during the last two years, and the date the facility was last located there. This information is not necessary if the relocation request is for a public works project that is contiguous or in the right-of-way of a public works project; and
 - (11) Proof that the proposed site had accomplished public notice, as required by 30 TAC Chapter 39. This proof is not necessary if the relocation request is for a public works project that is contiguous or adjacent to the right-of-way of a public works project.
- D. To move a permitted facility and associated equipment to a site that does not meet either 13.B.(1) or 13.B.(2), the holder of this permit shall submit a change of location request to the TCEQ Air Permits Division, Air Permits Initial Review Team, MC-161, P.O. Box 13087, Austin, Texas 78711-3087 using Form PI-1, along with all supporting documents. In accordance with the Texas Health and Safety Code § 382.056, the applicant may be required to publish public notice prior to being authorized for a change of location to a new site.
- E. All relocation and change of location applications shall comply with the following conditions:
- (1) The rock crushing facility and all associated sources (screens, transfer points on belt conveyors, feed bins, and work areas that are only associated with the facility) shall be located a minimum of 2,119 feet from the property line and a minimum of 550 feet from another rock crushing facility, concrete batch plant, or hot mix asphalt plant. If this distance of 550 feet cannot be met, then this crushing plant will not operate at the same time as another crushing plant, concrete batch plant, or asphalt plant on-site within this distance.
 - (2) Stockpiles, in-plant roads, and traffic areas (except for entrance and exit to the site) shall be located a minimum of 25 feet from any property line. In lieu of meeting the distance requirements for roads and stockpiles, the following must occur:
 - (a) Roads and other traffic areas within the buffer distance must be bordered by dust-suppressing fencing or other dust-suppressing barrier along all traffic routes or work areas. These borders shall be constructed to a height of at least 12 feet; and
 - (b) Stockpiles within this buffer distance must be contained within a three-walled bunker that extends at least two feet above the top of the stockpile.

Demonstration of Continuous Compliance

15. Upon request by the TCEQ Executive Director or the TCEQ Regional Director having jurisdiction, the holder of this permit shall perform ambient air monitoring, and/or other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere. The tests shall be performed during normal operation of the facilities and shall be performed in accordance with accepted TCEQ practices and procedures.
16. The holder of this permit shall conduct a quarterly visible fugitive emissions determination to demonstrate compliance with the visible fugitive emissions limitation specified in this permit. This visible fugitive emissions determination shall be performed: 1) during normal plant operations, 2) for a minimum of six minutes, 3) approximately perpendicular to plume direction, 4) with the sun behind the observer (to the extent practicable), 5) at least 15 feet, but not more than 0.25 mile, from the plume, and 6) in accordance with EPA 40 CFR Part 60, Appendix A, Test Method 22, except where stated otherwise in this condition. If visible fugitive emissions leaving the property exceed 30

cumulative seconds in any six-minute period, the owner or operator shall take immediate action (as appropriate) to eliminate the excessive visible fugitive emissions. The corrective action shall be documented within 24 business hours of completion.

Recordkeeping Requirements

17. In addition to the recordkeeping requirements specified in General Condition No. 7 and 40 CFR Part 60, Subparts A and OOO, the following records shall be maintained at this facility site and made available at the request of personnel from the TCEQ or any other air pollution control program having jurisdiction to demonstrate compliance with permit limitations. These records shall be totaled for each calendar month, retained for a rolling 24-month period, and include the following:
 - A. Quarterly observations for visible fugitive emissions;
 - B. Daily, monthly, and annual amounts of materials processed, summarized in tons per hour, tons per month, and tons per year;
 - C. Records of road cleaning, application of road dust control, or road maintenance for dust control; and
 - D. A copy of the manufacturer's suggested cleaning and maintenance schedule for abatement equipment.

Dated:

Emission Sources - Maximum Allowable Emission Rates

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This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (6)	
			lbs/hour	TPY (4)
3	Crusher #1 (5)	PM	0.96	0.90
		PM ₁₀	0.43	0.41
		PM _{2.5}	0.08	0.08
7	Crusher #2 (5)	PM	0.12	0.11
		PM ₁₀	0.05	0.05
		PM _{2.5}	0.01	0.01
11	Crusher #3 (5)	PM	0.24	0.23
		PM ₁₀	0.11	0.10
		PM _{2.5}	0.02	0.02
5	Screen #1 (5)	PM	1.98	1.86
		PM ₁₀	0.67	0.62
		PM _{2.5}	0.05	0.04
9	Screen #2 (5)	PM	1.10	1.03
		PM ₁₀	0.37	0.35
		PM _{2.5}	0.03	0.02
1, 2, 4, 6,8, 10, 12	Material Handling (5)	PM	0.48	0.45
		PM ₁₀	0.16	0.15
		PM _{2.5}	0.04	0.04
13	Engine #1 (CAT C13)	PM	0.07	0.32
		PM ₁₀	0.07	0.32
		PM _{2.5}	0.07	0.32
		VOC	1.09	4.76
		NO _x	2.60	11.41
		SO ₂	0.90	3.95

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (6)	
			lbs/hour	TPY (4)
		CO	1.59	6.97
14	Engine #2 (Deutz BF 4 M 2012)	PM	0.02	0.10
		PM ₁₀	0.02	0.10
		PM _{2.5}	0.02	0.10
		VOC	0.12	0.54
		NO _x	1.03	4.53
		SO ₂	0.20	0.87
		CO	0.18	0.77
15	Engine #3 (Cummins B3.3)	PM	0.04	0.17
		PM ₁₀	0.04	0.17
		PM _{2.5}	0.04	0.17
		VOC	0.21	0.92
		NO _x	0.87	3.83
		SO ₂	0.17	0.76
		CO	0.16	0.71
16	Diesel Tank (5)	VOC	0.68	0.01
STK	Stockpiles (including loading/unloading) (5)	PM	--	3.61
		PM ₁₀	--	1.81
		PM _{2.5}	--	0.27

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- NO_x - total oxides of nitrogen
- SO₂ - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
- PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
- PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
- CO - carbon monoxide
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Emission Sources - Maximum Allowable Emission Rates

(6) Planned startup and shutdown emissions are included. Maintenance activities are not authorized by this permit.

Date: _____

DRAFT

Construction Permit Source Analysis & Technical Review

Company	Vulcan Construction Materials, LLC	Permit Number	147392L001
City	Bulverde	Project Number	270926
County	Comal	Account Number	N/A
Project Type	Initial	Regulated Entity Number	RN109829721
Project Reviewer	Joel Stanford	Customer Reference Number	CN600355465
Site Name	Rock Crushing Plant		

Project Overview

The applicant has requested authorization of a rock crushing plant with a throughput of 800 tons per hours and 1,500,000 tons per year.

The company requested their permit include the representation of planned startup and shutdown emissions. Language in SC #1 and a new footnote on the Maximum Allowable Emission Rates Table (MAERT) have been included in the permit. Maintenance activities will be authorized either under Permit by Rule or claimed under 30 Texas Administrative Code § 116.119, De Minimis Facilities or Sources. Emissions from planned startup and shutdown activities will be authorized by this permit.

Emission Summary

Air Contaminant	Proposed Allowable Emission Rates (tpy)
PM	8.78
PM ₁₀	4.08
PM _{2.5}	1.07
VOC	6.23
NO _x	19.77
CO	8.45
SO ₂	5.58

Compliance History Evaluation - 30 TAC Chapter 60 Rules

A compliance history report was reviewed on:	12/22/17
Site rating & classification:	N/A
Company rating & classification:	0.04 / High
Has the permit changed on the basis of the compliance history or rating?	No

Public Notice Information - 30 TAC Chapter 39 Rules

Rule Citation	Requirement	
39.403	Date Application Received:	06/27/17
	Date Administratively Complete:	07/05/17
	Small Business Source?	No
	Date Leg Letters mailed:	07/05/17
39.603	Date Published:	07/31/17
	Publication Name:	<i>San Antonio Express-News</i>
	Pollutants:	PM, PM ₁₀ , PM _{2.5} , VOC, NO _x , CO, SO ₂
	Date Affidavits/Copies Received:	08/15/17
	Is bilingual notice required?	Yes
	Language:	Spanish
	Date Published:	07/28/17

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Rule Citation	Requirement
	Publication Name: <i>La Prensa Comunidad del Valle</i>
	Date Affidavits/Copies Received: 08/15/17
	Date Certification of Sign Posting / Application Availability Received: 09/01/17
39.604	Public Comments Received? Yes
	Hearing Requested? Yes
	Meeting Request? Yes
	Date Meeting Held: 02/27/18
	Date Response to Comments sent to OCC: 09/06/18
	Request(s) withdrawn?
	Date Withdrawn:
	Consideration of Comments:
	Is 2nd Public Notice required? Yes
39.602(c)	Date SB 709 Legislative Notification Sent: 07/28/17 and 01/12/18
39.419	Date 2nd Public Notice/Preliminary Decision Letter Mailed: 01/19/18
39.603	Date Published: 01/26/18
	Publication Name: <i>San Antonio Express-News</i>
	Pollutants: PM, PM₁₀, PM_{2.5}, VOC, NO_x, CO, SO₂
	Date Affidavits/Copies Received: 02/05/18
	Is bilingual notice required? Yes
	Language: Spanish
	Date Published: 01/26/18
	Publication Name: <i>La Prensa Comunidad del Valle</i>
	Date Affidavits/Copies Received: 02/05/18
	Date Certification of Sign Posting / Application Availability Received: 02/28/18
	Public Comments Received? Yes
	Meeting Request? Yes
	Date Meeting Held: 02/27/18
	Hearing Request? Yes
	Date Hearing Held:
	Request(s) withdrawn?
	Date Withdrawn:
	Consideration of Comments:
39.421	Date RTC, Technical Review & Draft Permit Conditions sent to OCC:
	Request for Reconsideration Received? Yes
	Final Action:
	Are letters Enclosed?

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Construction Permit & Amendment Requirements - 30 TAC Chapter 116 Rules

Rule Citation	Requirement	
116.111(a)(2)(G)	Is the facility expected to perform as represented in the application?	Yes
116.111(a)(2)(A)(i)	Are emissions from this facility expected to comply with all TCEQ air quality Rules & Regulations, and the intent of the Texas Clean Air Act?	Yes
116.111(a)(2)(B)	Emissions will be measured using the following method:	Recordkeeping of throughputs.
116.111(a)(2)(D)	Subject to NSPS? Subparts A, IIII, & OOO	Yes
116.111(a)(2)(E)	Subject to NESHAP?	No, the site does not emit any air contaminants regulated under 40 CFR Part 61.
116.111(a)(2)(F)	Subject to NESHAP (MACT) for source categories?	No, the site is not a listed source category regulated under 40 CFR Part 63.
116.111(a)(2)(H)	Nonattainment review applicability: Comal County is in attainment or unclassified for all pollutants. Therefore, nonattainment review is not applicable.	
116.111(a)(2)(I)	PSD review applicability: The facility is not a named source nor does it have the potential to emit greater than 250 tons per year of any pollutant. Therefore, PSD review is not applicable.	
116.111(a)(2)(L)	Is Mass Emissions Cap and Trade applicable to the new or modified facilities?	No, the site is not located in the Houston-Galveston-Brazoria nonattainment area.
116.140 - 141	Permit Fee: \$9,525.00 Applicable Outstanding Fees:	Fee certification: Yes None as of 01/11/17

Title V Applicability - 30 TAC Chapter 122 Rules

Rule Citation	Requirement
122.10(13)	Title V applicability: N/A, the site is not a major source nor is it an area source subject to Title V.
122.602	Periodic Monitoring (PM) applicability: N/A, the site is not a major source nor is it an area source subject to Title V.
122.604	Compliance Assurance Monitoring (CAM) applicability: N/A, the site is not a major source nor is it an area source subject to Title V.

Request for Comments

Received From	Program/Area Name	Reviewed By/Date	Comments
Region:	13	Kimberly Brady 11/29/17	No objections.

Process/Project Description

Aggregate will be transported from the quarry to Hopper #1 (EPN 1). Smaller material will bypass the crusher and will be transferred to the conveyer beneath the crusher. The remaining material will be passed to Crusher #1 (EPN 3). From the conveyer beneath the crusher material be conveyed (EPN 4) to Screen #1 (EPN 5).

Smaller material passing through (EPN 5) Screen #1 will be transferred to a stacker for stockpiling. Material from the first deck of Screen #1 will be conveyed to Crusher #2 (EPN 7). After being processed in the crusher the material will be conveyed (EPN 8) back to the conveyor feeding Screen #1. Material from the second deck of Screen #1 will be split to either a radial stacker for stockpiling or conveyed with the oversize material to Crusher #2. After being processed in the

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crusher the material will be conveyed (EPN 8) back to the conveyor feeding Screen #1. Material from the second deck of Screen #1 will be split to either a radial stacker for stockpiling of conveyed with the oversize material to Crusher #2. Material from the third deck will be conveyed to Screen #2 (EPN 9).

Smaller material passing through (EPN 10) Screen #2 will be transferred to a stacker for stockpiling. Material from the first deck of Screen #2 will be conveyed to Crusher #3 (EPN 11). After processing in the crusher the material will be conveyed (EPN 12) back to the conveyor feeding Screen #2. Material from the second and third decks of Screen #2 will be transferred to a radial stacker for stockpiling.

The stockpiles (EPN STK) are based on 5 acres of surface area. Three engines (EPNs 13-15) will provide power to the plant. A fuel tank (EPN 16) will also be located at the plant.

Pollution Prevention, Sources, Controls and BACT- [30 TAC 116.111(a)(2)(C)]

Emissions will be generated from the conveying, crushing, screening, loading, and storage of aggregate material.

Water sprays, with a represented emission reduction of 70% of Particulate Matter (PM), will be installed at the inlet and outlet of all crusher, at all screens, and material transfer points. Water will also be applied at the stockpiles and access roads (70% emission reduction of PM).

Stockpiles are limited to 45 feet in height.

Fuel for the internal combustion engines is required to be pipeline-quality natural gas or liquid fuel with a maximum sulfur content of not more than 0.0015 percent by weight

The special conditions address housekeeping, including the spraying of roads, work areas, and stockpiles as necessary.

Startup and shutdown emissions are included in the production emissions. Although there may be minor emissions associated with startup and shutdown, emission factors used to quantify production emissions are considered to have enough conservatism to include any incidental increases that may be attributed to startup and shutdown.

In addition, emissions from planned startup and shutdown of combustion units should not result in any quantifiable hourly emissions change for products of combustion. Although there may be transitional and incidental spikes before units stabilize during startups (5 to 15 minutes), overall products of combustion are expected to be within hourly range limits for normal loads during production operations.

The proposed controls meet current BACT.

Impacts Evaluation - 30 TAC 116.111(a)(2)(J)

Was modeling conducted?	Yes	Type of Modeling:	AERMOD (Version 16216r)
Will GLC of any air contaminant cause violation of NAAQS?			No
Is this a sensitive location with respect to nuisance?			No/Low
[§116.111(a)(2)(A)(ii)] Is the site within 3000 feet of any school?			No
Additional site/land use information: According to a site review provided by Region and recent aerial photos, the area bordering the plant is primarily agricultural with a number of residences in adjacent areas. The site review indicated that the nearest receptor is a residence located greater than 2,000 feet from the location of the proposed plant.			

Summary of Modeling Results

The applicant conducted air dispersion modeling for the project. The results were audited by the Air Dispersion Modeling Team and found to be acceptable. The results are summarized below.

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Minor Source NSR and Air Toxics Analysis

Table 1. Site-wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	Standard ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hr	15	1021

Table 2. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	De Minimis ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hr	15	7.8
SO ₂	3-hr	8	25
SO ₂	24-hr	1	5
SO ₂	Annual	0.2	1
PM ₁₀	24-hr	4	5
PM _{2.5}	24-hr	0.7	1.2
PM _{2.5}	Annual	0.04	0.3
NO ₂	1-hr	49	7.5
NO ₂	Annual	0.5	1
CO	1-hr	24	2000
CO	8-hr	5	500

The GLCmax are the maximum predicted concentrations associated with one year of meteorological data.

The justification for selecting the EPA's interim 1-hr NO₂ and 1-hr SO₂ De Minimis levels was based on the assumptions underlying EPA's development of the 1-hr NO₂ and 1-hr SO₂ De Minimis levels. As explained in EPA guidance memoranda, the EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr NO₂ and 1-hr SO₂ NAAQS.

The applicant provided an evaluation of ambient PM_{2.5} monitoring data, consistent with EPA guidance for PM_{2.5}, for using the PM_{2.5} De Minimis levels in the NAAQS analysis. If monitoring data show that the difference between the PM_{2.5} NAAQS and the monitored PM_{2.5} background concentrations in the area is greater than the PM_{2.5} De Minimis level, then the proposed project with predicted impacts below the De Minimis level would not cause or contribute to a violation of the

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PM_{2.5} NAAQS and does not require a full impacts analysis. See the discussion below for additional information on the evaluation of ambient PM_{2.5} monitoring data.

Though the results from the De Minimis analysis for the 3-hr, 24-hr and annual SO₂, 24-hr PM₁₀, 24-hr and annual PM_{2.5}, annual NO₂, and 1-hr and 8-hr CO were all below the De Minimis value, the applicant provided a site-wide analysis (see Table 3).

Table 3. Total Concentrations for Minor NSR NAAQS (Concentrations > De Minimis)

Pollutant	Averaging Time	GLCmax (µg/m ³)	Background (µg/m ³)	Total Conc. = [Background + GLCmax] (µg/m ³)	Standard (µg/m ³)
SO ₂	1-hr	15	33	48	196
SO ₂	3-hr	8	14	22	1300
SO ₂	24-hr	1	7	8	365
SO ₂	Annual	0.2	2	2	80
PM ₁₀	24-hr	4	66	70	150
PM _{2.5}	24-hr	0.7	23	24	35
PM _{2.5}	Annual	0.04	8.5	9	12
NO ₂	1-hr	49	63	112	188
NO ₂	Annual	0.6	8.4	9	100
CO	1-hr	49	458	507	40000
CO	8-hr	14	344	358	10000

Background concentrations for SO₂ were obtained from the EPA AIRS monitor 480290059 located at 14620 Laguna Rd., San Antonio, Bexar County. The applicant used a three-year average (2014-2016) of the 99th percentile of the annual distribution of the maximum daily 1-hr concentrations for the 1-hr value. For the 3-hr and 24-hr values, the second highest concentrations from 2016 were used. The annual average concentration from 2016 was used for the annual value.

Background concentrations for PM₁₀ were obtained from the EPA AIRS monitor 480290053 located at 16289 North Evans Rd #2, Selma, Bexar County. The highest second high 24-hr concentration from 2014-2016 was used for the 24-hr value.

Background concentrations for PM_{2.5} were obtained from the EPA AIRS monitor 480290622 located at 7145 Gardner Road, San Antonio, Bexar County. The three-year average of the 98th percentile of the annual distribution of the daily concentrations from 2014-2016 was used for the 24-hr value. The three-year average of the annual concentrations from 2014-2016 was used for the annual value.

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Background concentrations for NO₂ were obtained from the EPA AIRS monitor 481390016 located at 2725 Old Fort Worth Road, Midlothian, Ellis County. The three-year average (2014-2016) of the 98th percentile of the annual distribution of the daily maximum 1-hr concentrations was used for the 1-hr value. The annual concentration from the most recent complete year (2016) was used for the annual value.

Background concentrations for CO were obtained from the EPA AIRS monitor 483091037 located at 4472 Mazanec Rd. Waco, McLennan County. The applicant used the second highest 1-hr concentration from the most recent year of data (2016) for the 1-hr value. The applicant used the second highest 8-hr concentration from the most recent year of data (2016) for the 8-hr value.

The selection of the above monitors is reasonable based on a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site.

Table 4. Minor NSR Site-wide Modeling Results for Health Effects

Pollutant & CAS#	Averaging Time	GLCmax (µg/m ³)	GLCmax Location	GLCni (µg/m ³)	GLCni Location	ESL (µg/m ³)
Diesel Fuel 68334-30-5	1-hr	34	Property Line	34	Property Line	1000
Silica, crystalline (quartz) 14808-60-7	1-hr	0.1	Property Line	0.1	Property Line	14
Silica, crystalline (quartz) 14808-60-7	Annual	0.0001	Property Line	0.0001	Property Line	0.27

The TCEQ did not request modeling of crystalline silica emissions; however the applicant provided modeling based on emissions estimates derived from tests of the rock at the plant site.

The Applicant conducted the 1-hr and annual NO₂ NAAQS analyses using the ARM2 model option following EPA guidance.

The applicant modeled source groups for the annual silica, crystalline quartz and PM_{2.5}. One source group included road emissions and one source group did not include the road emissions. Since roads are not considered a facility per 30 TAC §116.10 (4), the results reported above do not include emissions from roads.

The modeling analysis is based on the proposed crushing plant being no closer than 2,119 feet from the property line.

In summary, no exceedances of NAAQS and no adverse health impacts are expected with this project.

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Regulated Entity No. RN109829721

Permit Concurrence and Related Authorization Actions

Is the applicant in agreement with special conditions?	Yes
Company representative(s):	Gary Nicholls, Westward Environmental
Contacted Via:	E-mail
Date of contact:	12/15/17
Other permit(s) or permits by rule affected by this action:	No

Project Reviewer	Date	Team Leader	Date
Joel Stanford		Bonnie Etridge	

DRAFT



Compliance History Report

Compliance History Report for CN600355465, RN109829721, Rating Year 2017 which includes Compliance History (CH) components from September 1, 2012, through August 31, 2017.

Customer, Respondent, or Owner/Operator:	CN600355465, Vulcan Construction Materials, LLC	Classification: HIGH	Rating: 0.00
Regulated Entity:	RN109829721, ROCK CRUSHING PLANT	Classification: UNCLASSIFIED	Rating: -----
Complexity Points:	2	Repeat Violator: NO	
CH Group:	04 - Mining		
Location:	FROM INTX OF HIGHWAY 46 & FM RD 3009 SITE IS LOCATED AT THE SW CORNER COMAL, TX, COMAL COUNTY		
TCEQ Region:	REGION 13 - SAN ANTONIO		
ID Number(s):			
AIR NEW SOURCE PERMITS	PERMIT 147392L001		
Compliance History Period:	September 01, 2012 to August 31, 2017	Rating Year: 2017	Rating Date: 09/01/2017
Date Compliance History Report Prepared:	February 28, 2018		
Agency Decision Requiring Compliance History:	Enforcement		
Component Period Selected:	September 01, 2012 to August 31, 2017		
TCEQ Staff Member to Contact for Additional Information Regarding This Compliance History.			
Name:	Joel Stanford	Phone:	(512) 239-0270

Site and Owner/Operator History:

- 1) Has the site been in existence and/or operation for the full five year compliance period? NO
- 2) Has there been a (known) change in ownership/operator of the site during the compliance period? NO

Components (Multimedia) for the Site Are Listed in Sections A - J

A. Final Orders, court judgments, and consent decrees:
N/A

B. Criminal convictions:
N/A

C. Chronic excessive emissions events:
N/A

D. The approval dates of investigations (CCEDS Inv. Track. No.):
N/A

E. Written notices of violations (NOV) (CCEDS Inv. Track. No.):

A notice of violation represents a written allegation of a violation of a specific regulatory requirement from the commission to a regulated entity. A notice of violation is not a final enforcement action, nor proof that a violation has actually occurred.

N/A

F. Environmental audits:
N/A

G. Type of environmental management systems (EMSs):
N/A

H. Voluntary on-site compliance assessment dates:

N/A

I. Participation in a voluntary pollution reduction program:

N/A

J. Early compliance:

N/A

Sites Outside of Texas:

N/A

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To: Joel Stanford
Mechanical/Coatings Section

Thru: Dianne Anderson, Team Leader *DA*
Air Dispersion Modeling Team (ADMT)

From: Rachel Melton *RM*
ADMT

Date: November 29, 2017

Subject: Air Quality Analysis Audit - Vulcan Construction Materials, LLC (RN109829721)

1. Project Identification Information

Permit Application Number: 147392L001
 NSR Project Number: 270926
 ADMT Project Number: 5512
 NSRP Document Number: 594070
 County: Comal
 ArcReader Published Map: <\\\\tceq4apmgisdata\GISWRK\APD\MODEL\PROJECTS\5512\5512.pmf>

Air Quality Analysis: Submitted by Westward Environmental, Inc., October 2017, on behalf of Vulcan Construction Materials, LLC. Revised modeling and additional information was provided November 2017.

2. Report Summary

The air quality analysis is acceptable for all review types and pollutants. The results are summarized below.

A. Minor Source NSR and Air Toxics Analysis

Table 1. Site-wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	Standard ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hr	15	1021

Table 2. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	De Minimis ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hr	15	7.8
SO ₂	3-hr	8	25

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Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	De Minimis ($\mu\text{g}/\text{m}^3$)
SO ₂	24-hr	1	5
SO ₂	Annual	0.2	1
PM ₁₀	24-hr	4	5
PM _{2.5}	24-hr	0.7	1.2
PM _{2.5}	Annual	0.04	0.3
NO ₂	1-hr	49	7.5
NO ₂	Annual	0.5	1
CO	1-hr	24	2000
CO	8-hr	5	500

The GLCmax are the maximum predicted concentrations associated with one year of meteorological data.

The justification for selecting the EPA's interim 1-hr NO₂ and 1-hr SO₂ De Minimis levels was based on the assumptions underlying EPA's development of the 1-hr NO₂ and 1-hr SO₂ De Minimis levels. As explained in EPA guidance memoranda^{1,2}, the EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr NO₂ and 1-hr SO₂ NAAQS.

The applicant provided an evaluation of ambient PM_{2.5} monitoring data, consistent with EPA guidance for PM_{2.5}³, for using the PM_{2.5} De Minimis levels in the NAAQS analysis. If monitoring data show that the difference between the PM_{2.5} NAAQS and the monitored PM_{2.5} background concentrations in the area is greater than the PM_{2.5} De Minimis level, then the proposed project with predicted impacts below the De Minimis level would not cause or contribute to a violation of the PM_{2.5} NAAQS and does not require a full impacts analysis. See the discussion below for additional information on the evaluation of ambient PM_{2.5} monitoring data.

Though the results from the De Minimis analysis for the 3-hr, 24-hr and annual SO₂, 24-hr PM₁₀, 24-hr and annual PM_{2.5}, annual NO₂, and 1-hr and 8-hr CO were all below the De Minimis value, the applicant provided a site-wide analysis (see Table 3).

¹ www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf

² www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf

³ www.epa.gov/ttn/scram/guidance/guide/Guidance_for_PM25_Permit_Modeling.pdf

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Table 3. Total Concentrations for Minor NSR NAAQS (Concentrations > De Minimis)

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	Total Conc. = [Background + GLCmax] ($\mu\text{g}/\text{m}^3$)	Standard ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hr	15	33	48	196
SO ₂	3-hr	8	14	22	1300
SO ₂	24-hr	1	7	8	365
SO ₂	Annual	0.2	2	2	80
PM ₁₀	24-hr	4	66	70	150
PM _{2.5}	24-hr	0.7	23	24	35
PM _{2.5}	Annual	0.04	8.5	9	12
NO ₂	1-hr	49	63	112	188
NO ₂	Annual	0.6	8.4	9	100
CO	1-hr	49	458	507	40000
CO	8-hr	14	344	358	10000

The GLCmax are the maximum predicted concentration associated with one year of meteorological data.

Background concentrations for SO₂ were obtained from the EPA AIRS monitor 480290059 located at 14620 Laguna Rd., San Antonio, Bexar County. The applicant used a three-year average (2014-2016) of the 99th percentile of the annual distribution of the maximum daily 1-hr concentrations for the 1-hr value. For the 3-hr and 24-hr values, the second highest concentrations from 2016 were used. The annual average concentration from 2016 was used for the annual value.

Background concentrations for PM₁₀ were obtained from the EPA AIRS monitor 480290053 located at 16289 North Evans Rd #2, Selma, Bexar County. The highest second high 24-hr concentration from 2014-2016 was used for the 24-hr value.

Background concentrations for PM_{2.5} were obtained from the EPA AIRS monitor 480290622 located at 7145 Gardner Road, San Antonio, Bexar County. The three-year average of the 98th percentile of the annual distribution of the daily concentrations from 2014-2016 was used for the 24-hr value. The three-year

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average of the annual concentrations from 2014-2016 was used for the annual value.

Background concentrations for NO₂ were obtained from the EPA AIRS monitor 481390016 located at 2725 Old Fort Worth Road, Midlothian, Ellis County. The three-year average (2014-2016) of the 98th percentile of the annual distribution of the daily maximum 1-hr concentrations was used for the 1-hr value. The annual concentration from the most recent complete year (2016) was used for the annual value.

Background concentrations for CO were obtained from the EPA AIRS monitor 483091037 located at 4472 Mazanec Rd. Waco, McLennan County. The applicant used the second highest 1-hr concentration from the most recent year of data (2016) for the 1-hr value. The applicant used the second highest 8-hr concentration from the most recent year of data (2016) for the 8-hr value.

The selection of the above monitors is reasonable based on a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site.

Table 4. Minor NSR Site-wide Modeling Results for Health Effects

Pollutant & CAS#	Averaging Time	GLCmax (µg/m ³)	GLCmax Location	GLCni (µg/m ³)	GLCni Location	ESL (µg/m ³)
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Silica, crystalline (quartz) 14808-60-7	1-hr	0.1	Property Line	0.1	Property Line	14
Silica, crystalline (quartz) 14808-60-7	Annual	0.0001	Property Line	0.0001	Property Line	0.27

The GLCmax and the GLCni locations are listed in Table 4 above. The locations are listed by their approximate distance and direction from the property line of the project site.

3. Model Used and Modeling Techniques

AERMOD (Version 16216r) was used in a refined screening mode.

The applicant conducted the 1-hr and annual NO₂ NAAQS analyses using the ARM2 model option following EPA guidance.

The applicant modeled source groups for the annual silica, crystalline quartz and PM_{2.5}. One source group included road emissions and one source group did not include the

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road emissions. Since roads are not considered a facility per 30 TAC §116.10, the results reported above do not include emissions from roads.

The modeling analysis is based on the proposed crushing plant being no closer than 2,119 feet from the property line.

A. Land Use

Medium roughness and elevated terrain were used in the modeling analysis. These selections are consistent with the AERSURFACE analysis, topographic maps, DEMs, and aerial photography. The selection of medium roughness is reasonable.

B. Meteorological Data

Surface Station and ID: New Braunfels, TX (Station #: 12971)
Upper Air Station and ID: Fort Worth, TX (Station #: 3990)
Meteorological Dataset: 2012
Profile Base Elevation: 196.6 meters

C. Receptor Grid

The grid modeled was sufficient in density and spatial coverage to capture representative maximum ground-level concentrations.

D. Building Wake Effects (Downwash)

Building downwash was not modeled since there are no structures on-site that would impact the flow of emissions.

4. Modeling Emissions Inventory

The modeled emission point, area, and volume source parameters and rates were consistent with the modeling report. The source characterizations used to represent the sources were appropriate.

Maximum allowable hourly emission rates were used for the short-term averaging time analyses, and annual average emission rates were used for the annual averaging time analyses.