

TECHNICAL SUPPORT DOCUMENT (TSD)

MAY 2016

I. GENERAL COMMENTS:

A. Company Information

1. Granite Construction Company
2. Facility Address: 10,000 West Tangerine Road, Marana, AZ 85653
Mailing Address: P.O. Box 27557, Tucson, AZ 85726

B. Background

This operating permit is the first renewal of the Pima County Department of Environmental Quality (PDEQ) air quality individual permit issued to Granite Construction Company (GCC), the Permittee, for their Nonmetallic Mineral Mining/Processing and Hot Mix Asphalt operation at the Tangerine Plant, located at 10000 West Tangerine Road, Marana, AZ 85653.

C. Attainment Classification

As of April 22, 2016 this source is located in the Rillito moderate Nonattainment Area for PM₁₀ (1987) and attainment for all other criteria pollutants.

II. FACILITY DESCRIPTION

The facility is composed of four stationary plants:

- Mining Operations
- Aggregate Plant
- Hot Mix Asphalt (HMA) Plant
- Wash Plant

The facility also declares optional use of two portable plants permitted by Arizona Department of Environmental Quality (ADEQ) or PDEQ:

- Portable Asphalt Rubber Blending Plant
- Portable Crushing and Screening Plant

PDEQ considers the portable plants as optional equipment, signifying that they do not constitute as “alternate operating scenarios”. The source’s Potential to Emit (PTE) has been determined inclusive of this equipment and the methods of monitoring, recording and reporting emissions are identified in the permit for each portable plant.

A. Process Description and Operating Hours

The Mining Operation moves pit-excavated alluvial aggregate to the Aggregate Plant and to one Naturals Stockpile. Equipment includes one (1) feeder, one (1) screen and various conveyors. This plant is subject to the New Source Performance Standard (NSPS) Standards of Performance for Nonmetallic Mineral Processing Plants, 40 CFR 60 Subpart 000.

The Aggregate Plant is fed from a conveyor linked to the Mining Operations and two (2) feed hoppers. Additional equipment includes two (2) crushers, four (4) screens, various conveyors and a lime silo for treating the Aggregate Base Course (ABC). Five (5) product stockpiles are generated from this plant. This plant is subject to the New Source Performance Standard (NSPS) Standards of Performance for Nonmetallic Mineral Processing Plants, 40 CFR 60 Subpart 000.

The Wash Plant is a stand alone process generating five (5) separate stockpiles of washed aggregate product. Equipment at this plant includes three (3) feeders, three (3) screens and various conveyors. This plant is not subject to NSPS standards.

The ADEQ or PDEQ permitted Portable Crushing and Screening Plant, fired by a 1,200 hp mobile generator is used in line with the stationary Mining Operations to supplement production.

GCC has taken a voluntary total source limit of 1,500,000 tons of final aggregate product in any twelve (12)-month rolling total. The portable crushing and screening facility would be used to supplement the stationary crushing and screening plant's production as needed within the GCC's declared source limit of 1,500,000 tons per year of final aggregate production. No individual limit has been declared on the portable crushing and screening plant; however, it is subject to Portable Source Limitations of the ADEQ or PDEQ general permit with regards to operating in one (1) county.

The stationary Hot Mix Asphalt (HMA) Plant produces asphaltic concrete products for sale employing two (2) feeders, two (2) screens, several conveyors, one (1) lime silo for treating the aggregate, one (1) drum mixer with attached baghouse, and one (1) oil heater. Two (2) storage silos are used to transfer the product to delivery vehicles. This plant is subject to the New Source Performance Standard (NSPS) Standards of Performance for Hot Mix Asphalt Facilities, 40 CFR 60 Subpart I.

The Portable Asphalt Rubber Blending Plant adds two additional asphalt heaters for mixing a virgin oil product with crumb rubber solids to produce a viscous rubber mixture. This mixture is then used in the stationary HMA mixing process in place of the virgin oil.

GCC has proposed and accepted in its application a voluntary total source limit of 750,000 tons of final asphalt product in any twelve (12)-month rolling total. Further, GCC has proposed and accepted in its application a voluntary 50% input limit from the Portable Asphalt Rubber Blending Plant. The source shall only produce 375,000 tons of final asphalt product during which time the portable plant is in use in any twelve (12)-month rolling period.

B. Applicability Categories

Applicability categories are: Crushing and Screening (non-metallic minerals), and Hot Mix Asphalt Production

C. Air Pollution Control Equipment

Dust collectors (Baghouses) control emissions from lime silos and the drum dryer/mixer and water spray nozzles are utilized to control dust at the screens, crushers, and elsewhere along the process. Fugitive emissions from haul roads are controlled by application of water using a water truck

III. REGULATORY HISTORY

A. Testing

American Environmental Testing, Inc. performed EPA compliance testing on the HMA plant in July 2015.

B. Excess Emissions

An excess emissions report was received from GCC on August 1, 2007, involving a lime plume during a silo cleaning. PDEQ acknowledged report and did not seek further action beyond the better housekeeping remedies proposed by the source. There have been no other reports of excess emissions.

C. Inspections

There have been regular inspections of the source to date and past minor enforcement actions worth noting are:

October 2011:

Opportunity to Correct (OC) for failing to maintain records of daily visible emissions checks of the drum dryer baghouse stack when the HMAP is in operation.

[These enforcement actions were adequately resolved and subsequently closed in November 2011.]

February 2015:

OC for failing to maintain 1) records of daily visible emission checks in 2011 and 2014 of the Aggregate Plant, 2) records of monthly spray nozzle inspection checks in 2011 and 2014, 3) records of Non-NSPS facility wide daily visible emission checks, and 4) a subset rolling 12-month total records of asphalt production while the portable rubber blending plant was operational.

[These enforcement actions were adequately resolved and subsequently closed in August 2015.]

To date (May 2016), the facility is currently in compliance with their permit conditions.

IV. EMISSION ESTIMATES

Except for Hazardous Air Pollutants (HAPs), emission estimates for the facility are derived from the use of ADEQ General Permit potential to emit (PTE) calculation spreadsheet. The choice to use ADEQ factors is justified by the multiple county-wide, as well as state-wide, sources of similar operations who are granted ADEQ General Crushing & Screening/Hot Mix Asphalt Permits in which these same emission factors are used. ADEQ has also incorporated feedback from the Arizona Rock Product Association (ARPA) in their General Permit emission factors (ADEQ Letter to ARPA dated 4/07.). HAP emission calculations were derived from the use of AP 42 factors.

The following table outlines the Tangerine Plant's potential to emit (operating 8760 hr/yr) and actual potential to emit*.

| Pollutant (w/controls as claimed) | Potential to Emit (Operating 8760 hrs/yr) Tons per Year | Actual Emissions (Limited by Throughput) Tons per Year |
|--|--|---|
| Particulate Matter (as PM ₁₀) | 103 | 25.82 |
| Carbon Monoxide (CO) | 289 | 57.69 |
| Nitrogen Oxides (NO _x) | 238 | 57.28 |
| Sulfur Oxides (SO ₂) | 114 | 21.78 |
| Volatile Organic Compounds (VOCs) | 89 | 17.20 |
| Hazardous Air Pollutants (HAPs) | 20 | 3.75 |

* The actual potential to emit detailed in the application is based upon the following enforceable operational conditions:

Crushing and Screening plants operating at a maximum throughput of 1,500,000 tons/yr,

The HMA plant operating at a maximum throughput of 750,000 tons/yr.

The source is a synthetic minor for PM₁₀, CO, NO_x, and SO₂, and a true minor for VOCs and HAPs.

V. APPLICABLE REQUIREMENTS

This is not meant to be an exhaustive list of every regulation to which the Permittee is subject, but represents those cited in the permit. It is the responsibility of the Permittee to comply with all applicable regulations.

A. Code of Federal Regulations (CFR):

40 CFR 60 Subpart A (General Provisions)

40 CFR 60 Subpart OOO (NSPS Standards of Performance for Nonmetallic Mineral Processing Plants)

40 CFR 60 Subpart I (NSPS Standards of Performance for Hot Mix Asphalt Facilities)

40 CFR 279 Subpart B (Standards for the Management of Used Oil)

B. Pima County Code (PCC) Title 17, Chapter 17.12:

17.12.040 Reporting requirements

17.12.045 Test methods and procedures

17.12.050 Performance tests

17.12.165 Permit application processing procedures for Class II and Class III permits

17.12.185 Permit Contents for Class II and Class III permits

17.12.190 Permits containing synthetic emission limitations and standards

17.12.300 Portable sources

17.12.520 Fees related to Class II and Class III permits

C. Pima County Code (PCC) Title 17, Chapter 17.16:

17.16.010 Local rules and standards; Applicability of more than one standard

17.16.020 Noncompliance with applicable standards

17.16.030 Odor limiting standards

17.16.040 Visible Emission Standards, Standards and applicability (including NESHAP)

17.16.050 Visibility Limiting Standard

17.16.060 Fugitive Dust Producing Activities

C. Pima County Code (PCC) Title 17, Chapter 17.16: (Continued)

- 17.16.100 Particulate Materials
- 17.16.110 Storage Piles
- 17.16.130 Applicability
- 17.16.150 Hazardous waste, hazardous waste fuel, used oil, and used oil fuel burning equipment
- 17.16.370 Standards of Performance for Gravel or Crushed Stone Processing Plants

D. Pima County Code (PCC) Title 17, Chapter 17.20:

- 17.20.010 Source sampling, monitoring and testing
- 17.20.040 Concealment of emissions

E. Pima County Code (PCC) Title 17, Chapter 17.24:

- 17.24.020 Recordkeeping for compliance determinations

VI. ADDITIONAL PERMIT CONDITIONS

PDEQ has included additional permit conditions pertaining to facilities subject to 40 CFR Subpart OOO that commenced construction, modification or reconstruction after April 22, 2008. However, at the time of the application submittals by GCC, there was no equipment listed that would be subject to these additional regulations.

The additional permit conditions that were added are listed below.

- II.B.1.a.ii
- II.C.2
- II.D.1
- II.F.2